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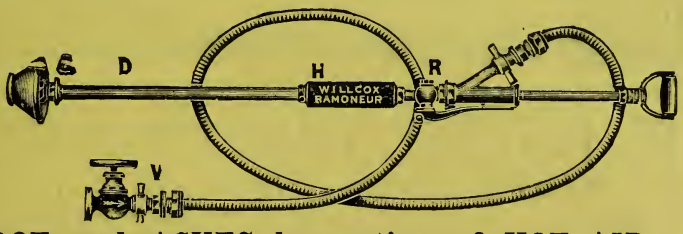

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PREFACE.

EVERY effort in reason has been made in the preparation of this the twenty-ninth edition of the Universal Electrical Directory, to ensure the accuracy of its contents.

The year 1909 was one of exceptional importance to electric lighting, for undoubtedly the outstanding feature was its advance in the public favour owing to the excellent qualities of the metallic filament lamp being appreciated everywhere. The lamp-makers could not easily keep pace with the demand, so great has it been. The turn of the electricity suppliers and of the plant manufacturers to share in the benefits is not far away—indeed, it is appearing on the horizon now. The electrical contractors, too, are sharing, for in some places, at any rate, the close of the year found them very busy indeed.

There are clear indications of a general trade revival, which may proceed at a greater pace as the political position becomes more settled. If that revival gathers force, it should greatly assist both electric light and power progress, the householder and the works owner being then more willing to change over. There is a vast unconverted field in the great industrial works of this country. We hope that 1910 may see an important movement toward their electrification. The year just closed witnessed headway in the electrical equipment of steel-works, and coke-oven gases are being utilised. The question of electricity in mines was never so prominently to the fore as it is now.

In the Metropolitan area, both municipalities and companies supplying electricity—their period of nervous unrest at an end—have entered upon a joint campaign for popularising electricity. Only abundant fruit can result from such an effort. The big power companies of the kingdom are still making progress at a rate which is far slower than it ought to be. Bad trade has been a real hindrance to them, but some of them report that they are already feeling the effects of the recovery.

The year was sadly disappointing in regard to electric traction at home, whatever the progress abroad. With the solitary exception of the important single-phase section—the South London line opened in December—nothing new falls to be recorded. The experience obtained on this line is expected to largely influence the railway mind. May the resultant decision be not long deferred.

Electric tramway development in the United Kingdom is scarce, and suppliers of rolling stock and electrical equipments are looking in vain for signs of real revival in this department; there are very few new schemes of any consequence to occupy the attention of Parliament in 1910.

Electrical investments, save in a few special cases—such as cable manufacturing companies and English-owned light, power and tramway companies operating in foreign countries—have shown only a slight improvement, and it would require some boldness to say when a substantial and lasting recovery may be anticipated. It is felt that if financial support were more freely forthcoming to enable our concession hunters and manufacturers to obtain and carry out large colonial and foreign contracts and concessions, Britishers could secure much business that now goes to other countries.

The year 1910 will stand out as an Exhibition year, for our manufacturers will have admirable opportunities for demonstrating right before the eyes of the foreign buyer their capabilities for meeting the requirements of such markets as Brussels, Brazil and Japan. Our exports of electrical manufactures continued to increase during 1909, but there is much scope still remaining for further advance, by the adoption and continuation of a progressive policy.

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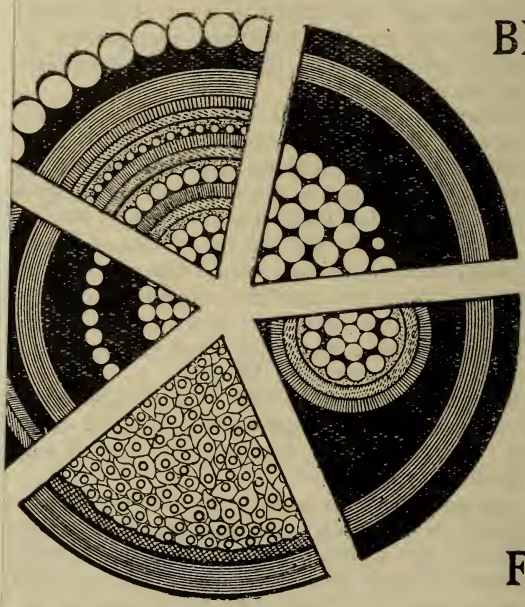

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The Publishers are often asked for voltages, &c., and beg to call attention likewise to the lists of Electricity Works on pages 497 & 969, where such particulars are given.

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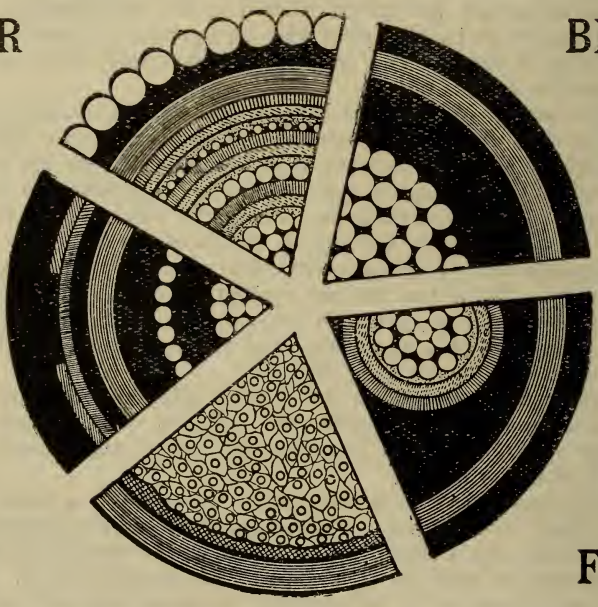

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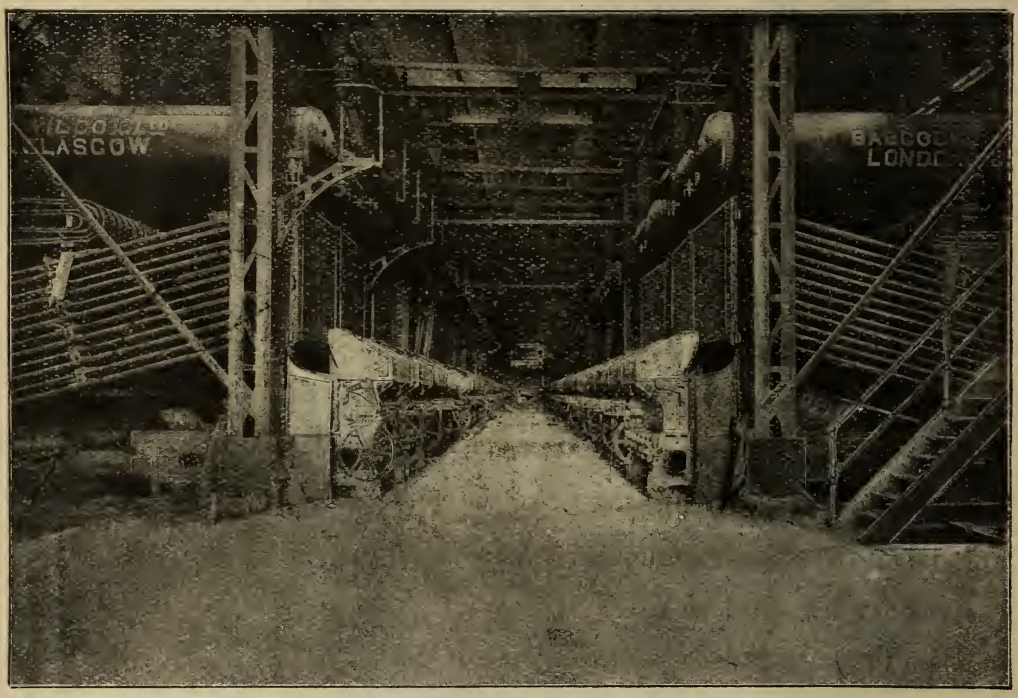

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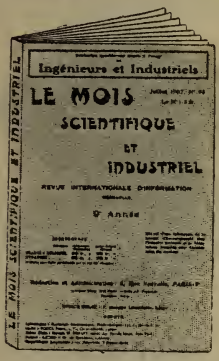

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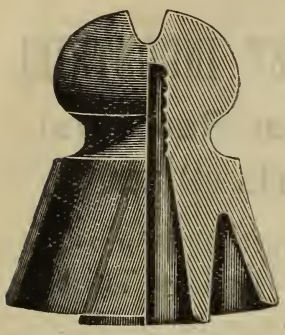

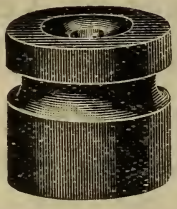

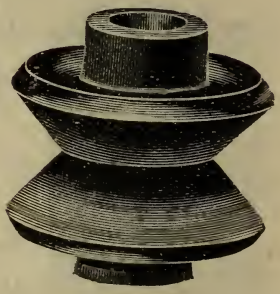

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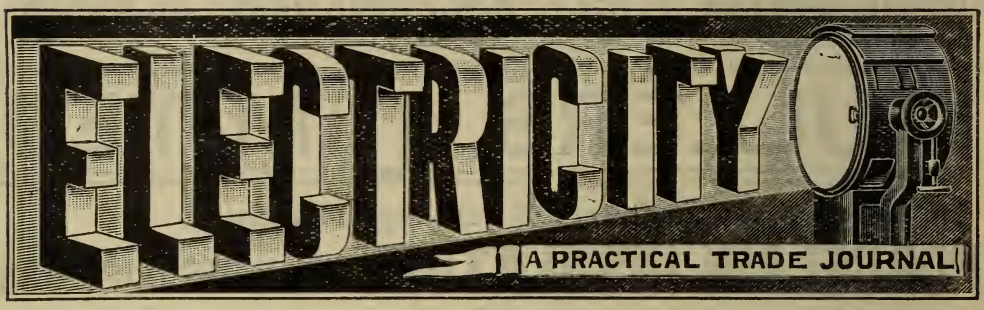

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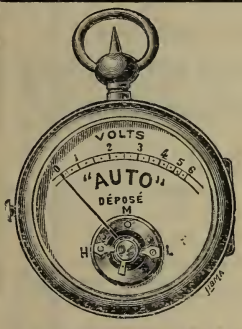

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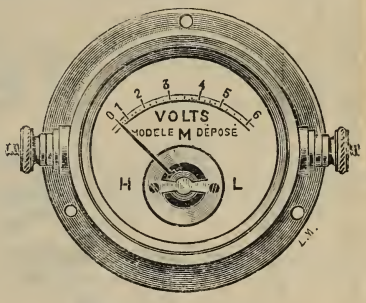

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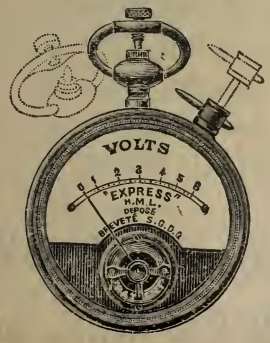

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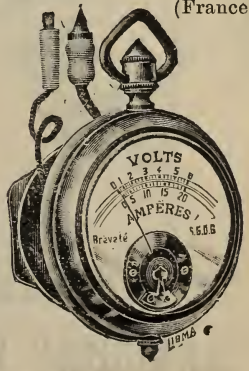

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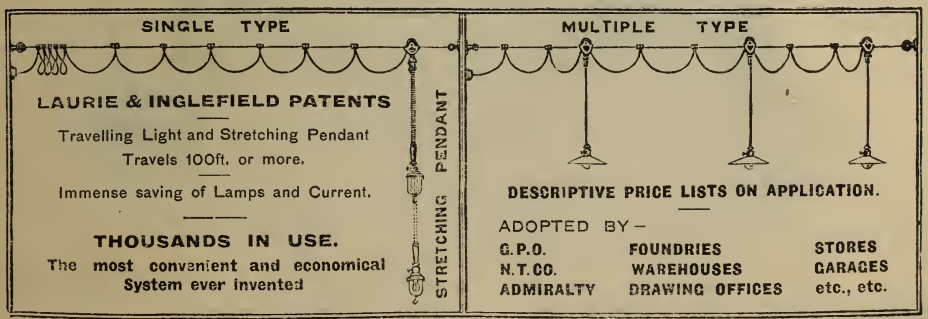

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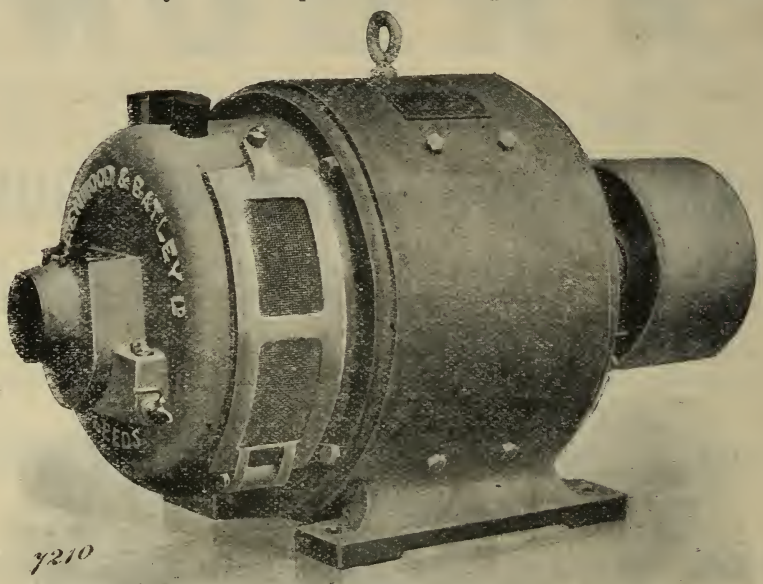

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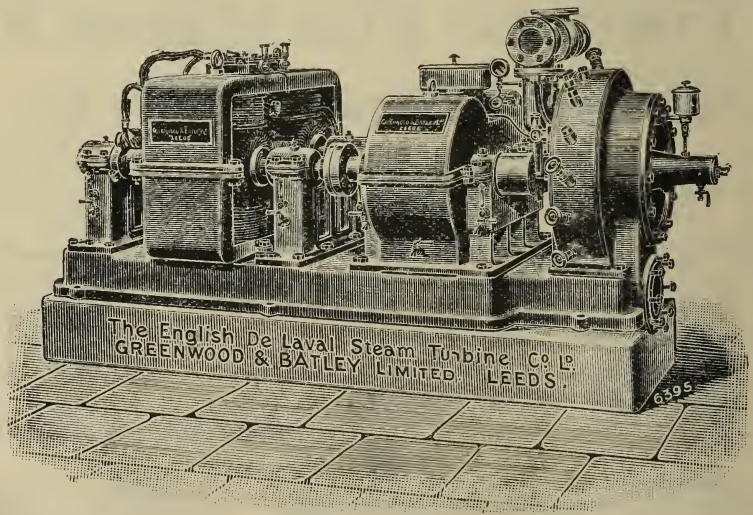

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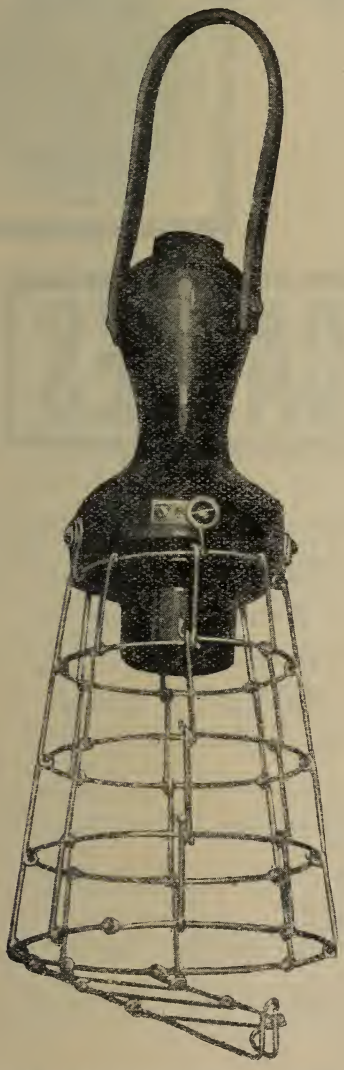

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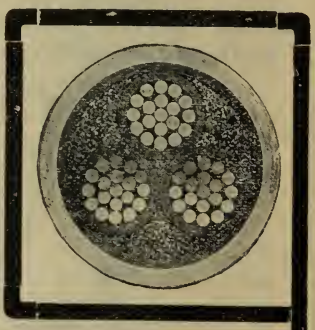

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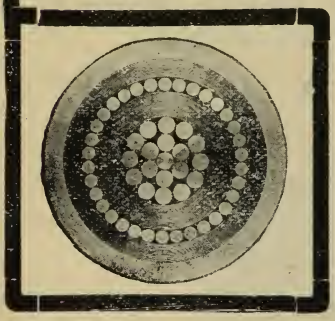

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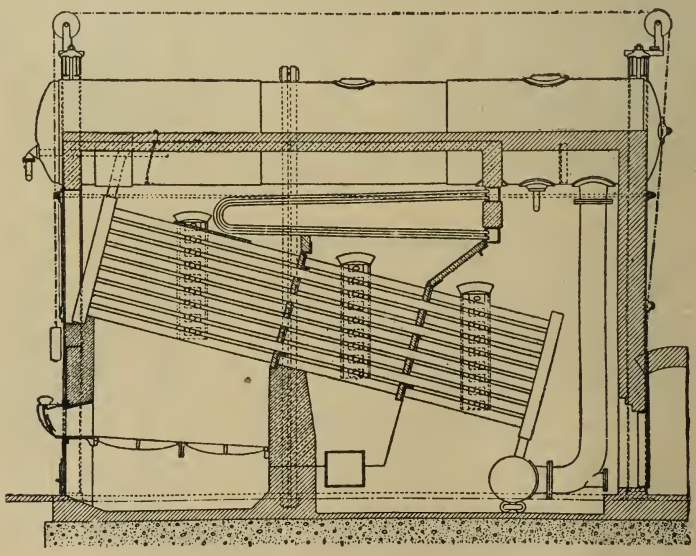

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African Engineering (monthly; price 6*d.*), Queen Anne's-chbrs., Westminster, London, S.W. (Telegs.: "Abaculus, London." Teleph. No. 5500, Westminster.)

African Transcontinental Telegraph Co., Ltd., 2, London Wall-bldgs., London, E.C. (Telegs.: "Rhodesian, London." Teleph. No. 4670, London Wall.) Directors: Duke of Abercorn, K.G., president; Sir Julius Wernher, Bart.; S. Neumann, Esq.; R. Maguire, Esq. D. E. Brodie, acting secretary. Registered Dec. 27, 1892. Nominal capital: £300,000 in ordinary shares of £1 each; 226,850 have been taken up & are fully paid. Dividends: *nil.*

Agnew, C. S., 5, Mount-st., Manchester. Director National Telephone Co., Ltd.

Agnew-Williams, Ferrand, A.I.E.E., 4, Bankwell-rd., Lee, S.E.

Agricultural Electric Discharge Co., Ltd., 3, Howard-st., Gloucester.

Ahrens, W. R., electrical engineer & contractor, 7, Seaside, Eastbourne. (Nat. Teleph. No. 634.)

Ainscough, Jos., A.M.I.E.E., 12, Clarence Villas, Bushbury-lane, Wolverhampton.

Ainscough, Walter, A.M.I.E.E., A.M.I.M.E., Electric Lighting Department, & 88, Spencer-pl., Leeds.

Ainsworth, R., M.I.E.E., Salford Rolling Mills, Manchester.

Aird, Sir John, M.P., A.I.E.E., Belvedere-rd., Lambeth, London, S.E.

Aird, Joseph, tubes for electrical conductors, Great Bridge, Tipton, Staffs. (Telegs.: "Vigilantia, Tipton." Tel. No. 9024); & 46, Queen Victoria-st., London, E.C. (Telegs.: "Vigilantia." Tel. Bank 772.)

Airdrie & Coatbridge Tramways Co., Tramway Depôt, Main-st., Coatbridge; & Electrical Federation Offices, Kingsway, London, W.C. Authorized capital: £100,000. Issued: £45,000. Directors: W. G. Bond, Esq. (chairman); H. S. Day, Esq.; A. C. Miles, Esq.; C. S. B. Hilton, Esq. Manager, G. W. King; secretary, W. F. Herring.

Aish's Stores, Ltd., electric light engineers, 89 & 91, Old Christchurch-rd., Bournemouth. (Teleph. No. 167.)

Aitchison, G. C., A.M.I.C.E., general manager, North Wales Electric Power & Traction Co., Llanberis, R.S.O., Carnarvon. (Teleph. No. 8, Llanberis.)

Aitken, James, M.I.E.E., Portland Lodge, Wellington, Salop.

Aitken, T. M., A.M.I.C.E., assist. engineer, London Electric Supply Corp., Stowage Wharf, Deptford, S.E.

Aitken, William, M.I.E.E., British Insulated & Helsby Cables, Ltd., Edge-lane, Liverpool; & Elmwood, Page Moss, Knotty Ash, Lancs.

Aitken, M. A., & Son, suppliers of ground & crushed carbon, Mitcham, Surrey. (Telegrams: "Aitken, Mitcham." Telephone No. 144, Croydon.)

Aiton & Co., steam pipe makers, Western Works, Hythe-rd., Willesden Junction, London, N.W.

Ajax Electrical Engineering Co., 291, High-rd., Ilford; & Ajax Works, Oaklands Park-ave., Ilford. (Telegs.: "Ajax, Ilford." Teleph. No. 604.)

Aktiebolaget Bronskol, dynamo brushes, 27, Chancery-lane, London, W.C.

Alabaster, H., A.I.E.E., "Milton," Grange-rd., Sutton, Surrey.

Alabaster, H., Gatehouse & Co., electrical engineers, 4, Ludgate Hill, London, E.C. (Telegs.: "Ageekay, London." Nat. Teleph., Advt. Dept., Holborn 933; Editorial Dept. only, P.O. Central 4425.)

Aland & Co., fan makers & ventilating engineers, 46, Commercial-rd., Lambeth, London, S.E. (Telegs.: "Ulmine, London." Teleph. No. 3381, Hop.)

Alba Lamp Syndicate, Ltd., 149–159, Finsbury Pavement House, London, E.C.

Albertine, Peter, M.I.E.E., 30, Norfolk-st., Strand, London, W.C.

Albery, R. H., M.Sc., head of electricity & magnetism & physics department, Municipal Technical School, Warrington.

Albion Battery Co., makers of batteries for motor vehicles, 7, Portman-sq., London, W.

ALBION CLAY CO., LTD., makers of Sykes' Patent Stoneware Conduits for underground cables, Albion Works, Woodville, Burton-on-Trent (Telegs.: "Albion, Woodville." Teleph. No. 14, Swadlincote); 38, Victoria-st., Westminster, London, S.W.; & Midland Railway New Goods Station, Euston-rd., London. (Telegs.: "Sewerage, London." Teleph. No. 5536, Gerrard.)

Albion Lamp Co., Ltd. (Rippingille's), electroliers, Aston-rd., North Birmingham.

Albion Motor Car Co., Ltd., motor car builders, Scotstoun, Glasgow. (Telegs.: "Automobile, Glasgow." Teleph. Hillhead 1991 (3 lines), & P.O. W. 645)

Albion Products Co., Ltd., carbide of calcium manufacturers, 11, Queen Victoria-st., London, E.C.

Albright, J. F., M.I.E.E., A.M.I.C.E., electrical engineer, 96, Elm Park Gardens, S.W. Director Melbourne Electric Supply Co., Ltd.; director Gravesend & Northfleet Elec. Tramways, Ltd.; director Kent Elec. Power Synd., Ltd.; director Midland Elec. Corp. for Power Distribution, Ltd.; chairman Kent Electric Power Co.; director Orient Electric Power Synd., Ltd.

Albury, F. W., Friar-st., Reading. Director Reading Electric Supply Co., Ltd.

Alcock, Harold, electrical engineer, 16, Megan-st., Swansea.

Alcoforado, J. B. G., director Brazilian Street Railway Co., Ltd., 134, Palmerston House, Bishopsgate-st. Within, E.C.

Alder, G. J. Thornton, electrical engineer & contractor, 53, Victoria-st., Westminster, London, S.W.

Alderley & Wilmslow Electric Supply, Ltd., Alderley Edge, Cheshire. (Telephone No. 41, Alderley.) Registered April 24, 1896. Nominal capital: £20,000 in ordinary shares, & £10,000 in preference shares, all of £1 each. Issued: 5009 ordinary shares & £5000 debentures, all fully paid. Directors: F. E. Gripper, Esq. (chairman); J. C. Wigham, Esq.; Jno. Royle, Esq. Secretary, engineer & manager, Cuthbert W. Bentley. Dividends: 1904, 1905, 1906, 1907 & first half of 1908, *nil.*

Aldershot Urban District Council Electricity Works. Engineer, F. Garside. (Nat. Teleph. No. 22.)
Alderson-Smith, G., D.L., Wheatcroft Cliff, Scarborough. (Telegs.: "Alderson-Smith, Scarborough." Nat. Teleph. No. 46.) Chairman Scarborough Electric Supply Co., Ltd.
Alderton, G. H., electrical engineer, 86, Gloucester-rd., Brighton.
Alderton, H. L., engineer, Guildford Electric Supply Co., Ltd., Guildford. (Telegs.: "Electric Supply, Guildford." Teleph. No. 0166.)
Aldin & Johnson, electrical engineers, 1, Gloucester-rd., London, S.W.
Aldred, William, electrician, 5, Brightside-bank, Brightside, Sheffield.
Aldrich, F., electrical engineer, High-st., Gateshead.
Aldrich, H., St. Margarets, Burgess Hill. Director Burgess Hill & District Electric Supply Co., Ltd.
Aldrich, Thos. G., A.M.I.E.E., 1, Ascott-ave., Ealing, Middlesex.
Aldridge, J. G. W., A.M.I.C.E., electrical engineer, 39, Victoria-st., London, S.W. (Telegs.: "Motorpathy, London." Teleph. Westminster 5118.)
Aldridge, L. S., A.I.E.E., manager District Electric Co., 39 & 40, Berry-st., Wolverhampton.
Aldridge & Ranken, engineers, 39, Victoria-st., London, S.W. (Telegs.: "Motorpathy, London." Teleph. Westminster 5118.)
Aldworth, J., manager Corporation Tramways, Nottingham.
Alexander, Captain R. M., Strathallan, Ryde. Director Isle of Wight Electric Light & Power Co., Ltd.; director St. Helen's Electric Lighting Co., Ltd.
Alexander, David, M.I.E.E., electrical plant & material, 43, Mains-st., Waterloo-st., Glasgow. (Telegs.: "Ohmic, Glasgow." Teleph. Nos.: 4394, P.O.; 587, Argyle, Nat.)
Alexander, E. R., A.M.I.E.E., Electricity Works, Stamford, Lincs.
Alexander, Ferd. E., electrical engineer, c/o E. P. Allam & Co., 11, Red Lion-st., Clerkenwell-rd., London, E.C. (Telephone No. 1891, Holborn.)
Alexander, John H., A.I.E.E., electrician, 27, Wilton-rd., Newington, Edinburgh.
Alexander, Robert, electrical engineer, c/o Jas. Gilroy, Fairmount, Berwick-on-Tweed.
Alexander, W. J., A.I.E.E., 2, Manor-road, Twickenham.
Alexander, E. P., & Son, chartered patent agents, 306, High Holborn, W.C. (Teleph. Central 7424.)
Alexander, W. P., Pringle & Co., lubricant manufacturers, 104, West Campbell-st., Glasgow. (Telegs.: "Vulcan, Glasgow." Teleph. No. 1104, Argyle.) Works: Dundee.
Alexander's Electric Works, Carlow. Oscar St. J. McKee, resident engineer; G. M. Harriss, chief engineer & manager.
Alford, E. J., electrician, 1, Mortlake-ter., Victoria-rd. North, Southsea, Hants.
Alger, Charles E., electrical engineer, Brynhyfrid-rd., Newport, Mon. (Telegs.: "Alger, Newport." Teleph. No. 276.)
Alger, T. E., electrical engineer, The Dingle, Oakfield-rd., Newport, Mon.
Alger, R., & Sons, electrical engineers & contractors, 160, Dock-st., Newport, Mon. (Teleph. No. 276.)
Alioth, R., Basle, Switzerland. Director British Continental Electricity Co., Ltd.
Allam, E. P., & Co., electric light & power engineers, 28, Gray's Inn-rd., Holborn, London, W.C. (Teleph. Holborn 1280.)
Allan, A., electrician, 22, Marchmont-rd., Edinburgh. (Teleph. No. 3032, Central.)
Allan, Colby T. T., A.M.I.E.E., Royal-chbrs., Park-pl., Cardiff.
Allan, G. E., D.Sc., Natural Philosophy-bldgs., University, Glasgow.
Allan, P. Fredk., electrical engineer, Clyde Valley Electrical Power Co., 53, Bothwell-st., Glasgow.
Allan, Wm., A.M.I.E.E., 50, Melville-st., Pollokshields, Glasgow.
Allan, G., & Co., consulting engineers, 4, Broad-st.-pl., London, E.C. (Telegrams: "Clematis, London." A.B.C., A1, Bedford McNeill's Codes used. Telephone No. 2282, London Wall.)
Allan, James, sen., & Son, electric light lamp pillar manufacturers, Elmbank Foundry, Glasgow. (Telegrams: "Elmbank, Glasgow." Telephone Nos.: 632, Douglas, Nat.; & 3460, Corp.)
Allan, Whyte & Co., wire rope manufacturers, Clyde Patent Wire Rope Works, Rutherglen, Glasgow. (Telegs.: "Ropery, Rutherglen." Nat. Teleph. Bridgeton 2673 & 2674; & P.O. 2673.)
Allard & Co., electric light contractors, 33, Jewry-st., Aldgate, London, E.C. (Tel. No. 5766, Avenue.)
Allbright, W. J., engineer, Southern Area, South Metropolitan Electric Light & Power Co., Ltd., Wells-rd., Upper Sydenham, London, S.E.
Allbright & Co., electrical engineers, Tamworth-rd., Croydon.
Allchin, Wm., Ltd., mechanical engineers, Globe Works, Northampton. (Telegrams: "Allchin, Globe, Northampton." Telephone No. 84.)
Allcock, H., A.M.I.E.E., c/o W. T. Glover & Co., Ltd., Trafford Park, Manchester.
Allcock Brothers, bell manufacturers for electrical purposes, 24–28, King Edward's-rd., Birmingham.
Alldays & Onions Pneumatic Engineering Co., Ltd., electric ventilating engineers, Great Western Works, Sydenham-rd., Birmingham.
Allen, A. H., A.M.I.E.E., *Electrical Review*, 4, Ludgate Hill, London, E.C.
Allen, C. Edgar, A.M.I.E.E., 104, High Holborn, London, W.C. (Teleph. No. 1049, Holborn.)
Allen, Ernest E., A.M.I.E.E., Bournemouth & Poole Electricity Supply Co., Ltd., Bourne Valley, Bournemouth; & Parkstone-ave., Parkstone, R.S.O., Dorset.

Allen, F. W., A.M.I.E.E., 107, Park-st., Grosvenor-sq., London, W.
Allen, Percy, A.I.E.E., electrician, Ferneliffe, Higher Runcorn, Cheshire. (Telephone No. 33, Runcorn.)
Allen, R. G., A.I.E.E., Royal College of Science, Dublin.
Allen, Rupert S., A.I.E.E., Queen's Engineering Works, Bedford.
Allen, S. T., chief electrical engineer, Corporation, Carlisle.
Allen, V. M., A.I.E.E., "Cantley," Hale," Altrincham, Cheshire.
Allen, Wm., A.M.I.E.E., chief assistant electrical engineer, Corporation, & 50, Westfield-lane, Mansfield.
Allen, W. H., engineer & manager, Corporation Electricity Works, Loughborough, Leicestershire. (Nat. Teleph. No. 505.)
Allen, W. H., J.P., M.I.E.E., Queen's Engineering Works, Bedford.
Allen C., & Son, mechanical engineers, Tone Engineering Works, Taunton.
Allen, Edgar, & Co., Ltd., tool steel, & file manufacturers, & steel founders, Imperial Steel Works, Sheffield. (Telegs.: "Allen, Sheffield." Teleph. No. 917.) London: 52, Queen Victoria-st., E.C. (Telegs.: "Allentare, London." Teleph. No. 657, Bank.)
Allen, F., & Sons, manufacturing & export chemists, Phœnix Works, 164, Upper North-street, London, E. (Telegrams: "Nitric, London." Telephone No. 47, Eastern.)
Allen & Hanburys, Ltd., electro-chemists, Three Colts-lane, Bethnal Green Junction, E., Plough-ct., 37, Lombard-st., E.C., & 7, Vere-st., Cavendish-sq., W., London. (Telegrams: "Allenburys, London." Teleph. No. 5023 (3 lines), London Wall.)
Allen & Mannooch, Ltd., electric light engineers & contractors, 128, Mount-st., 11, Farm-st., London, W. (Telephone No. 5186, Gerrard.)
Allen, W. H., Son & Co., Ltd., electrical & mechanical engineers, Queen's Engineering Works, Bedford (Telegs.: "Pump, Bedford." Teleph. No. 1, Bedford. A.B.C. & A1 Codes used); & Queen Anne's-chbrs., Westminster, London, S.W. (Teleph. No. 4277, Gerrard.)
Allerton, Right Hon. Lord, 27, Cadogan-sq., S.W. Director Eastern Telegraph Co., Ltd.
Alley & MacLellan, Ltd., mechanical engineers & high speed engine makers, Sentinel Works, Polmadie-rd., Glasgow. (Telegs.: "Alley, Glasgow." Tel. Nos.: 673, Royal; 73, Gorbals; & Z 173, P.O.)
Alliance Electrical Co., Ltd., electrical engineers & contractors, 23, Grafton-st., London, W. (Telegs.: "Continuity, London." Teleph. Gerrard 1490.)
Allin, P. H., & Sons, electrical engineers & contractors, 50, Burleigh-st., Cambridge.
Allingham, G. C., A.M.I.E.E., electrical engineer, Eldon House, Lyndhurst-rd., Hampstead, London, N.W.
Allis-Chalmers Co., electric & general mining plant, 533, Salisbury House, Finsbury-circus, London, E.C. (Telegs.: "Gyrating, London." A.B.C., A1 & McNeill's Codes. Tel. No. 2747, London Wall.)
Allison, H. P., A.M.I.E.E., A.M.I.C.E., Laing, Wharton, Ltd., 7, Great Newport-st., London, W.C.
Allison Bros., patent agents, 52, Chancery-lane, London, W.C. (Telegs.: "Nosilla, London." Teleph. No. 6746, Central.)
Allison, J. G., & Co., electrical engineers & contractors, Marcus-st., Birkenhead.
Allman, P., electrical engineer, 16, Pleasant-rd., Eccles.
Allman, P., & Co., electrical engineers, 16, John Dalton-st., Manchester. (Teleph. No. 2825.)
Alloa Town Council Electricity Supply, Alloa, N.B. (Teleph. No. 109A.) Res. engineer, J. W. Napier.
Allom, G. F., A.M.I.E.E., 15, George-st., Hanover-sq., London, W.
Allpress, Vincent S., M.I.C.E., M.I.E.E., Consulting Electrical & Mechanical Engineer, 39, Victoria-st., Westminster, S.W.; & at Southwick, Sussex.
Allsopp, Hon. Herbert T., Walton Bury, nr. Stafford. Director Chili Telephone Co., Ltd.
Alltree Bros., ironmongers & electricians, Castle-st., Shrewsbury. (Teleph. No. 6 X.)
Allward, M. J., A.I.E.E., Electricity Works, 50, Eden Grove, Holloway, London, N.
Alma Machine Tool & Engineering Works, Liversedge. (Telegs.: "Alma, Liversedge." Teleph. No. 38, Heckmondwike.)
Almack, Edward, F.S.A., A.I.E.E., 99, Gresham-st., Bank, London, E.C.
Almers, Chas. Louis, A.M.I.E.E., 116, Stockwell Park-rd., Brixton, S.W.
Alnwick Electricity Works. Northern Counties Electricity Supply Co., Ltd., proprietors, Alnwick, Northumberland. (Telegs.: "Kilowatt, Newcastle-on-Tyne." Nat. Teleph. No. 43, Alnwick.) Engineer & general manager, C. W. Fairweather. Resident engineer, J. W. Summerside.
Alston, W. Walne, A.M.I.E.E., chief assistant engineer, Electricity Works, West Bromwich.
Altendorf & Wright, wire manfrs., 2 & 4, Vesey-st., Birmingham. (Telegs.: "Altendorf, Birmingham.")
Altrincham Electric Supply, Ltd., Stamford New-rd., Altrincham. (Nat. Teleph. Altrincham 52, Office; 2, Works.) Registered March 22, 1894. Directors: H. Wolfenden, Esq. (chairman); Sir J. W. Swan, F.R.S., D.SC.; E. B. Ellice-Clark, Esq.; Eustace Cuthbert Quilter, Esq.; Wm. Murray, Esq. Engineer & secretary, Geo. H. Fawcus; station supt., H. C. Caldwell, A.M.I.E.E. Nominal capital: £50,000 in £1 ordinary shares. Issued: £25,000, fully paid, & £25,000 debentures. Dividends: 1906, 5 per cent.; 1907 & 1908, 7 per cent.
Altrincham Technical School, Altrincham, Cheshire. *See* SCHOOLS.
Alty, J. N., A.M.I.E.E., electrical engineer & demonstrator, Faraday House, Southampton Row, London, W.C.
Aluminium Castings Co., Ltd., Ingleston Foundry, Greenock, N.B. (Telegs.: "Castings, Greenock." Teleph. No. 85.)

Aluminium Corporation, Ltd., The. *In voluntary liquidation for the purposes of reconstruction.* Joint liquidators, Robertson Lawson, C.A., 34, Old Broad-st., London, E.C.; & A. H. Gibson, F.C.A., 39, Waterloo-st., Birmingham.

Aluminium & General Foundry Syndicate, Ltd., Romford, Essex. (Telegrams: "Weightless, Romford." Telephone No. 18.)

Aluminium Rectifiers Co., The, Boswell Court Works, Devonshire-st., W.C. (Telegs.: "Stirlingus, London." Teleph. No. 814, Holborn.)

Alverstone, Lord, G.C.M.G., M.I.E.E., Hornton Lodge, Pitt-st., Kensington, London, S.W.

Alvey & Bower, electrical engineers & contractors, Chesterfield. (Nat. Teleph. No. 290.)

Amalgaline, Ltd., lead pipe & cable manufacturers, 41, Holborn Viaduct, London, E.C.

Amalgamated Radio Telegraph Co., Ltd. *In liquidation.* Liquidators, F. W. Pixley & H. Allen, 58, Coleman-st., London, E.C.

Amazon Telegraph Co., Ltd., 42, Old Broad-st., London, E.C. (Teleph. London Wall 9343.) Registered July 5, 1895. Directors: G. Keith, Esq. (chairman & managing); E. B. Ellice-Clark, Esq.; C. W. Parish, Esq. Edmund Petley, F.C.I.S., secretary; F. E. Nosworthy, general manager & engineer. Nominal capital: £250,000 in £10 shares. Issued: £250,000, fully paid. There are also £129,700 5 per cent. debentures & £67,500 6 per cent. preference debentures. The company reserves power to issue further 5 per cent. debentures ranking *pari passu* with above to the extent of £39,100. The whole of the above debentures rank after £150,000 6 per cent. debentures created in 1901.

Amberton, R, electrical engineer, Milford Works, Queen's-rd., Battersea, S.W.

Ambrose, Ernest, A.M.I.E.E., 71, Pelham-rd., Wimbledon, S.W.

American Circular Loom Co., manufacturers of flexible conduits, 27, Chancery-lane, London, W.C. (Telegrams: "Loomkop, London." Telephone No. 5826, Holborn.)

American Hard Fibre Co. Agent, F. Winter, 8, Redcross-st., London, E.C. (Telegrams: "Instantly, London." Telephone No. 3186, Central.)

American Hard Rubber Co., manufacturers of ebonite, vulcanite, &c., Basma House, 13A, Fore-st., London, E.C. (Telegs.: "Ebonisetb, London." Teleph. No. 12754, Central.)

American Machinist (weekly; ann. sub., 30*s.*; abroad, 35*s.*), 6, Bouverie-st., Fleet-st., London, E.C. (Telegs.: "Backlash, London." Teleph. No. 5158, Holborn.)

American Vulcanised Fibre Co., 122 & 124, Golden-lane, London, E.C. (Telegs.: "Insulator, London." Teleph. London Wall 437.)

Ames, F. W., electric light & power engineer, 22, Market-pl., Long Eaton.

Ames, J. G., A.M.I.E.E., 1, Ravencourt-gdns., West Ealing.

Ames Crosta Sanitary Engineering Co., Ltd., makers of tramway specialities, 12, Victoria-st., Nottingham. (Telegs.: "Ames, Nottingham." Teleph. No. 1242.)

Amies & Son, electrical contractors, Long Causeway, Peterborough.

Ammanford Electric Supply, Ammanford, Carmarthenshire. (P.O. Teleph. 11.) Engineer, A. Preston.

Ammon, A. F., importer & exporter of insulating varnishes, 52, Chapel-st., Blackfriars, Manchester. (Telegs.: "Ammon, Manchester." Teleph. City 5566.)

Amos, A. E., The Elms, Topsham. Director Topsham Electricity Supply Co., Ltd.

Ampere Electrical Co., electrical engineers & manufacturers, 6, Fleet-st., Dublin. (Telegs.: "Volt, Dublin." Teleph. No. 2772.)

Anchor Cable Co., Ltd., cable makers & contractors, Anchor Cable Works, Leigh, Lancs. (Telegs.: "Rubber, Leigh, Lancs." Teleph. Leigh 106.)

Anderson, A., M.A., LL.D., professor of natural philosophy, Queen's College, Galway, & Senator of Royal University of Ireland, Earlsfort-ter., Dublin.

Anderson, Alex., installation contractor, 24, Regent Moray-st., Glasgow. (Telegs.: "Acceptance, Glasgow." Teleph. Nos.: 186, Argyle, Nat.; & 4157, P.O. Central.)

Anderson, A. C., electrical engineer, Oaken, nr. Wolverhampton.

Anderson, A. V., Moscow Mansions, Cromwell-rd., London, S.W. Director Arbroath Electric Light & Power Co., Ltd.; director Llanelly & District Electric Lighting & Traction Co., Ltd.

Anderson, Chris, electrician, Lane House, Hunslet, Leeds.

Anderson, Edgar, M.A., B.E., Glenmuir, Palmerston-rd., Dublin. Director Cork Electric Tramway & Lighting Co.; director Clontarf & Hill of Howth Electric Tramway Co.; director Dublin & Lucan Electric Railway Co., Conyngham-rd., Dublin.

Anderson, F. Carleton, electrical power engineer, The Hollies, Chapel-rd., Alderley Edge. (Teleph. No. 301, Alderley.)

Anderson, Frank L., manufacturers' agent & representative. City office: 1, Furnival-st., London, E.C.

Anderson, G. C., A.M.I.E.E., 13, Balmoral Drive, Cambuslang, N.B.

Anderson, H., A.I.E.E., M.I.MECH.E., Swanscombe Works, Swanscombe, Kent.

Anderson, J., director Musselburgh & District Electric Light & Traction Co., Ltd., Queen Anne's-chbrs., Westminster, S.W.

Anderson, Jas., A.M.I.E.E., Ferranti Ltd., Hollinwood, Manchester.

Anderson, John, A.M.I.E.E., electrical engineer, Campfield, Elderslie, Scotland.

Anderson, John, Singapore. Director Singapore Electric Tramways, Ltd.

Anderson, John Arnot, A.M.I.E.E., 7, Marden-ave., Cullercoats, Northumberland.
Anderson, Joseph, Limehurst, Garstang-rd., Preston. Director National Electric Supply Co., Ltd.
Anderson, J. E., 8, Fenwick-st., Liverpool. Director Liverpool Overhead Railway Co.
Anderson, J. F., installation work, 23, Bridge-st., Aberdeen.
Anderson, J. Stewart, superintendent Commercial Cable Co., Dundee. (Teleph. No. 554.)
Anderson, J. Wemyss, M.ENG., M.I.C.E., consulting engineer, The University, Liverpool.
Anderson, Kenneth, director Exchange Telegraph Co., Ltd., 17 & 18, Cornhill, E.C.
Anderson, T. Scott, M.I.E.E., A.M.I.C.E., electro-metallurgist, Royal Insurance-bldgs., Sheffield (Telegs.: "Influence, Sheffield." Teleph. No. 803); & 8, Southbourne-rd., Sheffield.
Anderson, Wm., installation contractor, 118, Douglas-st., Glasgow. (Teleph. No. 1197, Corp.)
Anderson, W., 9, Upper Sackville-st., Dublin. Managing director Dublin United Tramways Co. (1896), Ltd.; director Cork Electric Tramways & Lighting Co., Ltd.
Anderson, W. R., A.M.I.E.E., 15, The Avenue, Leigh, Lancs.
Anderson, W. T., A.M.I.E.E., M.I.M.E., 27, Queen's-ave., Old Trafford, Manchester. (Tel. No. 160, Docks.)
Anderson, A., & Co., engineers' & electricians' furnishers, 10, Crookston-st. South Side, Glasgow. (Nat. Teleph. South Side 1837, & P.O. 101.)
Anderson, Alexander, & Co., electric light & power engineers, 16, Laird-st., Greenock, N.B.
Anderson, Boyes & Co., Ltd., electrical, mining & mechanical engineers, Flemington Electrical Works, Motherwell, N.B. (Telegs.: "Electric, Motherwell." Teleph. No. 37, Motherwell.)
Anderson, D., & Son, Ltd., felt, paint & silicate cotton manufacturers, Finsbury Pavement House, London, E.C. (Telegrams: "Ulster, London." Telephone No. 2046, London Wall); & Lagan Felt Works, Belfast. (Telegrams: "Anderson, Belfast." Nat. Telephone No. 100.)
Anderson, J. & A., 231, St. Vincent-st., Glasgow. (Telegs.: "Farads, Glasgow." P.O. Teleph. No. 1605.) Sole agents in Scotland for the Electric & Ordnance Accessories Co., Ltd., Armorduct Manufacturing Co., Ltd., Premier Accumulator Co., Ltd., Ward & Goldstone, &c.
Anderson & Munro, electric light & power & telephone contractors, 136, Bothwell-st., Glasgow (Telegs.: "Light, Glasgow." Teleph. Corp. 3421; & Argyle 21 Nat.); Randolph-pl., Edinburgh (Telegs.: "Light, Edinburgh." Teleph. No. 356); & St. Andrew-st., Dumfries.
Anderson, Richard, & Co., lightning conductor manufacturers, 101, Leadenhall-st., London, E.C. (Telegs.: "Tonnerre, London." Teleph. No. 5537, Avenue.)
Anderson, Thomas, Ltd., electrical engineers, 53, Derby-rd., Kirkdale, Liverpool.
Anderson, Wm., & Son, electric supplies dealers, 52, Windmillhill-st., Motherwell, N.B. (Tel. No. 181.)
Anderston Foundry Co., Ltd., high-speed engine makers, 100, Cheapside, Glasgow (Telegrams: "Afco, Glasgow." Telephone No. 1388, Argyll); & Port Clarence, Middlesborough. (Telegrams: "Afco, Port Clarence." Telephone No. 45.)
Anderton & Halstead, Ltd., cable cloth manufacturers, Albert Mill, Haslingden, Lancs. (Teleph. No. 17, Nat.)
Andover Lighting & Power Co., Bridge-st., Andover, Hants. (Telegs.: "Temblett, Andover.")
Andrew, John R., telegraph engineer, London & North Western Railway Co., Chester.
Andrew, L., A.M.I.E.E., electrical agent & merchant, Whitworth-st. W., Deansgate, Manchester.
Andrew, S. E., A.M.I.M.E., A.M.I.E.E., Hampden Residential Club, Phœnix-st., London, N.W.
Andrew, W., electrical engineer, 6, George Hotel Yard, Market-st., Bradford. (Teleph. No. 502.)
Andrew, C. H., & Son, Ltd., dynamos, Waterloo-rd., Stockport. (Telegrams: "Twist, Stockport." Telephone No. 190.)
Andrew, Jno. Hy., & Co., Ltd., steel wire manufacturers, Toledo Steel Works, Sheffield. (Telegrams: "Andrew, Sheffield." Telephone Nos. 175 & 2010.)
Andrew, L., & Co., electrical agents & merchants, Whitworth-st. W., Deansgate, Manchester. (Tel. 1896.)
Andrews, A. J., electrical agent, 86, Leadenhall-st., London, E.C.
Andrews, F. E., A.M.I.M.E., The Cottage, Rosemount-rd., Bournemouth. Director Loughborough & District Electric Traction Syndicate, Ltd.
Andrews, Henry George, A.M.I.E.E., electrical engineer, 115, Christchurch-rd., Boscombe, Bournemouth. (Teleph. No. 772.)
Andrews, Henry Godfrey, A.M.I.E.E., Goddard, Massey & Warner, Traffic-st., Nottingham.
Andrews, H. J., engineer & manager, Corporation Telephones, Town Hall, Portsmouth.
Andrews, J., electrician, Park-rd., Spalding.
Andrews, J. D. F., M.I.E.E., A.M.I.C.E., consulting engineer, 47, Victoria-st., S.W. (Teleph. No. 835, Victoria); & 2, Park-ave., East Sheen, London, S.W.
Andrews, John, director South Wales Electrical Power Distribution Co., Royal-chbrs., Queen-st., Cardiff.
Andrews, John L., A.M.I.E.E., 36, Holyhead-rd., Wednesbury, Stafford.
Andrews, John R., A.M.I.E.E., Wingrove House, Wingrove-rd., Newcastle-on-Tyne.
Andrews, Leonard, M.I.E.E., A.M.I.C.E., electrical engineer, c/o Key Engineering Co., Ltd., 4, Queen Victoria-st., London, E.C. (Telegs.: "Andrews, c/o Keypoint, London." Teleph. No. 7234, Central.)
Andrews, L. H., A.I.E.E., electrician, 7, Gladsmuir-rd., Upper Holloway, London, N.
Andrews, Oswald M., M.I.E.E., second engineer, St. James's & Pall Mall Electric Light Co., Ltd., Carnaby-st., Golden-sq., London, W.

Andrews, S., A.M.I.E.E., 133, Mount Annan Drive, Highbury Park, Glasgow. (Teleph. Langside 295 X 6.)

Andrews, Thos. Newton, A.I.E.E., 41, Hill Park-cres., Plymouth.

ANDREWS, W. OSBORNE, electrical engineer, 27, New Bailey-st., Salford (Teleph. City 4594); & 17, Denstone-rd., Irlams o' th' Height, Manchester.

Andrews & Co., electricians, 198A, St. Vincent-st., Glasgow.

Andrews & Mumford, Ltd., electrical apparatus manufacturers, 1, Leather-st., Camberwell, London, S.E.

Andrews, S., & Son, electrical engineers, City-rd., Cardiff.

Anglin, A. H., M.A., professor of mathematics, Queen's College, Cork.

Anglo-American Telegraph Co., Ltd.—General office, 26, Old Broad-street, London, E.C. Registered March 3, 1866. (Telegs.: "Anglo, London." Teleph. Nos. 3316 & 3317, London Wall.) Nominal capital: £7,000,000. Issued: consolidated ordinary stock, £545,920; preferred ordinary stock, £3,227,040; deferred ordinary stock, £3,227,040, all fully paid. T. H. Wells, Esq., secretary; J. H. Carson, Esq., manager. Directors: Francis A. Bevan, Esq. (chairman); Samuel Barber, Esq.; R. H. Benson, Esq.; Sir Charles Burt; Sir Gerald FitzGerald, K.C.M.G.; Herbert S. Leon, Esq.; H. M. Kersey, Esq., D.S.O. Dividends on ordinary stock, 1906, £3 17*s.* 6*d.* per cent.; 1907, £3 10*s.* per cent.; 1908, £3 4*s.* per cent.; & first half of 1909, £1 10*s.* Preferred stock, 1906, £6 per cent.; 1907, £6 per cent.; 1908, £6 per cent.; & first half of 1909, £3. Deferred stock, 1906, £1 15*s.* per cent.; 1907, £1 per cent.; 1908, 8*s.* per cent.; & first half of 1909, *nil.*

Anglo-Argentine Tramways Co., Ltd., 62, Gresham House, Old Broad-st., E.C. Registered Dec. 21, 1876, reconstructed Nov. 19, 1887. Nominal capital: £4,000,000 5 per cent. cumulative preference shares of £5 each, & £2,500,000 5 per cent. cumulative 2nd preference shares of £5 each & £2,500,000 £5 ordinary shares. Issued: £3,200,000 1st preference & all the 2nd preference & ordinary shares, fully paid, & all the debentures. Supplemental trust deed, dated Jan. 22, 1909, to secure £3,900,674 further 4 per cent. redeemable at 102 per cent., ranking *pari passu* with £565,000 4 per cent. debenture stock, covered by trust deed of June 2, 1908, and a trust deed dated July 1, 1909, to secure £1,733,380 4½ per cent. debenture stock. Directors: J. B. Concanon, Esq. (chairman); C. Cicogna, Esq.; H. F. Gunning, Esq.; J. Heaton, Esq.; V. Fris, Esq.; J. Hamspohn, Esq.; H. Stern, Esq.; D. Heineman, Esq.; L. Janssen, Esq.; E. A. Lazarus, Esq.; O. Oliven, Esq.; C. H. Sanford, Esq.; C. M. Rose, Esq. Secretary, W. D. Dawes.

Anglo Asbestos & Rubber Works Co., 15, Edmund-pl., Aldersgate-st., London, E.C.

Anglo-Chinese Gazette (quarterly; ann. sub., 6*s.*), 7, Byward-st., London, E.C.

Anglo-Foreign Manufacturing Co., Ltd., electric light glass globe makers, 44, Farringdon-st., London, E.C.

Anglo-German Wireless Syndicate, Ltd., Audrey House, Ely-pl., London, E.C.

Anglo-Italian Asbestos Co., importers & manufacturers of asbestos & rubber goods, Marsden-chbrs., Marsden-st., Manchester. (Telegs.: "Impregnate, Manchester." A.B.C. Code. Teleph. Central 5461.)

Anglo-Japanese Gazette (monthly; price 6*d.*), 9, Byward-st., London, E.C. (Telegs.: "Kikumon, London." Teleph. No. 1894, Central.)

Anglo-Mexican Electric Co., Ltd., 47, Parliament-st., London, S.W. Registered Jan. 27, 1906. Nominal capital: £300,000 in £1 shares, & £300,000 debentures, secured by a trust deed, dated March 2, 1906. Debentures issued: £280,800.

Anglo-Nigerian Co., Ltd., Boston House, New Broad-st., London, E.C. Registered May 1, 1906. Nominal capital: £1000 in £1 shares.

Anglo-Portuguese Telephone Co., Ltd., 31, Budge-row, London, E.C. (Telegs.: "Diphda, London." Teleph. No. 9690, London Wall.) Registered June 8, 1887. Nominal capital: £100,000 in £1 ordinary shares, & £50,000 5 per cent. debenture stock. Issued capital: £100,000, in ordinary shares of £1 each (fully paid); & £50,000 debenture stock (fully paid). A trust deed, dated March 4, 1905, to secure £50,000 5 per cent. mortgage debenture stock, has been registered. Fredk. A. Bagnall, F.C.I.S., secretary. Directors: Herbert Allen, Esq. (chairman); Hubert Feilden Jackson, Esq.; Fredk. W. Kerr, Esq.; J. E. Kingsbury, Esq.; Chas. Woolley, Esq. Dividends: 1905, 6 per cent.; 1906, 7½ per cent.; 1907 & 1908, 8 per cent.

Anglo-South American Public Works Co., Ltd., 1, Victoria-st., London, S.W.

Anglo-Swiss (H. Cuénod) Construction Co., Thury automatic field regulators, 49, Newgate-st., London, E.C. (Telegs.: "Cecampart, London." Teleph. Central 3497.)

Angold, Arthur Ernest, electrician, Rosthwaite, Hale-rd., Altrincham, Cheshire.

Angus, Col. W. M., C.B., 42, Grainger-st. West, Newcastle-on-Tyne. Director Newcastle & District Electric Lighting Co., Ltd.

Angus, H. W., A.M.I.E.E., corporation electrical engineer, Eccles. (Teleph. No. 50, Eccles.)

Angus, George, & Co., Ltd., manufacturers of leather & indiarubber goods for mechanical purposes, 46, Grainger-st., W.; & 18, Lombard-st., Newcastle-on-Tyne (Tel. Nos. 956 & 957; P.O. 72. A.B.C. & Lieber's Codes used); 7, Bury-st., London, E.C. (Tel. No. 5769); 93, Bridge-st., Deansgate, Manchester (Nat. Tel. No. 1937); Princes-bldgs., 81, Dale-st., Liverpool (Tel. No. 6969); James-st., Bute Docks, Cardiff (Tel. No. 179); 160, Briggate, Leeds (Tel. No. 367); 8A, Dale End, Birmingham (Nat. Tel. No. 2790); & 116, Hope-st., Glasgow. (P.O. Tel. No. 465.) (Telegs.: "Angus," Newcastle-on-Tyne & Liverpool; "Angustate," London, Manchester, Cardiff, Leeds, Birmingham & Glasgow.)

Angwin, V. E., electrical engineer, Hawick.

Annandale, J. H., The Vale, Polton. Director The Scottish Central Electric Power Co.

Annels, Wm., electrical engineer, 77, Mortlake-rd., Richmond, Surrey.

Anness, E. G., A.M.I.E.E., 7, Grosvenor-gdns., Cricklewood, London, N.W.

Annetts, A. W., A.M.I.E.E., chief assistant engineer, Town Council Electricity Works, Morecambe.

Anning, H. M., A.M.I.E.E., Basin House, Haven-rd., Exeter.

Anns, Albert, A.I.E.E., "Glen Lyn," Coperscope-rd., Beckenham, Kent. (Telephone No. 16, Sydenham.)

Ansell, Fredk. Graham, F.C.S., analytical chemist & electrical engineer, Wickwar, Gloucestershire. (Telegrams: "Ansell, Wickwar, Glos.")

Ansell, H., 20, Birchin-lane, E.C. Director Colombo Electric Tramways & Lighting Co., Ltd.; director Para Electric Railways & Lighting Co., Ltd.

Ansell, M., 55, Elm Park-gdns., London, S.W. Director West London & Provincial Electric Supply Co., Ltd.

Anslow, Frank, M.I.E.E., electrical engineer, 19, Havelock-st., Dowanhill, Glasgow.

Anson, F. J., A.I.E.E., 26, Mervan-rd., Brixton, London, S.W.

Anson, John A., A.I.E.E., Brookholme, Vanbrugh Park, Blackheath, S.E.

Anstice, E. P., assistant superintendent, Eastern Telegraph Co., Porthcurnow.

Antacidine Co., insulating paints & varnishes, 27, Chancery-lane, London, W.C.

Anthony, R. E., A.M.I.M.E., motor & electrical engineer, Bromley Works, Mason's Hill, Bromley, Kent.

Anti-Attrition Metal Co., Ltd., 50, Cannon-st., London, E.C. (Telegs.: "Frictionless, London." Teleph. No. 3916, London Wall.)

Anti-Incrustation Boiler Composition Co., composition makers for preventing incrustation in steam boilers, 150, Leadenhall-st., London, E.C. J. A. Evans, manager. (Telegrams: "Slaggy, London.")

Antill, B. H., A.M.I.C.E., M.I.E.E., electrical engineer, York Mansion, York-st., Westminster, London, S.W.

ANTWERP TELEPHONE & ELECTRICAL WORKS, LTD., Rod. B. Bumiller, manager, manufacturers & contractors, Antwerp, Belgium. (Telegrams: "Electrical, Anvers.") Sole agents for the United Kingdom, Messrs. W. F. Dennis & Co., Albert-bldgs., 49, Queen Victoria-st., London, E.C.

Appelbee, N., M.I.E.E., chief electrical engineer, Corporation Electricity Works, Ashton-under-Lyne.

Applebee, G. A., electrical engineer & contractor, 97, Norroy-rd., Putney, London, S.W. (Teleph. No. 742, Battersea.)

Appleby, H. W., M.I.E.E., 8, Quain's Mansions, Queen's Club-gdns., West Kensington, S.W.

Applebys, Ltd., crane & transporter manufacturers, 58, Victoria-st., London, S.W. Works: Glasgow & Leicester.

Applegarth & Co., electrical engineers, 11, Queen Victoria-st., London, E.C. (Telegs.: "Scaphandre, London." Teleph. No. 2059, Central.)

Appleton, C. S., Hayes, Paignton. Director Paignton Electric Light & Power Co., Ltd.

Appleyard, Rollo, A.M.I.C.E., electrician, 79, St. Mary's Mansions, Paddington, London, W.

APPS, A., M.I.E.E., maker of surveying & electrical instruments to the Government, 433, Strand, London, W.C.

Arbroath Electric Light & Power Co., Ltd., Brothock Bank House, Arbroath. (Teleph. No. 136.) Registered Jan. 30, 1908. Nominal capital: £30,000 in £1 shares, 22,270 of which are issued. Directors: G. Balfour, Esq.; S. Renny, Esq.; A. V. Anderson, Esq. Engineer, J. C. Christie; secretaries, Clark & Oliver.

ARC LAMPS, LTD. (DAVY ARC LAMPS), Crown-bldgs., 62, Old Broad-st. London, E.C. (Telegs.: "Management, London;" "Voltarcon, St. Albans." Teleph. No. City 50; & 258, St. Albans.) Works: Sphere Engineering Works, St. Albans, Herts. Registered July 11, 1901. Nominal capital: £60,000 in £1 shares. Issued: 55,300 shares fully paid. Debentures: £4000. Directors: C. W. Milne, Esq. (chairman); A. E. Bennett, Esq.; W. J. Davy, Esq. (managing). Secretary, Horace B. Clark. *See inset advt.*, ARC LAMPS.

Arc Works Engineering Society, Arc Works, Chelmsford. President, Lieut.-Col. R. E. B. Crompton, C.B.; hon. secretaries, E. S. Shoults & H. MacCallum.

Archdale Engineering Co., electrical & general engineers, 173, Battersea Park-rd., London, S.W. (Telegs.: "Eleceion, London." Teleph. No. 589, Victoria.)

Archdale, James, & Co., lathe makers for electricians, Manchester Works, Ledsam-st., Birmingham. (Telegrams: "Archdale, Birmingham." Telephone No. 3558.)

Archer, Dr. A. M., "Bellevue," Delgamy, co. Wicklow. Chairman Greystones Electric Light & Power Co., Ltd.

Archer, G., chief assistant engineer, Electricity Supply Station, Fleet-st., Dublin.

Archer, Ralph M., A.R.C.SC., B.SC., M.I.E.E., Wade-ave., Littleover, Derby.

Archer, T. J., station superintendent, Corporation Electricity Works, Walsall.

Archer, W. H., electric light engineer, Hanover-rd., Scarborough.

Archer, W. F., & Sons, electric bell & electric fittings manufacturers, 73, Lord-st., Liverpool.

Archibald, R. D., A.M.I.E.E., The Technical College, Glasgow.

Archives of the Roentgen Ray & Allied Phenomena (monthly, 1s. 6d.; postage, 2d.; ann. sub., 16s. net, post free in advance), Rebman, Ltd., 129, Shaftesbury-ave., London, W.C. (Telegs.: "Squama, London." Teleph. No. 2026, Gerrard.)

Archway Hardware Stores, electric bell fitters & contractors, 98, Archway-road, Highgate, London, N.

Arculus, A., & Co., globes for electric lighting purposes, in flint, opal, alabastrine, 295, Broad-street, Birmingham. (Telegrams: "Arculus, Birmingham." Telephone No. 910.)

Ardrey, J., electrical agent, 43A, High-st., Belfast. (Telegs.: "Ardrey, Belfast." Teleph. No. 1134.)

Ardron, J., C.B., A.I.E.E., "Fairview," Whitchurch-lane, Edgware.

Ardrossan, Saltcoats & District Tramways Co., 37, Castle-st., Edinburgh. Capital: £100,000. Directors: W. C. Peebles, Esq.; R. S. Portheim, Esq.; A. W. Tait, Esq.

Armfield, Joseph John, & Co., consulting engineers, makers of the British Empire turbine, 20, Mark-lane, London, E.C. (Telegrams: "Transformation, London." Telephone No. 2409, Central); & Vale of Avon Ironworks, Ringwood, Hampshire. (Telegrams: "Armfield, Ringwood.")

Armistead, William, engineer, director Rees Roturbo Manufacturing Co., Ltd., Wolverhampton. (Telegs.: "Armistead, c/o Hydroturbo, Wolverhampton." Teleph. No. 34.)

Armitage, Arthur, A.M.I.E.E., chief assistant engineer, Electricity Dept., Talbot-st., Nottingham.

Armitage, D., A.M.I.E.E., 15, Evering-rd., Stoke Newington, N.E.

Armitage, R., J.P., M.P., Farnley, nr. Leeds. Director Yorkshire Electric Power Co.; director Electrical Distribution of Yorkshire, Ltd.; director Belfast & North-East Ireland Electricity & Power Gas Co.

Armitage, T. A., electrical engineer, 44, Buxton-rd., Huddersfield. (Nat. Teleph. No. 303.)

Armitage & Co., electrical engineers & contractors, 27A, Gloucester-st., Queen-sq., London, W.C. (Telephone No. 4677, Holborn.)

ARMORDUCT MANUFACTURING CO., LTD., manufacturers of "Armorduct" conduit, wires & cables of every description, electrically operated tools, arc lamps, metallic filament lamps & electrical accessories. Head office: Farringdon-ave., London, E.C.; & at 44, Blackett-st., Newcastle-on-Tyne. Works: Bathurst Works, Witton, nr. Birmingham. (Telegs.: "Armorduct," London, Newcastle-on-Tyne & Birmingham. Teleph. Nos.: London, 400, Holborn (2 lines); Newcastle-on-Tyne, 2827, Central; Witton Works, 812, East.) Stores depôts at Bristol, Cardiff, Swansea, Birmingham, Manchester, Glasgow, Belfast & principal Colonial & European centres. *See advt. on top edges.*

Armoured Concrete Construction Co., conduits, 5, Westminster Palace-gardens, London, S.W.

Armstrong, E., local manager & engineer, National Telephone Co., 52, Cambridge-rd., Hastings.

Armstrong, E. F., PH.D., consulting chemist, 55, Granville-park, Lewisham, S.E.; & Central Technical College, Exhibition-rd., S.W., London.

Armstrong, F., electrical engineer, Baker-st., Weybridge.

Armstrong, F., director Somerset & District Electric Power Co., Ltd., Broad Sanctuary-chbrs., Westminster, S.W.

Armstrong, Fred., George Hotel, Penrith. Director Penrith Electric Supply Co., Ltd.

Armstrong, G. E., M.SC., principal & head of Electrical Engineering Dept., Municipal Technical School, Londonderry.

Armstrong, G. H., A.I.E.E., electrical engineer & electric light contractor, Chester-le-Street. (Telephone Nos.: 12, Nat.; & 15, P.O.)

Armstrong, J. A., A.I.E.E., electrical engineer, 34, Oakley-rd., Ranelagh, Dublin.

Armstrong, John H., St. Nicholas-chbrs., Newcastle-on-Tyne. Director Newcastle-on-Tyne Electric Supply Co., Ltd.; director Tyneside Tramways & Tramroad Co.; director Priestman Power Co., Ltd.; chairman County of Durham Electric Power Supply Co.; director County of Durham Electrical Power Distribution Co.; director Tyneside Electrical Development Co., Ltd.

Armstrong, Prof. H. E., PH.D., F.R.S., professor of chemistry, City & Guilds of London Central Institution, Exhibition-road, London, S.W.

Armstrong, R. W., 7, Victoria-sq., Newcastle-on-Tyne. Director Cleveland & Durham County Electric Power Co.; director Cleveland & Durham Electric Power, Ltd.

Armstrong, Rt. Hon. Lord, director Collieries Electric Power Development Syndicate, Ltd., Dashwood House, Broad-st., E.C.

Armstrong, Addison & Co., creosoted telegraph poles, Sunderland.

Armstrong & Co., electricians & engineers, Twickenham, London, S.W. (Telegrams: "Armstrongs, Twickenham.")

Armstrong College, Newcastle-on-Tyne. (Teleph. No. 2570.) *See* SCHOOLS.

Armstrong & Hogg, installation contractors, 43, Grindlay-st., Lothian-rd., Edinburgh. (Teleph. No. 3939 Y.)

Armstrong, Sir W. G., Whitworth & Co., Ltd., mechanical engineers, &c., Elswick Works, Newcastle-on-Tyne. (Telegrams: "Elswick, Newcastle-on-Tyne." Telephone No. 1008.) London office: 8, Great George-st., S.W. (Telegrams: "Jesmond, London." Telephone No. 229, Westminster.)

Armstrong, Stevens & Son, manufacturers of electricians' tools & appliances, Whittall-st., Birmingham. (Telegs.: "Armstrongs, Birmingham.")

Army & General Stores, Ltd., electrical & general engineers, 26, Broad Marsh, Nottingham. (Telegs.: "Army Stores, Nottingham." Teleph. No. 3037.)

Army & Navy Auxiliary Co-operative Supply, Ltd., electrical engineers & contractors, Francis-st., Victoria-st., London, S.W. (Telegs.: "Auxiliary, London." Teleph. No. 64, Westminster.)

Arnison, G. N., & Sons, wiring contractors, 42, Borough-rd., Sunderland.

Arnold, Edward W., B.A., A.M.I.E.E., Redbourn Bury, St. Albans.

Arnold, H. R., The Lees, Malvern. Director of the Associated Cos. of the British Electric Traction Co., Ltd.

Arnold, J. E., civil, electrical & mechanical engineer, 9, Camden-st., Islington, London, N.

Arnold, A. G., & Son, electrical engineers, Market-st., Newport. (Telegs.: "Arnolds, Newport." Teleph. Nat. 118. Night Teleph. Nat. 673.)

Arnold & Sons, electrical & medical instrument makers, 26, 30 & 31, West Smithfield, & 1–3, Giltspur-st., E.C. (Telegs.: "Instruments, London." Teleph. No. 518, Holborn.)

Arnot, J. F., director Delagoa Bay Development Corporation, Ltd., 85, Gracechurch-st., London, E.C.

Arnot, William, M.I.C.E., M.I.E.E., M.I.M.E., electrical engineer, consulting electrical engineer, 163, Hope-st., Glasgow. (Telegs.: "Induction, Glasgow." Teleph. No. Nat. 638, Argyle.)

Aron Electricity Meter, Ltd., electricity meter & electric clock manufacturers, 80A, Salusbury-rd., Kilburn, N.W. (Teleph. No. 1865, Paddington.) Registered Aug. 25, 1898. Nominal capital: £250,000 in £1 shares (125,000 of which are preference). £75,000 debentures. Issued: all the ordinary, considered as paid, & all the preference, fully paid, & £60,000 debentures, of which £27,800 have since been redeemed. Directors: H. Hirst, Esq. (chairman); Sir James Pender, Bart.; S. Barclay Heward, Esq.; H. Kahn, Esq.; Col. R. E. B. Crompton, C.B.; R. W. Wallace, Esq., K.C.; Geheim. Rath. Prof. Dr. H. Aron (managing). Engineer, E. Dormann, A.M.I.E.E.; secretary, M. Aron, F.C.I.S. Dividends: 1906, 6 per cent.; to Sept. 30, 1907, 9 per cent. on account of preference dividends in arrear; to March 31, 1908, 7 per cent. on account of arrears of preference dividend; to March 31, 1909, 10 per cent.

Aronsberg, A., electrician & optician, 12, Victoria-street, Manchester.

Aronsberg, Chas., & Co., electricians, 24, Manchester-st., Liverpool. (Teleph. No. 6083, Central.)

Arthur, Allan, A.M.I.C.E., A.M.I.E.E., electrical engineer, 192A, St. Vincent-st., Glasgow.

Arthur, A. J., engineer, Tonyrefail & Gilfach Goch Electric Light Co., Ltd., Mill-st., Tonyrefail.

Arthur, H. H., A.M.I.E.E., Urban District Council's Electricity Works, Ilford.

Arthur, J. M., director Coatbridge & Airdrie Elec. Supply Co., Ltd., Electricity Works, Coatbridge, N.B.

Arthur, Allan & Ure, electrical engineers & contractors, 192A, St. Vincent-st., Glasgow. (Telegs.: "Allure, Glasgow." Teleph. P.O. 3945; & Nat., Argyle 906.)

Arundell, Wm. H., A.I.E.E., electrical engineer, Market-st., Maidenhead.

Arvon Electric Co., engineers & contractors, 28, New-st., Carnarvon.

Asbestos & Asbestic Co., Ltd. (Turners & Manville, Ltd., sole agents), asbestos mine owners, 5, Lloyds-ave., London, E.C. (Telegs.: "Vulbeston, London." Teleph. Avenue 1458.)

Asbestos & General Paint Co., Ltd., paint manufacturers, 34, Deansgate, Manchester. (Telegs.: "Salamander, Manchester." Nat. Teleph. City 1697.) Works: Norwood-rd., Birmingham. (Telegs.: "Asbestos, Birmingham." Nat. Teleph. Victoria 292.)

Asbestos & Rubber Co., Ltd., indiarubber, gutta-percha & asbestos manufacturers, Hull.

Ascot District Gas & Electricity Co., 50, Cannon-st., London, E.C. Registered Aug. 4, 1906. Authorised capital: £90,000. Issued: £70,000 in £10 shares, fully paid, & £16,480 debentures. Directors: J. Manwaring, Esq. (chairman); S. Spencer, Esq.; H. Woodhall, Esq.; A. Kitt, Esq. Manager, A. E. Brooks; secretary, W. A. Schultz, F.C.A., J.P. Dividends: 1906–1907, 5½ per cent.; & 1907–1908, 5½ per cent.

Ash, Wm. H., superintendent, Eastern Telegraph Co., Porthcurno, Treen, R.S.O., Cornwall.

Ashberry, P., & Sons, Ltd., electro-platers & gilders, 21, Bowling Green-st., Sheffield. (Telegs.: "Britannia, Sheffield." Teleph. No. 2946.)

Ashby, C. F., district manager (East Kent), National Telephone Co., Ltd., 11, Bench-st., Dover. (Telegs.: "National Telephone, Dover." Teleph. No. 376.)

Ashby, Geo. F., electric bell manufacturer, 184, King's-road, Chelsea, London, S.W.

Ashby, J., J.P., The Old Bank, Staines. Chairman Woking Electric Supply Co., Ltd.

Ashby, Jos. A., electrical engineer, John Davis & Son (Derby), Ltd., All Saints' Works, Derby.

Ashby, M. W., director Woking Electric Supply Co., Ltd., Board School-rd., Woking.

Ashby, Morris, Ltd., zinc merchants, 17, Laurence Pountney-lane, London, E.C. (Telegrams: "Ashby, London.")

Ashford, H. Leonard, designer of electrical fittings, 5, John-st., Adelphi, London, W.C.

Ashford & District Electric Supply Co., Ltd., 118, Queen Victoria-st., London, E.C. Registered Dec. 12, 1903. Nominal capital: £1000 in £1 shares. Directors: G. D. Handley, Esq.; W. T. Pressland, Esq. Secretary, J. W. Cranfield.

Ashlin, F. J. W., A.M.I.E.E., 30, Thornhill-rd., Handsworth, Birmingham. (Local Teleph. Northern 566.)

Ashton, A. G., electrician, Royal Laboratory, Woolwich Arsenal, London, S.E.

Ashton, A. W., M.SC., A.M.I.E.E., head of Electrical Engineering Department, Battersea Polytechnic, London, S.W.

Ashton, Harold, electrical engineer & contractor, 8 & 10, Bull's Head-yard, Manchester. (Nat. Teleph. City 3314.)

Ashton, John, district manager, National Telephone Co., Telephone-bldgs., Rutland-st., Leicester.

Ashton, J. H., electrical engineer, 19, Dry Hill Park-rd., Tonbridge.

Ashton, R. G., electrical engineer, 16, Grosvenor-rd., Heaton Moor.

Ashton, D., & Co., electrical engineers, Aztec Works, Neepsend, Sheffield.

Ashton & Holt, electrical engineers, Ryde.

Ashton, J., & Son, Ltd., leather belt & leather link belt makers, Gorton Tannery, nr. Manchester. (Telegs.: "Straps, Gorton." Nat. Teleph. Openshaw 3. A.B.C. Code.)

Ashton & Johnson, electrical engineers, 133, Deansgate, Manchester.

Ashton, T. A., Ltd., electrical engineers, Norfolk-st., & Change-alley, Sheffield. (Telegs.: "Ashton, Sheffield." Teleph. Nos. 12, 1810 & 1561.)

Ashton-under-Lyne Corporation Electricity Works & Electric Tramways. (Nat. Telephone No. 201.) N. Appelbee, engineer; J. W. Dugdale, tramway manager.

Ashworth, J. R., D.SC., head of electrical engineering department, Municipal Technical School, Rochdale.

Ashworth, Geo. L., & Bros., earthenware manufacturers for electrical purposes, Broad-street, Hanley; 26, Ely Place, London, E.C. (Telegrams: "Ashworth, Hanley." Telephone No. 35.)

Ashworth & Parker, builders of high speed steam engines, Bury, Lancs. (Telegs.: "Kinetic, Bury." Teleph. No. 185.)

Askew, Jas., A.M.I.E.E., 10, Tomlinson-rd., Ashton-on-Ribble, Preston, Lancs.

Aspinall, A., engineer & manager, Corporation Electricity Works, Brighouse, Yorks.

Aspinall, Frank Boulton, M.I.E.E., City of London Electric Light Station, Bankside, S.E.

Aspinall, J. A. F., general manager, Lancashire & Yorkshire Railway Co., Hunt's Bank, Manchester. (Telegs.: "Transit, Manchester." Teleph. City 88.)

Aspinall, Wm. L., analytical & consulting chemist & assayer, Chemical Laboratory, Cowper-st., E.C.; & 3, Savage-gdns., E.C.

Asquith, Wm., Ltd., machine tool makers, High-rd. Works, Halifax. (Telegs.: "Drill, Halifax." Teleph. No. 695.)

Assersohn, D., electric lighting contractor, 20, Commercial-st., London, E. (Teleph. No. 9357, London Wall.)

Associated Battery Co., Ltd. Head office & works: Mid Kent Works, Penge, S.E. (Telegs.: "Unibaco, London." Teleph. Sydenham 166.) Secretarial office: Broad Sanctuary-chbrs., Westminster, S.W.

Associated Municipal Electrical Engineers of Greater London. A. C. Cramb, Croydon, secretary.

Associated Portland Cement Manufacturers (1900), Ltd., Dixon House, 72, Fenchurch-st., London, E.C. Works Department: Park House, Gravesend.

Association of Engineers-in-Charge, St. Bride's Institute, Bride-lane, London, E.C. President, Henry Adams, M.I.C.E., M.I.MECH.E.; hon. sec., Hy. Capsey, 112, Melbourne-grove, East Dulwich, S.E.

Association of Municipal Corporations, 9, Bridge-st., Westminster, London, S.W. (Telegs.: "Pritchard, London." Teleph. No. 3169, Gerrard.) J. Harmood Banner, M.P., president; A. H. Scott, M.P., vice-president; A. Goring Pritchard, secretary.

Association of Technical Institutions. President, G. T. Beilby, LL.D., F.R.S.; chairman of the Council, R. Mullineux Walmsley, D.SC., F.R.S.E., M.I.M.E.; hon. secretary, R. S. Clay, principal Northern Polytechnic, Holloway, London, N.

Astbury, C. T., resident electrical engineer, Urban District Council Electricity Works, Atherton, Lancs.

Astbury, W. H., lathe & machine tool maker, Brougham-chbrs., Wheeler-gate, Nottingham.

Aster Engineering Co., Ltd., engineers & petrol & paraffin engine builders, Wembley, Middlesex. (Telegs.: "Aster, Wembley." P.O. Teleph. Wembley 22.)

Aster, Ltd., machinery manufacturers, 407, Oxford-st., London, W.

Aston, E. A., Woodleigh, Upper Castle-ave., Clontarf, Dublin. Director Dublin & Central Ireland Power Syndicate, Ltd.

Aston Bros, Ltd., electrical engineers, 38, Donegall-st., Belfast. (Telegs.: "Dynamo, Belfast." Telephone 731.)

Aston-Manor Corporation Electricity Works, Chester-st., Aston-Manor, nr. Birmingham. (Teleph. East Birmingham 18.) Borough electrical engineer, R. Foster.

Aston Manor Technical School, Whitehead-rd., Aston, Birmingham. *See* SCHOOLS.

Atchison, C. C., M.I.E.E., borough & tramways electrical engineer, Rochdale.

Atchley, C. A., electric power engineer, Oldland, Kilmacolm, Scotland. (Teleph. No. 166, Kilmacolm.)

Atherley-Jones, L. A., K.C., M.P., 25, Pembroke-rd., Kensington-gdns., W. Director of some of the Associated Cos. of the British Electric Traction Co., Ltd.

Atherton, Jacob, Hurst Park, nr. Prescot, Lancs.; & York House, Norfolk-st., London, W.C. Chairman South London Electric Supply Corp., Ltd.; director New St. Helens & District Tramways Co., Ltd.

Atherton Technical School, Atherton, Lancs.

Atherton Urban District Council Electricity Works, Atherton, Lancs. (Teleph. No. 34.) Consulting engineer, T. L. Miller; resident engineer, C. T. Astbury.

Atkey, Pascall & Son, Ltd., electric light engineers, 29 & 30, High-st., 2, Railway-st., & Medina River Wharf, West Cowes. (Teleph. No. 57, Y.)

Atkin, F. C. D., A.M.I.E.E., Queen's College, Galway.

Atkins, A. H., A.M.I.E.E., c/o W. Heap & Co., 17, Water-st., Liverpool.

Atkins, H. C., A.R.S.M., A.I.E.E., St. Leonard's, Poplar-ave., Edgbaston, Birmingham.

Atkins, R. A., J.P., local director National Telephone Co., 91, South Mall, Cork.

Atkins Filter Engineering & Water Softening Co., Ltd., 71, Southwark Bridge-rd., London, S.E.

Atkinson, G. A. S., A.I.E.E., Technical Institute, Crewe.

Atkinson, J. T., A.M.I.E.E., 15, York-ter., North Shields.

Atkinson, Llewelyn B., A.M.I.C.E., M.I.E.E., civil & electrical engr., Alster, Little Hampden, Gt. Missenden, Bucks. Director W. T. Glover & Co., Ltd.; director Trafford Power & Light Supply (1902), Ltd.

Atkinson, R., Ingleton, Yorks. Director Ingleton Electric Lighting & Power Co., Ltd.

Atkinson, W., Ingleton, Yorks. Director Ingleton Electric Lighting & Power Co., Ltd.

Atkinson & Co., Ltd., electric lighting contractors, 11–14, Addington-st., York-rd., London, S.E. (Telegs.: "Atkinson Company, London." Teleph. No. 709, Hop.)

Atlas Carbon & Battery Co., Ltd., makers of Primary batteries, carbons, carbon brushes, &c., 19, Ewer-st., London, S.E. (Telegs.: "Altisonant, London.") The last return filed shows that out of a nominal capital of £2000 in £1 shares, the whole of the shares have been taken up & are paid up in full. *See* BATTERIES—DRY, GALVANIC, PRIMARY, CARBON RODS, DYNAMO BRUSHES, MANGANESE MERCHANTS, MOTOR CAR CELLS, & ZINC RODS.

Atlas Engineering Co., machine tool makers, Levenshulme, Manchester. (Telegrams: "Atlas Works, Levenshulme." Telephone No. 95, Rusholme.)

Attwater & Sons, steam & hydraulic engine packing manufacturers, Hopwood-st. Mills, Preston. (Telegrams: "Attwater, Preston." Nat. Telephone No. 45.)

Attwaters, W., electric wiring contractor, St. George's-lane, Canterbury. (Teleph. No. 2 X 2.)

Aubert, Wm., jun., consulting engineer, 16 & 18, Harp-alley, St. Bride's-st., London, E.C.

Aublet, Harry, & Co., Ltd., electrical engineers, 53, Curtain-rd., E.C. (Telegs.: "Aublet, London." Teleph. No. 74, London Wall.)

Auckland, Jas., A.M.I.E.E., Hillside, Llanelly, South Wales.

Auckland Electric Tramways Co., Ltd., Electrical Federation Offices, Kingsway, W.C. Registered March 22, 1899. (Telegs.: "Auckland, c/o Tramways, London." Teleph. Holborn 2686.) Nominal capital: £350,000 in £1 ordinary shares & £50,000 6 per cent. cumulative preference shares of £1 each & £400,000 debenture stock. Issued: £350,000 ordinary shares, £50,000 preference shares & £335,100 debenture stock. The company has to provide annually, under trust deed (commencing 1908), a sum equal to 1 per cent. of issued stock. Stock redeemed, £6098. Amount outstanding, £329,002. Directors: C. G. Tegetmeier, Esq. (chairman); C. S. B. Hilton, Esq.; W. G. A. Bond, Esq.; Lieut.-Col. H. Burton. General manager & engineer, J. J. Walklate; assistant, F. E. de Guerrier; secretary, W. F. Herring; (local directors) P. M. Hansen, Esq.; & Chas. Rhodes, Esq. Dividends: 1905 & 1906, 7 per cent.; 1907, 6 per cent. *Interim* on ordinary shares paid Nov. 1, 6 per cent.

Aulagnier, Louis E., A.M.I.E.E., "Crosby," Brampton-grove, Hendon, N.W.

Auld, Wm., & Sons, electrical engineers & light & power contractors, 70, Sandgate, & 48, Fort-st., Ayr. (Nat. Teleph. No. 5, X.)

Ault, R. A., & Sons, electrical engineers, 71 & 73, Talbot-st., & 559, Lord-st., Southport. (Telegs.: "Ault, Southport." Teleph. Southport 224 & 224A.)

Ault, Edwin, consulting engineer, 47, Victoria-st., Westminster, London, S.W. (Telegs.: "Gradients, London.")

Aulton, F. P., M.I.E.E., Turnaston Cottage, Vowchurch, Hereford.

Aust, J. F., electrical engineer, Shelton Coal, Iron & Steel Co., Stoke-on-Trent.

Austen, J. S., 68, Dashwood House, New Broad-st., E.C. Director Venezuela Telephone & Electrical Appliances Co., Ltd.; director South Lancashire Electric Supply Co., Ltd.; director Lancashire United Tramways, Ltd.; director New St. Helen's & District Tramways Co., Ltd.; director Lancashire Light Railways, Ltd.; director Caracas Electric Tramways Co., Ltd.

Austin, E. P., deputy borough electrical & tramways engineer & manager, Corporation Electricity Works, Chesterfield. (Teleph. No. 78.)

Austin, Gilbert, A.M.I.E.E., 49, Polwarth-gdns., Hyndland, Glasgow.

Austin, H. S. E., A.M.I.E.E., assistant engineer, Corporation Electricity Works, Duke-st., Norwich.

Austin & Co., electrical engineers, 8, Leadenhall-st., London, E.C. (Teleph. No. 10503, Central.)

Austin & Son, electric light contractors, 4 & 6, Sandall-rd., London, N.W.

Australasian Hardware & Machinery (monthly; ann. sub., 5*s*.), 42, Cannon-st., London, E.C. (Teleph. No. 852, Bank.) Head office: Melbourne.

Australian Electrical Co., Ltd., 20, Copthall-ave., London, E.C.

Australian Mining Standard & Electrical Record (weekly), 2, Nicholas-passage, Lombard-st., London, E.C., (Ann. sub., 30*s*. post free.) (Telegs.: "Critcharka, London." Teleph. No. 2020, Central.) *See advt., page* 846.

Austwick, Percival Charles, A.I.E.E., 423, Birkbeck Bank-chbrs., Holborn, London, W.C.; & Longleat, Sideup, Kent.

Autocar (weekly), 20, Tudor-st., London, E.C. (Telegs.: "Autocar, London." Teleph. Holborn 5610 & 5611); & 19, Hertford-st., Coventry. (Teleph. No. 10.) (Price 3*d.*)

Auto Claw Co., Ltd., electrical & mechanical engineers, 148-150, Curtain-rd., London, E.C. *In voluntary liquidation.* Liquidator, S. P. Child, 8, Frederick's-pl., Old Jewry, E.C.

Auto-Controller & Switch Co., Fluxite manufacturers, Simplex Works, Vienna-rd., Jamaica-rd., Bermondsey, London, S.E. (Telegs.: "Autocontroller Co., Bermondsey, London." Nat. Teleph. Hop 2660.)

AUTOMATIC STANDARD SCREW CO., HALIFAX. (TELEGS.: "STANDARD." TEL. 992.)

Automobile Electric Lighting Syndicate, Ltd., Queen's College, Paradise-st., Birmingham. Registered May 15, 1909. Nominal capital: £5000 in £1 shares, 2500 of which are deferred. Directors: J. Polkey, Esq.; W. Peto, Esq.; A. R. Lancaster, Esq.

Automobile Owner & Steam & Electric Car Review (monthly; price 3*d.*; ann. sub., 4*s.* 6*d.*), 67-69, Chancery-lane, London, W.C. (Telegs.: "Safedom, London." Teleph. No. 5082, Holborn.)

"Auto" Recorder Co., makers of CO_2 Recorders, Rent-st. Works, Leicester. (Telegs.: "Sifting, Leicester." Teleph. No. 575.)

Auto Stoker Co., mechanical stoker makers, Ryecroft-st., Ashton-under-Lyne. (Teleph. 375 Ashton.)

Auxiliary Electrical Co., Ltd., Salisbury House, London Wall, London, E.C.

Auxiliary & Light Railways & Tramways Co., Ltd., 20, Victoria-st., S.W.

Avens, Frederick, & Co., gas & oil engine makers, Trusty Engine Works, Stroud, Glos. (Telegs.: "Avens, Stroud." Teleph. No. 143, Y. 2.)

Avery, A. H., A.I.E.E., electrical apparatus, dynamo & electric machine manufacturer, Fulmen Works, Park-st., Tunbridge Wells. (Telegs.: "Avery, Engineer, Tunbridgewells.")

Avila, John F., A.M.I.E.E., London & South of England manager of Simplex Conduits, Ltd., 113, 115, & 117, Charing Cross-rd., London, W.C. (Telegs.: "Audiphone, London." Teleph. No. 8101, Central.)

Axworthy, W. A., 26, Palace-ave., Paignton. Director Paignton Electric Light & Power Co., Ltd.

Aylesbury Engineering Works, general engineers, St. James-st., Clerkenwell, London, E.C. (Teleph. No. 1482, Holborn.)

Ayr Corporation Electricity Supply Works & Tramways, Ayr. Roland Marshall, M.I.E.E., burgh elec. engr.

Ayres, A., M.I.C.E., Ashleigh, Truro-rd., Wood Green, N. Director Coatbridge & Airdrie Electric Supply Co., Ltd.

Ayres, S. M., electrical & mechanical engineer, manufacturers' agent & dealer in all kinds of electrical & mechanical goods, 6, Leather-lane, Carrick-on-Suir, Ireland.

Ayrton, Mrs. Hertha, M.I.E.E., 41, Norfolk-sq., London, W. (Teleph. Mayfair 2707.)

Ayrton, William, & Co., engineers, machinists & tool makers, Gorebrook Iron Works, Longsight, Manchester. (Telegrams: "Spooler, Manchester." A.B.C. Code.)

Ayton, Frank, A.M.I.E.E., chief engineer & manager Corporation Electric Supply & Tramways Departments, Ipswich.

Ayton, Reginald, electrical superintendent, County of Durham Electrical Distribution Co., Central Power Station, Gateshead. (Teleph. No. 319-320, Nat.)

B. D. K. Co., Ltd., 46, Leadenhall-st., London, E.C. Registered Sept. 10, 1907. Nominal capital: £26,525 in 25,000 "A" preference shares of £1 each, 5500 "B" preference & 25,000 ordinary shares of 1*s.* each, all issued. Directors: J. W. Johnston, Esq.; G. Gall, Esq.; T. Kirkpatrick, Esq. Secretary, E. G. Scott.

B. F. C. Syndicate, Ltd., electrical & mechanical engineers, 2, Norfolk-st., Strand, London, W.C.

B. N. C., Ltd., electric lamp manufacturers, 7, Great St. Helens, London, E.C.

B. P. D. Syndicate, Ltd., 1, Queen Victoria-st., London, E.C. Registered June 25, 1906. Nominal capital: £6000 in £1 shares, of which 4007 are issued. Directors: E. Manville, Esq.; A. E. Mills, Esq.; W. Rutherford, Esq.; T. S. Turnbull, Esq.

Babb, H., assistant engineer, Urban Electric Supply Co., Ltd., Dartmouth.

Babbage, T., electrician, 38, West Exe, Tiverton.

BABCOCK & WILCOX LTD., engineers & patent water tube boiler makers, Oriel House, 30, Farringdon-st., London, E.C. (Telegs.: "Babcock, London." Teleph. No. 5540 (4 lines), Holborn); 29, St. Vincent-pl., Glasgow (Telegs.: "Babcock, Glasgow." Teleph. No. 3110); 14, Deansgate, Manchester (Telegs.: "Babcock, Manchester." Teleph. No. 3112); & Renfrew. (Telegs.: "Babcock, Renfrew." Teleph. No. 4652.) *See advt., page* 6.

Bablake School of Science, Coventry. *See* SCHOOLS.

Bacchus, H., electric light & power contractor, Bedford.

Bache, Walter J., M.I.E.E., borough electrical engineer, Manchester-st., Cheltenham. (Teleph. No. 331.)

Baek & Manson, metal merchants & representatives of John A. Roebling's Sons Co. of New York, Egypt House, 36, New Broad-st., E.C. (Telegs.: "Baek Manson, London." Teleph. London Wall 2592.)

Baeker, H. de, 48, rue Naples, Brussels. Director Chilian Electric Tramway & Light Co., Ltd.

Bacon, A. R., A.M.I.E.E., resident engineer, County of London Electric Supply Co., Ltd., City-rd., E.C.; & 13, Glenloch-rd., Belsize Park, London, N.W.

Bacon, Frederic, A.M.I.E.E., Royal Naval College, Greenwich, S.E.

Bacon, J. J. C., A.I.E.E., 78, South-st., Ponders End, London, N.

Bacon, Thos. Henry, electrical engineer, 25, Budge-row, Cannon-st., E.C. (Telegs.: "Rostator, London." Teleph. No. 3577, London Wall.)

Bacon, T. W., A.I.E.E., Ramsden Hall, Billericay, Essex.

Bacon, W., district representative Siemens Bros. Dynamo Works, Ltd., 32, Bridge-st., Bristol.

Bacon & Curtis, Ltd., electric light apparatus manufacturers, High-st., Poole (Teleph. No. 4); 9, Regent's-terrace, Bournemouth (Teleph. No. 11); & Commercial-rd., Parkstone. (Teleph. No. 54.)

Badger, J., & Co., electric light apparatus manufacturers, 11, Summer-row, Birmingham.

Badger, Sons, & Co., Ltd., mechanical & electrical engineers, Cupola Works, Masbrough-st., Rotherham.

Badische Co., Ltd., acid manufacturers, 22, Bush-lane, London, E.C. (Telegrams: "Badische, London." Telephone No. 839, Bank.)

Badman, W. J., & Co., electrical engineers, Orchard-st., Weston-super-Mare. (Nat. Teleph. No. 9, X.)

Badois, V. C., electric light, bell, telephone & fire alarm contractor, 26, Victoria-st., Windsor.

Badoureau & Jones, Ltd., electrotypers, Poppin's-ct., Fleet-st., E.C.

Baerlein & Co., engineers & export merchants, 12, Blackfriars-street, Salford, Manchester. (Telegrams: "Baerlein, Manchester." Nat. Telephone No. 503.)

Baeuerle, Math., clock wheels & movements for manufacturing purposes (M. Seeck, agent), 6, Henrietta-st., Covent Garden, London, W.C.

Baeuerle, T., & Söhne, clockwork for electrical purposes, represented by L. F. Brunner, 279, Romford-rd., Forest Gate, E.

Baggs, H. G., A.M.I.E.E., electrical engineer, c/o Dorman & Smith, Ordsal Electrical Works, Salford, Manchester.

Bagguley, J., & Son, electrical engineers, 23, High-st., Newcastle, Staffs.

Bagley, Mills & Co., Ltd., electrical & mining engrs., 92, Victoria-st., London, S.W. (Teleph. Victoria 3096.)

Bagnall, J., & Son, steel forgings for electrical purposes, Langley Forge, Oldbury, near Birmingham. (Telephone No. 10,003.)

Bagnold, Colonel A. H., C.B., R.E., M.I.E.E., superintendent, Building Works, Ordnance Factories, Royal Arsenal, Woolwich (Telegs.: "Construct, Woolwich." Teleph. No. 88, Woolwich); & Warren Wood, Shooters Hill. (Teleph. No. 233, Woolwich.)

Bagot, H. W., A.M.I.E.E., c/o Claud Hamilton, Ltd., 247, St. Vincent-st., Glasgow.

Bagshaw, J., & Sons, Ltd., clutch & pulley manufacturers, Victoria Foundry, Batley, Yorkshire. (Telegrams: "Bagshaw, Batley." Telephone No. 46.)

Bagues Frères, electric light fittings makers, 30, Little Britain, London, E.C. (Telegs.: "Plafonnier, London.")

Bahia Tramway, Light & Power Co., 31, Bishopsgate-st. Within, London, E.C. Registered in Maine, U.S.A., Nov. 16, 1905. Capital stock: $3,500,000 in $100 shares.

Bailey, Frank, M.I.C.E., M.I.E.E., electrical engineer, 64, Bankside, London, S.E. Director Metropolitan Electric Supply Co., Ltd.; joint managing director City of London Electric Lighting Co., Ltd.

Bailey, H., electrical engineer, Lisbon-pl., 10, Whalley-rd., Accrington. (Teleph. Accrington 376.)

Bailey, H., electrical engineer & contractor, Sunny Bank, Blackburn.

Bailey, James, Central Telegraph Office, General Post Office, London, E.C.

Bailey, Wm. Jos., A.M.I.E.E., 11, Townley-rd., Dulwich, London, S.E.

Bailey, G., & Sons, electricians, Berry-st., Wolverhampton. (Teleph. No. 2 X. 1.)

Bailey, H., & Co., electrical engineers & contractors, Lisbon-pl., 10, Whalley-rd., Accrington. (Telegs.: "Bailey, Electricians." Teleph. No. 376.)

Bailey, M., & Co., experimental glass blowers, Triumph Works, Church-path, Newington Green, London, N. (Telephone No. 1875, Dalston.)

Bailey, S. G., & Co., Ltd., manganese & crushed carbon manufacturers, Stafford Mills, Stroud, Gloucester. (Telegrams: "Manganese, Stroud." Telephone No. 59, Stroud.) London office: 9, Moorgate-court, E.C. (Telephone No. 9518, London Wall.)

Bailey, W. H., & Co., Ltd., recording instrument makers, Albion Works, Salford, Manchester. (Telegrams: "Beacon, Manchester." Telephone No. 991.)

Bailie, J. D., A.M.I.E.E., Messrs. C. A. Parsons & Co., Prudential-bldgs., Park Row, Leeds. (Telegs.: "Turbo, Leeds." Telephone No. 1194.)

Baillie, David, superintendent Pinkston Power Station, Corporation Tramways, Glasgow.

Baillie, Granville H., consulting electrical engineer, Swinburne, O'Gorman & Baillie, 82, Victoria-st., Westminster, London, S.W. (Telegs.: "Swooper, London." Teleph. Nos. 292 & 734, Westminster.) Director Woodhouse & Baillie Riviera Electricity Co., Ltd.; director British Continental Electricity Co., Ltd.

Baillie, T. C., M.A., D.SC., A.M.I.E.E., principal Croydon Polytechnic, & 79, Stretton-rd., Croydon.

Baily, Francis G., M.A., M.I.E.E., professor of electrical engineering & applied physics, Heriot Watt College, Edinburgh.

Baily, T. H., Temple-chbrs., Temple-ave., London, E.C. Director Fleetwood & District Electric Lighting & Power Syndicate, Ltd.

Baily, Grundy & Barrett, Ltd., electrical engineers, 2, St. Mary's Passage, Cambridge. (Telegs.: "Baily Grundy, Cambridge." Teleph. No. 54.)

Baily, Wm., & Sons, electric bell fitters & contractors & art metal workers, 71, Gracechurch-st., London, E.C. (Telephone No. 5919, Avenue.)

Bain, Colonel A., M.I.E.E., M.I.C.E.I., Woodlawn, Longfield, Kent.

Bain, R. Stewart, C.A., managing director The London Electric Supply Corporation, Ltd., 25A, Cockspur-st., London, S.W. Chairman Engineering Instruments, Ltd.; director London Electric Supply (Joint Committee), Ltd.

Bainbridge, Geo., electrical work, Vine-pl., Sunderland. (Teleph. No. 827, Nat.)

Bainbridge, J. W., steel castings, 2, Fen-ct., Fenchurch-st., London, E.C. (Telegs.: "Russesco, London." Teleph. Central 11230.)

Baines, A. E., consulting electrician, 112, Upper Tulse Hill, London, S W. (Teleph. No. 692, Brixton.)

Baird, Andrew H., scientific instrument maker & chemical dealer, 33-39, Lothian-st., & 2 & 4, Brighton-st., Edinburgh. (Telegs.: "Radium, Edinburgh." Teleph. Central 916.)

Baird, T., electrical & scientific instrument maker, 34, Queen-street, Glasgow.

Baird, John, Ltd., makers of electric light shades, 99, Milton-st., Port Dundas, Glasgow. (Telegrams: "Beveller, Glasgow." Telephone No. 1499.)

Baird & Tatlock, manufacturing electricians & chemical & glass apparatus manufacturers, 45, Renfrew-st., Glasgow (Telegs.: "Technical, Glasgow." Teleph. No. 748, Douglas); 7, Teviot-pl., Edinburgh (Telegs.: "Science, Edinburgh"); & 164, Brownlow Hill, Liverpool. (Telegs.: "Physical.")

Baker, Alfred, manager Municipal Tramways, Birmingham.

Baker, C. Ashmore, A.M.I.E.E., 66, Victoria-st., London, S.W.

Baker, Chas. A., M.I.E.E., electrical engineer L.C.C., Electric Lighting, Hungerford House, Victoria Embankment, London, W.C.

Baker, C. C., 1, Gresham-bldgs., London, E.C. Director Kalgoorlie Electric Tramways, Ltd.

Baker, C. K., A.R.S.M. Lond. & F.I.C., analytical chemist, gas examiner to the Sheffield Corporation, 16, Change Alley, Sheffield.

Baker, Frank, B.SC., A.M.I.C.E., electrical engineer, Oxley Cottage, New Oxley, nr. Wolverhampton.

Baker, G. H., A.M.I.E.E., station supt., Hornsey Electricity Works; & 17, Park-ave. North, Hornsey, N.

Baker, G. R. S., electrical engineer, 52, Stowell-st., Newcastle-on-Tyne.

Baker, H. H. S., A.M.I.E.E., Westminster Electric Supply Corp., Davies-st., Mayfair, London, W.

Baker, J. A., electric light & bell fitter, College-st., Northampton.

Baker, P. M., B.SC., professor of technology, Municipal Technical School, Wolverhampton.

Baker, P. W., electrician, general & motor engineer, James-pl., Vine-st., Uxbridge.

Baker, R., electricity fittings supt., Gas Offices, Bolton. (Telegrams: "Gas, Bolton." Telephone No. 163.)

Baker, T. W., A.M.I.C.E., A.M.I.M.E., elcctrical & general consulting engineer, Broad-st. House, E.C.

Baker, W. J. Rendell, resident engineer, Urban District Council, Malvern.

Baker & Anderson, electrical engineers, High-st., Sutton, Surrey.

Baker, Bauer & Co., electrical engineers & manufacturers' agents, 3, Garden-st., Withy Grove, Manchester. (Telegrams: "Nicotine, Manchester." Telephone No. 08611, Manchester.)

Baker Bros., installation contractors, Corporation-rd., Middlesbrough. (Telegs.: "Bakers, Middlesbrough." Teleph. Nos. 84 & 84A.)

Baker Bros., wiring contractors, Yarm-lane, Stockton-on-Tees.

Baker & Farnfield, electrical engineers, Victoria-rd., Bexhill.

Baker, Joseph, & Sons, Ltd., mechanical & electrical engineers, Willesden Junction, London, N.W.; & 58, City-rd., London, E.C. (Telegs.: "Bakers, London.")

Baker Oil Separator Co., Ltd., makers of oil separators, pumps, &c., Union Works, Hunslet, Leeds. (Telegs.: "Exhaust, Leeds." Teleph. No. 4296.)

Baker & Shelford, consulting engineers, 35A, Great George-st., Westminster, London, S.W. (Telegrams: "Usefulness, London." Telephone No. 267, Westminster.)

Baker & Startin, mica brokers & miner's agents, 19, St. Dunstan's Hill, London, E.C. (Telegrams: "Startin, London." Lieber's, A.B.C. & A1 Codes used. Telephone No. 4424, Avenue.)

Baker-st. & Waterloo Railway. Offices: Electric Railway House, Broadway, Westminster, S.W. Nominal capital: £2,013,000 in £10 ordinary shares, £660,000 in £10 4 per cent. preference shares & £890,000 debenture stock. Issued: 1,728,450 ordinary & all the preference shares, & £773,150 debenture stock. Directors: Sir Geo. S. Gibb (chairman); Admiral Sir Cyprian A. G. Bridge, G.C.B.; Major-General C. S. Hutchinson, C.B.; Rt. Hon. Sir Algernon West, G.C.B.; A. Willis, Esq. Secretary, W. E. Mandelick.

Bakewell, F. J., A.M.I.E.E., Hillside, St. Margaret's Bay, Dover.

Bakewell, W., electrical contractor, Volt Works, Worksop-rd., Sheffield.

Balchin, Schulz & Co., Ltd., electrical engineers, Lennox House, Norfolk-st., Strand, London, W.C. (Telegs.: "Habalco, London." Teleph. No. 15293, Central.)

Balcke & Co., cooling towers, 27, Clement's-lane, London, E.C. (Telegs.: "Gegenstrom, London." Teleph. No. 10440, Central.)

Baldwin, F. G. C., A.M.I.E.E., 9, Grosvenor-rd., Church End, Finchley, London, N.

Baldwin, G. J., electrical engineer, 211, Shooter's Hill-rd., Blackheath, S.E.

Bale, Geo. F., engineer, Bovey Light & Power Co., Ltd., Bovey Tracey.

Balfour, Colonel E. J. A., 32, Addison-rd., W. Director St. James' & Pall Mall Electric Light Co., Ltd.

Balfour, G., M.I.E.E., A.M.I.M.E., electrical engineer, 22A, College Hill, Cannon-st., E.C. Director Balfour, Beatty & Co., Ltd.; director Dumbarton Burgh & County Tramways Co., Ltd.; director Dundee, Broughty Ferry & District Tramways Co., Ltd.; director Mansfield & District Tramways, Ltd.; director Fife Tramway, Light & Power Co., Ltd.; director Rees Roturbo Manufacturing Co., Ltd.; director Llanelly & District Electric Light & Traction Co., Ltd.; director Arbroath Electric Light & Power Co, Ltd.; director Fife Synd., Ltd.

Balfour, Beatty & Co., Ltd., electrical engineers & contractors, 22A, College Hill, Cannon-st., London, E.C.

Balfour of Burleigh, The Right Hon. Lord, Kennet, Alloa, N.B. Director Western Telegraph Co., Ltd.

Ball, A. E., electric clock expert, 38, St. Saviour's-rd. East, Leicester.

Ball, A. Falconer, M.I.E.E., Parkside, Gosforth, Newcastle.

Ball, C. Sandys, A.M.I.E.E., A.M.I.MECH.E., electrical engineer, "Monte Rosa," St. Leonards-on-Sea.

Ball, Joseph, lightning conductor erector, York Castle, Oldham. (Telegrams: "Castle, Oldham." Telephone No. 23.)

Ballantine, J. B., A.M.I.E.E., Edison Ore Milling Syndicate, Richmond, Surrey.

Ballantyne, J. H., & Co., electrical engineers, 80, Hyndland-rd., Glasgow. (Teleph. Hillhead 1460 & 334 X 4.)

Ballard, F., electrical engineer, 38, Albert-rd., Norbiton, London, S.W.

Ballyshannon Electricity Works, Ballyshannon, co. Donegal. (Telegs.: "Myles, Ballyshannon.") John Myles & Co., proprietors. Engineer, Thos. May, B.A., A.M.I.E.E.

Balshaw, J. O., A.M.I.E.E., Toxteth Lodge, Formby, Liverpool.

Balshaw, Thos., agent for Ed. Frankenberg, Ltd., ebonite manufacturers, Hanover, 111, Farringdon-rd., London, E.C. (Telegs.: "Equanimous, London." Teleph. Holborn 847.)

Balthazar, Sam., 66, Merchant-st., Rangoon. Director The Rangoon Electric Tramway & Supply Co., Ltd.

Bamford, Geo., electrical engineer, 7, Woods Moor-lane, Stockport.

Bamford, H., M.SC., A.M.I.C.E., lecturer of engineering drawing & design, Engineering Laboratory, The University, Glasgow.

Bamford, R., consulting electrical engineer, 17, Toronto-rd., Stockport.

Bamford, W. W., Ltd., electrical & mechanical engineers, Deepwater Pier, Northfleet, Kent.

Bamsay, E., electrical contractor, 126, Fore-st., Exeter.

Banbury & District Electric Supply Co., Ltd., Electrical Federation Offices, Kingsway, London, W.C.; & Banbury, Oxon. (Teleph. No. 55, P.O.) Registered April 24, 1900. Nominal capital: £25,000 in £10 shares & £12,500 debentures. Issued: 2500 shares fully paid. Directors: Geo. J. Somerville, Esq. (chairman); H. R. Arnold, Esq.; Geo. Offor, Esq. Managing engineer, A. J. Wray, A.I.E.E.; secretary, H. A. Stagg. Dividends: 1905, *nil;* 1906, 2½ per cent.; 1907 & 1908, 2 per cent.

Bandouy, R., director International Ethiopian Railway Trust & Construction Co., Ltd., 34, Clement's-lane, London, E.C.

Banfield, Sons & Cole, electrical engineers, 127, Western-rd., Hove. (Telephone No. 314.)

Bangor Corporation Electricity Works. (Telegs.: "Price White, Bangor." Teleph. No. 31, Bangor.) Engineer, P. F. White.

Banister, Alan N., M.I.M.E., A.M.I.E.E., manager, New British Motor Cab Co., Ltd., London.

Banker, S. M., A.I.E.E., "Helvellyn," Brownlow-road, Bounds-green, London, N.

Bankfoot Power Co., Ltd., Collingwood-bldgs., Collingwood-st., Newcastle-on-Tyne; & Bankfoot, nr. Crook. Registered May 28, 1908. Nominal capital: £40,000 in £1 shares, all issued & fully paid. Directors: A. F. Pease, Esq. (chairman); F. Stobart, Esq.; Thos. Y. Greener, Esq.; J. T. Merz, Esq.; F. Stirling Newall, Esq.; R. P. Sloan, Esq. Engineers, Merz & McLellan; secretary, N. Merz.

Banks, H. G., assistant engineer, Isle of Wight Electric Light & Power Co., Ltd., Newport, Isle of Wight.

Banks, T. H., electrician, 35, Fairholm-rd., Harrow.

Banks, O. T., & Co., electrical & mechanical engineers, 49, Mortimer-st., Cavendish-sq., London, W. (Telephone No. 5450, Gerrard.)

Bannatyne, J. FitzGerald, Haldan, Exeter. Director Marconi International Marine Communication Co., Ltd.

Banner, J. S. Harmood, M.P., 24, North John-st., Liverpool. (Telegrams: "Harmood, Liverpool." Telephone Nos. 186 & 173.) Chairman Snowdon Mountain Tramroad & Hotels Co., Ltd.; director Midland Electric Corporation (1900), Ltd.; director Electric Supply Co. of Victoria, Ltd.; director Electric Supply Co. of Western Australia, Ltd.; director Midland Electric Corp. for Power Distribution, Ltd.

Bannister, John C., A.I.E.E., 48, Church-rd., High-st., Wimbledon, S.W.

Bannister, Wm., J.P., Burvale, Watford. Chairman Chloride Electrical Storage Co., Ltd.

Bannister, W. W., & Co., electrical & general engineers, Crawley, Sussex. (Telegrams: "Bannister.")
Bannister, Wm., & Co., electrical engineers, 75, Spencer-st., Birmingham.
Barbados Electric Supply Corporation, Ltd., 24, Martin's-lane, London, E.C. Registered July 30, 1909. Nominal capital: £60,000 in £1 shares, of which 40,000 are 7 per cent. preferred & participating.
Barbados Light Railway, Ltd., 9, Great George-st., Westminster. (Telegs.: "Barbadian, London;" "Amphion, Barbados." Bedford, McNeil & A.B.C., 4th edit.) Registered April 27, 1906. Nominal capital: £15,000 in £1 ordinary shares, £5000 in 6 per cent. preference £1 shares & £10,000 5 per cent. debentures. Issued: 3106 ordinary shares & 1500 preference shares. Directors: C. J. P. Cave, Esq.; G. Frank Burn, Esq.; F. H. Cripps, Esq. (secretary); Col. Hon. E. A. Palk; F. G. Simpkinson.
Barber, B., engineer, Oulton Broad Electricity Co., Ltd., Oulton, Lowestoft, Suffolk.
Barber, Cecil, M.I.E.E., 11, King's-rd., Sloane-square, London, S.W.
Barber, H., 171, Queen Victoria-st., London, E.C. Director Hankow Light & Power Co., Ltd.
Barber, Henry S., electric bell & telephone fitter, 41, Bridge-st., Hereford.
Barber, J. G., electrical engineer, Royce, Ltd., 9, Shirley-rd., Acock's Green, Birmingham.
Barber, J. W., electrical engineer, G.P.O., Hull. (P.O. Teleph. No. 162.)
Barber, Matthew Henry, A.M.I.E.E., c/o Berry, Skinner & Co., 65, King-st., Manchester; & Oakleigh, Heyes-lane, Alderley Edge, Cheshire.
Barber, S., director Anglo-American Telegraph Co., Ltd., 26, Old Broad-st., London, E.C.
Barber & Colman, Ltd., mechanical & electrical engineers, 38, King-st. West, Manchester.
Barclay, David, director Hobart Electric Tramway Co., Ltd., 11, Queen Victoria-st., London, E.C.
Barclay, S. F., A.M.I.E.E., The Elms, Queens Park, Manchester.
Barclay, W. J., electrical engineer, Glenwood, Brookfield-rd., Headingley, Leeds.
Barclay, W. R., A.M.I.E.E., 50, Upper Albert-rd., Meersbrook, Sheffield.
Barclay, Andrew, Sons & Co., Ltd., engine builders, &c., Caledonia Works, Kilmarnock, N.B.
Barcroft, H., D.L., The Glen, Newry. Director Bessbrook & Newry Tramway Co.
Bardenfleth, Rear-Admiral F. C. C., D.R.N., director Great Northern Telegraph Co., Ltd., of Denmark, 26, Kongens Nytorv, Copenhagen.
Bardill, D. W., & Co., Ltd., manufacturers of & dealers in electrical, chemical & scientific apparatus, Burton-on-Trent.
Barfield, Eric P., A.M.I.E.E., electrical engineer, "Porlock," Athenæum-rd., Whetstone, London, N.
Barham, Geo. Basil, M.C.I., A.M.I.E.E., The Press Club, Wine Office-ct., London, E.C.; & Edison & Swan United Electric Light Co., Ltd., 36–37, Queen-st., E.C.
Baring, Capt. the Hon. Guy, M.P., director Winchester Electric Light & Power Co., Ltd., Winchester.
Baring-Gould, E. S., Box Grove House, Guildford. Director Para Electric Railways & Lighting Co., Ltd.
Barker, C. D., chemist & electrician, 2, Beverley-rd., Chiswick, London, W.
Barker, E. A., M.I.E.E., borough electrical engineer, Electricity Works, Barnsley, Yorks. (Tel. No. 110.)
Barker, E. D., installation contractor, Lynn-st., West Hartlepool.
Barker, E. J., A.M.I.E.E., 15, Marine-cres., Waterloo, Liverpool.
Barker, Frank, compiler "Weights of Steel Bars & Sheets," 2, Osgathorpe-rd., Pitsmoor, Sheffield.
Barker, G., electrical engineer, Albert-st., Harrogate.
Barker, George, F.C.I.P.A., electrical & chemical engineer, patent & trade mark registration agent, 77, Colmore-row, Birmingham. (Telegrams: "Patent, Birmingham." Telephone No. 1300.)
Barker, J., director Ingleton Electric Lighting & Power Co., Ltd., Ingleton, Yorks.
Barker, J. J. P., A.M.I.E.E., 342½, Humberstone-rd., Leicester.
Barker, R. R., engineer & manager, Bromley (Kent) Electric Light & Power Co., Ltd., 1, West-st., Bromley; & Chislehurst Electric Supply Co., Ltd.
Barker, Reginald W., patent & trade marks registration agent, Vulcan House, 56, Ludgate Hill, London, E.C. (P.O. Telephone No. 1882, Central.)
Barker, W., electrical engineer, Derby-st., Preston.
Barker, W. H., A.M.I.E.E., 4, Wyndham-cres., London, W.
Barker & Allen, Ltd., manufacturers of nickel & German silver sheet metal & wire, Rolling & Wire Mills, Spring Hill, Birmingham. (Telegs.: "German, Birmingham." Teleph. No. 342.)
Barker, Henry, Ltd., wiring contractors, Angel Row, Nottingham.
BARKER, JOHN, & CO., LTD., electrical engineers & contractors, 52, 54, 56, 58 & 60, Kensington High-st., W. (Telegs.: "Barkers, Kensington." Teleph. Kensington 3250.)
Barker & Neale, electrical engineers, 25, Motcomb-st., London, S.W. (Telegs.: "Prejudge, London." Teleph. No. 526, Westminster.)
Barking Town Urban District Council Electricity Supply & Tramways, East-st., Barking. (Telegs: "Electricity Works, Barking." Teleph. No. 156, Barking.) H. L. Howard, A.M.I.M.E., A.M.I.E.E., engineer & manager.
Barlow, H. D., M.I.E.E., Barlow Bros. & Co., 237, Shaftesbury-ave., London, W.C. (Telegs.: "Microfarad, London." Teleph. No. 6059, Gerrard.)
Barlow, Leonard, M.I.E.E., Barlow & Young, 8, London-st., London, E.C. (Telegrams: "Ohmmeter, London." Telephone No. 7980, Central.)

Barlow Bros. & Co., electrical engineers, 237, Shaftesbury-ave., London, W.C. (Telegs.: "Microfarad, London." Teleph. No. 6059, Gerrard.)

Barlow & Chidlaw, Ltd., engineers & makers of cut gearing, Pendleton Gear Works, Manchester. (Telegs.: "Works, Manchester." Teleph. No. 3685.)

Barlow, H. C., & Co., manufacturing electrical engineers & merchants, Ammon-bldgs., 52, Chapel-st., Salford, Manchester.

Barlow & Young, electrical general engineers, 8, London-st., London, E.C. (Telegrams: "Ohmmeter, London." Telephone No. 7980, Central.)

Barmouth & District Electric Lighting & Power Co., Barmouth.

Barnard, A. S., M.I.E.E., A.M.I.C.E., borough electrical engineer, Walsall. (Teleph. No. 260.)

Barnard, Geo., A.M.I.E.E., chief inspecting engineer of contracts, Callender's Cable & Construction Co., Ltd., Chief Office, London & district engineer's offices, Callender's-bldgs., Cambridge-st., Birmingham. (Telegs.: "Bitumen, Birmingham." Teleph. No. 3394, Central.)

Barnard, John, A.M.I.E.E., 36, Kingswood-ave., Queen's Park, London, N.W.

Barnard, J. W., sole agent for E.P.S. small accumulators manufactured by Electrical Power Storage Co., Ltd., 4 & 6, Great Winchester-st., London, E.C. (Teleph. No. 1632, London Wall.)

Barnard, R. T., electrical & mechanical engineer, 11, Ashmere-grove, Acre-lane, Brixton, London, S.W.

Barnard, H. B., & Sons, copper, lead, zinc & metal merchants, 144, Lambeth Walk, London, S.E. (Telegs.: "Metalcibles, London." Teleph. Victoria 1714.) City office: 59 & 60, Gracechurch-st., E.C. (Telegs.: "Soldeerpan, London." Teleph. Central 767); Birmingham office: 17 & 18, Guildhall-bldgs., Navigation-st. (Telegs.: "Metalcibles, Birmingham." Teleph. Midland 732.)

Barnes, Cuthbert W., A.I.E.E., 154, High-rd., Upper Clapton, London, N.E.

Barnes, D. J., A.M.I.E.E., electrical engineer, Hazel Hurst, Hurstpierpoint, Sussex. (Teleph. P.O. 9004.)

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Barnes, Frank W., medical electrician, 19, Margaret-st., Cavendish-sq., London, W.

Barnes, H., electric light engineer, 112, High-st., Chatham.

Barnes, John A. T., A.M.I.E.E., engineer & manager, Corporation Electricity Works, Kendal, Westmoreland.

Barnes, J. E. Lloyd (Sloan & Lloyd Barnes), 34, Castle-st., Liverpool.

Barnes, J. E. Lloyd, M.I.M.E., principal & lecturer on magnetism & electricity, Holt School of Science, Birkenhead.

Barnes, P. J., A.M.I.E.E., 16, Mason's Hill, Bromley, Kent.

Barnes, S. E., A.I.E.E., electrical engineer, Poplar-rd., Cleethorpes.

Barnes, Wm. A., A.M.I.E.E., Dalegarth, Glebelands-rd., Prestwich, Manchester.

Barnes, F., & Son, electrical engineers, 81½, Great Hampton-row, Birmingham.

Barnes & Hacker, electric light fittings manufacturers, 113, Suffolk-st., Birmingham.

Barnes Urban District Council Electricity Works, Mortlake, Surrey. Engineer, C. S. Davidson. (Telephone No. 4, Richmond.)

Barnet & Levet, electrical engineers, 28, Bird-st., Lichfield.

Barnett, C. J., resident engineer, North Metropolitan Electric Power Supply Co., Edmonton.

Barnett, H. A., A.M.I.E.E., resident engineer, Clyde Valley Electrical Power Co., 53, Bothwell-st., Glasgow.

Barnett, H. T., M.I.E.E., electrical engineer, Connaught Club, Marble Arch, London, W.

BARNETT, ROWLAND, electrical & general engineer, 3, Hanover-sq., Newcastle-on-Tyne. (Telegs.: "Dynamo, Newcastle-on-Tyne." Teleph. No. 2495.) Branch: 17, Dean-st. (Teleph. No. 1483.)

Barnett & Hyde, electrical engineers, Waterloo-rd., Burslem, Staffs. (Teleph. Burslem 24 X. 4.)

Barnett & Soans, electrical contractors, West-st., Kettering (Telegs.: "Barnett Soans, Kettering." Teleph. No. 19 X. 1); Station-st., Burton-on-Trent (Teleph. No. 19 X.); & 34, Church-st., Stoke-on-Trent. (Teleph. No. 489.)

Barningham, R. B., 41, Victoria-bldgs., Manchester. (Telegs.: "Barningham, Manchester." Teleph. No. 1650.) Director Blackpool & Fleetwood Tramroad Co.; director City of Carlisle Electric Tramways Co., Ltd; director United Electric Car Co., Ltd.

Barnley, A. W., A.M.I.E.E., resident engineer, Middlesbrough, Stockton-on-Tees & Thornaby Electric Tramways, Middlesbrough.

Barns, Wm., & Son, zinc merchants, Globe Works, Queensland-rd., Holloway, London, N. (Telegs.: "Perforation, London.")

Barnsley Corporation Lighting Committee, Barnsley, Yorks. (Nat. Telephone No. 110.) E. A. Barker, M.I.E.E., electrical engineer.

Barnsley & District Electric Traction Co., Ltd., Electrical Federation Offices, Kingsway, London, W.C.; & Barnsley. (Telegs.: "Tramways, Barnsley." Nat. Teleph. No. 159.) Registered March 3, 1902. Nominal capital: £25,000 in £5 ordinary shares, £25,000 in cumulative 6 per cent. preference shares of £5 each & £25,000 debentures. Issued: 4007 ordinary shares, 4000 preference shares & £20,000 4½ per cent. debentures. Debentures issued: £20,000 secured by a trust deed, dated April 8, 1903. An acknowledgment of indebtedness under seal, dated Jan. 30, 1908, creating a further £1000 debenture stock (supplemental to the trust deed of April 8, 1903), has been registered. Directors: E. Garcke, Esq. (chairman); Lieut.-Col. Sir Thos. E. M. S. Pilkington, Bart.; E. A. Paris, Esq.; Engineer & manager, H. Marco; secretary, C. H. Godward. Dividends on ordinary shares: 1904–1907, *nil.*

Barnsley, E., & Co., electricians, 7, Queen's-rd., Brighton.

Barnstaple Corporation Electricity Works, Barnstaple, Devon. Boro' elec. engr., J. W. Hadfield, A.M.I.E.E.

Barnwell, H. R., works superintendent, Corporation Electricity Works, Barrow-in-Furness.

Baron, J. T., M.I.E.E., resident & supervising engineer, St. Pancras Electric Lighting Stations, Regent's Park & King's-rd., London, N.W. (Teleph. Nos. 512 & 513, Mayfair.)

Baron, W. H., electrical & motor engineer, 4, Wesley-ave., Mutley, Plymouth.

Barr, Archibald, D.SC., M.I.C.E., consulting engineer, regius professor of civil engineering & mechanics, The University, Glasgow. Office: Caxton-st., Anniesland, Glasgow. (Teleph. Nos.: 9, W. P.O.; & 122, Hillhead, National.)

Barr, Jas. R., A.M.I.E.E., Heriott Watt College, Edinburgh.

Barr, Mark, M.I.E.E., electrical engineer, 3, Gloucester Mansions, Harrington-gdns., S.W. Director Lancashire Power Construction Co., Ltd.

Barr, Robt., Dunard, Kilmacolm. Chairman Kilmacolm Electric Lighting Co., Ltd.

Barr, T. H., Abington, Kilmacolm. Director Kilmacolm Electric Lighting Co., Ltd.

Barr & Stroud, patentees & manufacturers of rangefinders, Anniesland, Glasgow, W. (Telegs.: "Telemeter, Glasgow." Teleph. P.O. W9; Nat. Hillhead 122.)

Barralet, Edgar S., U.K. manager of Insulating Varnish Department, Standard Varnish Works of New York, Chicago & London. Selling agents: Pinchin, Johnson & Co., Ltd., 27, Bevis Marks, London, E.C.

Barran, Hy., J.P., director Yorkshire Electric Power Co., Cal ler-rd., Thornhill, nr. Dewsbury.

Barratt, S. H. H., A.M.I.C.E., A.I.E.E., Westholme, Hollycroft-ave., Hampstead, N.W. (P.O. Teleph. Hampstead 854.)

Barrell, A., Market-sq., Witney. Director Witney Electric Supply Co., Ltd.

Barrett, A., electrician, 1, Grand Parade, Wimbledon. (P.O. Teleph. Wimbledon 401.)

Barrett, Arthur, A.I.E.E., consulting electrical engineer, 6, Mortimer-rd., Cambridge.

Barrett, F., electrical engineer, 1, Nassau-st., Dublin. (Teleph. No. 228 Y.)

Barrett, W. F., F.R.S., M.R.I.A., M.I.E.E., &c., professor of experimental physics, Royal College of Science, Dublin, Ireland.

Barrett, W. J., installation contractor, 25, Park-sq., Luton.

Barrett, H. G., & Co., electrical agents, 182, West George-st., Glasgow.

Barron, C. A., & Lewin, patent agents, 32, John William-st., Huddersfield. (Teleph. No. 24 X.)

Barron, J., & Co., electric lighting contractors, 16A, Fraser-st., Liverpool, W. (Teleph. No. 0496, Royal.)

Barrow-in-Furness Corporation Electricity Works. H. R. Burnett, borough electrical engineer. (Telegrams: "Electricity Works, Barrow-in-Furness." Telephone No. 103, Barrow-in-Furness.)

Barrow-in-Furness Technical School, Barrow-in-Furness. *See* SCHOOLS.

Barrow-in-Furness Tramways, Electrical Federation Offices, Kingsway, London, W.C. (Telegs.: "Barrow, c/o Tramway, London." Teleph. No. 2686, Holborn (6 lines).) Owned by British Electric Traction Co., Ltd. Directors: E. Garcke, Esq. (chairman); J. V. Kitchener, Esq.; H. S. Day, Esq. Electrical engineer & manager, W. F. Bladon; secretary, S. Neville Wells.

Barry, B. J. Wolfe, director Pacific & European Telegraph Co., Ltd., Electra House, Finsbury Pavement, London, E C.

Barry, C. E., director Keynsham Electric Light & Power Co., Ltd., Keynsham, Somerset.

Barry, C. R., A.M.I.E.E., 20, Mornington-rd., Chorley New-rd., Bolton.

Barry, Sir J. Wolfe, K.C.B., LL.D., F.R.S., M.I.E.E., 21, Delahay-st., Westminster, S.W. Chairman Eastern Telegraph Co., Ltd.; chairman Eastern Extension Australasia & China Telegraph Co., Ltd.; chairman Western Telegraph Co., Ltd.; chairman Eastern & South African Telegraph Co., Ltd.

Barry Transporter & Engineering Co., 15, Great George-st., S.W. (Telegrams: "Pintle, London." Telephone No. 5004, Westminster.)

Barter, Charles, A.I.E.E., 122, Suffolk-st., Birmingham. (Telegs.: "Calorific, Birmingham." Teleph. Midland 855.)

Bartholomew, A. G., director Cascade (1906) Power Co., Ltd., 695, Salisbury House, London, E.C.

Bartholomew, Thos., Greenville House, Brynamman. Director Brynamman & District Electric Supply Co., Ltd.

Bartholomew, Walter, Forest Edge, Kirby Muxloe. Director Penrith Electric Supply Co., Ltd.

Bartlett, Albert T., B.A., A.I.E.E., 51, Wheelwright-rd., Gravelly Hill, Birmingham.

Bartlett, E. A., dealer in electrical & medical electric apparatus, 19, New Walk, Leicester.

Bartlett, H. H., director Hammersmith City & North-East London Railway, Ltd., 17, Philpot-lane, London, E.C.

Bartlett, J., 71, High-st., Witney. Director Witney Electric Supply Co., Ltd.

Bartlett, Wm., works manager, British Insulated & Helsby Cables, Ltd., Instrument Works, Milton-rd., Liverpool, E.

Barton, E. H., A.M.I.E.E., D.SC., F.R.S.E., University College, Nottingham.

Barton, Thomas, electrical engineer & manufacturer. Works: Weir-st. & New Water-st.; offices & show-rooms: Ainsworth-st., Blackburn. (Telegrams: "Barton, Blackburn." Telephone No. 265. A.B.C. Code used.)

Barton, W. E., supt. engineer, Corporation Electricity Works, Aylestone, Leicester. (Teleph. No. 788.)

BARTON & SONS, LTD., conduit & fittings makers, Beehive Foundry, Birchills, Walsall. (Telegs.: "Ingenuity, Walsall." Nat. Teleph. No. 81.)

Barton, W., & Son, installation contractors, 11, Forrest-rd., Edinburgh.

Barwell, C. J. W., copper & brass tube manufacturer, Norton-st., Hockley, Birmingham. (Telegs.: "Mandrill, Birmingham." Teleph. No. 2164, Central.)

Barwell, H. G., electrician, Eastern Telegraph Co., Porthcurno, Treen, R.S.O., Cornwall.

Barwell, W. H., engineer, Parish Council, Treeton, nr. Rotherham.

Barwell, James, Sons & Co., electric light fittings manufacturers, Clement-st., Birmingham.

Barwells, Ltd., nut, bolt & rivet manufacturers, metal mixers & copper merchants, 28, Pickford-st., Birmingham (Telegs.: "Metals, Birmingham." Teleph. Central 2145 & 2146); Brookfield-rd., Birmingham (Telegs.: "Barwell, Birmingham." Teleph. No. 104); & 118, Cannon-st., London, E.C.

Barzire Bros., electric bell makers & fitters, 9 & 11, Corporation-rd., Middlesbrough.

Bassano & Sons, manufacturing electrical engineers, 155, Bridge-st., Derby.

Bastian, Chas. Orme, M.I.E.E., Bartholomew Works, Kentish Town, London, N.W.

Bastian Mercury Vapour Lamp, Ltd., Bartholomew Works, Kentish Town, London, N.W. (Telegs.: "Truepenny, London." Teleph. No. 478, North.)

Bastian Meter Co., Ltd., manufacturers of electricity meters, Bartholomew Works, Kentish Town, London, N.W. (Telegrams: "Truepenny, London." Telephone No. 478, North.)

Bastick, Joseph, manufacturer of electric furnaces & carbide plant, 40, Chestnut-st., Southport, Lancs.

Bastie, Percy H., director Ernest F. Moy, Ltd., Greenland-pl., Camden Town, N.W.

Bastin, F. H., installation contractor, 35, Albert-st., St. Paul's, Cheltenham.

Bastow, S. E., A.M.I.E.E., chief contract engineer, Bruce Peebles & Co., Ltd., East Pilton, Edinburgh.

BAT METER CO., LTD., manufacturers of electric meters, 3, Eden-st., Hampstead-rd., London, N.W.

Batchelar & Sons, electrical engineers, 39, North End, Croydon.

Batchelor, F., The Gables, Greystones. Director Greystones Electric Light & Power Co., Ltd.

Batchelor, J. H., electrical engineer, 15, Stamford New-rd., Altrincham. (Teleph. No. 1204.)

BATE, D. C., A.M.I.C.E., manufacturers' agent, 40, Brazennose-st., Manchester. (Telegs.: "Zonal, Manchester." Teleph. No. 5602.)

Bateman, John, & Co., scientific instrument makers & experimentalists, 205 & 206, High Holborn, London, W.C. (Telegrams: "Experiment, London.")

Bateman, M., & Co., dealers in glass & enamelled ironware for electric light, 27, Shoe-lane, London, E.C. (Telegs.: "Chromogen, London." Teleph. No. 1569, Holborn.)

Bates, A. T., electrician, Whitehead Torpedo Works, Weymouth.

Bates, Darwin, M.I.E.E., works manager, British Insulated & Helsby Cables, Ltd., Prescot, Lancashire (Telegrams: "Insulator, Prescot." Telephone No. 8); & The Orchard, Huyton, Liverpool.

Bates, H. H., A.I.E.E., 136, Manor House-rd., Jesmond, Newcastle-on-Tyne.

Bates, H. T., resident engineer, South Metropolitan Electric Tramways & Lighting Co., Ltd., Sutton, Surrey.

Bates, T. Ashton, district manager National Telephone Co., Ltd., Telephone-bldgs., Chester. (Teleph. No. 701.)

Bates, T. O., engineer-in-charge, Corporation Electricity Works, Morley.

Bates, W., electrician, Northern Counties Electricity Supply Co., Ltd., Hebburn, Durham.

Bates, W., director Kingswood Electric Supply Co., Ltd., All Saints' House, The Exchange, Bristol.

Bates, William, M.I.C.E., A.M.I.E.E., electrical engineer, 18, Rosemount, Oxton, Birkenhead.

Bates, Joseph & Edward, & Sons, Ltd., brass founders, Temple-st., Wolverhampton.

BATES & PEARD ANNEALING FURNACE CO. For annealing metals bright without oxidation, Huyton, Liverpool. (Telegs.: "Bates, Huyton." Teleph. No. 127, Huyton.)

Bates, R. J., & Co., electric wiring contractors, 33, Abbeygate-st., Bury St. Edmunds.

Bates, W. & A., Ltd., indiarubber manufacturers, St. Mary's Mills, Leicester. (Telegs.: "Setab, Leicester." Teleph. Nos. 3789-3791.)

Bath Corporation Electricity Department, 7, Dorchester-st., Bath. (Telegs.: "Dynamo, Bath." Nat. Teleph. No. 33.) F. Teague, engineer.

Bath Electric Tramways, Ltd., 18, St. Helen's-pl., London, E.C. (Telegrams: "Trammelets, London.") Power Station, Walcot-st., Bath. (Telegrams: "Trams, Bath." Nat. Telephone No. 214.) Registered July 9, 1902. Nominal capital: £75,000 in 5 per cent. cumulative preference shares of £1 each, £125,000 in preferred ordinary shares of £1 each & £30,000 in deferred ordinary shares of £1 each. Issued: 75,000 preference & 75,606 preferred ordinary shares, fully paid; & 30,000 deferred ordinary, issued as fully paid, & £135,000 debenture stock, secured by trust deed, dated Dec. 6, 1904. A trust deed, dated Dec. 28, 1905, securing £7000 first mortgage debenture stock (supplemental to a trust deed, dated Dec. 6, 1904), has been registered, & £16,000 5 per cent. second debentures. Directors: Sir V. Caillard (chairman); Hon. Sir J. Sivewright, K.C.M.G.; H. F. Clutterbuck, Esq.; E. H. R. Trenow, Esq.; A. A. C. Swinton, Esq. General manager & engineer, W. E. Hardy; secretary, H. J. Almond. Dividends on cumulative preference shares, 5 per cent., payable Jan. 1 & July 1, paid to July, 1906; 5 per cent. on preferred ordinary shares, paid April 21, 1906.

Bath, Henry, & Son, metal brokers & commission agents, Mining Office, Swansea; also at 53, New Broad-st., London, E.C.; also at A12, Exchange-bldgs., Liverpool. (Telegs.: "Bath, Swansea;" "Bathota, London;" "Bathota, Liverpool." Teleph. Nos.: Swansea, 1; London, Central 117 & 118; Liverpool, Central 5141.)

Bath Technical School, Bath. *See* SCHOOLS.

Batley Corporation Electricity Works & Tramways, Batley, Yorks. (Teleph. No. 38.) Electrical engineer, S. Derwen Jones, A.M.I.E.E., A.M.I.M.E.

Batley Electric Carbonising Co., Ltd., Bradford-rd., Batley.

Batstone, S. C., electrical engineer (Bromley, Batstone & Kirk), 24, Holborn, London, E.C. (Telegs.: "Workpeople, London." Teleph. No. 4839, Holborn.)

Battersea Borough Council Electricity Supply Works. (Teleph. No. 1832, Victoria.) Engineer, F. A. Bond, A.M.I.E.E.

Battersea Polytechnic, Battersea, London, S.W. (Teleph. No. 123, Vic.) *See* SCHOOLS.

Batting, C., electrical engineer, West-st., Maidenhead.

Batty, D. E., A.M.I.E.E., 13, Bridge-st., Hitchin, Herts.

Batty, F. R., A.M.I.E.E., engineer & secretary Northallerton Electric Light & Power Co., Ltd., Northallerton, Yorks.

Batty & Co., electrical engineers, Market-st., Burnley.

Batty, J., & Co., electrical engineers, Leeds-rd., Nelson, Lancs. (Teleph. No. 193.)

Batty, Wm., & Sons, Ltd., electric clocks & synchronization, 7 & 9, Market-st., Manchester. (Teleph. No. 1722.)

Battye, George E., electric light contractor, Post Office-bldgs., Pudsey, Leeds. (Teleph. Stanningley 10 Y.)

Bauer & Imrie, patent agents, 72, Cannon-st., London, E.C. (Telegs.: "Avvocato, London." Teleph. No. 4347, Central.)

Baughan, A. H., A.M.I.E.E., consulting engineer, 8–10, London-st., Reading. (Telegs.: "Baughan, Reading." Teleph. No. 560.)

Baughan & Co., manufacturing electricians & contractors, London-st., Reading. (Telegs.: "Baughan, Reading." Teleph. No. 560.)

Bawtree, A. E., electro-chemical engineer, Lynton, Manor Park-rd., Sutton, Surrey. (P.O. Teleph. Sutton 568.)

Bax, Captain E. Ironside, Eldon, Weybridge, Surrey. Director Westminster Electric Supply Corporation, Ltd.; director South London Electric Supply Corporation, Ltd.

Bax, H. E. I., A.M.I.E.E., Eldon, Weybridge.

Baxendale, A. S., M.I.E.E., London manager & secretary, Pacific Cable Board, Queen Anne's-chbrs., Tothill-st., Westminster, London, S.W.

Baxendale, T., A.M.I.E.E., Corporation Electricity Works, Stuart-st., Manchester.

Baxendale Bros., electrical supplies, 96, Whitechapel, Liverpool.

Baxendale & Co., electrical accessories manufacturers & merchants, Miller-st. Works & Warehouses, Manchester; Hanover-st., Edinburgh; Capel-st., Dublin; & Hood-st., Liverpool. (Telegs.: "Baxendales, Manchester;" "Baxendales, Edinburgh;" "Baxendales, Dublin." Teleph. Nos.: Manchester, City 5900; Edinburgh, 2062 & 2063; Dublin, 1405.)

Baxendine Bros., electricians, 182, High-st., Portobello, Edinburgh. (Teleph. No. 67.)

Baxter, A. H., electrical engineer, 37, Millicent-rd., West Bridgeford, Nottingham.

Baxter, Wm., A.M.I.E.E., 142, Newhaven-rd., Leith, N.B.

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BAXTER & CAUNTER, manufacturing electrical engineers, 86, Charing Cross-rd., London, W.C. (Telegs.: "Rapidolite, London." Nat. Teleph. Gerrard 3463 & 4.)

Baxter & Impey, electrical engineers, 54, Dudley-st., Birmingham. (Telephone No. 544.)

Baxter, R. & S., mica importers, merchants & manufacturers, 31, Murraygate. Works: Commercial-ct., Dundee. (Telegs.: "Farina, Dundee." Teleph. No. 83.)

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Bayley, B., director Dulverton Electric Lighting Co., Ltd., High-st., Dulverton.

Bayley, F. S., Clanahan & Co., chemical merchants & agents, 79, Mosley-st., Manchester. (Telegs.: "Chemicals, Manchester." Teleph. Central 1218.)

Bayley & Sons, electric motor manufacturers, Dene-house, Poole-hill, Bournemouth.

Bayliss, T. A., J.P., joint managing director King's Norton Metal Co., Ltd., King's Norton, nr. Birmingham.

Bayliss, T. R., joint managing director & vice-chairman King's Norton Metal Co., Ltd., King's Norton, nr. Birmingham. (Telegrams: "Metal, King's Norton.")

Bayliss, Jones & Bayliss, Ltd., telegraph & telephone pole (iron) manufacturers, 139, Cannon-st., London, E.C. (Telegrams: "Lockfast, London." Telephone Nos.: 8524, P.O., Central; & 889, Bank, Nat.); & at Wolverhampton.

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Bayly, Brackenbury, M.I.E.E., late chief technical officer G.P.O., Cape Town, c/o Agent-General for Cape of Good Hope, Victoria-st., Westminster, London, S.W., & 45, Rowan-rd., Hammersmith, W.

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Bazley & Co., electric light fitters, 120, High-st., Lewisham, S.E.

Beach, James, & Sons, dynamo makers, St. James-st., Taunton.

Beachcroft, P. E., Wingates, Boyne Hill, Maidenhead. Director Electric Construction Co., Ltd.

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Beam Co. (The British Electrical & Mechanical Co.), Ltd., electrical & mechanical engineers & contractors, 35, Devonshire-chbrs., London, E.C. (Telegs.: "Erpeg, London.")

Bean, John Stennit, A.M.I C.E., A.M.I.E.E., Electrical & Signal Dept., L. & N.W. Railway, Crewe.

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Beard, H., & Co., electrical engineers, Duke-st., Richmond, Surrey. (Telephone No. 129, Richmond.)

Beardmore, Wm., & Co., Ltd., gas engine makers, Parkhead Works, Glasgow. (Telegs.: "Beardmore, Glasgow." Nat. Teleph. Royal 1355 & 1356.)

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Beaten Metal Co., Ltd., electrical fittings makers, 90, Bromsgrove-st., Birmingham. (Teleph. Central 2638.)

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Beatty, A. H., director Mansfield & District Tramways, Ltd., Sutton-rd., Mansfield. Director Dunfermline & District Tramways Co.; director Llanelly & District Electric Lighting & Traction Co., Ltd.

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Beaumont & Still Colonial & Foreign Train Lighting Co., Ltd., 20 & 24, Charles-st., Hatton Garden, E.C.

Beaumont & Still Train Lighting Co., Ltd., 24, Charles-st., Hatton Garden, E.C.

Beaven & Sons, Ltd., electrical engineers, County-bldgs., Westgate-st., Gloucester (Telegs.: "Beaven, Gloucester." Teleph. No. 24); 27, Victoria-st., Westminster, S.W. (Telegs.: "Sanador, London." Teleph. No. 5011, Westminster); & 17 & 18, Dock-st., Newport. (Teleph. No. 846.)

Beaver, C. J., M.I.E.E., Holme Lea, Ashley-rd., Hale, Cheshire.

Beck, S. F., director Missenden & District Electric Light & Power Co., Ltd., High-st., Amersham, Bucks.

Beck Flame Lamp, Ltd., Suffolk House, Laurence Pountney Hill, Cannon-st., London, E.C. Works: Hayes, Middlesex.

Beck & Moss, Ltd., electro-platers, Faraday Works, Cannon-st., Hanley, Staffs. (Teleph. No. 01184.)

Beck, W. H., & Co., M.I.M.E., F.C.I.P.A., consulting & mechanical engineers & chartered patent agents, 115 & 117, Cannon-st., London, E.C. Established 1867. (Telephone No. 1519, Central.)

Beckenbach & Co., machinery agents, 18, Chapel-st., Bradford. (Telegs.: "Beckenbach, Bradford." Teleph. No. 345.)

Beckenham Urban District Council Electricity Works, Beckenham, Kent. (Telephone No. 166, Bromley.) Chief electrical engineer, J. E. Tapper, A.M.I.E.E.

Becker, R., & Co., dynamo & motor makers, 53, City-rd., London, E.C. (Telegrams: "Cleavage, London." Telephone No. 6050, Central.)

Becket, Frank, A.M.I.E.E., c/o Mavor & Coulson, Glasgow.

Beckett, A. J., borough electrical engineer, Corporation Electricity Works, Bridlington. (Nat. Teleph. No. 9 X.)

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Beckett, W. M., A.M.I.C.E., 33, Brazennose-st., Manchester. (Telephone No. 5545.) Director Northwich Electric Supply Co., Ltd.

Beckett, G. E., & Co., electricians, 79, Oxford-rd., C.-on-M., Manchester. (Teleph. No. 8756.)

Beckett, J. P., & Co., electrical & mechanical engineers, 102 & 104, Victoria-st., Grimsby.

BECKETT & PARKER, makers of ammeters & voltmeters, Tenby-st., Birmingham.

Becklake, J. T., A.M.I.E.E., 59, Neville-rd., Stoke Newington, London, N.

Beckmann & Co., wire manufacturers, 21, Finsbury-st., Moorfields, London, E.C. (Telegrams: "Manbeck, London." Telephone No. 1048, Central.)

Becks, G. A., engineer, 4 & 5, Queen Anne's-chbrs., Westminster, London, S.W. (Teleph. No. 5369, Westminster.)

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Bedell, B. H., electrical engineer, "G.B." Surface Contact Co., Hamilton House, Bishopsgate-st. Without, London, E.C. (Telegs.: "Opalite, London." Teleph. No. 2496, London Wall.)

Bedford, J. R., A.M.I.E.E., Rashleigh Phipps & Co., 147, Oxford-st., W. (Telegrams: "Diffuser, London." Telephone Nos.: 3973, Gerrard; & 12155, Central.)

Bedford & Co., electrical engineers, 41, St. Mary-st., Cardiff. (Nat. Teleph. No. 0881.)

Bedford Corporation Electricity Works. (Nat. Telephone No. 60.) Engineer, R. W. L. Phillips, A.M.I.E.E.

Bedford, W. H., & Sons, electrical engineers, 28, St. George's-rd., & 1, Sillwood-st., Brighton.

Bedson, J. P., 137, Lapwing-lane, Didsbury, Manchester. (Teleph. Didsbury 969.) Director North Wales & District Light Railway & Electric Power Syndicate, Ltd.

Bedson, P. Phillips, M.A., D.SC., F.I.C., professor of chemistry, Armstrong College, Newcastle-on-Tyne.

Beech, Chas., A.M.I.E.E., 90, Dairy House-rd., Derby.

Beech, E., electrical contractor, Lincoln-rd., Peterborough.

Beech, Geo., telegraph instrument case makers, 69, Dalston-lane, London, E.

Beech, W. D., electric bell & telephone agent, 8, Chatham-bldgs., Manchester.

Beecham, J., J.P., St. Helen's, Lancs. Director West Cumberland Electric Tramways Co.; director Lancashire Light Railways Co., Ltd.; director Lancashire United Tramways, Ltd.

Beecroft & Wightman, Ltd., timber merchants & electric casing manufacturers, Harris-st., & Garnett-st. Sawmills, Bradford; also at Humber Sawmills, Burleigh-st., Hull; also at Boundary-st., Commercial-rd., Liverpool. (Telegrams: "Beecroft, Wightman, Bradford;" "Casings, Hull." Telephone Nos.: 3073 & 3074, Bradford; 874 & 2527, Hull; 8336, Central, Liverpool.)

Beeforth, Geo. Lord, J.P., D.L., The Esplanade, Scarborough. Director Scarborough Electric Supply Co., Ltd.

Beer, J., electrical contractor, 73, Summerland-st., Exeter.

Beesley, E., electrical engineer, &c., 376, Caledonian-rd., London, N. (Teleph. No. 11197, Central.)

Beesley, W. T., & Co., Ltd., makers of cold rolled steel, steel wire & steel castings, Attercliffe-rd. & Effingham-st., Sheffield. (Telegrams: "Beesley, Sheffield." Telephone No. 1399.)

Beeston Accumulator Syndicate, Ltd., storage battery manufacturers, Post Office-sq., Beeston, Notts.

Beeton, H. R., chairman Brompton & Kensington Electricity Supply Co., Ltd., Richmond-rd., Earl's Court, S.W. Director Chelsea Electricity Supply Co., Ltd.

Beeton, Stanley, M.I.E.E., electrical engineer, "Oakleigh," Walton-on-Thames. Director Brompton & Kensington Electricity Supply Co., Ltd.; director Edmundson's Electricity Corp., Ltd.

Beeton, S., 9, Upper Sackville-st., Dublin. Director Dublin United Tramways Co., Ltd.

Beevor, S. F., A.I.E.E., c/o Cathcart & Co, 3, Dorset-bldgs., Salisbury-sq., Fleet-st., London, E.C. (Teleph. No. 5081, Holborn.)

Begbie Manufacturing Co., Ltd., petrol engine manufacturers, 407, Oxford-st., London, W.

Begg, F. Faithfull, Bartholomew House, London, E.C. Director Electric Supply Co. of Victoria, Ltd.; director Cascade (1906) Power Co., Ltd.

Behr, F. B., electrical engineer, Manchester & Liverpool Electric Railway Synd., Ltd., 11, Cornhill, London, E.C.; & joint engineer, Manchester & Liverpool Electric Express Railway Co.

Behrens, Paul, electric fan manufacturer, 18 & 19, Queenhithe, London, E.C. (Telegs.: "Armamaxa, London." Teleph. London Wall 8045.)

Beith, A., electrical engineer, Electrical Department, Buckingham Palace, London, S.W.

Belcher, F., F.C.A., 39, Coleman-st., E.C. Director Malaga Electricity Co., Ltd.

Belcher, J. H., principal & head of Electrical Department, Municipal Technical Institute, Coventry. (Telephone No. 193.)

Belfast Corporation Electricity Works & Tramway Power House, Belfast. Engineer, T. W. Bloxam, M.I.E.E. (Teleph. Nos. 833 & 2908.)

Belfast Engineering Employers' Association. Secretary, J. Hind, jun., 8, Ulster-chbrs., Belfast. (Telegrams: "Hind, Ulster-chbrs., Belfast." Telephone No. 02272, Nat.)

Belfast Municipal Technical Institute, Belfast. *See* SCHOOLS—CLASSIFIED SECTION.

Belfast & North-East Ireland Electricity & Power Gas Co., 39, Victoria-st., S.W. Capital authorized: £1,500,000 in £1 shares. Directors: Alf. M. Mond, Esq., M.P.; R. Armitage, Esq., M.P.; H. A. Humphrey, Esq.; R. M. Mathias, Esq.; E. S. Mond, Esq. Secretary, W. Beswick.

Belfield, R., A.M.I.C.E., M.I.E.E., Westinghouse-bldg., Norfolk-st., Strand, London, W.C.

Bell, A. Randall, A.M.I.E.E., chief engineer, Uxbridge & District Electric Supply Co., Ltd., Waterloo-rd., Uxbridge. (Teleph. No. 46, P.O.)

Bell, Chas., electrical & mechanical engineer, Bath-st., Needs-rd., Bradford.

Bell, Francis G., A.M.I.E.E., 41, Wilmington-gdns., Barking, Essex.

Bell, G. Gilbert, chief engineer & manager, Hammersmith Borough Council Electricity Department, London, W. (Teleph. Hammersmith 107.)

Bell, Herbert, M.I.E.E., chief engineer, Corporation Electricity Works, Sculcoates-lane, Hull. (Corp. Teleph. No. 197.)

Bell, Horatio, A.M.I.E.E., Electrical Installations, Ltd., Bassishaw House, Basinghall-st., E.C.

Bell, J. Alex., M.I.E..E., M.I.MECH.E., city electrical & tramways engineer, Aberdeen. (Telegs.: "Bell, Corporation, Aberdeen." Teleph. No. 1075; Office No. 1194.)

Bell, J. E., A.I.E.E., North British Mercantile Insurance Co., 64, Prince's-st., Edinburgh.

Bell, James, A.I.E.E., James Grove, Kirkcaldy, N.B.

Bell, John, superintendent, Post Office Telegraphs, Dundee.

Bell, M. L., Rounton Grange, Northallerton, Yorks. Director Cleveland & Durham Electric Power, Ltd.; director Cleveland & Durham County Electric Power Co.

Bell, R. G., electrical engineer, 27, Mosley-st., Newcastle-on-Tyne.

Bell, Stuart, A.M.I.E.E., electrical engineer, Siemens Bros. & Co., Ltd., 163, Hope-st., Glasgow. (Telegrams: "Siemens, Glasgow.")

Bell, Sydney, electrical engineer, 15, Linden-st., Andover. (Telegs.: "Bell, Builder, Andover.")

Bell, Thomas Swainson, A.M.I.E.E., Electricity Works, Whitehaven.

Bell Bros. & Co. (London), Ltd., dealers in electrical supplies, 63, Bishopsgate-st. Within, London, E.C. (Teleph. No. 7238, London Wall.)

Bell, George, & Sons, publishers of electrical & scientific books, York House, Portugal-st., London, W.C. (Telegrams: "Bohn, London." Telephone No. 12784, Central.)

Bell, John T., & Co., electrical & engineering supplies, 22 & 24, East-st., Middlesbrough. (Telegs.: "Electric, Middlesbrough." Nat. Teleph. No. 739.)

Bell Telephone & Electric Co., The, specialists in private telephone installations, Parliament-chbrs., Great Smith-st., Westminster, S.W.

Bell's Asbestos Co., Ltd., asbestos manufacturers, Southwark-st., London, S.E. (Telegrams: "Belfry, London." Telephone Nos. 512 & 523, Hop. A.B.C. & A1 Codes used.)

Bell's Asbestos Northern Agency, 8A, South Parade, Manchester (F. R. Putz, sole vendor). (Telegs.: "Asbestos, Manchester." Telephone No. 810).

Bellamy, Alfred R., electrical engineer, c/o Richard Hornsby & Sons, Ltd., Grantham. (Telegs.: "Hornsbys, Grantham." Nat. Teleph. No. 1.)

Bellamy, J. G., Finsbury House, Blomfield-st., E.C. Director Hobart Electric Tramway Co., Ltd.; director Gloucestershire Electric Power Co.

BELLISS & MORCOM LTD., engineers. Specialities: makers of quick-revolution engines for electric lighting, power & traction, also condensing plants, air compressors & paraffin engines. Ledsam-st. Works, Birmingham. London office: 8, Victoria-st., S.W. (Telegs.: "Belliss, Birmingham." Teleph. Nos. 4480 & 4481.) Directors: A. E. Seaton, Esq., J.P.; T. H. Parrott, Esq.; G. B. Parrott, Esq. (secretary); & R. K. Morcom, Esq. *See* ENGINE MAKERS—HIGH SPEED.

Bellow, H. J., A.M.I.E.E., electrician, 24, Torridge-rd., Thornton Heath, Surrey.

Bellow & Son, makers of castings for electric light, bell & telephone fitters & contractors, Leominster.

Belsey, Walter J., A.M.I.E.E., c/o British Thomson-Houston Co., Ltd., 91, Wellington-st., Glasgow.

Belsham, Maurice, consulting engineer, Price & Belsham, 52, Queen Victoria-st., London, E.C. (Telegrams: "Belsham, London.")

Belshaw, T. O., consulting engineer, 53, Victoria-st., London, S.W.

Belshaw & Co., electrical & mechanical engineers, 53, Victoria-st., London, S.W. (Telegs.: "Enguion, London." Teleph. Gerrard 5641.) Works: Chapel-pl., Westminster; Stores: 18, Brewers' Green Mews, Victoria-st., London, S.W.

Belsten, A. E., motor, electrical & general engineer & contractor, 165, Stapleton-rd., Bristol.

Beltine Manufacturing Co., lubricants, 203, King-st., Hammersmith, W.

Belturbet Electric Lighting Co., Belturbet, Ireland. Engineer, J. C. Cave; electrician, H. Morton.

Bemrose, H. C., electrical engineer, 19, Vicarage-ave., Derby.

Bemrose, J., chief assistant engineer, Corporation Electricity Works, Tunbridge Wells.

Bemrose, W. S., installation contractor, 37, High-st., Rochester.

Benbow, Sir Henry, K.C.B., D.S.O., R.N., "Habeshi," Dorman's Park, Surrey. Director Johnson & Phillips, Ltd.

Benedict, W. C., A.I.E.E., 59, Newington Butts, London, S.E.

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Benest, P. M., A.M.I.E.E., St. Heliers, Hazlehurst-rd., Worsley, Lancs.
Benford, E. G., electric lighting contractor, 194, Western-rd., Brighton. (Teleph. P.O. 368 & Nat. 225.)
Benford, J., electrical accessories & accumulator manufacturer, 38, Kimberley-rd., Nunhead, S.E.
Benham, E. E., A.M.I.E.E., H.M. Dockyard, Devonport.
Benham, H., & Co., metal workers, 4, Marlborough Mews, Great Marlborough-st., London, W. (Telegs.: "Benfro, London." Teleph. Central 14509.)
Benjamin, Edgar L., A.M.I.C.E., "E.L.B." patent electric bell, telephone, &c., systems., "C.I.R.H." Electrical Works, 12, New Oxford-st., London, W.C.
Benjamin Electric, Ltd., electric lighting specialities, 31, Old Jewry, London, E.C.
Benkert, G., electrical engineer & brass mfr., 48, Wilson-st., E.C. (Teleph. No. 5037, Central.)
Benn, H., Preaun, Austria. Director Lynton & Lynmouth Electric Light Co., Ltd.
Bennett, A. H., A.M.I.E.E., resident engineer, North Metropolitan Electrical Power Distribution Co., Ltd., Enfield, Middlesex. (Teleph. No. 227, Enfield.)
Bennett, A. R., M.I.E.E., Queen Anne's-chbrs., Broadway, Westminster, London, S.W.
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Bennett, C. G. M., A.M.I.E.E., resident engineer, Kensington & Notting Hill Electric Lighting Works, Wood-lane, Shepherd's Bush, London, W. (Teleph. Hammersmith 143.)
Bennett, F. F., M.I.E.E., 6, Surbiton-rd., Southchurch-rd., Southend, Essex.
Bennett, F. Ibbotson, A.I.E.E., Belvidere Works, Belvidere-rd., Southampton.
Bennett, G., installation contractor, 231, Bury New-rd., Manchester.
Bennett, H. E., assistant engineer, Camborne Electricity Supply Co., Ltd., Camborne.
Bennett, J. F. M., A.M.I.E.E., Metropolitan Electric Tramways, Manor House Offices, Finsbury Park, London, N.
Bennett, J. G., director Commercial Cable Co., 23, Royal Exchange, E.C.
Bennett, Marshall H., A.M.I.M.E., A.M.I.E.E., 11, Carlisle-rd., Hove, Brighton.
Bennett, T. J., engineer-in-charge Corporation Electricity Works, Belfast.
BENNETT, WALTER, spelter manufacturer, zinc & general metal merchant, 60, Gracechurch-st., London, E.C. (Telegrams: "Benefit, London." Telephone No. 770, Post Office Central.)
Bennett, Walter, electrical engineer, 118, York Drive, Hyndland, Glasgow. (Teleph. Hillhead 333 X 4.)
Bennett, J. M., & Sons, electric light casing & cover makers, Hyde-road, Ardwick, Manchester. (Telegrams: "Goehring, Manchester." Telephone No. 166.)
Bennett, M., & Co., electrical contractors, 43, Elford Grove, Roundhay-rd., Leeds.
Bennett & Rutherford, electrical contractors, 217, St. Vincent-st., Glasgow.
Bennis, Alf. W., M.I.MECH.E., A.I.E.E., Westcliffe, Eccles.
Bennis, Edward, & Co., Ltd., makers of mechanical stokers & furnaces & mechanical coal handling plant, elevators, conveyors, &c., Little Hulton, Bolton (Telegs.: "Bennis, Little Hulton." Teleph. Farnworth 13); & 28, Victoria-st., London, S.W.
Benrath Engineering Co., 36, Victoria-st., Westminster, S.W. (Telegs.: "Benrather, London." Teleph. No. 188, Victoria.)
Benson, H. K., A.M.I.E.E., "Cartref," Eaton-grove, Swansea.
Benson, Robert H., 66, New Broad-st., E.C. Director London Electric Supply Corporation, Ltd.; director Anglo-American Telegraph Co., Ltd.
Benson, W. A., director Sheppey Water & Lighting Co., Ltd., 4, Edward-st., Sheerness.
Benson, W. A. S., & Co., Ltd., electrical engineers & fittings manufacturers, 82 & 83, New Bond-st., London, W.; wholesale, 2, Dering-st., Oxford-st. (Telegrams: "Dynamical, London." Telephone No. 3701, Gerrard.)
Bentham, C., director Ingleton Electric Lighting & Power Co., Ltd., Ingleton, Yorks.
Bentham, H., A.M.I.E.E., resident engineer, Birkdale District Electric Supply Co., Ltd., Birkdale. (Teleph. Nos.: 65, Works; & 37, Offices.)
Bentham, John, electrical engineer, New Sharlston Collieries, nr. Normanton, Yorks.
Bentham, J. H., & Co., indiarubber manufacturers, Bentham-bldgs., Newcastle-on-Tyne.
Bentley, Cuthbert W., engineer & manager Urban District Council Electricity Works, Cromer.
Bentley, H. H., A.I.E.E., 2, Oaklands-rd., Bedford.
Bentley, John, A.I.E.E., 19, Clarence-rd., Thorpe Hamlet, Norwich.
Bentley, W., M.I.M.E., consulting mechanical engineer, Royal Insurance-bldgs., Crossley-st., Halifax. (Telegrams: "Bentley, Engineer, Halifax.")
Bentley, H. J., & Co., electricians, 17 & 23, Newton-st., Piccadilly, Manchester (Nat. Telephone No. 09207); 27, Bootle-st.; 34A, Dale-st., Manchester; & 73, Stockport-rd., Levenshulme.
Bentley, Isaac, & Co., Ltd., oil refiners & paint manufacturers, Vinoleo Oil Works, Trafford Park, Manchester. (Telegs.: "Vinoleo, Manchester." Nat. Teleph. Nos. 6673 & 6674.)
Benton, L. C., A.M.I.E.E., electrical engineer, 56, Whitelake-ave., Fiixton, Lancs.
Benton, W. J., M.I.E.E., M.I.M.E., consulting & inspecting engineer, 1, Chestnut-ave., Hyde Park, Leeds.
Benton & Stone, German silver, brass & copper mandril-drawn tube manufacturers, Aston Brook Tube Mills, Birmingham. (Telegs.: "Enots, Birmingham." Nat. Teleph. Central 2544. A.B.C. Code used.)

Berend, O., electrical engineer, Spencer House, South-pl., London, E.C. (Telegs.: "Loxa, London." Teleph. No. 491, London Wall.)

Beresford, C. F. C., Colonel R.E., M.I.E.E., 18, Lansdowne-rd., Holland Park-ave., London, W.

Berger, C. C., A.M.I.E.E., 102, Ryder-st., Cardiff.

Bergh, F. C. N., mains inspector, Corp. Electricity Works, North-rd., Brighton. (P.O. Teleph. No. 358.)

Bergheim, J. S., 11, Cornhill, London, E.C. Director Manchester & Liverpool Electric Railway Syndicate, Ltd.

Bergtheil, A., M.I.E.E., electrical engineer, 12, Camomile-st., Bishopsgate-st., E.C.

Bergtheil & Young, Ltd, electrical engineers, 12, Camomile-st., Bishopsgate-st., E.C. (Telegs.: "Driving-wheel, London." Teleph. No. 5850, Avenue.)

Berk, F. W., & Co., acid manufacturers, 1, Fenchurch-ave., E.C.; & Abbey Mills Chemical Works, Stratford, London, E. (Telegs.: "Berk, London." A.B.C. Code. Teleph. No. 4013, Avenue.) Electrical requirements a speciality. Sole makers of BAA. *See advt.*, ACCUMULATOR ACID MANUFACTURERS.

Berkeley, A., electrical agent, Guildhall-bldgs., Birmingham. (Teleph. Midland 726.)

Bermondsey Borough Council Electricity Works, Bermondsey, S.E. Engineer, W. E. J. Heenan, M.I.E.E.

Bernard, P. B., Collegnes, Booterstown, Co. Dublin. Director Dublin United Tramways Co., Ltd.

Bernheim, B., 41, Lansdowne-rd., London, W. Director National Electric Construction Co., Ltd.; director Musselburgh & District Electric Light & Traction Co., Ltd.; director Rhondda Tramways Construction Synd., Ltd.; director Torquay Tramways Co., Ltd.; director City of Oxford Electric Tramways, Ltd.; director Torquay Tramways Construction Synd., Ltd.; director Mexborough & Rawmarsh Construction Synd., Ltd.; director Rhondda Tramways Elec. Supply Co., Ltd.; director Oxford Tramways Synd., Ltd.; director North British Electric Power Synd., Ltd.; director Folkestone, Sandgate & Hythe Tramways Co.

Bernstein, Abraham, A.I.E.E., c/o Dr. Bernstein, Cheadle Hulme, Cheshire. (Teleph. No. 23.)

Berry, E. E., Bordighera, Italy. Chairman British Continental Electricity Co., Ltd.

Berry, Ernest L., electrical engineer, Lyric-chbrs., Whitcomb-st., London, W.C. (Telegs.: "Kathode, London." Teleph. No. 426, Gerrard.)

Berry, F., A.I.E.E., chief engineering lecturer, Bolton Technical School, & 5, Bedford-st., Bolton.

Berry, F. E., A.M.I.E.E., 21, Furzeham-rd., West Drayton.

Berry, G. C., A.M.I.E.E., 28, Milton-rd., Acton, London, W. (Teleph. No. 8, Chiswick.)

Berry, H. H., M.I.E.E., 78, Upper Thames-st., London, E.C.

Berry, James, electrical engineer, Woodcock's-ct., Fishergate, Preston.

Berry, J. R., A.M.I.E.E., Millett-ter., Birtle, Bury, Lancs.

Berry Bros., manufacturing electrical engineers, Birch-lane, Longsight, Manchester. (Teleph. No. 222, Rusholme.)

Berry Construction Co., Ltd., electrical engineers, Charing Cross House, Charing Cross-rd., London, W.C.

Berry, E. L., Harrison & Co., installation contractors, Lyric-chbrs., Whitcomb-st., London, W.C. (Telegs.: "Kathode, London." Teleph. No. 426, Gerrard.)

Berry, F., & Sons, engineers' tool makers, Sowerby Bridge. (Telegrams: "Berry's, Sowerbybridge." Telephone No. 525. A.B.C. Code used.)

Berry, Skinner & Co., electrical engineers, wholesale suppliers & manufacturers of all accessories to the electric lighting trade, 78, Upper Thames-st., London, E.C.; 65, King-st., Manchester; & Suffolk Works, Oozells-st., Birmingham. (Telegs.: "Ptolemaist, London;" "Ptolemaist, Manchester;" "Ptolemaist, Birmingham." Teleph. Nos.: 5421, Bank; & 13901, Central, London; 3908, Manchester; 798, Midland, Birmingham. A.B.C. Code used.)

Berry, W. D., & Sons, manufacturers & erectors of lightning conductors, &c., Spring Place Works, Springwood-st., Huddersfield. (Telegrams: "Light, Huddersfield." Telephone No. 375.)

Berry, Z. D., & Sons, electrolier, lamp, lustre, &c., manufacturers, 16, Regency-st., Westminster, S.W.

Bertgues, L., electrical engineer, 5, Waterford-rd., Fulham, London, S.W. (Telegs.: "Bertigues, London." Teleph. Kensington 2140.)

Berthon, C. T., consulting engineer, 49 & 51, Eastcheap, London, E.C.

Bertin, Philip H., A.M.I.E.E., electrical engineer, 42, Haverstock Hill, London, N.W. (Telegs.: "Dizzy, London." Teleph. Mayfair 4208.)

Bertrams Limited (estab. 1821), steam engine makers, St. Katherine's Works, Sciennes, Edinburgh.

Berwick-on-Tweed Electricity Works. Urban Electric Supply Co., Ltd., proprietors. Resident engineer, J. H. Home, A.M.I.E.E. (Teleph. No. 44.)

Bescoby, J. & J., cable drum carriage manufacturers, Cranwell-st., Lincoln.

Besley, J. C., A.M.I.E.E., Eastern Telegraph Co., Electra House, Moorgate-st., E.C.

Bessant, A. J., electric light engineer, 32, Grove-rd., Eastbourne.

Bessbrook & Newry Electric Tramway Co., Bessbrook, co. Armagh. (Telegrams: "Tramway, Bessbrook.") Nominal capital: 2000 shares of £10 each, loans £6500. Capital issued: £15,000. Directors: J. N. Richardson, Esq. (chairman); H. Barcroft, Esq., D.L.; J. F. Harris, Esq.; C. H. Richardson, Esq.; R. T. Scott, Esq.; W. M. Pim, Esq. Engineer, J. L. D. Meares; secretary, W. Scott. Dividends: 1898–1899, 2 per cent.; 1900 & since, *nil*.

Bessemer, H., & Co., Ltd., steel founders, Bessemer Steel Works, Sheffield. (Telegrams: "Bessemer, Sheffield." Telephone No. 91.)

Best, H. A., chief assistant electrical engineer, Urban District Council, Worksop.

Best, W., electrical engineer, Indiarubber, Gutta-percha & Telegraph Works Co., Ltd., Silvertown, E.

Best Belting Co., Ltd., dynamo belting manufacturers, 13, Cullum-st., London, E.C. (Telegs.: "Notwithstanding, London." Teleph. No. 959, Avenue.)

Best & Lloyd, Ltd., electrolier manufacturers, Cambray Works, Handsworth, Birmingham. (Telegs.: "Best, Birmingham." Teleph. No. 35, Smethwick.) Show-rooms: London, 11, Bartletts-bldgs., Holborn Circus (Teleph. No. 1053, Holborn); Paris, 23, rue d'Hauteville. (Teleph. No. 140-36.) Registered March 8, 1898. Nominal capital: £50,000 in 2500 £10 ordinary shares & 2500 £10 preference shares. Issued: £20,020 in ordinary shares & £20,050 in 5 per cent. preference shares, both fully paid up. Directors: R. H. Best, Esq. (chairman); B. B. Blackburn, Esq.; W. R. Nicholl, Esq.; Geo. Vale, Esq. (secretary).

Beswick, J. H., superintendent Direct United States Cable Co., Ltd., D6, Exchange-bldgs., Liverpool. (Telegs.: "Direct, Liverpool." Teleph. No. 960.)

Bethell, The Hon. Alexander E., Rear-Admiral, R.N., C.M.G., M.I.E.E., 8, Ormonde Gate, Chelsea, S.W.

Bettws-y-coed Electric Lighting Co., Ltd., Miner's Bridge House, Bettws-y-Coed. Registered Feb. 10, 1906. Nominal capital: £5000 in £1 shares. Directors: R. Conway, Esq.; & S. London, Esq.

Beuttell, A. W., A.M.I.E.E., A.AM.I.E.E., electrical engineer, 31, Mount Nod-rd., Streatham Hill, London, S.W.

Bevan, F. A., 54, Lombard-st., E.C. Director Eastern Extension Australasia & China Telegraph Co., Ltd.; chairman Anglo-American Telegraph Co., Ltd.

Bevan, H., electric bell fitter, 99, Frederick-st., Cardiff.

Bevan Swift & Baxter, electrical engineers, Terminus-chbrs., Holborn Viaduct, London, E.C. (Teleph. Central 5624.)

Beveridge, Robert, A.M.I.E.E., 16, Ranelagh-rd., Ealing, London, W.

Beves, Norman E., manager, Heating & Fittings Dept., Simplex Conduits, Ltd., 113, Charing Cross-rd., London, W.C.

Bevis, H., M.I.E.E., managing director Pirelli, Ltd., 45, Basinghall-st., London, E.C.

Bexhill Corporation Electricity Works, Bexhill. (Telephone No. 7.) Borough electrical engineer, W. T. Le Feuvre.

Bexley U.D.C. Electricity Works & Electric Tramways, Bexley, Kent. (Telegs.: "Mittelhousen, Bexley Heath." Teleph. Bexley Heath 79.) Engineer, C. Mittelhousen.

Beyer, Fred, representing Copperworks, 8 & 9, Great St. Helen's, London, E.C. (Telegs.: "Beyerfried, London." Teleph. Central 10543.)

Beyer, Peacock & Co., Ltd., engineers' tool makers, Gorton, Manchester. (Telegrams: "Loco, Gorton." Telephone No. 255.)

Beynon & Son, electrical contractors (light & bells & telephones), Fleet-st., Torquay, Devon. (Tel. 293.)

Bhisey Patents Syndicate, electric bell mfrs., 323, Essex-rd., London, N. (Teleph. No. 1565, North.)

Bhone, G. W., electrical engineer, 10, Temple-st., Brighton.

Bibby, H., electrician, Arpley-st., Warrington.

Bibby, Philip H., mfr. of brass & iron electric light watertight fittings, 34, Livery-st., Birmingham.

Bibby, W. H., engineer, Northern Counties Electricity Supply Co., Ltd., Morpeth, Northumberland.

Bibby, John, Sons, & Co. (Garston), Ltd., Copper Works, Garston, Liverpool. (Telegs.: "Bibby, Liverpool." Teleph. No. 1, Garston.)

Bickerton's Engine Syndicate, Ltd., mechanical engineers & electricians, Amberley House, Norfolk-st., Strand, London, W.C.

Bickford, Smith & Co., Ltd., makers of safety & electric fuses, &c., Tuckingmill, Camborne, Cornwall. (Telegs.: "Bickfords, Tuckingmill, Camborne.")

Bideford, Westward Ho! & Appledore Railway Co., Electrical Federation Offices, Kingsway, London, W.C. P. N. Gray, secretary.

Bidwell, S., M.A., SC.D., LL.B., F.R.S., M.I.E.E., electrician, Beechmead, Oatlands Chase, Weybridge.

Bigge, D. Selby, & Co., electric power & mining engineers, 27, Mosley-st., Newcastle-on-Tyne (Telegs.: "Selby-Bigge, Newcastle-upon-Tyne." Teleph. Nos.: 171, G.P.O.; & 1797, Central, Nat.); Standard-bldgs., City-sq., Leeds (Telegs.: "Selbig, Leeds." Teleph. No. 28, G.P.O.); & 53, Bothwell-st., Glasgow. (Telegs.: "Selbig, Glasgow." Teleph. No. 204, G.P.O.)

Biggs, Charles Henry, A.I.E.E., Coombe House, Stanmore-rd., Richmond.

Biggs, C. H. W., M.I.E.E., consulting electrician, Glebe Lodge, Champion Hill, London, S.E.

Biggs, C. W. V., A.I.E.E., 28, Victoria-st., London, S.W.

Biggs & Sons, publishers of electrical works, 139 & 140, Salisbury-court, Fleet-st., London, E.C. (Telephone No. 12278, Central.)

Biggs & Sons' Contractors' Record & Municipal Engineering (weekly), 139-140, Salisbury-ct., E.C.

Bigland, H. H., engineers' agent, 17, Westgate-rd., Newcastle-on-Tyne. (Nat. Teleph. Central 2078.)

Bigley, T. M., A.M.I.C.E., 19, Castle-st., Liverpool. (Telegs.: "Bigley, Liverpool." Teleph. No. 6472.)

Bigsby, W. T., & Sons, varnish manufacturers, Morden-rd., Mitcham. (Telegrams: "Bigsby, Mitcham.")

BIHL, G., & CO., porcelain goods, 27, Chancery-lane, W.C. *See advt. under* INSULATING MATERIALS.

Bilbie, Hobson & Co., gas engines, 106, Queen Victoria-st., London, E.C.; & Deverell-st., Great Dover-st., London, S.E. (Telegs.: "Andrew, London." Teleph. No. 5937, Bank.)

Bill, C. E. S., A.M.I.E.E., permanent way engineer, Corporation Tramways, 147, Corporation-st., Birmingham.

Bill, S., & Co., electrical apparatus, 56, Guest-st., Birmingham.

Billing & Co., dealers in electric fittings, 39, Drury-lane, London, W.C. (Teleph. City 101.)

Billings & Spencer Co., manufacturers of tramway material, 8, Long-lane, London, E.C. (Telephone No. 5947, Central.)

Billington, A. M., M.I.E.E., consulting engineer & director Cie. Generale d'Electricité de Lourenço Marques, Suffolk House, Laurence Pountney Hill, E.C. (Teleph. Central 9556.)

Billington, J. D., A.M.I.E.E., Lacey, Sillar & Leigh, 78, King-st., Manchester.

Billington & Newton, electrical engineers, metal castings, Longport, Staffs. (Telegrams: "Bronze, Longport." Telephone No. 304, Potteries District.)

Billows, F. H., superintendent, Indo-European Telegraph Co., 18, Old Broad-st., London, E.C.

Bilsborough, J., electric bell manufacturer, Alderley Edge, Manchester.

Bilsland, R., B.SC., A.M.I.E.E., c/o Siemens Bros. Dynamo Works, Ltd., Caxton House, Westminster, S.W.

Bilston Urban District Council Electricity Works, Bilston, Staffs. Engineer, J. P. Wakeford.

Bindleys, Ltd., electrical engineers & contractors, High-st., Burton-on-Trent. (Teleph. No. 74.)

Bingham, J. B., A.M.I.E.E., assistant electrical engineer, Corporation Electricity Works, Kirkcaldy.

BINGLEY, SON & FOLLIT, LTD., slate merchants, Millbank Slate Wharf, Westminster, London, S.W. (Telegs.: "Bingley, Millbank, Westminster." Teleph. Westminster 663.) *See advt.*, SLATE & SLATE SLAB MERCHANTS & MANUFACTURERS.

Binko, H., electrical engineer, 5, Chatsworth-rd., Brondesbury, N.W. (Tel. No. 2495, P.O., Hampstead.)

Binks, Herbert, case maker, 57, Culford-rd., Southgate-rd., London, N.

Binks Bros., wire rope & lightning conductor manufacturers, Strafford-st., Millwall, London, E. (Telegrams: "Binks, London." Telephone No. 235, Eastern.)

Binnie, Sir A. R., M. COUNCIL I.C.E., F.G.S., M.I.M.E., F.R.M.S. & M.R.I., engineer, 91, Great George-st., Westminster, London, S.W.

Binns, Walter, M.I.MECH.E., M.I.E.E., general manager & engineer, Corp. Tramways, Mill-lane, Reading. (Nat. Teleph. No. 330.)

Binns, J. & A., manufacturers of all kinds of iron & steel wire, West Mount Wire Works, Halifax. (Telegrams: "Wire, Halifax." Telephone No. 214.)

Birch, T. E, electrical contractor, 135B, Blackburn-rd., Accrington.

Birch, W., Gernheim, High Wycombe. Director Wycombe (Borough) Electric Light & Power Co., Ltd.

Birch Bros., makers of transformers, electrical instruments & appliances, 3, Brunswick-pl., Leeds. (Teleph. No. 4362.)

Birch, G., & Co., engineers & machine tool makers, Islington Tool Works, Salford, Manchester. (Telegs.: "Birch, Islington, Salford." Teleph. Central 3191.)

Birch, John, & Co., Ltd., merchants & engineers, 3, London Wall-bldgs., London, E.C. (Telegrams: "Endeavour, London." Telephone No. 725, London Wall.)

Birch & Verity, electricians, 38, Union-st., Aldershot.

Birchenough, H., C.M.G., 79, Eccleston-sq., S.W. Director The Victoria Falls Power Co., Ltd.

Bird, Arthur G., A.M.I.E.E., engineer & manager Guernsey Railway Co., Ltd., Guernsey.

Bird, A. J., electrical engineer, 17, Union-st., Ryde, Isle of Wight.

Bird, George M., The Mulberries, Stratford-on-Avon. Chairman Stratford-on-Avon Electricity Co., Ltd.

Bird, R. M., director Vera Cruz Electric Light, Power & Traction, Ltd., 47, Parliament-st., London, S.W.

Bird, Frederick, & Co., manufacturers of electric light pavement & roadway boxes, standards, pipes, &c., 11, Great Castle-st., Regent-st., London, W. (Telegs.: "Astute, London." Tel. No. 5512, Gerrard.)

Birkbeck College, Bream's-bldgs., Chancery-lane, London, E.C.

Birkdale District Electric Supply Co., Ltd., Electrical Federation Offices, Kingsway, London, W.C. (Telegs.: "Birkdale, c/o Tramway, London." Teleph. No. 2686, Holborn (6 lines)); & Birkdale, Lancs. (Teleph. Nos.: Works, 65; Offices, 37.) Registered May 21, 1901. Nominal capital: £30,000 in £5 shares & £15,000 debentures. The whole of the ordinary shares have been issued & are fully paid. Particulars of a series of £3000 debentures, created Feb. 14, 1905, have been filed. Directors: J. S. Raworth, Esq. (chairman); J. V. Kitchener, Esq.; G. J. Somerville, Esq. Secretary, S. Neville Wells; engineer, H. Bentham, A.M.I.E.E. Dividends: 1905, *nil*; 1906 & 1907, 3 per cent.

Birkdale Technical School, Birkdale. *See* SCHOOLS.

Birkenhead Corp. Electricity Works & Electric Tramways, Birkenhead. Engineer, Wm. Wyld, M.I.M.E., M.I.E.E. (Telegs.: "Wyld, Electricity Works, Birkenhead." Teleph. Nos. 1157 & 335, Birkenhead.)

Birkenhead School of Art, Birkenhead. *See* SCHOOLS.

Birkett, F. W., & Sons, electrical engineers, Cleckheaton.

Birkett, Robert, A.I.E.E., corporation electrical engineer, Southend-on-Sea.

Birmingham Association of Mechanical Engineers, 37, Great Hampton-st., Birmingham. Secretary, L. O'Brien.

Birmingham Battery & Metal Co., Ltd., brass & copper tube manufacturers, Selly Oak, Birmingham. (Telegs.: "Battery, Selly Oak." Nat. Teleph. Nos. 51 & 52, Selly Oak.)

Birmingham Carbon Works, Witton, Birmingham. (Telegs.: "Carbonized, Witton, Birmingham." Teleph. East 201 & 202.) London office: 27, Queen Victoria-st., E.C. (Telegs.: "Birminca, London." Teleph. Central 4034.)

Birmingham, City of, Tramways Co., Ltd. *See* City of Birmingham.

Birmingham Corporation Electricity Works. (Telegs.: "Dynamo, Birmingham." Teleph. No. 2502, Central.) Engineer, R. A. Chattock, M.I.E.E.

Birmingham Corporation Tramways, County-bldgs., 147, Corporation-st., Birmingham. General manager, Alf. Baker; chief assistant, C. W. Hill, A.M.I.E.E.

Birmingham Electrical Fittings Co., Dunton Works, Deritend Bridge, Birmingham. (Telegs.: "Electrical, Birmingham.")

Birmingham Engineering Co., machine tools, Hooper-st., Spring Hill, Birmingham.

Birmingham Guild of Handicraft, Ltd., electric light fittings makers, 45, Great Charles-st., Birmingham. (Telegrams: "Handicraft, Birmingham." Telephone No. 3750.) London show-room: 7, Newman-st., Oxford-st., W. (Telephone No. 6657, Gerrard.)

Birmingham Installation Co., electrical engineers, Coleshill-st. Electrical Works, Birmingham. (Telephone No. 1607.)

Birmingham Lamp & Gasfittings Co., Ltd., name tablets for arc lamps, 257, Dudley-rd., Birmingham.

Birmingham Lighting Co., electric light fittings makers, Edison Works, 133–135, Conybere-st., Birmingham. (Telegs.: "Celerity, Birmingham." Teleph. No. 164 X., Central.)

Birmingham Local Section of the Institution of Electrical Engineers, Winchester House, Victoria-sq., Birmingham. R. K. Morcom chairman; H. B. Matthews, hon. secretary. (Teleph. Central 1511.)

Birmingham & Midland Tramways, Ltd., Electrical Federation Offices, Kingsway, W.C. (Telegs.: "c/o Tramway." Teleph. No. 2686, Holborn (9 lines).) Registered Nov. 22, 1883. Nominal capital: £1,050,000. Issued: £350,000 preferred ordinary shares, £209,780 in £10 preference shares & £350,000 deferred ordinary shares, all fully paid, & £355,000 4½ per cent. debenture stock, less £10,643, amount redeemed & cancelled. A trust deed, dated June, 1904, to secure £200,000 first debenture stock (with power to issue further stock, ranking *pari passu* up to half the subscribed capital for the time being), has been registered, & a further amount of £155,000 has been issued. Directors: C. S. B. Hilton, Esq. (chairman); J. A. Lycett, Esq. (managing); S. R. Blundstone, Esq.; W. G. Bond, Esq. Secretary, B. Kingsford; general manager, R. W. Cramp. Dividends: 1904, 1905, 1906, 5½ per cent.; 1907, 4 per cent. on preferred ordinary; 1908, 2½ per cent.

Birmingham Municipal Technical School, Birmingham. *See* Schools, Classified Section.

Birmingham University Engineering & Mining Journal (bi-monthly), The University, Birmingham. E. J. Kipps, editor.

Birrell, T. H., A.M.I.E.E., Silure, Chepstow, Mon.

Birt, J. A. W., lightning conductor manufacturer, Tower Works, Wapping, London, E. (Telegrams: "Cortica, London.")

Birt, Sir Wm., Northcoth, Hatfield, Herts. Deputy chairman Metropolitan Railway Co.

Bish, Geo. J., A.M.I.E.E., 16, King's-ave., Old Trafford, Manchester.

Bishop, C. E. S., director Venezuela Telephone & Electrical Appliances Co., Ltd., 104, Dashwood House, New Broad-st., London, E.C.

Bishop, H. Collings, M.I.E.E., borough electrical & tramways manager, Newport, Mon. (Teleph. No. 216.)

Bishop, Howard W., electrical engineer, 163, College-rd., Moseley, Birmingham.

Bishop, H. W., district superintendent Edison & Swan Co., International Exchange-bldgs., Edmund-st., Birmingham. (Telegrams: "Ediswan, Birmingham." Telephone No. 997.)

Bishop, J., director Guernsey Electric Light & Power Co., Ltd., Les Amballes, St. Peter's Port, Guernsey.

Bishop, O. H., A.M.I.E.E., director E.M.F., Ltd., 10, Ironmonger-lane, London, E.C. (Telegs.: "Emeffian, London." Teleph. Central 158); & 1, Madeley-rd., Ealing, W.

Bishop, W. J., A.I.E.E., electrician, The Limes, Milton-rd., Croydon.

Bishop, W. J., & Co., electrical & mechanical engineers, Faraday Works, Gladstone-rd., Croydon.

Bishop Auckland Electricity Supply, 3, South-rd., Bishop Auckland. (Telegs.: "Unit, Bishop Auckland." Teleph. No. 102, Nat.) Cleveland & Durham County Electric Power Co., props. Manager, A. B. Gridley; district superintendent, C. H. Lydall.

Bishop, S. & C., & Co., gauge glasses, separator tubes, &c., St. Helens, Lancashire. (Telegrams: "Bishop, St. Helens." Telephone No. 63.)

Bishop's Stortford & Stanstead Electric Lighting Co., Ltd., Bishop's Stortford, Herts. Registered June 29, 1904. Nominal capital: £1000 in £1 shares, all taken up & fully paid.

Bisseker, Hy., electric light fittings maker, 11–15, New Bartholomew-st., Birmingham.

Bist, Alfred, & Co., Ltd., electrical & mechanical engineers, 18, Tib-st., Manchester.

Björnstad, J., M.I.Mech.E., M.I.E.E., consulting engineer, Broad Sanctuary-chbrs., Westminster, London, S.W.

Black, A. S., borough electrical engineer, Electricity Department, Eastbank-st., Southport. (Nat. Teleph. No. 264.)

Black, F. D., manager Electrical Department, Wm. Brydeu & Son, 206, Bath-st., Glasgow.

Black, G. L., A.M.I.E.E., 75, Waterloo-st., Glasgow.

Black, John W., M.I.E.E., electrical engineer, 108A, West Regent-st., Glasgow.

Black Sea Telegraph Co., Ltd., Electra House, Finsbury Pavement, London, E.C. Registered May 12, 1873. Nominal capital: £150,000 in £10 shares. Issued: 13,000 shares, fully paid. Directors: Sir J. Denison-Pender, K.C.M.G. (chairman & managing director); Sir Wm. R. Brooke, K.C.I.E.; Sir A. J. Leppoc Cappel, K.C.I.E.; F. A. Johnston, Esq.; T. W. Stratford-Andrews, Esq. Electrician, Walter Judd; secretary, A. R. Hardic.

Blackburn, A. A., A.M.I.E.E., A.M.I.MECH.E., electrical & mechanical engineer, Wilmont-ter., Lisburn-rd., Belfast; & rolling stock superintendent, City Tramways, Sandy Row, Belfast. (Telegs.: "Tramways, Belfast." Teleph. No. 1406.)

Blackburn, G. R., A.M.I.C.E., A.M.I.E.E., rolling stock superintendent, Tramways Department, 55, Piccadilly, Manchester.

Blackburn, R. S., electrical engineer, Ribstone Works, Commercial-st., Hebden Bridge, viâ Manchester; & 1, Stansfield-rd., Todmorden.

Blackburn, W. A., engineer, The Hollies, Lichfield-st., Walsall.

Blackburn, C., & Son, electrical installations, 75, Redcliff Hill, Bristol. (Nat. Teleph. No. 2146 Y.)

Blackburn Corporation Electricity Supply Department. (Telegs.: "Electricity, Blackburn." Teleph. No. 500.) P. P. Wheelwright, M.I.E.E., engineer.

Blackburn Corporation Tramways Department. (Telegs.: "Tramways, Blackburn." Teleph. No. 547.) J. H. Cowell, general manager.

Blackburn & Layland, electrical engineers, Standishgate, Wigan.

Blackburn Municipal Technical School, Blackburn. *See* SCHOOLS, CLASSIFIED SECTION.

Blackburn, R. S., & Co., electrical engineers & contractors, telephone, electric light, bells, &c., Ribstone Works, Commercial-st., Hebden Bridge, viâ Manchester (Telegs.: "Blackburn, electrician, Hebden Bridge"); & Stansfield-rd., Todmorden.

Blackburn, Starling & Co., Ltd., electrical engineers & lightning conductor makers, Gresham Works, Nottingham; 72, Piccadilly, Hanley; & 197, Wardour-st., London, W. (Telegs.: "Blackburn, Nottingham." Teleph. No. 238, Nott.) Registered March 28, 1899. Capital: £12,000 in £1 shares. Mortgages: £4600. Directors: S. Smith, Esq. (chairman); F. H. Starling, Esq. (managing director & secretary); C. Osborne, Esq.

Blackett, J. F., electrical engineer, Walker Gate Brass Works, Newcastle-on-Tyne.

Blackhall, Wm. Jas., A.M.I.E.E., Corporation Electricity Works, Dundee.

Blackley, Samuel, A.I.E.E., March Hill, Dumfries, N.B.

Blackley, D. & J., electric bell & telephone fitters & contractors, Gilmore Park, Edinburgh. (Teleph. No. 3931 X.)

Blackman, A., engineer, 23, High-st., Hastings.

Blackman, Alfred S., M.I M.E., M.I.E.E., borough electrical engineer & manager, Sunderland.

Blackman Export Co., Ltd., ventilating engineers, 70, Finsbury Pavement, London, E.C. (Telegrams: "Aculla, London." Telephone No. 156, London Wall.)

Blackmore, Alfred, electrical contractor, 5, Montpelier-st., London, S.W.

Blackmore, R., electrical engineer, Hyde, Stalybridge, Mossley & Dukinfield Joint Electricity & Tramways Board, Stalybridge.

Blackpool Corporation Electricity Supply & Electric Tramways, West Caroline-st., Blackpool. (Telegrams: "Electricity, Blackpool." Telephone No. 67.) Chairman, Alderman Joseph Brodie; borough electrical & tramway engineer, Charles Furness.

Blackpool & Fleetwood Electric Tramroad Co., Bispham, nr. Blackpool. (Telegs.: "Cameron, Blackpool." Teleph. No. 121, Blackpool.) Incorporated 1896 & 1898. Nominal capital: £180,000 in ordinary shares, of which £150,000 has been issued, & 800 5 per cent. mortgage debenture bonds of £50 each. Loans authorized: £60,000. Directors: G. Richardson, Esq. (chairman); R. B. Barningham, Esq.; R. H. Prestwich, Esq.; G. Readman, Esq.; J. Greenwood, Esq.; R. S. Boddington, Esq. Engineer, A. Cameron; secretary & general manager, J. Cameron. Dividends: 1906, 6½ per cent.; 1907, 6½ per cent.; 1908, 6½ per cent.; & first half of 1909, at the rate of 4 per cent.

Blackpool & Garstang Light Railway Co., 5, Clifton-st., Blackpool. Nominal capital: £180,000 in £10 shares. Issued: 361 shares; £4 per share has been called up. Directors: J. Greenwood, Esq. (chairman); T. Fisher, Esq., J.P.; C. Hopkinson, Esq.; J. Platt, Esq.; W. Walker, Esq. Secretary, R. Bibby; consulting engineers, Myres, Veevers & Myres.

Blackpool, St. Anne's & Lytham Tramways Co., Ltd., 30, Birley-st., Blackpool. (Teleph. Blackpool 22 & 421.) Manager's office: South Shore, Blackpool. (Teleph. No. 327.) Registered Oct. 15, 1898. Capital reduced in 1904 to 100,000 ordinary shares of 16s. each & 50,000 cumulative preference shares of 18s. each, all issued, & £150,000 5 per cent. debenture stock, all issued. Issue on May 20, 1905, of £5000, part of series created by resolutions of Jan. 12 & March 13, 1905, to secure £15,000. Previously issued of same series, £10,000. Directors: Thos. Blane, Esq.; T. M. Smith, Esq.; Geo. Nicholson, Esq. Secretary, C. E. Riding. Manager, Harry W. Laing.

Blackwell, James S., A.I.E.E., 54, Clarendon-st., Leicester.

Blackwell, Robert W., M.I.E.E., Parliament-chbrs., 14, Great Smith-st., London, S.W. Chairman R. W. Blackwell & Co., Ltd.; chairman Johnson & Phillips, Ltd.

Blackwell, Geo. G., Sons & Co., Ltd., manganese merchants, manganese & carbon prepared especially for batteries. Works: Garston. Head offices: The Albany, Old Hall-st., Liverpool (Telegs.: "Blackwell, Liverpool." Teleph. Nos.: 959 & 952; Garston, 50); & 6 & 7, Cross-lane, London, E.C. (Telegs.: "Tungstate, London." A.B.C., 4th & 5th edits., Liebers & W.U. Codes.)

BLACKWELL, ROBERT W., & CO., LTD., ENGINEERS & CONTRACTORS, 14, GREAT SMITH-ST., LONDON, S.W. (TELEGS.: "KURKEE, LONDON." TELEPH. NO. 766, WESTMINSTER. ALL CODES.) Registered Aug. 29, 1899. Nominal capital: £250,000 in £1 ordinary shares. All are issued, 225,000 fully paid, & 25,000 have 10*s.* per share paid. Directors: Robert W. Blackwell, Esq. (chairman & managing); F. Forbes-Higginson, Esq.; W. J. Bailey, Esq.; H. Langdon, Esq. W. J. Bailey, secretary.

Blackwood, J. A., A.I.E.E., Union Cable Co., Ltd., 27, Eagle Wharf-rd., London, N.

Blackwood, W. E., electrical contractor, 19, Pavilion-rd., Knightsbridge, London, S.W. (Teleph. No. 1576, Kens.)

Blades, Herbert, A.M.I.E.E., 295, Slade-rd., Erdington, Birmingham.

Bladon, W. F., electrical engineer & tramways manager, Barrow-in-Furness.

Blagg, C. W., electrician, 108, Church-rd., Higher Tranmere, Birkenhead.

Blagg, T. H., electrician, Paddock, West Didsbury, Manchester.

Blaikie, J. R., A.M.I.E.E., 78, Sternhold-ave., Streatham Hill, London, S.W.

Blaikie, John, & Sons, electric light engineers, 218, Union-st., & Littlejohn Street Metal Works, Aberdeen. (Telegs.: "Blaikie, Aberdeen." Teleph. Nos. 65 & 56.)

Blain, H. E., tramways manager, West Ham Corporation Tramways, Tramways Office, Greengate-st., Plaistow, London. (Telegs.: "Trameurs, London." Teleph. No. 868, East.)

Blaine, R. G., M.E., A.M.I.C.E., consulting engineer, Afton Lodge, Stanley-rd., South Woodford, N.E.; & lecturer at the City & Guilds of London Technical College, Leonard-st., E.C.

Blair, G. C., A.M.I.E.E., electrician, The Moorings, Thornly Park, Paisley, N.B.

Blair, J. M., A.M.I.E.E., electrical engineer, Electricity Works, Acton, London, W.

Blair, T., 1, Wool Exchange, London, E.C. Director Bright's Light & Power, Ltd.

Blair, Campbell & McLean, Ltd., copper pipe work, castings & coils, Woodville-st., Govan, Glasgow. (Telegs.: "Blazon, Glasgow." Teleph. Nat. Govan 18; & P.O. 128.)

Blake, A., electrical engineer to Urban District Council, Winidor, Grove-rd., Fareham, Hants.

Blake, A. W., A.M.I.E.E., A.M.I.MECH.E., consulting engineer, 66, Wind-st., Swansea.

Blake, F. C., electrical engineer, Station-ave., Kew Gardens, London, S.W. (Teleph. No. 136, Richmond.)

Blake, O., installation contractor, 90, Station-rd., Westcliff-on-Sea.

Blaker & Sons, electrical contractors, Leatherhead.

Blakesley, T. H., M.A., M.I.C.E., electrician, Royal Naval College, Greenwich, London, S.E.

Blakey, A. B., A.I.E.E., Heathcote, Springfield-rd., King's Heath, Birmingham.

Blakey, Edwin, M.I.E.E., consulting electrical engineer, Barmouth, N. Wales. (Telegrams: "Blakey, Barmouth.")

Blakey Bros., electric sign makers, Bridlesmith Gate, Nottingham. (Telephone No. 1273.)

Bland, R. W. H. M., A.M.I.E.E., Tobarcooran, Carnmoney, Belfast.

Blandford, G., electrical engineer, 5, Railway-pl., Gravesend.

Blandford, Sidney, A.I.E.E., Railway-pl., Gravesend.

Blane, Thos., director Blackpool, St. Anne's & Lytham Tramways Co., Ltd., 30, Birley-st., Blackpool.

Blanks, Albert, A.M.I.E.E., 14, Willis-rd., Kentish Town, London, N.W.

Blasberg Engineering Co., engineers & contractors, 78, Cross-st., Manchester. (Telegs.: "Mandate, Manchester." Teleph. No. 6978, Central.)

Blascheck, C. A., A.M.I.E.E., city electrical engineer, Canterbury.

Blaxland, H. M., ironmonger & electrical engineer, Broadway, Eltham.

Blenheim, Wm., A.M.I.E.E., M.S.A., Egham, Surrey. (Telegs.: "Blenheim, Egham." Teleph. Egham 023.)

Blenheim, Wm. John, A.I.E.E., c/o Muirhead & Co., Elmers End, Beckenham.

Blenheim, W., & Co., electrical engineers, Egham, Surrey. (Telegs.: "Blenheim, Egham." Tel. No. 023.)

Blennerhasset, A., A.I.E.E., Foyers, Inverness, N.B.

Blennerhassett, R. F. P., A.I.E.E., A.M.I.C.E., British Aluminium Co., Ltd., Kinlochlevan, Argyllshire.

Bleriot, Ltd., electric lamp makers, 54, Long Acre, London, W.C. (Telegs.: "Bleriot, London." Teleph. No. 7876, Central.)

Blick, F., divisional engineer, National Telephone Co., 248, Lavender Hill, S.W (Teleph. Battersea 101.)

Blight, John, jun., electrical & telephone engineer, 1, Frobisher-terrace, Falmouth.

Bliss, Sir H. W., K.C.I.E., The Abbey, Abingdon, Berks. Director Kensington & Knightsbridge Electric Lighting Co., Ltd.

Bliss, E. W., & Co., metal working machinery, New-rd., Wandsworth-rd., S.W.

Blissett, P. T., A.M.I.E.E., A.M.I.M.E., Guinness, Sons & Co., St. James's Gate Brewery, Dublin.

Blockley, N. L., electrical engineer, The British L. M. Ericsson Manufacturing Co., Ltd., Byron House, 82/85, Fleet-st., London, E.C.

Blockley Electric Supply Co., Blockley, Worcs. Engineer, E. Humphries.

Blok, Arthur, A.M.I.E.E., B.SC., 17, Epsom-rd., Croydon.

Blomfield & Co., electrical engineers, St. Botolph's-corner, Colchester. (Telephone No. 5 Y. 3, Colchester.)

Bloomfield, C. W., A.I.E.E., 50, Handen-rd., Lee, S.E.

Bloomfield, F. J., electrical engineer, 71A, King-st., Maidenhead, Berks.

Blossom, B. H., & Co., electrical engineers, Law Association-bldgs., 13 & 15, Harrington-st., Liverpool.

Blount, Bertram, F.I.C., electrolytic chemist, 76–78, York-st., Westminster, London, S.W. (Telephone No. 6870, Gerrard.)

Bloxam, T. W., M.I.E.E., city electrical engineer, Corporation Electricity Works, East Bridge-st., Belfast. (Teleph. Nos. 833 & 2908.)

Bluemel, C. W., & Bros., makers of accumulators, &c., Wolston, nr. Coventry; & at 37, Great Eastern-st., London, E.C. (Telegs.: "Bluemel," Wolston & London. Teleph. Central 12156.)

Bluhme, E., director Great Northern Telegraph Co., Ltd., of Denmark, 15 & 15A, St. Helen's-pl., Bishopsgate-st. Within, E.C.

Blundell, Harry, M.I.C.E., chief engineer, Cheshire Lines Railway, Central Station, Liverpool.

Blundell, J. Wagstaff, A.I.E.E., 21, Norton-rd., Hove, Sussex.

Blundell, Spence & Co., Ltd., lubricant manufacturers, Anchor Wharf, 9, Upper Thames-st., London, E.C. (Telegs.: "Blunspence, London." Teleph. London Wall 4607, & Central 10852); & Hull. (Telegs.: "Blundells, Hull." Nat. Teleph. Nos.: 310, 1233 & 1699; & Corp. 1233.)

Blundstone, S. R., consulting engineer, 3, Ludgate Circus-bldgs., London, E.C. Director South Staffordshire Tramways Co.; director South Staffordshire Tramways (Lessee) Co., Ltd.; chairman Wolverhampton District Electric Tramways, Ltd.; director Birmingham & Midland Tramways, Ltd.; chairman Dudley, Stourbridge & District Electric Traction Co., Ltd.

Blunt, H., South Sea House, Threadneedle-st., E.C. Director North Melbourne Electric Tramways & Lighting Co., Ltd.

Blyth, James, M.A., LL.D., F.R.S.E., professor of natural philosophy, Glasgow & West of Scotland Technical College, Glasgow.

Blyth, S. F., A.M.I.E.E., Electricity Works, Gt. Yarmouth.

Blyth Electricity Works (Northern Counties Electricity Supply Co., Ltd.), Blyth, Northumberland. General manager, C. W. Fairweather; resident engineer, J. G. Lovely.

Blythen, A. A., A.I.E.E., 39, Holmwood-gdns., Brixton Hill, S.W.

Boake, A., Roberts & Co., Ltd., manufacturers of sulphurous acid & other chemicals, Stratford, London, E. (Telegrams: "Boake, London." Telephone No. 7, Stratford.)

Board of Education, Whitehall, London, S.W. (Telegs.: "Instruction, London.")

Board of Trade, Whitehall Gardens, London, S.W. Sir Hubert Ll. Smith, K.C.B., permanent secretary. For officials, *see* Government Officials, Classified Section.

Boate, R., assistant engineer, Cork Electric Tramways & Lighting Co., Ltd., Cork.

Boby, W., engineer, Salisbury House, London Wall, London, E.C.

Bock, Jas. K., A.M.I.E.E., A.M.I.MECH.E., consulting electrical engineer, Finsbury Pavement House, Finsbury Pavement, London, E.C. (Telegs.: "Rusticana, London." Teleph. London Wall 7343.)

Bocquet, Frank H., A.I.E.E., Rumwood, Maidstone.

Boddington, R. S., "Wynslade," St. Anne's-on-the-Sea. Director Electric Railway & Tramway Carriage Works, Ltd.; director Blackpool & Fleetwood Electric Tramroad Co.

Boddy, T., director Northallerton Electric Light & Power Co., Ltd., High-st., Northallerton.

BODDY, G. M., & CO., incandescent lamps, 18, Newington, Liverpool; & 15, Gray's Inn-rd., London, W.C. *See advt. under* METALLIC FILAMENT LAMPS.

Boex, N. J., supt. of the Direct Spanish Telegraph Co., Ltd., 74 & 75, Gracechurch-st., London, E.C.

Bogota Telephone Co., Ltd., 110, Cannon-st., London, E.C. (Telegs.: "Pelaez, London." Teleph. No. 5496, Bank. Bedford, M'Neil, Broomhall, Moreing & Neal, K.K., A.B.C. & Lieber's Codes.) Registered Dec. 31, 1900. Nominal capital: £25,000 in £1 shares. Issued: 20,107 shares (10,000 as paid). £15,000 debentures, secured by trust deed, dated May 30, 1905, have been registered, & £25,000 second mortgage debentures, secured by trust deed, dated Dec. 12, 1906, have been issued. Directors: G. P. Haddock, Esq.; Loraine Petre, Esq.; J. E. Cliffe, Esq. Secretary, A. G. Thresher.

Boilerine, Ltd., 885A–897, Old Kent-rd., London, S.E. (Telegs.: "Boilerine, London." Teleph. Hop. 216.)

Boissier, E., superintendent of mains, Corporation Electricity Supply Works, Derby.

Bolam, J. H., M.SC., A.M.I.E.E., borough electrical engineer, Weymouth.

Bolas, T., F.C.S., F.I.C., &c., electrical & chemical laboratories, 60, Grove-park-ter., Chiswick, London, W.

Boldero, Alexander F. J., M.F.S., Ivy House, Penkridge, Staffs.

Bolding, J., & Sons, Ltd., brass manufacturers, &c., Grosvenor Works, Davies-st., Berkeley-sq., London, W. (Telegs.: "Boldings, London." Teleph. Gerrard 5077 & 3983; & Mayfair 818.)

Bole Hall Mill Co., telegraph tape manufacturers, Tamworth. (Telegrams: "Bolehall, Tamworth.")

Bollam, Carl, A.M.I.E.E., Wareham, Dorsetshire.

Bolton, Ernest, electrical engineer, 8, Alan-rd., Withington, Manchester.

Bolton, R. A. R., A.M.I.E.E., Brincliff, Elsee-rd., Rugby.

Bolton, W., superintendent Eastern Telegraph Co., K13, Exchange-bldgs., Liverpool.

Bolton, Wm. F., A.M.I.E.E., electrical engineer, 31, Brownsville-rd., Heaton Moor, Stockport.

Bolton, A., & Co., superheaters, 49, Deansgate, Manchester. (Telegs.: "Heatizer." Teleph. City 6032.)

Bolton Corporation Electricity Supply & Electric Tramways. Works: Spa-rd., Bolton. (Telegrams: "Engineer, Electricity Works, Bolton." Telephone No. 269.) Borough electrical engineer & tramways general manager, Arthur A. Day, A.M.I.C.E., M.I.E.E.

Bolton & Sons, electricians, 153, Hope-st., Glasgow. (Telegs.: "Gresham, Glasgow." Tel. No. 4286.)

Bolton Technical School, Bolton. *See* SCHOOLS, CLASSIFIED SECTION.

Bolton, Thomas, & Sons, Ltd., Manufacturers of Copper, Telegraph & Electric Wire, Mersey Copper Works, Widnes (Registered Offices) (Telegrams: "Rolls, Widnes." Telephone No. 13); Oakamoor, North Staffs. (Telegrams: "Bolton, Oakamoor"); Broad-St. Metal Works, Birmingham (Telegrams: "Boltons, Birmingham." Teleph. No. 244); & 88, Bishopgate-St. Within, London, E.C. (Telegs.: "Wiredrawn, London." Telephone No. 632, Central.)

Bombay Electric Supply & Tramways Co., Ltd., Electrical Federation Offices, Kingsway, London, W.C. (Telegs.: "Bombay, c/o Tramways, London." Western Union Code. Teleph. No. 2686, Holborn (6 lines).) Registered June 27, 1905. Nominal capital: £1,200,000 in £10 shares (£600,000 6 per cent. cumulative preference), £600,000 debenture stock & £150,000 second mortgage debentures (to bearer). Issued: £600,000 in ordinary shares, fully paid, £600,000 preference shares, £10 per share paid, all the debenture stock paid up & secured by trust deed of Nov. 7, 1905, & £150,000 second mortgage debentures (to bearer), secured by trust deed dated May 13, 1909. Directors: Sir Ed. Sassoon, Bart., M.P.; Sir E. C. K. Ollivant, K.C.I.E.; F. W. Chanter, Esq.; E. Garcke, Esq.; C. Shirreff B. Hilton, Esq.; F. C. Rimington, Esq. (managing). Engineers, C. W. G. Little, London; A. T. Cooper, Bombay; secretary, A. L. Barber.

Bombay Hydro Electric Synd., Ltd., 210–16, Gresham House, London, E.C. Registered July 26, 1905. Nominal capital: £15,000 in £10 shares. Issued: 1250 shares, £9 called. Directors: R. Miller, Esq.; E. Miller, Esq.; W. J. Le Breton, Esq.; F. J. Horne, Esq. (secretary).

Bomford & Evershed, Ltd., general engineers, &c., Atlas Works, Pershore.

Bompas, G. C., A.I.E.E., 121, Westbourne-ter., Hyde Park, London, W.

Bond, F. A., A.M.I.E.E., chief engineer, Borough Council Electricity Works, Battersea, S.W.

Bond, W. F., electrician, 245, Euston-rd., London, N.W. (Telephone No. 3943, Central.)

Bond, Walter G. A., A.I.E.E., British Electric Traction Co., Electrical Federation Offices, Kingsway, W.C. Chairman Devonport & District Tramways Co.; director North Staffordshire Tramways Co., Ltd.; director Hartlepool Electric Tramways Co., Ltd.; chairman Gravesend & Northfleet Electric Tramways, Ltd.; director Worcester Electric Traction Co., Ltd.; director Swansea Improvements & Tramways Co.; director General Electric Tramways Co., Ltd.; director Auckland Electric Tramways Co., Ltd.; chairman Greenock & Port Glasgow Tramways Co.; director Airdrie & Coatbridge Tramways Co.

Bond Bros., electrical cabinet work, 16 & 21, Sunbury Workshops, Calvert-ave., Shoreditch, London, E.C.

Bo'ness Town Council Electricity Works, Bo'ness, N.B. (Teleph. No. 29.) Engineer, H. G. Young. *Works leased to National Electric Construction Co., Ltd.*

Bonn, J., & Co., Ltd., mechanical & electrical instrument manufacturers, 97, New Oxford-st., London, W.C.

BONNELLA, D. H., & SON, LTD., manufacturers of electrical & motor car accessories, ivory, wood & bone turners, 58 & 60, Mortimer-st., London, W. Works: Kirby-st., Hatton Garden, London, E.C. (Telegs.: "Boncinello, London." Teleph. No. 1882, Gerrard.) Registered May 25, 1899. Nominal capital: £15,000. Directors: D. H. Bonnella, Esq. (chairman); & A. J. Bonnella, Esq. *See advt. under* IVORY & WOOD TURNERS.

Bonner, J. D., 21, Cadogan-gdns., S.W. Director Johnson & Phillips, Ltd.

Bonney, S. R., & Co., electro-platers, &c., Elswick-rd., Lewisham, S.E.

Bontch, John Meikle, A.I.E.E., 51, Forsyth-rd., Jesmond, Newcastle-on-Tyne.

Boond, S., electric light & power contractor, Town-chbrs., Market-st., Leigh, Lancs. (Teleph. No. 154.)

Boor, G., & Co., chemical manufacturers, 21, Mincing-lane, London, E.C. (Telegs.: "Boor, London." Teleph. No. 1488, Avenue. A.B.C. Code.) Warehouse: 37, Tenter-st., Spitalfields.

Boot, Horace, M.I.E.E., A.M.I.M.E., consulting engineer, 4, Great George-st., Westminster, London, S.W.

Booth, G. C., electrical engineer, 28, Silver-st., Whitby.

Booth, J. G., electrical engineer, 132, Rochdale-rd., Bury.

Booth, John, Barton Hall, Preston. Chairman National Electric Supply Co., Ltd.

Booth, Richard, electrician, 27, Cunliffe-street, Chorley, Lancs.

Booth, Robt., engineer, 110, Cannon-st., E.C. (Telegs.: "Crocus, London." Tel. No. 1477, Central.)

Booth, R. L., electrical engineer, 313, Hanworth-rd., Hounslow.

Booth, Thos. C., electrical engineer, c/o J. W. Speight, The Elms, Lytham-rd., St. Anne's-on-Sea.

BOOTH, WM. H., steam engineer & Artesian & Technical expert, Caxton House (West Block), Westminster, London, S.W. (Teleph. Victoria 2065.)

Booth, George, & Co., machine tool makers, Arundel-st., Gibbet-st., Halifax. (Telegrams: "Booths, Engineers, Halifax." Telephone No. 16x.)

Booth, James, & Co., Ltd., manufacturers of brass & copper tubes, strip, sheets, &c., Sheepcote-st. Tube & Rolling Mills, Birmingham. (Telegrams: "Booth, Birmingham." A.B.C., 5th edit., Lieber's & private Codes. Telephone No. 62.)

Booth, Joseph, & Bros., Ltd., engineers, electric & steam crane manufacturers, Rodley, Leeds; & 75A, Queen Victoria-st., London, E.C. (Telegrams: "Cranes, Rodley." Teleph. No. 20, Stanningley.)

Booth, S., & Co., electric light fittings manufacturers, Cheapside Works, Birmingham. (Telegrams: "Cheapside, Birmingham." Telephone No. 1182.)

Boothroyd, H. T., Ltd., electrical & mechanical engineers, Akenside-st., Bootle, Lancs. (Telegs.: "Commutator, Liverpool." Teleph. No. 420, Bootle.)

Bootle Corporation Electricity Works & Electric Tramway, Bootle, Lancs. Borough electrical engineer, T. D. Clothier. (Telephone No. 424.)

Bootle Municipal Technical School, Bootle, Lancs.

Borland, F. J., A.M.I.E.E., Old Mills, Camp-rd., & 3, Elmwood Green, Leeds.

Borland, F. J., & Co., electrical & general engineers, makers of "Scissors" Arc Lamps, Old Mills, Camp-rd., Leeds. (Telegs.: "Borland, Leeds." Teleph. No. 1615.)

Bornand, Victor, A.M.I.E.E., Winchester House, Victoria-sq., Birmingham.

Bornand, Victor, & Co., electrical engineers, Winchester House, Victoria-sq., Birmingham.

Borns, H., PH.D., F.C.S., A.M.I.E.E., technical translator, 5, Sutton Court-rd., Chiswick, W.

Boron Battery Electrical Supply Co., boron carbon manufacturers, Liverpool Research Laboratory, 131, St. Domingo-rd., Liverpool.

Borough Polytechnic Institute (W. M. Richardson, secretary; C. T. Millis, M.I.M.E., principal of educational department), 103, Borough-rd., London, S.E. (Telegrams: "Polychrest, London." Teleph. No 3013, Hop.)

Borrer, J. H., director Gloucestershire Electric Power Co.; director Gloucestershire Electric Power Syndicate, Ltd., 5, Rowcroft, Stroud, Glos.

Bosanquet, Charles J., M.S.A., A.M.I.E.E., Stokesay, Kidbrook Park-rd., Blackheath, S.E.

Bosanquet, R. A., Bank House, Windsor. Director Slough & Datchet Electric Supply Co., Ltd.; director Windsor Electrical Installation Co., Ltd.

Boscawen, A. G., Soon's Park, Edenbridge, Kent. Chairman Manx Electric Railway Co., Ltd.

Bosch Magneto Co., Ltd., 23, Store-st., Tottenham Court-rd., London, W.C. (Telegs.: "Bomag, London." Teleph. Gerrard 8610 (2 lines). Lieber's Code.) Registered March 3, 1899. Nominal capital: £15,000 in £1 shares, all issued & fully paid. Directors: R. Bosch, Esq. (chairman); E. A. Rehder, Esq. Secretary, John A. Stevens.

Bostel Bros., Ltd., electrical engineers, 18 & 19, Duke-st., Brighton. (Teleph. Corp. 98; & Nat. 869 X.)

Bosworth, H. W., A.M.I.E.E., Lancashire Dynamo & Motor Co., 28, Victoria-st., London, S.W.

Botham, A., A.I.E.E., electrical engineer, Homeleigh, York-ave., Hunstanton, Norfolk.

Bothams, A. C., director Salisbury Electric Light & Supply Co., Ltd., The Close, Salisbury.

Bott, Alfred, A.M.I.E.E., principal, Ajax Electrical Engineering Co., 291, High-rd., Ilford.

Botten, Henry, electrical engineer & manufacturing electrician, 39, Lime-st., London, E.C.

Botting, R. G., manager Aberdeen Electrical Engineering Co., Ltd., 17, Belmont-st., Aberdeen.

Bottomley, C. F., resident engineer, Market Drayton Electric Light & Power Co., Ltd., Market Drayton. (Teleph. No. 13.)

Bottomley, J. T., M.A., LL.D., D.SC., F.R.S., F.R.S.E., F.C.S., M.I.E.E., 13, University-gdns., Glasgow. (Teleph. No. 35, Hillhead.)

Bottomley & Liddle, chartered patent agents, 154, St. Vincent-st., Glasgow. (Telegs.: "Patentable, Glasgow." Teleph. Nos.: Argyle, 1227, Nat.; & 1237, Corp.)

Bottone & Son, manufacturers of dynamos, motors, voltmeters, wireless telegraphs, &c., Wallington, Surrey. (Telegrams: "Bottone, Wallington.")

Boucher, J. W., A.I.E.E., electrical engineer, district superintendent South & West of Ireland of the Edison & Swan U. E. L. Co., Ltd., 12, Dawson-st., Dublin. (Telegs.: "Ediswan, Dublin." Tel. 618.)

Boudjah Electric Lighting Co., Ltd., 110, Cannon-st., London, E.C. Registered Sept. 14, 1909. Nominal capital: £5000 in £1 shares.

Boughton, A. J., Parliament-chbrs., Westminster, S.W. Director Hooghley River Electric Power Co., Ltd.

Boughton, H. F., registered patent agent, Boughton & Co., Patent Offices, 114A, Chancery-lane, W.C.; 14, Bell-yard, Temple Bar, W.C.; & 10, Heath-rd., Hounslow, W.

Bould, E., & Son, electrical contractors, 36, Westgate & Green-st., Huddersfield.

Boulnois, Edmund, 7, King-st., Portman-sq., W. Director Westminster Electric Supply Corporation, Ltd.; chairman Calcutta Electric Supply Corp., Ltd.; vice-chairman Central Electric Supply Co., Ltd.

Boult, Eric F., A.I.E.E., 111, Hatton Garden, E.C.

Boult, John, electrical engineer, 41, Wood-st., Liverpool.

Boult, Wade & Tennant, patent agents, 111 & 112, Hatton Garden, London, E.C.

Boulting, John, & Sons, electric light engineers, 5 & 6, Upper Marylebone-st., W. (Telephone No. 3233, Gerrard.)

Boulton & Mills, glass manufacturers. Show-rooms: 31, Ely-pl., London, E.C. Works: Stourbridge.

Boulton & Paul, Ltd., electric launches & engines, Rose-lane Works, Norwich.

Bourke, H. E. M., chairman Cie. Generale d'Electricité de Lourenço Marques, 408–423, Salisbury House, London Wall, E.C.

Bourne, Frank, M.I.E.E., M.AM.I.E.E., consulting engineer, 62, London Wall, London, E.C. (Teleph. No. 1022, London Wall.)

Bourne, F., A.I.E.E., Telegraph Department, South Eastern Railway, New Cross, S.E.

Bourne, Hugh, A.M.I.E.E., 6, Thornton-rd., East Sheen, London, S.W.

Bourne, W. F., A.I.E.E., Albany House, Caterham, Surrey.

Bourne End Electric Installation Co., Ltd., Bourne End, Bucks. London office: 19, Colville Mansions, North Kensington, W.

Bourne, Joseph, & Son, battery jar & insulator manufacturers, Denby Pottery, nr. Derby. (Teleph. Belper 40.) London office & show-rooms: 23, Euston-rd., N.W. (Telegs.: "Danesby, London." Teleph. Central 9911.)

Bournemouth Corporation Tramways, Bournemouth. (Telegs.: "Tramways, Bournemouth." Nat. Teleph. No. 479.) General manager, Chas. W. Hill; chief asst. & electrical engineer, I. Bulfin, B.A., A.M.I.C.E., M.I.M.E., M.I.E.E.

Bournemouth & Poole Electricity Supply Co., Ltd., Moorgate Court, London, E.C. (Telegrams: "Partnership, London." Teleph. No. 2681, London Wall); & Verulam House, Bournemouth. (Telegs.: "Electric, Bournemouth." Teleph. Nos.: Generating Stations, 1399 & 1400, Bournemouth, 2x, Poole; & 13, Christchurch.) Registered Dec. 9, 1897. Authorized capital: £250,000 in £10 ordinary shares, £75,000 in 4½ per cent. cumulative preference shares of £10 each, £175,000 in 6 per cent. second cumulative preference shares of £10 each, & £300,000 debenture stock. Issued: £150,000 in ordinary shares, £75,000 in 4½ per cent. cumulative preference shares, £150,000 6 per cent. cumulative second preference, & £187,500 4½ per cent. debenture stock, all fully paid. Directors: A. H. Sanderson, Esq. (chairman); J. Atkinson Hosker, Esq. (vice-chairman); F. W. Reynolds, Esq.; F. E. Savory, Esq.; R. P. Sellon, Esq. Consulting engineer, C. P. Sparks, M.I.C.E.; secretary, H. B. Renwick; local secretary, W. D. Brightman; resident engineer, E. L. Ingram, M.I.E.E. Dividends on ordinary shares: 1904, 1905, 1906 & 1907, 7 per cent.; 1908, 6 per cent.

Bournemouth Science, Art & Technical School, Poole Hill, Bournemouth. Secretary, F. W. Ibbett.

Bousfield, E. G. P., A.M.I.E.E., Saxon Engineering Co., Ltd., Fenton, Stoke-on-Trent.

Bousfield, G. W., A.M.I.E.E., Stennard Works, Wakefield.

Bousquet, I., & Co., tin & copper foil & foil paper manufacturers, 28, Barbican, London, E.C. (Telegrams: "Bousquet, Barbican, London." Telephone No. 12468, Central.)

Boustead, I. M., Colombo, Ceylon. Director Colombo Electric Tramways & Lighting Co., Ltd.

Bovey, E. P., & Son, wiring contractors, Victoria-parade, Torquay. (Telegrams: "Bovey, Contractors, Torquay." Nat. Telephone No. 115.)

Bovey Light & Power Co., Ltd. Registered Dec. 11, 1907. Nominal capital: £4250 in 3750 6 per cent. cumulative preference shares of £1 each & 5000 ordinary shares of 2*s.* each. Directors: M. C. Olsson, Esq.; W. Olsson, Esq.; R. B. Phillpotts, Esq. Engineer, Geo. F. Bale.

Böving, Jens Orten, & Co., hydraulic engineers, 9½, Union-ct., Old Broad-st., London, E.C. (Telegs.: "Jenorten, London." Teleph. London Wall 6480.)

Bow, McLachlan & Co., Ltd., engineers, boiler makers & ironfounders, Paisley. (Telegrams: "Bow, Paisley." Telephone No. 6.) A1, A.B.C. & Commercial Codes used.

Bowden, Frank W., A.I.E.E., c/o British Thomson-Houston Co., Newcastle-on-Tyne.

Bowden, G. Harland, electric power engineer, Hucclecote Court, Hucclecote, nr. Gloucester. (Teleph. No. 314, Barnwood, Gloucester.)

Bowden, H. W., M.I.E.E., M.I.C.E., 30, Craven-st., Strand, London, W.C. Consulting engineer Brompton & Kensington Electricity Supply Co., Ltd.; managing director & engineer-in-chief South Metropolitan Electric Light & Power Co., Ltd.; director Woking Electric Light Supply Co., Ltd.

Bowden, John, A.M.I.E.E., M.I.MECH.E., Sheriff Mount, Gateshead.

Bowden, J. Horace, M.I.E.E., consulting & borough electrical engineer, Poplar, London, E.

Bowden, J. R. J., A.M.I.E.E., chief assistant & distributing electrical engineer, Hackney Borough Council Electricity Works, Millfields-rd., Clapton, London, N.E.; & 52, Kenninghall-rd., Clapton, London, N.E.

Bowden, Th., electrician, Marconi's Wireless Telegraph Co., Tyssen-st., Dalston, London, N.E.

Bowden, Thomas, J.P., Sheriff Mount, Gateshead. Director The Sunbeam Lamp Co., Ltd.

BOWDEN, G. HARLAND, & CO., electric power engineers, Royal London-bldgs., 196, Deansgate, Manchester (Telegs.: "Engineered, Manchester." Teleph. Nos. 7190 & 7191); Baltic-chbrs., 50, Wellington-st., Glasgow (Telegs.: "Bowden, Glasgow." Teleph. No. 221, Argyle); 5, Laurence Pountney Hill, Cannon-st., London, E.C. (Telegs.: "Harbowdeco, London." Teleph. No. 7417, London Wall); & at Dundee, Cardiff & Gloucester.

Bowden, Higlett & Co., electric light contractors, Onslow-st., Guildford.

BOWELL, G. B., electric clock manufacturer. Office & Works: 192, Goswell-rd., London, E.C. (Telegs.: "Silectocks, London." Teleph. City 2890.)

BOWELL, H. T. W., 192, Goswell-rd., London, E.C.
Bowen, Clifford Alfred, A.M.I.E.E., Brickfield Chemical Works, Llanelly, South Wales.
Bowen, H. V., A.M.I.E.E., Drayton Lodge, Gravelly Hill, Birmingham.
Bowen, J., electrical engineer, 30, Victoria-st., Merthyr Tydfil.
Bowen, John, A.M.I.C.E., borough engineer & surveyor, Reading.
Bowen, T., resident engineer, Urban District Council Electricity Works, Llandilo, Carmarthen.
Bowen, W. F., electrical engineer, "Stonwall," Blackburn-road, Bolton.
Bowen & Co., brass founders for electricians, 6, Mount Pleasant, Gray's Inn-rd., London, W.C. (Telegs.: "Bowenite, London." Teleph. No. 1684, Holborn.)
Bowen & Odery Manufacturing Co., electrical engineers, 62, New Cross-rd., London, S.E. (Telegs.: "Odbow, London." Teleph. No. 747, Deptford.)
Bower, W. R., A.R.C.S. (London), lecturer on physics & electrical engineering, Technical College, Huddersfield.
Bower, W. T., A.M.I.E.E., 81, St. Andrew's-rd. South, St. Anne's-on-Sea.
Bowerman Bros., electric light engineers, 31 & 35, Osborne-rd., Southsea. (Teleph. No. 582.)
Bowers & Barr, Ltd., electrical engineers, Regent-st., Great Yarmouth. (Teleph. No. 150.)
Bowes Scott & Western, Ltd., mining machinery & water softeners. Offices: Broadway-chbrs., Westminster, London, S.W.; sampling & testing works, Queen's Circus, Queen's-rd., Battersea, S.W. (Telegs.: "Donbowes, London." Teleph. No. 199, Westminster. A1, A.B.C. & McNeill's Codes.)
Bowker, A., electrical engineer & contractor, 14, Osborne-st., Didsbury, Manchester.
Bowker, Robert Bucknal, A.M.I.E.E., Burnbrae, Salisbury-rd., Moseley, Birmingham.
Bowlan, H. H., Corporation chief assistant engineer & mains superintendent, 3, Gore Park-rd., Eastbourne.
Bowles, E. Wingfield, consulting engineer, 28, Victoria-st., London, S.W. (Telegrams: "Nestling, London." Telephone No. 31, Victoria.)
Bowley, S., & Son, oil refiners & lubricant specialists, varnish & colour manufacturers, Wellington Works, Battersea Bridge, London, S.W. (Telegs.: "Bolyanson, London." Teleph. Battersea 1 & 2. A.B.C., Lieber's & Marconi Codes.)
Bowman, A., Silverside, Buckhaven. Director Wemyss & District Tramways Co., Ltd.
Bowman, F. H., D.Sc., F.R.S.E., M.I.E.E., A.I.C.E. & M.E., F.C.S., F.I.C., &c., 4, Albert-sq., Manchester.
Bowman, Joseph, consulting electrical engineer, 25, Middlegate, Penrith.
Bowman, J. M., resident engineer, North Metropolitan Electrical Power Supply Co., Electricity Works, Hertford.
Bowman, Charles, Ltd., engravers in brass, &c., 6, King-st., Tower Hill, London, E.
Bowman, J., & Co., electric cranes, etc., Johnstone, N.B.
Bowran, Robert, & Co., Ltd., general & electrical engineers & agents, 4, St. Nicholas-bldgs., Newcastle-on-Tyne.
Bowron, G., dealer in second-hand electrical goods, 57, Edgware-rd., London, W. (Teleph. No. 3588, Mayfair.)
Bowthorpe, Harry, electrical engineer, 51, Wolfington-rd., West Norwood, London, S.E.
Boxall, G. F., assistant, G.W. Railway, Electrical Engineer's Department, 150, Westbourne-ter., London, W.
Boxell, F., electrical engineer, 82, Gloucester-rd., Brighton. (Teleph. Nos.: 384, Corp.; & 184 X. 3, Nat.)
Boyce, B. A. M., A.I.E.E., Ashleigh, Frederick-rd., Gravelly Hill, Birmingham.
Boyce, Joseph, A.M.I.E.E., assistant engineer, Corporation Electricity Works, & 28, Limes-ave., Darwen, Lancs.
Boycott, G. W. M., A.M.I.C.E., consulting engineer, 19, Old Queen-st., Westminster, S.W. (Telegs.: "Entific, London." Teleph. Westminster 5146.)
Boyd, David Henry, A.M.I.E.E., 1, Lansdowne-rd., Old Charlton, S.E.
Boyd, Wm., A.M.I.M.E., A.M.I.E.E., engineer, Northwich Electric Supply Co., Ltd., 6–8, Lock-st., Northwich. (Telephone No. 102.)
Boyd, Wm. Brunton, A.M.I.E.E., Bank of Ireland-chbrs., 93, Ann-st., Belfast.
Boydell, H. M., A.M.I.E.E., 1B, Cooper-st., Manchester.
Boydell, W., & Sons, electrical engineers & manufacturers, Brown-st. Iron Works, Leigh, Lancashire. (Teleph. Leigh 33.)
Boyden, T. L., engineer, Morgan Crucible Co., Ltd., Battersea Works, London, S.W.
Boyer, H. E., director Electricity Supply Co. for Spain, Ltd., 88, Leadenhall-st., London, E.C.
Boyes, John, A.I.E.E., c/o Eastern Telegraph Co., Electra House, Moorgate, London, E.C.
Boyes & Rudkin, electrical engineers, Ravenhill-rd., Belfast.
Boyle, A. L., A.M.I.E.E., electrical engineer, May & Hawes, Caxton House, Westminster, S.W.; & 36, Cleaveland-ave., Chiswick, W.
Boyle Mills Electric Light Station Works, Boyle, Ireland. Engineer, Robt. Stewart.
Boyle, Robert, & Son, ventilating & consulting engineers, 64, Holborn Viaduct, London, E.C. (Telegs.: "Hypostile, London.")
Boys, C. Vernon, F.R.S., 66, Victoria-st., London, S.W. (Teleph. No. 429, Victoria.)
Braby, Ivon, M.I.E.E., electrical engineer, Helena, Alan-rd., Wimbledon.

BRABY, E. & C. *See* Bingley, Son & Follit, Ltd.

BRABY, FREDK., & CO., LTD. ZINC TUBES, RODS, SHEETS, BATTERY PLATES & CYLINDERS, GALVANIZED IRON, ALUMINIUM, 352 to 364, Euston-rd., London, N.W. (Telegs.: "Courteous, London." Teleph. No. North 2100 (3 lines)); 218 & 220, High-st., Borough, S.E. (Telegrams: "Convolute, London." Telephone No. 7001, Central); Ida Works, Blackhorse Bridge, Deptford, S.E. (Telegrams: "Braby, Deptford, London." Telephone No. 233, Deptford); 110, Cannon-st., E.C. (Telegrams: "Xenophon, London." Telephone No. 5829, Bank); Havelock Works, Pennington-rd., Litherland, Liverpool (Telegrams: "Braby, Liverpool." Telephone No. 586, Bootle); Ashton Gate Works, Bristol (Telegs.: "Braby, Bristol." Teleph. No. 947); Petershill-rd., Glasgow (Telegrams: "Braby, Glasgow." Telephone Nos.: Corp., S2, S3, S58, S59 & 1574; Royal, 4130, 4131 & 4134); Falkirk (Telegs.: "Rustless, Falkirk." Teleph. No. 94, Falkirk); 59, Victoria-st., Belfast (Teleph. No. 2609, Belfast); & 9, South Princes-st., Dublin.

Bracher, F. & W., installation contractors, Redcliff-st., Bristol. (Telephone No. 81.)

Brackenbury, H. I., Benwell Lodge, Newcastle-on-Tyne. Director Newcastle & District Electric Lighting Co., Ltd.

Bradburne, E. S., A.M.I.E.E., electrical & mechanical engr., Alison, Temple-rd., Buxton. (Tel. No. 14 X.)

Bradbury, R. H., A.M.I.E.E., 49, Birmingham-st., Oldbury, nr. Birmingham.

Bradbury & Co., manufacturers of electric light fittings & accessories, 39 & 40, Woodcock-st., Birmingham. (Teleph. No. 2061.)

Bradbury & Co., Ltd., capstan lathes, brass-finishing lathes, milling machines, &c., for electrical engineers, Wellington Works, Oldham. (Telegrams: "Rotary, Oldham." Telephone No. 242.)

Braddon, C. D., A.M.I.E.E., electrical engineer, Ryecraft House, Cheetham Hill, Manchester.

Brade, Geo. A., A.M.I.E.E., 61, Redston-rd., Hornsey, London, N.

Bradfield, W. W., A.I.E.E., Marconi Wireless Telegraph Co., Watergate House, York-bldgs., Adelphi, London, W.C.

Bradford, Frank, A.M.I.E.E., electrical engineer, 2, Holly-grove, Seaforth, Liverpool.

Bradford, M. D., director Cambridge Electric Supply Co., Ltd., Thompson's-lane, Cambridge.

Bradford, City of, Technical College, Classes in Electrical Engineering, Bradford. *See* SCHOOLS, &c.

Bradford Corporation Electric Tramways. W. H. S. Dawson, city engineer. (Teleph. No. 1497.)

Bradford Corporation Electricity Supply. Works: Bolton-rd. & Valley-rd., Bradford. City electrical engineer & manager, T. Roles. (Telegs.: "Luminous, Bradford." Teleph. Nos. 1883 & 1884.)

Bradford Electrical Engineering Co., Ltd., electric light contractors, 56, Manningham-lane, Bradford. (Telegs.: "Megohm, Bradford." Teleph. No. 1652.)

Brading & Co., Ltd., electric light engineers, 66, Grove-rd., Eastbourne.

Bradninch & District Electric Supply Co., Ltd., Kensham, Bradninch, Devon. Registered May 20, 1908. Nominal capital: £2000 in £1 shares.

Bradshaw, Wm., A.M.I.E.E., resident engineer, Houses of Parliament, London, S.W.

Bradshaw & Co., bitumen manufacturers, 52, Queen Victoria-st., London, E.C. (Telegs.: "Subtending, London." Teleph. No. 6109, Bank.)

Bradshaw, J. C., & Co., manufacturing electricians, 10, Dixon-rd., New Cross, London, S.E.

Bradshaw, R. A., & Son, pillars, &c., Retford.

Bradwell, G., A.I.E.E., 4, St. Ann's-sq., Manchester.

Bradwell, J., A.I.E.E., Reynolds & Bradwell, 134, Edmund-st., Birmingham.

Brady, C. R., engineer, Urban District Council Tramways, Cheadle & Gatley, Lancs.

Brady & Martin, Ltd., electrical & scientific apparatus makers, Northumberland-rd., Newcastle-upon-Tyne. (Telegrams: "Martin, Newcastle-on-Tyne.")

Braime, T. F., & Co., Ltd., manufacturers of seamless oilcans, Goodman-st., Hunslet, Leeds. (Telegrams: "Braime, Hunslet, Leeds." Nat. Telephone No. 1767.)

Brain, Frank, M.I.M.E., A.M.I.C.E., electrical & mining engineer, & electric fuze manufacturer, Trafalgar House, Drybrook, Gloucester. (Telegs.: "Blasting, Serridge Junction." Tel. No. 5, Cinderford.)

Braithwaite, J. Bevan, M.I.E.E., "The Highlands," New Barnet, Herts. Chairman Melbourne Electric Supply Co., Ltd.; chairman Adelaide Electric Supply Co., Ltd.; director Electric & General Investment Co., Ltd.; chairman County of London Electric Supply Co., Ltd.; chairman City of London Electric Lighting Co., Ltd.

Bramham, J., lightning conductor manufacturer, 104, Dale-st., Liverpool. (Telephone No. 6214.)

Bramwell, Councillor Hugh, Brynteg, Llantrissant, Pontypridd, Glam. Chairman Treforest Electrical Consumers Co., Ltd.

Bramwell & Harris, consulting engineers, 11, Great George-st., London, S.W. (Telegs.: "Wellbram, London." Teleph. No. 60, Westminster.)

Brancker, R., 11, Old Hall-st., Liverpool. Director Heswall Electric Light Co., Ltd.

Brand, Ed., wire machinery, &c., 472, Moss-lane East, Manchester. (Telegs.: "Filieres, Manchester." Teleph. Rusholme 59.)

Brand, Hon. A. G., J.P., director New General Traction Co., Ltd.; director Coventry Electric Tramways Co.; director Norwich Electric Tramways Co., 8, Crosby-sq., E.C. Director State of Bahia South Western Railway Co., Ltd.

Brandon, Ernest Austin, electrical & mechanical agent, 33, Devonshire-chbrs., Bishopsgate-st., London, E.C. (Telegs.: "Erpeg, London." Teleph. No. 8592, Central.)

Brandreth, F. H., chief assistant engineer, Urban Electric Supply Co., Ltd., Grantham.

Brandreth, W. E., resident engineer & manager Wycombe Borough Electric Light & Power Co., Ltd., High Wycombe. (Telephone No. 43A.)

Brandt, Henrich A., mica merchant, 28, Minories, London, E.C. (Telegrams: "Micarelle, London." Telephone No. 6071, Avenue.)

Bransom, Kent & Co., Ltd., makers of motor-car accumulators, &c., 40, Great Eastern-st., London, E.C.

Brantingham Bros., electrical engineers, 3, Toward-rd., Sunderland. (Telephone No. 553.)

Brash, Jas., A.I.E.E., Brash & Russell, 9, Springfield-rd., Glasgow. (Telegs.: "Electricity, Glasgow.")

Brash, W. R., electrician, 44, Dalhousie-st., Glasgow.

Brash & Russell, electrical & general engineers, 9, Springfield-rd., Glasgow. (Telegs.: "Electricity, Glasgow.")

Bratt, J. & A., & Sons, tin plate workers, japanners, enamellers & galvanizers, Clarence-st., Wolverhampton. (Telegrams: "Bratt, Wolverhampton." Telephone No. 183.)

BRAUCKMANN, ALBERT (sole agent for F. W. Busch, Lüdenscheid), electrical accessories of every description, 16 & 17, Barbican, London, E.C. (Tel. Nos.: Office, 11380, Central; Stores, 2536, City.)

Braulik, G., A.I.E.E., manufacturer & exporter of electrical goods, 8, Lambeth Hill; & 7, Broken Wharf, London, E.C. (Telegs.: "Braulik, London." Teleph. Nos.: 5075, Bank; & 7837, Central); & at Sydney, N.S.W.; & Johannesburg, Transvaal.

Braun & Co., inventors' model makers, 236 & 238, Pentonville-rd.; & 1, Northdown-st., King's Cross, London. (Telegs.: "Modelling, London." Teleph. North 1997.)

Brawn, Thos., & Co., electric light fittings, &c., Art Metal Works, 64, Clement-st., Birmingham. (Telephone No. 3240.)

Bray & Enniskerry Railway Co., 52, Westland-row, Dublin. Issued capital: £25,000 in £10 ordinary shares. Directors: A. Killingley, Esq. (chairman); F. M'Cree, Esq. Secretary, M. F. Keogh.

Bray, Geo., & Co., Ltd., makers of lanterns for incandescent street lighting, Bagby Works, Leicester-pl., Leeds. (Telegs.: "Bray, Leeds." Teleph. No. 4050 (4 lines).)

Bray, Markham & Reiss, Ltd., electrical engineers, Blackhorse-lane, Walthamstow, London, E. (Telegrams: "Bramaria, London." Telephone No. 548, Walthamstow.)

Bray Urban District Council Electricity Works, Bray, Ireland. (Nat. Telephone No. 1406, Dublin.) W. J. U. Sowter, M.I.E.E., engineer.

Brazilian Street Railway Co., Ltd., 134, Palmerston House, Bishopsgate-st. Within, London, E.C. Registered Aug. 5, 1899. Nominal capital: £87,000 in £1 ordinary shares, £33,000 in £1 5 per cent. cumulative preference shares & £55,000 in 5 per cent. debenture stock. Issued: 86,900 ordinary shares fully paid, 8397 preference shares fully paid & 24,140 preference shares with 17*s.* 6*d.* per share paid, & £45,950 debenture stock. Directors: W. Bailey Hawkins, Esq. (chairman); A. G. Kendall, Esq.; W. Martineau, Esq.; S. J. Wilde, Esq.; J. B. G. Alcoforado, Esq. Secretary, J. B. Benbow. Dividends on preference shares: July, 1907, 5 per cent.; July, 1908, 5 per cent.; & July, 1909, 5 per cent. Dividends on ordinary: July, 1907, 1½ per cent.; July, 1908, & July, 1909, *nil.*

Breach, L., A.M.I C.E., A.M.I.E.E., 34, Russian Drive, Liverpool.

Brearley, Ralph, wire drawer & manufacturer, Woodland Wire Mill, Brighouse, Yorks.

Brebner, R. C., consulting electrical engineer, 28, Hermitage-gardens, Edinburgh. (Telegrams: "Harbour, Edinburgh.")

Brechin Electricity Works (North of Scotland Electric Light & Power Co., Ltd.), Granary-rd., Brechin. (Teleph. No. 9, Brechin.) Manager & engineer, F. Barritt Hills.

Brecknell, F. W., A.M.I.E.E., 28, Harland-rd., Higher Tranmere, Birkenhead.

Brecknell, Munro & Rogers, Ltd., electrical engineers, Thrissell-st. & Lawrence Hill, Bristol (Telegs.: "Brecknell, Bristol." Teleph. Nos. 3137 & 3138); & Finsbury Pavement House, London, E.C.

Breeden, Joseph, & Co., Ltd., electric light fitting makers, New Mill Works, Fazeley-street, Birmingham. (Telegrams: "Breeden, Birmingham." Telephone No. 1549.)

Breeze, G. B., electrician & ironmonger, 182, Trongate, Glasgow. (Telephone No. 5087, Royal.)

Breffit, E., & Co., Ltd., glass jars & cells of every description, 83, Upper Thames-st., London, E.C. (Telegs.: "Breffits, London." Teleph. No. 843, Bank.)

Breitmeyer, L., London Wall-bldgs., E.C. Director Cape Electric Tramways, Ltd.; director Mexico Electric Tramway, Ltd.; director Lisbon Electric Tramway, Ltd.; director Chilian Electric Tramway & Light Co., Ltd.; director Cape Town Consolidated Tramways & Land Co., Ltd.

Bremner, Ashton, M.I.E.E., resident electrical engineer, Corporation, Burslem.

Bremner, H. M., A.I.E.E., Northfield, Balshagray, Partick, Glasgow.

Bremner, J., M.I.N.A., consulting engineer, Tower-bldgs., Water-st., Liverpool. (Telegs.: "Crankshaft, Liverpool." Teleph. No. 7079.)

Bremner, J. A., & Co., oil & lubricant merchants, Albert-st., Manchester (Telegrams: "Roman, Manchester"); 3, Old Churchyard, Liverpool (Telegrams: "Marathon, Liverpool." Telephone No. 5432); & 79, Mark-lane, London, E.C. (Telegrams: "Dorunda, London.")

Bremner-Smith, E., engineer, Oswestry Electric Lighting & Power Co., Ltd., Oswestry, Salop. (Teleph. No. 0199.) Director Llangollen & District Electric Light & Power Co., Ltd.

Brent & Co., exporters of electrical apparatus, 44, Great Tower-st., London, E.C. (Telegrams: "Cleomedon, London." Telephone No. 8773, Central.)

Brentford Electric Supply Co., Ltd., Moorgate-ct., Moorgate-pl., London, E.C. (Telegs.: "Partnership, London." Teleph. No. 2681, London Wall.) Registered June 29, 1904. Nominal capital: £1000 in £1 shares, 7 of which are issued. Directors: F. W. Reynolds, Esq.; F. E. Savory, Esq. Secretary, H. B. Renwick.

Brereton, C. A., consulting engineer, 21, Delahay-st., Westminster, London, S.W. (Teleph. No. 24, Westminster.)

Brew, William, M.I.E.E., Dublin Corporation Electricity Supply, Fleet-st., Dublin.

Brewer, Philip J., electrical engineer, 20, Queen Anne-st., Cavendish-sq., London, W. (Teleph. No. 2448, Paddington.)

Brewer, W. S., director South of England Development Co., Ltd., 3, King's-ter., Southsea.

Brewer Bros. & Co., electric light contractors, 17, Quay-st., Cardiff.

Brewer & Brunt, electrical engineers & contractors, Hoylake, Cheshire.

Brewer & Son, patent agents, 33, Chancery-lane, London, W.C. (Telegrams: "Infallible, London." Telephone No. 1308, Holborn.)

Brewster, E. H. G., A.M.I.C.E., M.I.M.E., consulting engineer & patent agent, 12, Dartmouth-st., Queen Anne's Gate, Westminster, London, S.W.

Breyer, M. H., & Co., Ltd., X-ray tube makers, 178, King's Cross-rd., London, W.C.

Bridge, Admiral Sir Cyprian A. G., G.C.B., 1, Eaton-ter., S.W. Director Baker-st. & Waterloo Electric Railway.

Bridge, Albert Henry, *Electrical Review*, Editorial Department, 4, Ludgate Hill, E.C.

Bridge, N. C., A.M.I.E.E., Strain & Robertson, 154, West George-st., Glasgow.

Bridge, D., & Co., engineers, Castleton Iron Works, Castleton, Manchester. (Telegs.: "Coupling, Castleton, Manchester." Teleph. Rochdale 25.)

Bridge, G. E., & Co., makers of electro-medical apparatus, &c., Old Christchurch-rd., Bournemouth. (Telegrams: "Emergency, Bournemouth." Telephone No. 21.)

Bridgend District Council's Electricity Works, Bridgend, Glam. (Teleph. No. 58, P.O.) Electrical engineer, T. Thomas; electrician, F. C. Williams.

Bridges, Walter, A.M.I.E.E., consulting engineer. *See* Hal Williams & Bridges.

Bridgwater & District Electric Supply & Traction Co., Ltd., Mount-st., Bridgwater, Somerset. Registered Nov. 15, 1902. Nominal capital: £15,000 in £1 ordinary shares & £12,000 debentures. Issued: 12,749 ordinary shares, fully paid, & £12,000 debentures. Directors: A. Peace, Esq., J.P.; J. H. Waddon, Esq., J.P.; H. J. Van Trump, Esq., J.P.; A. West, Esq.; W. T. Pressland, Esq. Engineer & secretary, H. Walker, A.M.I.E.E.

Bridgwater Construction Co., Ltd., electrical, constructional & heating engineers, 453, Holloway-rd., N. (Teleph. Central 1600.)

Bridlington Corporation Electricity Works, Royal Prince's-parade, Bridlington. (Teleph. No. 9 X.) A. J. Beckett, engineer.

Bridlington Electrical Engineering Co., Ltd., 30, Chapel-st., Bridlington.

Bridson, E. Ridgway, M.A., A.I.E.E., Staverton House, Oxford.

Brierfield Urban District Council Electricity Works, Brierfield, Lancs. Consulting engineer, D. Helme Nelson.

Brierley, J., borough analyst, Municipal Offices, Southampton.

Brierley, R., electric bell fitter, 27, Fylde-st., Preston.

Brierley & Howard, patent agents, Penny Bank-chbrs., Waterhouse-st., Halifax. (Teleph. No. 402.)

Brigg, G. F., shift engineer, County of Northampton Electric Power & Traction Co., Ltd., Wellingborough.

Brigg, H. M., B.A., A.M.I.E.E., electrical engineer, Bodalaw, Llandudno. (Teleph. No. 125.)

Brigg, Wm. Marriner, Bôd Alaw, Llandudno. Chairman Electric Supply Co. of Western Australia, Ltd.

Briggs, A., assistant engineer, Electricity Works, Shipley, Yorks.

Briggs, F. H., engineer, Tyneside Tramways & Tramroads Co., Neptune Bank, Wallsend-on-Tyne.

Briggs, Wm., A.M.I.E.E., 90, Camperdown-rd., Scotstoun, Glasgow.

Briggs, Thomas (Manchester), Ltd., manufacturers of insulating manillas natural shade & colours, waterproof papers for insulating purposes, &c., 21, Major-st., Manchester (Telegs.: "Beela, Manchester." Teleph. Central 72); & 2, Budge-row, London, E.C. (Teleph. Bank 1733.) Works: Salford, London & Rishworth.

Brighouse Corporation Electricity Works. A. Aspinall, engineer.

Bright, Charles, F.R.S.E., A.M.I.C.E., M.I.M.E., M.I.E.E., consulting electrical engineer & electrician, Caxton House, Westminster, London, S.W. (Teleph. Westminster 870.)

Bright, Charles, M.I.E.E., electrical engineer, 11, Queen Victoria-st., London, E.C.

Bright, Stanley, M.I.E.E., Tilbury Dock, Essex.

Bright's Light & Power, Ltd., 64, Cannon-st., London, E.C. Registered July 21, 1898. Nominal capital: £200,000 in 100,000 ordinary & 100,000 7 per cent. cumulative preference £1 shares & £100,000 debenture stock. Issued: 33,333 ordinary as fully paid & 66,667 ordinary with £1 per share called & paid, & £16,000 debenture stock. Directors: C. J. Wharton, Esq.; T. Blair, Esq.; G. Wingfield, Esq.; J. S. Sawrey, Esq. Secretary, J. Angus Yule. Dividends: 1899, 9 per cent.; none since.

Brighton Corporation Electricity Works (Arthur Wright, consulting engineer; John Christie, engineer & manager; C. C. Fowler, deputy manager), North-rd., Brighton. (Teleph. Nos. 358 & 359.)

Brighton Corporation Electric Tramways. Engineer & gen. manager, Wm. Marsh. (P.O. Teleph. No. 353.)

Brighton Marine Palace & Pier Co., Brighton. Manager, F. W. Walkington.

Brighton Municipal Technical College, Brighton. (Corp. Teleph. No. 1007.) *See* SCHOOLS.

Brighton & Rottingdean Seashore Electric Tramroad Co., Madeira-rd., Brighton. (Telegrams: "Volk, Brighton.") Incorporated July 27, 1893. Nominal capital: £8000 in 6 per cent. £10 preference shares, £20,000 in £10 ordinary shares & £7000 loans. Issued: All the ordinary & preference shares fully paid & £7000 in debenture bonds of £50 each. Directors: J. J. Clark, Esq., J.P. (chairman); Magnus Volk, Esq. (managing & secretary); E. J. W. Sang, Esq.; A. J. Clark, Esq. *Not working.*

Brighton & Shoreham Tramways (owned by the British Electric Traction Co., Ltd.), Electrical Federation Offices, Kingsway, W.C. (Teleph. No. 2686, Holborn (9 lines).) Manager, J. Newcombe, Tramway Depôt, Southwick.

Brightside Foundry Co., iron founders, Newhall-rd., Sheffield. (Telegrams: "Castings, Sheffield." Telephone No. 373.)

Brightwell, Robert, electric light contractor, 34, King-st., Cheapside, E.C.; & 107, Queen's-rd., Bayswater, W. (Nat. Teleph. No. 2172, Paddington.)

Brill, J. G., Co., tram cars & trucks, 110, Cannon-st., London, E.C.

Brimelow, H. A., A.M.I.E.E., Tonge, Middleton, Manchester.

Brimsdown Lead Co., Ltd., litharge & white lead, 37 & 38, Mark-lane, London, E.C. (Telegs.: "Hydration, London." Teleph. No. 1124, Avenue.)

Brind, Gillingham & Co., Ltd., ironmongers, electrical engineers, &c., Abingdon, Berks.

Brinkworth, W. H., electrotyper & stereotyper, Caledonian Works, Bell Barn-rd, Birmingham. (Telegs.: "Brinkworth, Birmingham." Teleph. Midland 1289.)

Brisbane Electric Tramways Investment Co., Ltd., 52, Moorgate-st., London, E.C. (Telegs.: "Tramite, London." Teleph. No. 198, London Wall.) Nominal capital: £750,000 in 75,000 £5 ordinary shares & 75,000 £5 preference shares, all taken up & considered as paid, & £425,000 part of total authorized £500,000 in 4½ per cent. first mortgage debenture stock. An acknowledgment of indebtedness, dated Sept. 7, 1906, creating £25,000 further debenture stock (making with £425,000 already created a total of £450,000), & being supplemental to a trust deed of Nov. 21, 1900, covering £500,000 debenture stock, has been registered. Directors: J. B. Concanon, Esq.; H. R. Beeton, Esq.; A. P. Ledward, Esq.; A. M'Ilwraith, Esq.; Sir M. D. McEacharn. Resident engineer, J. S. Badger; secretary, H. S. M. Woodrow. Dividends: 1901 & 1902, 5 per cent. on preference shares.

Briscoe, Albert E., A.I.E.E., L.C.C. Education Department, Victoria Embankment, W.C.; & The Hoppet, Little Baddow, Chelmsford.

Briscoe, C. T., & Son, automobile & electrical engineers, Simmons-st., Blackburn. (Telegs.: "Briscoe, Simmons-st., Blackburn." Teleph. Nos. 457 & 457A.)

Briscoe, W. H., & Co., stampers & piercers, 32 & 33, Cox-st., St. Paul's-sq., Birmingham. (Telegs.: "Brisk, Birmingham." Teleph. No. 1346, Central.)

BRISTOL, L., manufacturing electrician, Bristol Electric Safety Lamp Works, 40, Gt. Smith-st., Westminster, London, S.W. (Telegrams: "Luciferous, London.")

BRISTOL CO., THE, recording instruments, Waterbury, Conn., U.S.A. European agents: J. W. & C. J. Phillips, 23, College Hill, London, E.C.

Bristol Corporation Electricity Supply. Works: Temple Back & Avonbank. Offices: Temple Back, Bristol. (Telegs.: "Faraday, Bristol." Teleph. Nos.: 726, Private; 746, Temple Back; 670, Avonbank; & 640, Publicity Dept.) Electrical engineer, H. Faraday Proctor, M.I.C.E., M.I.E.E.

BRISTOL ELECTRIC SAFETY LAMP WORKS. Speciality: Portable accumulators & accumulator lamps. Offices & works: 40, Great Smith-st., Westminster, London, S.W. (Telegs.: "Luciferous, London." Teleph. No. 2047, Victoria.) *See* ACCUMULATORS—PORTABLE.

Bristol Electric Tramways Extension Association (secretary, C. H. Tucker), 6 & 7, St. Stephen-st., Bristol. (Telegs.: "Tucker, Bristol." Teleph. No. 907, Bristol.)

Bristol Electro-Chemical Co., Ltd., Thorp & Saunders, Salisbury House, London Wall, E.C.

Bristol Tramways & Carriage Co., Ltd., Clare-st. House, Bristol. (Telegrams: "White, Bristol.") Works: Counterslip. Registered Oct. 1, 1887. Directors: Sir Geo. White, Bart. (chairman); Sir J. Clifton Robinson; J. H. Howell, Esq., J.P.; Saml. White, Esq., J.P. (managing director). Engineer, Sir J. Clifton Robinson; resident engineer, G. T. C. Edwards; secretary, H. F. Cooper. Nominal capital: £1,000,000, in 50,000 ordinary shares of £10 each; & 50,000 4 per cent. cumulative

preference shares of £10 each; debenture stock, limited to an amount equal to the share capital of the company for the time being paid up. Issued capital: £1,000,000, which is paid up. £250,000 4 per cent. mortgage debenture stock & £250,000 4½ per cent. mortgage debenture stock issued, both secured by trust deed. Dividends: 1901, 8½ per cent.; 1902–1907, 9 per cent.

Britannia Engineering Co., Ltd., makers of electricians' & engineers' tools, Colchester; & 699, Salisbury House, London, E.C. (Telegs.: "Britannia, Colchester." Teleph. No. 47.)

Britannia Rubber & Kamptulicon Co., Ltd., manufacturers of ebonite & vulcanized indiarubber, 9, Bradford-ave., Redcross-st., London, E.C. (Telegs.: "Britannia, London." Teleph. Central 12028.)

British Aluminium Co., Ltd., metal manufacturers, 109, Queen Victoria-st., London, E.C. (Telegs.: "Cryolite, London." Teleph. No. 4315, London Wall (3 lines).) Works at Foyers, Lochness; Kinlochleven, Argyllshire; Stangfjord, Norway; Larne Harbour; Milton, Staffs.; & Baker-st., Greenock. (Telegs.: "Aluminium." Teleph. Larne Harbour 194; Milton 201; & Greenock 386.)

British Association for the Advancement of Science (general secretaries, Major MacMahon, F.R.S., & Prof. W. A. Herdman, F.R.S.), Burlington House, London, W.

British Automatic Telephone Syndicate, Ltd., 286 & 287, Dashwood House, New Broad-st., London, E.C.

British Battery Co., incorporated with Gent & Co., Ltd., Faraday Works, Leicester.

British Boiler Fluid & Engineers' Stores Co., Ltd., 104, The Hop Exchange, Southwark-st., London, S.E. Sole manufacturers of "Dejecoline." (Telegs.: "Dejectedly, London." Teleph. Eastern 3016.)

British Boiler Water Circulator Synd., 2, Ashforth-st., Nottingham.

British Carbide Factories, Ltd., carbide of calcium manufacturers, 178, Tower Bridge-rd., London, S.E. Works: Thornhill, nr. Dewsbury, Yorks.

British Central Electrical Co., electrical engineers, 17, Hatton Garden, London, E.C. (Telegs.: "Briticent, London." Teleph. Central 1218. A.B.C. 5th edit. Code.)

British & Colonial Insulating Co., Ltd., bitumen manufacturers, Brown's-bldgs., Exchange, Liverpool. (Telegs.: "Flexible, Liverpool." Teleph. Central 6168.)

British & Colonial Zoelly Turbine Syndicate, Ltd., mechanical, electrical & hydraulic engineers, Queen Anne's-chbrs., Westminster, London, S.W.

British Columbia Electric Railway Co., Ltd., 34, Nicholas-lane, London, E.C. (Telegs.: "Lassant, London." Bentley's code. Teleph. No. 14114, Central.) Registered April 3, 1897. Nominal capital: £1,800,000, £400,000 5 per cent. cumulative perpetual preference stock, £400,000 preferred ordinary stock, £500,000 deferred ordinary stock & £500,000 shares of £1 each. Issued: £400,000 5 per cent. cumulative perpetual preference stock, £400,000 preferred ordinary stock, £500,000 deferred ordinary stock. 4½ per cent. first mortgage debentures: £230,800. There is also an issue of £220,000 4½ per cent. Vancouver Power Debentures, ranking after the above-mentioned Mortgage Debentures, but secured by a first charge on the undertaking of the Vancouver Power Co., Ltd., & £800,000 4½ per cent. perpetual consolidated debenture stock, secured by trust deed, dated Feb. 23, 1907. Directors: R. M. Horne Payne, Esq. (chairman); G. P. Norton, Esq.; Hon. M. R. Gifford, C.M.G.; E. L. Evan Thomas, Esq.; T. Blundell Brown, Esq.; J. Buntzen, Esq. R. H. Sperling, general manager; Geo. Kidd, A.C.A., secretary. Dividends on ordinary shares: 1903–04, 1904–05, 1905–06, 6 per cent.; 1907, 7½ per cent.; 1908, 8 per cent.; 1909, 8 per cent.

British Continental Electricity Co., Ltd., 82, Victoria-st., London, S.W.; & San Remo, Italy. Registered April 26, 1898. Nominal capital: £10,000 in £10 5½ per cent. cumulative preference shares, & £10,000 in £10 ordinary shares. Issued: 1000 preference & 994 ordinary shares fully paid. Directors: E. E. Berry, Esq. (chairman); C. H. C. Woodhouse, Esq.; R. Alioth, Esq.; G. H. Baillie, Esq.; W. A. Brodie, Esq. (managing). Secretary, W. A. Brodie. Dividends on ordinary shares: 1903, 2 per cent.; 1904–1908, *nil.*

British & Continental Patentees' Agency, Ltd., Fife House, Kingston-on-Thames. (Telegs.: "Patents.")

British Eastern Electric Power Co., Ltd., 57½, Broad-st., London, E.C. *In liquidation.* Liquidator, T. F. Stevens.

British Economical Lamp Co., Kingsway House, Kingsway, W.C. (Telegs.: "Ecolamp." Tel. Gerrard 1631.)

British Electric Calibrated Fuse Co., The, fuse specialists, Harpenden, Herts. (Telegs.: "Electrical, Harpenden." Teleph. Harpenden 22.)

British Electric Detonator Co., Ltd., 2, Albert-st., Manchester.

British Electric Light Wiring Co., Ltd., 14, Union-ct., Old Broad-st., London, E.C. Registered June 30, 1898. Capital: £10,000 in £1 shares. Issued: 156 shares. £1 per share has been called up on 149 & 10*s.* per share on 7 shares, resulting in the receipt of £152 10*s.*

British Electric Medical Co., electro-medical apparatus makers, Byron House, Fleet-st., London, E.C. (Teleph. No. 7315, Central.)

British Electric Plant Co., Ltd., The, electrical & mechanical engineers, Alloa, N.B. (Telegrams: "Electric, Alloa." Telephone No. 40, Alloa); & 144, St. Vincent-st., Glasgow. Registered May 26, 1900. Nominal capital: £100,000 in 2500 6 per cent. cumulative preference shares of £10 each & 7500 ordinary shares of £10 each. Subscribed: 1395 preference shares, £7 paid, & 6248 ordinary shares, fully paid. Directors: J. G. Stewart, Esq. (chairman); T. E. Lander, Esq.; W. R. Dick, Esq.; Jas. Guthrie, Esq. Secretary, J. Gilmour Williamson.

British Electric & Telephone Co., engineers & electricians, Queen Anne's-chbrs., Westminster, London, S.W. (Telephone No. 5369, Westminster,)

British Electric Traction Co., Ltd., Electrical Federation Offices, Kingsway, London, W.C. (Telegs.: "Tramway, London." Teleph. No. 2686, Holborn (9 lines).) Registered Oct. 26, 1896. Nominal capital: £2,000,000 in £10 ordinary shares & £2,000,000 in £10 preference shares. Issued: £1,333,010 in ordinary shares, £1,614,370 in preference shares, all fully paid, & £1,473,653 5 per cent. debenture stock & £528,936 4½ per cent. 2nd debenture stock, all fully paid. The company can borrow on debentures or debenture stock up to an amount not exceeding the subscribed capital for the time being (limited in each case to a sum equal to one-half the subscribed capital). Directors: Sir Chas. Rivers Wilson, G.C.M.G., C.B. (chairman); Hon. Sir Chas. W. Fremantle, K.C.B.; J. S. Raworth, Esq.; E. Garcke, Esq. (managing); C. S. B. Hilton, Esq. (managing); W. L. Madgen, Esq. (managing); P. D. Tuckett, Esq. Secretary, C. H. Dade. Dividends: 1902–03, 8 per cent.; 1903–04, 1904–05, 6 per cent.; 1905–06, 3 per cent.; 1906–07, 1907–08 & 1908–09, *nil.*

British Electric Transformer Co., Ltd., engineers & electrical contractors. Works & offices: Hayes, Middlesex. (Telegs.: "Transfundo, Hayes, Middlesex." A.B.C., 5th edit., & Engineering, 2nd edit., & Western Union Codes. P.O. Teleph. Nos.: 226, Ealing; & 12, Hayes.) Registered Feb. 10, 1903. Nominal capital: £125,000 in 50,000 6 per cent. cumulative preference shares of £1 each & 75,000 ordinary shares of £1 each. Issued: 69,399 ordinary shares, fully paid, & 31,740 preference shares, fully paid. Directors: J. F. Albright, Esq. (chairman); A. F. Berry, Esq.; S. F. Beevor, Esq.; F. J. Marchment, Esq.; T. Rowe, Esq. Manager, George Berry; secretary, J. C. Wrist. Dividends on ordinary shares: 1903, 7 per cent.; 1904 & 1905, 7½ per cent.; 1908, 3½ per cent.

British Electrical Federation, Ltd., Electrical Federation Offices, Kingsway, W.C. (Telegs.: "Tramway, London." Teleph. No. 2686, Holborn (9 lines).) Secretary, C. H. Dade.

British Electrical Friendly Society, Electrical Federation Offices, Kingsway, London, W.C. (Telegs.: "Friendly, c/o Tramways, London." Teleph. Holborn 2686 (6 lines).) E. D. Turner, secretary.

British Electrical & Manufacturing Co., 1, St. Nicholas-bldgs., Newcastle-on-Tyne (Telegs.: "Paratus, Newcastle-on-Tyne." Teleph. No. 735, Nat.); & 102, Fenchurch-st., London, E.C. Works: Athenæum-st., Sunderland.

British Electrical Plant Co., Ltd., electrical mfrs., Prudential-bldgs., Mosley-st., Newcastle-on-Tyne.

British Electrical Provident Fund, Electrical Federation Offices, Kingsway, W.C. (Telegs.: "c/o Tramway, London." Teleph. Holborn 2686 (6 lines).)

British Electrical Superannuation Fund, Electrical Federation Offices, Kingsway, London, W.C. T. Bower, secretary. (Telegs.: "Superannuation, c/o Tramway, London." Teleph. No. 2686, Holborn (9 lines).)

British Electrical Trade Supply & Bitumen Co., The. Offices & works: Canal Bank, Trundley-rd., Deptford, S.E. "Trinidite" brand, Refined Trinidad Bitumen & Box Compound. The Dussek patent Bitumen, Troughing for Cable Laying. Acid-proof Paint, Resin Oil, &c. (Telegs.: "Trinidite, London." Teleph. No. 794, Deptford.)

British Electrics (Moseley's Patents), Ltd. Registered Dec. 31, 1907.

British Electromobile Co., Ltd., makers of Oppermann Electromobiles, sole agents for Opel Petrol Car. Garage: 5 & 6, Halkin-st., Hyde Park Corner, W. (Teleph. Nos. 3238 & 3239, Victoria.) *See advt. under* MOTOR MANUFACTURERS—ELECTRIC.

BRITISH ENGINE, BOILER & ELECTRICAL INSURANCE CO., LTD., 12, King-st., Manchester. *See advt., page* 17.

British Ever-Ready Electrical Co., Ltd., portable electric specialities, Ever-Ready Works, Emerald-st., Theobald's-rd., London, W.C. (Telegs.: "Vesuvian, London." Teleph. Nos.: 2206, Holborn; & 5488, Central.) Registered Nov. 16, 1901. Nominal capital: £3000 in £1 shares, all issued & fully paid. Debentures issued: £7500.

British Export Gazette (monthly, 6*d.*; ann. sub., 8*s.*), 33 & 35, Eastcheap, London, E.C. (Telegs.: "Inkoos, London." Teleph. No. 2619, Avenue.)

British, Foreign & Colonial Automatic Light Controlling Co., Ltd., 63, Victoria-st., Bristol.

British Griffin Chilled Iron & Steel Co., Ltd., makers of chilled iron railway & tramway wheels, 139, Cannon-st., London, E.C. (Telegs.: "Treadwheel, London." Teleph. No. 5922, Bank.)

British Illuminated Sign Co., 4, Park-rd., Wellingborough.

BRITISH INSULATED & HELSBY CABLES, LTD. (in which is incorporated the businesses of the British Insulated Wire Co., Ltd., Prescot, & the Telegraph Manufacturing Co., Ltd., Helsby), electrical engineers, cable manufacturers & contractors for complete telephone installations, &c. Registered April 28, 1897. Nominal capital: 100,000 ordinary shares of £5 each, 100,000 preference shares of £5 each, £500,000 4½ per cent. first mortgage debenture stock. Issued: 100,000 ordinary & 100,000 preference shares, fully paid. All the debenture stock is issued & fully paid. Directors: E. K. Muspratt, Esq., LL.D., J.P. (chairman); James Taylor, Esq., J.P. (vice-chairman); J. S. Harmood Banner, Esq., M.P.; Hon. Arthur Stanley, M.P.; J. Carlton Stitt, Esq., J.P.; G. Crosland Taylor, Esq., J.P. General manager, D. Sinclair; engineer & manager (Prescot), G. H. Nisbett; manager (Helsby), J. Brotherton; engineer & manager (Liverpool), A. Whalley; secretary, W. Kerfoot. Dividends: 1906 & 1907, 6 per cent. on preference & 10 per cent. on ordinary shares

(the latter includes a bonus of 2 per cent.); 1908, 6 per cent. on preference & 10 per cent. on ordinary shares; 1909 (*interim*), at rate of 8 per cent. per annum on ordinary shares.

	Telegrams.	*Telephone Nos.*
Works: Prescot; Helsby; & Liverpool.		
Offices: Prescot, Lancs.; & Helsby, nr. Warrington.	Insulator, Prescot. Limited, Helsby.	8, Prescot; & 2, P.O. 4, Helsby.
Branch Offices:		
London: Lennox House, Norfolk-st., Strand, W.C.	Airlike, London.	2995, Gerrard.
Belfast: 11, Queen-st.	Insulated, Belfast.	2836, Belfast.
Birmingham: 19, Barwick-st.	Connectors, B'ham.	1142, Central, Birmingham.
Cardiff: 1 & 2, Western Mail-chambers.	Vigilant, Cardiff.	1055, Cardiff.
Dublin: 17, Crow-st.	Insulated, Dublin.	2646, Dublin.
Glasgow: 177, West George-st.	Connectors, Glasgow.	2160, Argyle; 2160, Post Office.
Liverpool: Milton-rd., Edge-lane.	Instrument, Liverpool.	2, Old Swan, Liverpool.
Manchester: 2, Parsonage, Blackfriars.	Vigorous, Manchester.	2044, Manchester.
Newcastle-on-Tyne: 33, High Bridge.	Insulated, Newcastle.	417, Newcastle.

Western Union & Private Codes. *See advt. under* CABLES.

British Isola Co., insulating material manufacturers, 60, Water-lane, London, S.W. (Telegs.: "Modelled, London." Teleph. Brixton 1521.)

BRITISH L. M. ERICSSON MANUFACTURING CO., LTD., THE, Byron House, 82–85, Fleet-st., London, E.C. Works: Beeston, Notts. (Telegs.: "Ericsson, London." Tel. No. 5340, Holborn (2 lines). Western Union & A.B.C., 5th edition, Codes used.) *See advt.*, TELEPHONE APPARATUS MAKERS.

British Mannesmann Tube Co., Ltd., The, 110, Cannon-st., London, E.C. (Telegs.: "Tubulous, London.")

BRITISH MICA CO., LTD., mica merchants, Lebanon-rd. Works, Wandsworth, S.W. (Telegs.: "Micamini, London." Teleph. No. 405, Putney.) Managing director, Henry S. Sanders. *See advt.*, DYNAMO & ELECTRIC MACHINE MANUFACTURERS.

British Mining & Metal Co., Ltd., 6, Lloyd's-ave., London, E.C. (Telegs.: "Metalloys, London." Teleph. Central 13735); & Coombe, Cornwall.

BRITISH PROMETHEUS CO., LTD., MANUFACTURERS OF ELECTRIC COOKING & HEATING APPARATUS. WORKS & REGISTERED OFFICES: SALOP-ST. WORKS, HIGHGATE, BIRMINGHAM. (TELEGS.: "COOKING, BIRMINGHAM." TELEPH. MIDLAND 1436.) LONDON SHOW-ROOMS: 27, ELY-PL., E.C. (TELEGS.: "REPRISAL, LONDON." TELEPH. GERRARD 8311.) Geo. Cooper, managing director & secretary. A THOROUGHLY EFFICIENT, RELIABLE & COMPLETE SYSTEM. ALL SPECIAL APPARATUS QUOTED FOR IMMEDIATELY ON APPLICATION.

British Railway Traffic & Electric Co., Ltd., 15, Victoria-st., London, S.W.

British Recovered Rubber Co., Ltd., reclaimed rubber manufacturers, Clayton, nr. Manchester.

British School of Telegraphy, 179, Clapham-rd., London, S.W. (Teleph. Brixton 215.) *See* SCHOOLS.

British Science Guild, 28, Stanhope-gdns., London, S.W. Sir Alexander Pedler, C.I.E., F.R.S., hon. sec.

British & South African Export Gazette (monthly, price 6*d.*; ann. sub. 8*s.*), 33–35, Eastcheap, London, E.C. (Telegs.: "Inkoos, London." Teleph. No. 2619, Ave.)

British Telephone Supply Co., 17, Bloomsbury-st., Birmingham. (Teleph. No. 244, East.)

British Thomson-Houston Co., Ltd., electrical engineers & manufacturers. Registered May 18, 1896. Nominal capital: 40,000 ordinary shares of £10 each, 40,000 4 per cent. cumulative preference shares of £10 each, £204,940 4½ per cent. debenture stock, all issued & fully paid up. Directors: J. F. Nauheim, Esq. (chairman); H. C. Levis, Esq. (managing); Charles Burrell, Esq.; C. A. Coffin, Esq.; G. Franklin, Esq.; E. W. Rice, jun., Esq.; Ernst Thurnauer, Esq.; O. Oliven, Esq.; O. H. Smith, Esq.; E. A. Carolan, Esq. F. Fraser, secretary; Alf. Clements, assist. secretary. Dividends: 1901–02 (15 months), 4 per cent.; 1902–03 (9 months), 4 per cent.; 1905–1909, *nil.*

Lieber's, A1 & A.B.C. Codes used.

	Telegrams.	*Telephone Nos.*
Head Offices & Works: Rugby.	Asteroidal, Rugby.	54, 55 & 11 (3 lines).
Registered Office: 83, Cannon-st., London, E.C.	Asteroidal, London.	135, London Wall (4 lines).
Branch Offices:		
Birmingham: King's-ct., Colmore-row.	Asteroidal, Birmingham.	3410, Birmingham.
Glasgow: 91, Wellington-st.	Asteroidal, Glasgow.	829, Argyle; 4840, Corp.
Leeds: Greek-st.-chbrs	Asteroidal, Leeds.	163 Y.
Manchester: Star Life-bldgs., 30, Cross-st.	Asteroidal, Manchester.	6368 & 6369.
Middlesbrough: Maritime-bldgs.	Asteroidal, Middlesbrough.	814.
Newcastle-on-Tyne: Collingwood-bldgs.	Asteroidal, Newcastle.	2342 & 2343, Nat.
Sheffield: 41, Church-st.	Asteroidal, Sheffield.	357.

British Trade Journal, in English, Spanish, Japanese & Chinese (separate editions), 24, Mark-lane, London, E.C. (Telegs.: "British Trade Journal, London." Teleph. No. 8100, Central.)

British Tramways & General Construction Co., Ltd., 83, Cannon-st., London, E.C. Registered July 16, 1903. Nominal capital: £300,000 in £1 shares. Issued: 241,000 shares, fully paid. A memorandum of satisfaction in full of a charge, dated April 20, 1904, securing £120,000, has been filed. Mortgages & charges: £11,839 15*s.* 9*d.* Directors: H. C. Levis, Esq.; B. C. Molloy, Esq.; E. A. Carolan, Esq. Secretary, Alfred Clements.

British Tungsten Lamp Co., Ltd., manufacturers of metal filament & carbon filament lamps. Office & works: Huyton Quarry, nr. Liverpool. (Teleph. Huyton 60.)

British Vitrite Works (Swan's Patents), Ltd., manufacturers of caps or bases for incandescent lamps, Broad-st. House, New Broad-st., London, E.C.

BRITISH VULCANIZED FIBRE, LTD. Registered office: 21, Major-st., Manchester. (Telegs.: "Fibrine, Manchester." Teleph. Central 2700.)

BRITISH WESTINGHOUSE ELECTRIC & MANUFACTURING CO., LTD., manufacturing electricians, electrical engineers & contractors. Registered offices: Westinghouse-bldg., 2, Norfolk-st., Strand, London, W.C. (Telegs.: "Multiphase, London." Teleph. No. 3261, Gerrard.) Works: Trafford Park, Manchester. (Telegs.: "Westinghouse, Manchester." Teleph. Nos. 7101 to 7108, Central.) Registered July 10, 1899. Nominal capital: £1,875,000, in 500,000 10 per cent. preference shares of £3 each & 75,000 ordinary shares of £5 each, £1,462,500 debentures & £250,000 6 per cent. prior lien debentures. Issued: 500,000 preference shares fully paid, & 75,000 ordinary shares fully paid, & £1,241,353 debenture stock. A trust deed, dated March 27, 1908, to secure £300,000 6 per cent. prior lien debentures, has been registered. Directors: J. Annan Bryce, Esq., M.P. (chairman); Geo. Westinghouse, Esq.; Lieut.-Col. Montagu Cradock, C.B.; N. Carlton, Esq.; E. A. Goulding, Esq., M.P.; Philip A. Lange, Esq.; A. P. Livesey, Esq. Secretary, Arthur E. Scanes. Dividends: 1903, 6 per cent.

British Xylonite Co., Ltd., xylonite & celluloid manufacturers. Chief office: Hale-end, London. (Telegs.: "Xylonite, London." Teleph. Nos. 45 & 46, Walthamstow.)

Brittan, Thomas, telegraph & electrical engineer, 21, Hermes-st., & 34, Risinghill-st., Pentonville-rd., London, N. (Teleph. No. 6100, Central.)

Britton, H. E., A.I.E.E., Dale Villa, Dale-st., Rugby.

Britton, S. E., M.I.E.E., borough electrical engineer, Chester. (Teleph. No. 162.)

Broadbent, D., electrical engineer & contractor, 13, Lord-st., Southport.

Broadbent, Denis Ripley, A.M.I.E.E., A.M.I.MIN.E., A.M.I.MAR.E., Royal Societies Club, 63, St. James-st., London, S.W. (Teleph. Gerrard 2389.)

Broadbent, F., manager, Electrical Department, W. B. Haigh & Co., Ltd., Globe Iron Works, Oldham, Lancs.

Broadbent, Frank, M.I.E.E., 4, Queen-st.-pl., London, E.C. (Telegs.: "Conspicio, London." Teleph. No. 8453, Bank.)

Broadbent, J. E., Colonel R.E., C.B., M.I.E.E., Fynesbury, Reading.

Broadbent, J. C., & Co., Ltd., slag wool & boiler covering manufacturers. 73, Basinghall-st., London, E.C. (Teleph. Central 1411); & Redcar. (Telegs.: "Broadbents, Redcar." Teleph. No. 16.)

Broadbent, T., & Sons, Ltd., crane makers, Queen-st. South, Huddersfield. (Telegs.: "Broadbent, Huddersfield." Teleph. No. 102.)

Broadbent, T. W., Ltd., electrical engineers, East Parade, Huddersfield. (Telegs.: "Broadbent, Electrician, Huddersfield." Teleph. No. 371.)

Broadfoot, S. K., A.M.I.E.E., 39, Hoghton-st., Southport. (Telegs.: "Broadfoot, Frogmoor, Southport." Teleph. Southport 747.)

Broadhurst, B., joint general manager Brush Electrical Engineering Co., Ltd., Electrical Federation Offices, Kingsway, London, W.C. (Telegs.: "Magneto, London." Teleph. Holborn 2686.) Director Loughborough & District Electric Traction Synd., Ltd.

Broadhurst, G., A.M.I.E.E., Electricity Works, Worthing.

BROADHURST & CO., LTD., indiarubber manufacturers, Bradford, Manchester. (Telegs.: "Fidelity, Manchester." Teleph. No. 862. A.B.C. 4th edition & A1 Codes.)

Broadstone, Ltd., 107, Cannon-st., London, E.C. Registered June 27, 1907. Nominal capital: £1000 in £1 shares. Directors: W. C. Johnson, Esq.; E. G. Vecquery, Esq.; C. H. Johnson, Esq.; L. Burn, Esq.

Brock, F. W., manufacturing electrical engineer, 287, Shirland-rd., St. Peter's-park, London, W.

Brock, F. W., Heyeswood, Hartford. Director Northwich Electric Supply Co., Ltd.

Brock, Stewart Nicholas de Saumarez, A.I.E.E., South Tower, Crystal Palace, Sydenham.

Brocklebank, H., 20, Bixteth-st., Liverpool. Director Liverpool Overhead Railway Co., Ltd.

Brocklebank, T., The Roscote, Heswall, Cheshire. Director Heswall Electric Light Co., Ltd.

Brocklehurst, E., director Fort William Electric Lighting Co., Ltd., Fort William.

Brodie, J. A., M.ENG., WH.SC., M.I.C.E., M.I.MECH.E., city engineer, Liverpool.

Brodie, J. S., borough engineer, Blackpool.

Brodie, P. M. S., A.I.E.E., India Rubber, Gutta-percha & Telegraph Works Co., Ltd., Silvertown, London, E.

Brodie, W. A., M.I.E.E., San Remo, Italy. Managing director British Continental Electricity Co., Ltd.

Brodrick, Hon. A. G., managing director African Direct Telegraph Co., Ltd., Electra House, Finsbury Pavement, London, E.C.; director Eastern Extension, Australasia & China Telegraph Co., Ltd.; director Europe & Azores Telegraph Co., Ltd.; director Pacific & European Telegraph Co., Ltd.; director West African Telegraph Co., Ltd.

Brodrick, W. H., & Co., engineers, 37, Wellington-st., Hull. (Telegs.: "Ossian, Hull." Teleph. No. 985.)

Broekman, L., storage battery engineer, Standard-bldgs., City-sq., Leeds.

Bromell, J. H., brass push manufacturer, 68, Eglinton-rd., Bow, London, E.

Bromet, A., Lime Lodge, Pinner-rd., Watford, Herts. (Teleph. Watford 22 X; & Central 13582.) Director Tadcaster Electricity Co., Ltd.

Bromet, J., director Tadcaster Electricity Co., Ltd., Station-rd., Tadcaster.

Bromhead & Co., British & Foreign patent agents, 33, Cannon-st., London, E.C. (Teleph. No. 2536, P.O. Central); & at 121, Colmore-row, Birmingham.

Bromley, Batstone & Kirk, electrical engineers, 24 & 26, Holborn, E.C. (Telegs.: "Workpeople, London." Teleph. Holborn 4839.)

Bromley (Kent) Electric Light & Power Co., Ltd., electrical engineers & contractors, 1, West-st., Bromley, Kent. (Telegs.: "Electricity Works, Bromley." Teleph. No. 108, Bromley.) Registered Sept. 21, 1897. Nominal capital: £100,000 in £5 ordinary shares. £75,000 have been taken up & paid, & £70,000 4½ per cent. debentures, all issued, & paid up. An acknowledgment of indebtedness under seal, dated June 6, 1904, creating £20,000 further debenture stock (making, with £50,000 already created, a total of £70,000, & being supplemental to a trust deed dated July 7, 1902), has been registered. Directors: F. E. Gripper, Esq.; D. Grinsted, Esq.; F. Medhurst, Esq.; R. Taylor, Esq.; E. Charrington, Esq.; J. C. Wigham, Esq. Engineer & manager, R. R. Barker; assistant engineer, R. E. Turnbull; secretary, Chas. A. Maby, F.C.I.S. Dividends: 1901, 4½ per cent.; 1902 & 1903, 5 per cent.; 1904, 1905, 1906, 1907 & 1908, 5½ per cent.; 1909 (*interim*), Oct. 1, 4 per cent. per ann.

Brompton & Kensington Electricity Supply Co., Ltd., 254, Earls Court-rd., London, S.W. (Telegs.: "Transformer, London." Teleph. offices & show-rooms: Kensington 653; & works: Western 3846.) Registered Feb., 1888. Nominal capital: £300,000 in 40,000 ordinary & 20,000 preference shares, all of £5 each. 30,449 ordinary & 9551 preference shares have been taken up; & £5 per share has been paid on each. Directors: H. R. Beeton, Esq. (chairman); W. R. Davies, Esq.; W. F. Leese, Esq.; S. Beeton, Esq. T. J. Owens, F.C.I.S., secretary; General manager & engineer, R. S. Downe, M.I.E.E. Dividends: 1903, 1904, 1905, 1906, 1907 & 1908, 10 per cent. on ordinary, 7 per cent. on preference; & first half of 1909, at rate of 9 per cent. on ordinary, 7 per cent. on preference.

Brook, A. B., A.M.I.E.E., 78, Nicolas-rd., Chorlton-cum-Hardy, Manchester

Brook, Ernest, electrical engineer, Colne-rd., Huddersfield.

Brook, H. L., A.M.I.E.E., 38, Holyhead-rd., Wednesbury, Staffs.

Brook, E., Ltd., electrical engineers, Colne-rd., Huddersfield. (Telegs.: "Phase, Huddersfield." Teleph. No. 606.)

Brook Electrical Works Co., manufacturers of electrical accessories, The Crescent, Hockley Brook, Birmingham.

Brook, Hirst & Co., Ltd., manufacturers of electrical switchgear, Northgate Electrical Works, Newry Park, Chester. (Telegs.: "Switches, Chester." Teleph. No. 294.)

Brooke, Sir Wm. R., K.C.I.E., 62, Albert Gate Mansions, S.W. Director Indo-European Telegraph Co., Ltd.; director Black Sea Telegraph Co., Ltd.

Brooke, J. W., & Co., Ltd., engineers & founders, & makers of motors & motor cars, lifts, &c., Adrian Ironworks, Lowestoft. (Telegrams: "Brooke, Lowestoft." Nat. Telephone No. 80.)

Brooke Tool Manufacturing Co., Ltd., 179–181, Belgrave-rd., Birmingham.

Brooke-Hitching, Sir Thos., 11, Portland-pl., W. Chairman West London & Provincial Electric Supply Co., Ltd.

Brooker, Arthur, electrical engineer, British Insulated & Helsby Cables, Ltd., Prescot, Lancs.

Brooker, W., generating engineer, Weston-super-Mare Tramway & Lighting Co., Weston-super-Mare.

Brooker, Dore & Co., metal, hardware & tin plate merchants & agents, 5, Fenchurch-st., London, E.C. (Telegs.: "Brooker, London." Teleph. No. 64, Avenue.)

Brookes, J., managing director & secretary Ingleton Electric Lighting & Power Co., Ltd., Greta Printing Works, Ingleton, Yorks.

Brookes, Ward & Co., Ltd., stampings for electric light fittings, 5 & 6, Hampton-st., Birmingham. (Telegs.: "Evident, Birmingham." Teleph. Central 3748.)

Brookes, Wm., & Son, consulting engineers & patent agents, 55 & 56, Chancery-lane, London, W.C. (Telegrams: "Aniline, London.")

Brookes-Edwards, H., consulting electrician, Cardigan Works, Wakefield, Yorks.

Brookfield, J. S., director North-West London Railway Co., 40, Carey-st., Lincoln's Inn, London, W.C.

Brooking, J. H. C., A.M.I.E.E., M.I.M.E., general manager, St. Helens Cable & Rubber Co., Warrington.

Brooking, A. H., & Co., electrical contractors, 63, St. Davids Hill, Exeter. (Telegs.: "Motors, Exeter." Teleph. No. 230.)

Brooks, A. E., manager Ascot District Gas & Electricity Co., Ascot.

Brooks, D. G., A.I E.E., Simplex Conduits, Ltd., Garrison-lane, Birmingham.

Brooks, E. E., B.SC. (Lond.), A.M.I.E.E., electrician & instructor in electrical engineering at the Technical School, Leicester; & Fernleigh, Wigston Fields, Leicester.

Brooks, H., chairman Colombo Electric Tramways & Lighting Co., Ltd., 11, St. Benet-pl., Gracechurch-st., London, E.C.

Brooks, H. B., manufacturing electrical engineer, Granville Works, Tennant-st, Birmingham. (Telegs.: "Commutator, Birmingham." Teleph. Midland 1976.)

Brooks, H. Tabor, director Colombo Electric Tramways & Lighting Co., Ltd., 11, St. Benet-pl., London, E.C.

Brooks, W. S., M.SC., lecturer in electrical engineering, Municipal Technical Institute, Norwich.

Brooks & White, electrical & mechanical engineers, 10, Maclise-rd., West Kensington, London, W. (Telegs.: "Elebroite, London." Teleph. Western 4226.)

Brooks, Wm. J., & Co., inventors' model makers, Letchworth, Herts.

Broom, G. H., A.M.I.E.E., electrical engineer, The Technical College, Derby.

Broom & Wade, Ltd., mechanical & electrical engineers, High Wycombe, Bucks.

Broome, F., A.M.I.E.E., Corporation Electricity Works, Swansea.

Brotherhood, P., Ltd., high speed engine & air compressor makers, 53, Parliament-st., London, S.W. (Telegs.: "Brotherhood, London." Teleph. No. 683, Westminster.)

Brothers, Edwin J., A.M.I.E.E., 155, Friern-rd., East Dulwich, London, S.E.

Brotherton, C. E., A.M.I.E.E., 15, North View, Heaton, Newcastle-on-Tyne.

Brotherton, John, Ltd, tube makers, Wolverhampton.

Brotherton Tubes & Conduits, Ltd., Commercial-rd., Wolverhampton (Telegs.: "Weldless, Wolverhampton." A.B.C., 5th edit., Code. Teleph. No. 212); 24A, High-st., Manchester; 66, Victoria-st., Westminster, S.W.; 198A, St. Vincent-st., Glasgow; 2, Collingwood-st., Newcastle-on-Tyne; 24, Herbert-pl., Dublin; 43A, High-st., Belfast; 20, West Bute-st., Cardiff; & 104, Albion-st., Leeds.

Brough, Thos., & Sons, electrical fuses & apparatus agents, 66, South John-st., Liverpool, W.

Broughall, Geo., A.M.I.MECH.E., M.I.E.E., electrical engineer, 5, Iddesleigh Mansions, Caxton-st., London, S.W.

Broughton, G. B., electrical engineer, 23, Church-rd., Eccles.

Broughton, Harold H., A.M.I.E.E., A.AM.I.E.E., The Technical College, Richmond-ter., Brighton. (P.O. Teleph. No. 1007.)

Broughton Copper Co., Ltd., copper merchants, Broughton Copper Works, Manchester (Telegrams: "Copper Co., Manchester." Telephone No. 638); 6, Broad-st.-pl., London, E.C.; & 49–51, Oswald-st., Glasgow. (Telegs.: "Copper Co.," London & Glasgow. Teleph. No. 1394.)

Broughty Ferry Corporation Electricity Works, Broughty Ferry, Forfarshire. Engineer & manager, Jas. L. Turnbull. (Nat. Teleph. No. 3.)

Brousson, R. P., M.I.E.E., M.I.M.E., engineer & traffic manager, Great Northern & City Railway, 3, Highbury-pl., N. (Telegs.: "Rapidness, London." Teleph. No. 853, North.)

Browett, Lindley & Co., Ltd., high-speed steam engine makers for electric lighting, traction & mill driving, Sandon Engine Works, Patricroft, Manchester (Telegrams: "Sandon, Patricroft." Nat. Telephone Nos. 10 & 82, Eccles.) Registered July 28, 1899. Nominal capital: £120,000 in 60,000 £1 ordinary & 60,000 £1 preference shares & £50,000 debentures. Issued: 50,000 ordinary, 50,000 preference shares, fully paid, & £47,165 debentures. Directors: Franklin Hilton, Esq.; Alf. Tongue, Esq.; W. H. S. Craven, Esq.; W. Browett, Esq.; F. C. Gibbons, Esq. (managing). Electrician, K. Fairclough; secretary, Thos. C. Kay. Dividends: Since 1901, *nil.*

Brown, A. C., M.I.E.E., 7, Queen-sq., Finsbury-ave., London, E.C. (Telephone No. 10466, Central.)

Brown, A. G., electrical engineer, 39, Blackfriars-st. West, Manchester. (Telegs.: "Brownish, Manchester.")

Brown, Alex. W., A.I.E.E., Stirling Districts Asylum, Larbert, N.B.

Brown, C. R., assistant superintendent engineer, Corporation Electricity Works, Valley-rd., Bradford.

Brown, E. Eugene, M.I.E.E., electrical engineer, Gwydyr, Eardley-rd., Streatham, S.W.

Brown, E. G., A.I.E.E., 8, Freke-rd., Lavender Hill, London, S.W.

Brown, F., electrician, 11, Upper George-st., Bryanston-sq., London, W. (Teleph. No. 2369, Paddington.)

Brown, Frederick, M.I.E.E., managing director Walsall Electrical Co., Ltd., 57, Bridge-st., Walsall (Telegs.: "Electrical Walsall." Teleph. No. 45); & "Brynllyn," Streetley, Sutton Coldfield.

Brown, G. J. L., A.M.I.E.E., 8, Fifth-ave., Kelvinside, Glasgow.

Brown, G. M., J.P., Moray-pl., Edinburgh. Chairman Falkirk Electric Construction Syndicate, Ltd.; director Falkirk & District Tramways Co.

Brown, H., director Isle of Thanet Electric Tramways & Lighting Co., Ltd., Moorgate Station-chbrs., London, E.C.

Brown, H., sectional engineer, Postal Telegraphs, Stafford.

Brown, H. G., M.I.E.E., electrical engineer, 75, The Avenue, Ealing. (Teleph. P.O. Ealing 768.)

Brown, Hugh Maxwell, A.M.I.E.E., c/o C. A. Parsons & Co., 99, Great Clyde-st., Glasgow. (Telegs.: "Smoothly, Glasgow." Nat. Teleph. No. 6800, Royal.)

Brown, H. P., engineer, Post Office Central, City & Trunk Telephone Exchanges, London.

Brown, H. W., electrical inspector, British Engine, Boiler & Electrical Insurance Co., Ltd., 12, King-st., Manchester.

Brown, Herbert W., electrical engineer, 9, Seaview-ter., Plymouth.

Brown, James, A.M.I.E.E., resident electrical engineer, Electricity Works, Kilmalcolm Electric Lighting Co., Ltd., Kilmacolm, Renfrewshire. (Teleph. No. 153.)

Brown, J. A., A.I.E.E., 27, Westbourne-rd., Penarth, nr. Cardiff.

Brown, James A., electrical engineer, 59 & 60, Chancery-lane, W.C.

Brown, J. Bryden, electrical engineer, Kynochs, Ltd., Birmingham.

Brown, J. Campbell, D.SC., LL.D., professor of chemistry, University, Liverpool.

Brown, Jas. E., A.M.I.E.E, National Boiler & General Insurance Co., 22, St. Ann's-sq., Manchester.

Brown, J. Fiddes, M.I.E.E., M.I.MECH.E., 24, Morella-rd., Wandsworth Common, London, S.W.

Brown, Jas. Hally, A.I.E.E., 4, Riccartsbar-ave., Paisley.

Brown, Jas. Herbert, A.I.E.E., city gas engineer, Nottingham.

Brown, J. M., director South of England Development Co., Ltd., 3, King's-ter., Southsea.

Brown, John, A.M.I.E.E., F.R.S., Longhurst, Dunmurry, Belfast.

Brown, John S., electric light engineer, 21, 22 & 62, Oxford-st., Swansea. (Telegrams: "Motors, Swansea." Telephone No. 166.)

Brown, Jos., jun., consulting engineer, Mercantile-chbrs., Quayside, Newcastle.

Brown, J. W., engineer, New Rottingdean Electricity Co., Ltd., Rottingdean, Sussex.

Brown, Mrs. A. M., 52, Kensington Park-rd., London, W. Director The Galway Electric Co., Ltd.

Brown, R. C., managing director Mexico Electric Tramways, Ltd., Threadneedle House, 31, Bishopsgate-st. Within, E.C.

Brown, Robt. F., electrical engineer, 4, Woodcroft-ter., Jordanhill, Glasgow.

Brown, S. G., M.I.E.E., 4, Great Winchester-st., London, E.C.

Brown, T. Blundell, "Dytchleys," Brentwood, Essex. Director British Columbia Electric Railway Co., Ltd.

Brown, W., A.I.E.E., 150, Shooters Hill-rd., Blackheath.

Brown, W., B.SC., M.I.E.E., professor of applied physics, Royal College of Science, Dublin.

Brown, William, A.I.E.E., 36, Woodland-gdns., Muswell Hill, London, N.

Brown, Wm., electrical engineer, 29, Whetstone-park, Lincoln's Inn Fields, London, W.C.

Brown, Wm., engineer-in-chief's office, G.P.O., London, E.C.

Brown, Wm., district manager, National Telephone Co., Ltd., 13, Panmure-st., Dundee.

Brown, W. Anderson, A.M.I.E.E., distributing engineer, St. Pancras Electricity & Public Lighting Dept., 57, Pratt-st., London, N.W.

Brown, W. Calder, electrical engineer, 7, Ebury-st., Grosvenor-gdns., S.W. (Teleph. Victoria 1233.)

Brown, W. Forster, director South Wales Electrical Power Distribution Co., Royal-chbrs., Queen-st., Cardiff.

Brown, W. H., "Harts," Woodford Green, Essex. Director Metropolitan District Railway Co.; director London United Tramways, Ltd.

Brown, Wm. Howard, A.M.I.E.E., Associated Portland Cement Manufacturers, Ltd., Works Dept., Park House, Gravesend. (Telegs.: "Rotary, Gravesend." Teleph. Dartford 1 Nat.; & Gravesend 5 P.O.)

Brown, W. R., A.M.I.E.E., 18 & 20, Mill-st., Macclesfield. (Telegrams: "Brown, electrician, Macclesfield." Telephone No. 0172.)

Brown, Alex., & Co., engineers & electricians, 233, St. Vincent-st., Glasgow. (Telegrams: "Alex, Glasgow." Telephone No. 3064.)

Brown, Andrew, & Co., engineers & agents, 110, Cannon-st., London, E.C. (Telegs.: "Browpost, London." Teleph. No. 8168, Bank.)

BROWN, BOVERI & CO., LIMITED, engineers & contractors, Caxton House, Westminster, S.W. (Telegs.: "Reactance, London." Teleph. No. 5606, Gerrard.)

Brown Bros. & Co., Ltd., electrical & mechanical engineers, Rosebank Iron Works, Edinburgh.

Brown & Co., electrical engineers, 72, Renshaw-st., Liverpool, W. (Telegs.: "Coils, Liverpool." Teleph. Royal 1620.)

Brown & Co., cabinet work & wood work for electricians, Waterloo Saw Mills, 73 to 85, McAlpine-st., Glasgow (Telegs.: "Boxes, Glasgow." Nat. Teleph. Nos.: 566 & 567, Argyle; Corp. 567); & 27, Chancery-lane, London, W.C. *See advt. under* CASINGS.

Brown, D., & Co., electrical engineers, Elswick-ct., Northumberland-st., Newcastle-on-Tyne.

Brown, D., & Sons, gear-wheel makers & pattern makers, Park Works, Lockwood, Huddersfield. (Telegs.: "Gearing, Huddersfield;" & "Pattern, Huddersfield." Teleph. Nos. 1080, 1081 & 339.)

Brown, E. A., & Co., wire workers, Collyhurst Wire Works, Manchester. (Nat. Teleph. No. 5123.)

Brown, F. V., & Co., engineers, &c., Guardian-bldgs., 3, Cross-st., Manchester. (Telegs.: "Booster, Manchester." Teleph. City 870.)

Brown, G. R., & Co., steam packing manufacturers, 15, Edmund-pl., Aldersgate-st., London, E.C. (Telegs.: "Flagship, London." Teleph. No. 9489, Central.)

Brown & Green, Ltd., electrical & general engineers & founders, Windsor-st., Luton.

BROWN, HEDLEY O., & CO., lubricant manufacturers, Victoria Oil Works, Soap House Wharf, Hull. (Telegs.: "Oil, Hull." A.B.C. Code, 5th edit. Corp. Teleph. No. 1684.) *See advt.* LUBRICANT MFRS.

Brown, J., & Co., Ltd., acids, &c., Dewsbury.

Brown & Parsons, Ltd., electrical & general engineers, 63, Parade, Leamington Spa. (Telegs.: "Brown, Electrician, Leamington." Teleph. No. 16 X. 2.)

Brown & Son, electrical & scientific instrument makers, 25, Charlotte-st., Caledonian-rd., London, N.

Brown, Thomas, & Co., electric light apparatus manufacturers, Royal Exchange, Middlesborough. (Telegs.: "Brun, Middlesborough." Teleph. No. 132.)

Brown & Ward, Ltd., electrical & mechanical engineers, Branston-st., Birmingham. (Telegs.: "Turrets, Birmingham." Teleph. Central 3831.)

Brown, William, Sons & Co., Ltd., engineers & founders, Kinning Park, Glasgow.

Brown-Mackenzie Signal Co., Ltd., electric signalling apparatus, 1, Marcus Ward-st., Belfast.

Browne, E. M., director & secretary Northampton Electric Light & Power Co., Ltd., 2, St. Giles's-sq., Northampton.

Browne, Lord R. H., Leith Villa, London-rd., Reigate. Director Western Telegraph Co.

Browne, O. H., A.M.I.E.E., The Hawthorns, Whitefield, Manchester. (Teleph. No. 47.)

Browne, R. F., consulting engineer, Mevagissey Electric Supply Co., Ltd., Mevagissey.

Browne, Rowland F., A.M.I.E.E., Electrical Federation-bldgs., Kingsway, London, W.C.

Browne, R. I., M.D., Hartford Beech, Northwich. Director Northwich Electric Supply Co., Ltd.

Browne, Sir B. C., D.C.L., Westacres, Newcastle-on-Tyne. Director Newcastle & Dis. Elec. Light Co., Ltd.

Browne, Wilfrid L., A.M.I.E.E., 2, Dacre Villas, Upper Beeding, Sussex.

Browne, G. Massiot, & Co., Henrion carbons & silvered glass reflectors, 108, Argyle-st., Glasgow. (Nat. Teleph. No. 244 X. 5, Royal.)

Browne, Newnham, & Co., chartered patent agents, 73, Cheapside, London, E.C. (Telegs.: "Honeybee, London." Teleph. No. 366, Bank.)

Browne-Martin, J., 28, Victoria-st., London, S.W. Director Central Electric Supply Co., Ltd.; chairman Power & Traction Co., Ltd.; director Westminster Electric Supply Corp., Ltd.; director Smithfield Markets Electric Supply Co., Ltd.

Browning, J. J. McI., electrical engineer, 8, Harold-st., Camberwell, London, S.E.

Brownjohn, W. H., M.I.MECH.E., A.M.I.E.E., mechanical & electrical engineer & contractor, Eldon Street House, Eldon-st., London, E.C. (Telegs.: "Monocyclic, London." Teleph. Central 13256.)

Brownlee, Ex-Provost, 52, Smalls Wynd, Dundee. Chairman Dundee, Broughty Ferry & District Tramways Co.

Brownlee, A., & Co., electric ship & street lamp makers, 33 & 34, Anderston Quay, Glasgow. (Telegrams: "Quay, Glasgow." Telephone No. 3420.)

Brownridge, Chas., borough engineer, Birkenhead.

Broxburn Oil Co., Ltd., mineral oil, candle & wax manufacturers, 28, Royal Exchange-sq., Glasgow; Devonshire-chbrs., Bishopsgate-st., London, E.C.; Broxburn, Linlithgowshire; 21, Grainger-st. W., Newcastle-on-Tyne; & 6, Exchange-bldgs., St. Mary's Gate, Manchester. (Telegs.: "Broxburn," Glasgow, London, Broxburn, Newcastle-on-Tyne & Manchester. Teleph. Nos.: 2880, London Wall; 3, Broxburn; 6160, Glasgow.)

Broxburn & Uphall Lighting Committee, Broxburn, N.B. Engineer, W. Sanderson.

Bruce, Fred., A.I.E.E., 40, Havelock-rd., Hastings. (Telegrams: "Bruce, Hastings." Telephone No. 39 Y.)

Bruce, George A., M.I.E.E., borough electrical engineer, Electric Light Works, Lowestoft. (Teleph. No. 87.)

Bruce, John Geo., A.I.E.E., electrical engineer, Willesden District Council, Salusbury-rd., Kilburn, London, N.W. (Nat. Teleph. No. 73, Hampstead.)

Bruce, Alex., & Co., telegraph poles, 53, Bothwell-st., Glasgow.

Bruce & Co., electrical engineers, Sea-rd., Bexhill-on-Sea.

Bruce, Duff, & Co., consulting engineers, 17, Victoria-st., London, S.W. (Telegs.: "Fuimus, London." Teleph. No. 5040, Westminster.)

Bruce, J., & Son, telegraph instrument makers (ships' chronometers, &c.), 60, South Castle-st., Liverpool.

Bruce, W. T., & Co., manufacturing chemists & merchants, 3, Lombard-ct., London, E.C. (Telegs.: "Sulphric, London." Teleph. No. 1031, Avenue.) Works: Old Ford, E.

Bruce-Kingsmill, Major J., F.C.S., A.I.E.E., 196, Deansgate, Manchester. (Telegs.: "Kingsmill, Manchester." Teleph. City 1708.)

Bruné-Turchi Telegraphic Co., Ltd. Registered July 15, 1905. Nominal capital: £30,000 in £1 shares.

Brunner, H. B., electrician & chemist, The Hollies, Hartford, Northwich, Cheshire. (Teleph. No. 103.) Director Northwich Electric Supply Co., Ltd.

Brunner, L. F., representative of T. Baeuerle & Söhne, St. Georgen, Germany, 279, Romford-rd., Forest Gate, E.

Brunner, Mond & Co., Ltd., alkali manufacturers, Winnington, Northwich (Telegrams: "Crescent, Northwich." Telephone No. 1); & 39, Lombard-st., London, E.C. (Telegrams: "Sesqui, London." A1 & A.B.C. Codes used.)

Brunton, Sydney Linton, M.I.C.E., M.I.E.E., engineer, Alley & MacLellan, Ltd., Sentinel Works, Polmadie Glasgow.

Brunton, W. N., & Son, manufacturers of all classes of iron & steel wires & wire ropes, Musselburgh, Scotland. (Telegrams: "Wiremill, Musselburgh." Telephone No. 28.)

BRUSH ELECTRICAL ENGINEERING CO., LTD., THE, manufacturing electrical engineers & contractors & builders of rolling stock, Electrical Federation Offices, Kingsway, London, W.C.; & Loughborough, Leicestershire. (Telegs.: "Magneto, London;" Works, "Falcon, Loughborough." Teleph. Holborn 2686. A1 & A.B.C. Codes used.) Registered Aug. 10, 1889. Nominal capital: £289,512 ordinary shares, £200,000 7 per cent. preference shares, £125,000 5 per cent. prior lien debenture stock, £125,000 first debenture stock & £125,000 second debenture stock. Issued capital: £140,976 in ordinary shares of £1 each, £200,000 preference shares of £1 each, both fully paid; £125,000 4½ per cent. perpetual debenture stock & £125,000 4½ per cent. perpetual second debenture stock; & £100,000 5 per cent. prior lien debenture stock. Directors: E. Gareke, Esq. (chairman); Lord Vaux of Harrowden; W. L. Madgen, Esq. (vice-chairman); C. S. B. Hilton, Esq.; G. Cornwallis West, Esq. Joint general managers, B. Broadhurst & J. J. Steinitz; secretary, F. M. Hodson. Dividends: on preference shares, 1901, 3 per cent.; 1902, 1903, 1904, 1905, 6 per cent.; on ordinary shares, 1901–1904, *nil;* 1905, 2½ per cent.; 1906–07, *nil.*

Bryan, G. H., SC.D., F.R.S., professor of mathematics, University College of N. Wales, Bangor, N. Wales.

Bryant, A. E., assistant engineer, Corporation, Bristol.

Bryant, Edwin G., electrical engineer, Delphi-chbrs., Old Christchurch-rd., Bournemouth. (Telephone No. 01149.)

Bryant, Gordon, A.M.I.E.E., borough electrical & tramways engineer, Great Yarmouth. (Nat. Teleph. No. 138.)

Bryant, W. W., superintendent of Magnetic & Meteorological Depart., Royal Observatory, Greenwich, S.E.

Bryant & Sons, electrical engineers, &c., 5, Boulevard, Weston-super-Mare.

Bryant Trading Syndicate, Ltd., electric incandescent lamp manufacturers, Clarendon Works, Horsell-rd., Highbury, London, N. (Telegs.: "Yeomanhood, London." Teleph. No. 1035, North.)

Bryce, J. Annan, M.P., director British Westinghouse Electric & Manufacturing Co., Ltd., Westinghouse-bldg., Norfolk-st., London, W.C.

Bryce & Rumpff, chemical agents, 58, Fountain-st., Manchester. (Telegrams: "Rumpff, Manchester." Telephone No. 1104.)

Bryden, H. N., electrical engineer, Orbiston-st., Motherwell.

Bryden, John, & Sons (Established 1809), domestic electricians, 90, Gloucester-rd., Queen's-gate, London, S.W.; at 16, Frederick-st., Edinburgh; 63, West Regent-st., Glasgow; & 32, Bell-st., Dundee.

Bryden, Wm., & Son, electric light engineers, electric bell & telephone fitters, 206, Bath-st., Glasgow (Nat. Teleph. Douglas 627); & 55, George-st., Edinburgh. (Nat. Teleph. Central 364.)

Brydges, J. K., M.I.E.E., electrical engineer, Corporation Electricity Works, Eastbourne.

Brynamman & District Electric Supply Co., Ltd., Brynamman, Carmarthenshire. Registered Nov. 29, 1904. Nominal capital: £4000 in £1 shares. Issued capital: £3300, fully paid. Directors: W. J. Williams, Esq. (chairman); Thos. Bartholomew, Esq.; Jno. Morgan, Esq.; D. Hicks, Esq.; Ed. Powell, Esq.; G. Vaughan, Esq. Engineer, Thos. Williams; secretary, Evan W. Evans.

Bryson, Robert, electric lighting contractor, 130, High-st., Kirkcaldy, N.B. (Teleph. No. 115.)

Bubb, Herbert James, A.I.E.E., Aluminium Castings Co., Ltd., Ingleston Foundry, Greenock, N.B. (Telegs.: "Castings, Greenock." Teleph. No. 85.)

Bubb, J. T., electric light engineer, St. James's-churchyard, Bristol.

Buchan & Partners, consulting engineers, 16, Rutland-sq., Edinburgh (Telegs.: "Consulting, Edinburgh." Teleph. No. 2562); Milburn House, Newcastle-on-Tyne; & Parliament-chbrs., Westminster, London, S.W. (Telegs.: "Advising, London." Teleph. Westminster 5575.)

Buchanan, John, D.SC., head of Electricity Department, Robert Gordon's College, Aberdeen.

Buchanan, J. Y., F.R.S., 26, Norfolk-st., W. Director India Rubber, Gutta Percha & Telegraph Works Co., Ltd.

Buchanan, Wm., M.I.E.E., 34, Braemar-ave., Wood Green, London, N.

Buchanan & Curwen, electrical engineers, 64, Victoria-st., London, S.W. (Teleph. Gerrard 485); Queen Anne's-bldg., Baldwin-st., Bristol (Teleph. No. 1223); 9, Rectory-rd., Beckenham (Teleph. Bromley 368); & The Approach, North-st., Leatherhead. (Nat. Teleph. No. 9.)

Buck, J. P., superintendent Mains Dept., City of London Electric Lighting Co., Bankside, London, S.E.

Buck, C., & Co., electro-gilders & platers, 18–20, St. John's-lane, London, E.C. (Teleph. No. 12250, Central.)

Buck & Hickman, Ltd., engineers' tool makers, 2 & 4, Whitechapel-rd., London, E. (Telegs.: "Rockbuck, London." Teleph. Central 7981 (6 lines).)

Buckell, Ald. Sir Robt., J.P., Broad-st., Oxford. Director Oxford Electric Co., Ltd.; director Oxford Tramways Synd., Ltd.; director City of Oxford Electric Tramways, Ltd.

Buckell, L. E., A.M.I.E.E., electrical engineer, c/o Newcastle-on-Tyne Electric Supply Co., Royal Exchange-bldgs., Hood-st., Newcastle-on-Tyne.

Buckfastleigh Electric Supply Co. Electricity Works, Buckfastleigh, Devon. Resident engineer, S. A. Kirby; electrician, A. McKenzie.

Buckingham Electric Light (Gillies & Hornidge, engineers), Buckingham. (Telegs: "Electric, Buckingham.")

Buckland, W. A., electrical engineer, 63, Westover-rd., Wandsworth Common, S.W.

Buckler, C. Dugald, 47, Galveston-rd., Putney. Director East India Tramways, Ltd.

Buckley, G., Halifax. Director Madeira Electric Lighting Co., Ltd.

Buckley, M. J., A.M.I.E.E., electrician, Garrán an Cheoil, Iona Drive, Dublin.

Buckley, Samuel, maker of tool steel, magnet steel, malleable iron & steel castings, Styrian Steel Works, Sheffield. (Telegrams: "Tungsten, Sheffield." Telephone No. 1109.)

Buckley & Beach, electrical contractors, Shawfield-st., Chelsea, S.W. (Nat. Telephone Kensington 1670.)

Buckley & Taylor, Ltd., makers of triple or compound electric light engines, Castle Ironworks, Oldham. (Telegrams: "Engines, Oldham." Telephone No. 8.)

Buckmaster, H. C., A.M.I.E.E., Loch Leven Water & Electric Power Co., Kinlochleven, Argyllshire, Scotland.

Bucknall, W. G., electric & gas lighting engineer, 121, Mount Pleasant, Liverpool. (Telephone No. 2252, Royal.)

Buckton, Wm. Woodyer, B.A., A.M.I.E.E., M.I.M.E., A.M.I.MECH.E., consulting engineer, 72, Victoria-st., London, S.W. (Telegs.: "Crosshead, London." Teleph. No. 357, Vic.)

Buckton, Joshua, & Co., Ltd., machine tool makers, Meadow-rd., Leeds. (Telegs.: "Bucktons, Leeds." Teleph. No. 4340.)

Budd, F., electrical engineer, c/o Messrs. Siemens Bros. & Co., Ltd., Caxton House, Westminster, S.W.

Budden, R. W., superintendent, Commercial Cable Co., 18, Moult-st., Manchester.

Bude Electric Supply Co., Ltd., The Strand, Bude, Cornwall. Registered Oct. 7, 1907. Nominal capital: £7000 in £1 shares. Issued: 4765 shares & £2500 5 per cent. mortgage debentures. Directors: F. I. Thynne, Esq. (chairman); R. A. Foster-Melliar, Esq.; S. Pethick, Esq.; F. Christy, Esq.; C. M. Cowie, Esq.; G. Croydon Marks, Esq.; A. C. Thynne, Esq. Engineers, Christy Bros. & Co., Ltd.; secretary, H. T. Yeo.

Budge, Joseph, Mains House, East Wemyss, Scotland. Chairman Wemyss & District Tramways Co., Ltd.

Buenos Aires Port & City Tramways, Ltd., 2, Broad-st.-pl., London, E.C. Registered July 29, 1905. Nominal capital: £250,000 in £5 ordinary shares, £50,000 in preferred ordinary shares of £1 each & £400,000 6 per cent. debentures. Issued: 39,941 ordinary shares, fully paid, 11,400 preferred ordinary shares, fully paid, £238,000 debentures, fully paid, & £75,000 debentures, partly paid. Particulars of £250,000 first mortgage debenture stock secured by trust deeds, dated Oct. 30, 1905, & March 20, 1909. Directors: Geo. Kitchin, Esq. (chairman); John Kerr, Esq.; A. Wenham, Esq.; M. Graham, Esq. Secretary, T. H. Evans.

Buenos Ayres Electric Light Co., Ltd., electric light contractors, 2, East India-avenue, London, E.C. Nominal capital: £100,000, in 9986 £10 ordinary & 70 £2 founders' shares. The whole of the founders' shares have been taken up, & nothing has been either called or paid.

Buffalo Specialty Co., dealers in electrical supplies, 249, Kingsland-rd., London, N.E. (Telegs.: "Acanab, London.")

Buffoline Noiseless Gear Co., Ltd., Chapel-st., Levenshulme, nr. Manchester. (Telegs.: "Buffoline, Levenshulme." Teleph. No. 248, Rusholme.)

Bugler, J. U., Ltd., engineers & electric bell fitters, 35 & 37, High-st., Ashford, Kent. (Telegrams: "Bugler, Ashford." Telephone No. 48.)

Bulfin, I., B.A., A.M.I.C.E., M.I.M.E., M.I.E.E., borough electrical engineer, Bournemouth.

Bull, H. J. L., chief assistant electrical & tramway engineer, Wigan.

Bull, J. Cecil, F.C.I.S., A.I.E.E., joint managing director City of London Electric Lighting Co., Ltd., & director Electric & General Investment Co., Ltd., 1 & 2, Great Winchester-st., London, E.C.

Bull, A. F., & Co., electrical engineers, 180, Kingsland-rd., London, N.E.

BULLERS, LTD., manufacturers of telegraph & telephone material, poles, insulators of all kinds, castings, porcelain parts of ceiling roses, switches, &c., for electric lighting purposes, 6, Laurence Pountney Hill, London, E.C. (Telegs.: "Bullers, London." Teleph. No. 4907/8, London Wall.) Works: Tipton (Telegs.: "Bullers, Tipton." Teleph. No. 1); & Hanley. (Telegs.: "Bullers, Hanley." Teleph. No. 7.) Nominal capital: £200,000 in £10 ordinary shares, £200,000 in 5 per cent. preference shares of £10 each. Issued: £150,000 ordinary shares & £150,000 preference shares, both fully paid. Directors: A. K. Tharp, Esq. (chairman); E. J. Chambers, Esq., J.P.; J. W. Harris, Esq.; E. H. Chambers, Esq.; H. C. R. Dagnall, Esq. Secretary, T. H. Simmonds. Dividends on ordinary shares: 1906–07, 10 per cent.; 1907–08, 5 per cent.; & first half of 1909, *interim* of 1¼ per cent. *See advt., page* 15.

Bullivant's South African Co., Ltd., wire rope & telegraph cable mfrs., 72, Mark-lane, London, E.C.

Bulloch, Wm. M., electrical engineer, 20, Calton-ter., Farsley, nr. Leeds.

Bullock, G. T., A.I.E.E., Surveyor's Dept., Union Assurance Society, Ltd., 1 & 2, Royal Exchange-bldgs., London, E.C. (Teleph. London Wall 2980.)

Bullock, Thomas A., A.I.E.E., Eastern Telegraph Co., 11, Old Broad-st., London, E.C. (Telegs.: "Signally, London.")

Bullock, W. J. W., A.M.I.E.E., managing director Browne Engineering Co., Ltd., Norfolk House, Laurence Pountney Hill, Cannon-st., London, E.C. (Telegs.: "Macharbul, London." Teleph. City 1306.)

Bullocke, G. L., Marconi's Wireless Telegraph Co., Watergate House, York-bldgs., Adelphi, London, W.C.

Bullough, A. W., A.M.I.C.E., A.M.I.E.E., Moorside, Darwen, Lancs.

Bullough, R. C., A.M.I.C.E., general manager & engineer, Corporation Tramways, Colchester. (Telegs.: "Bullough, Tramways, Colchester." Nat. Teleph. No. 92.)

Bulmer, Albert E., A.M.I.E.E., electrical engineer, South Bank, Otterburn Villas, Newcastle-on-Tyne.

Bulmer, John, & Sons, wire rope machinery makers, Pitt-st., Newcastle-on-Tyne. (Telegs.: "Stranding, Newcastle-on-Tyne." Teleph. Central 282.)

Bulmore, A. W. E., resident electrical engineer, Electric Lighting, Letchworth, Herts.

Bumpus, Bernard E., A.M.I.E.E., 103, Lansdowne-rd., Old Charlton, Kent.

Bumsted & Chandler, Ltd., high-speed steam engine manufacturers, Cannock Chase Foundry, Hednesford. (Telegs.: "Bags, Hednesford.")

Buncle, James, electrical apparatus maker, 93, Shandwick-pl., Edinburgh. (Telephone No. 2200.)

Buncrana Electric Supply Co., Buncrana, nr. Londonderry. Engineer & manager, J. K. Swan. (Telegs.: "Electric, Buncrana." Nat. Teleph. No. 7.)

Bunderg, R. A., engineer, Electricity Works, Chipping Norton.

Bunn, Wm., A.I.E.E., "Carshalton," Sydney-rd., New Southgate, London, N.

Buntzen, J., 27, Lille Strandvej, Hellerup, Denmark. Managing director British Columbia Electric Railway Co., Ltd.

Burbidge, A. H., A.M.I.E.E., engineer & tram manager, Corporation Electricity Works, Kilmarnock.

Burbridge, J., chief electrical engineer, Leeds City Tramways, Leeds.

Burbury & Co., electric light & power contractors, 2, Earl-st., Coventry. (Teleph. No. 77 X.)

Burch, George J., D.SC., M.A., F.R.S., professor of physics, University College, Reading.

Burchell, John G., electrical manager, Mackenzie & Moncur, Ltd., Balcarres-st., Edinburgh.

Burdett, H. J., electric light & power contractor, 32, Earl-st., Coventry. (Teleph. No. 5 Y.)

Burdett, Sir H. C., K.C.B., The Lodge, Porchester-sq., W. Director Great Northern & City Railway Co.

Burdis, Robt., electrical merchant, 45, Eden-ter., Oxhill, West Stanley, co. Durham.

Burdon, C. Barnard, A.I.E.E., 139, Queen Victoria-st., London, E.C. (Teleph. No. 5161, Bank.)

Burford Electric Light & Power Co., Ltd. Registered Nov. 9, 1909, by Jordan & Sons, Ltd., 116–117, Chancery-lane, W.C. Nominal capital: £400 in £1 shares (15 founders').

Burge, H., A.M.I.E.E., c/o Crompton & Co., Ltd., Chelmsford.

Burgess, I., Hartford Bank, Northwich. Director Northwich Electric Supply Co., Ltd.

Burgess Hill & District Electric Supply Co., Ltd., Railway Approach, Burgess Hill, Sussex. Registered Aug. 29, 1905. Nominal capital: £5000 in 3000 ordinary £1 shares & 2000 5 per cent. non-cumulative preference shares. Issued: 1500 ordinary & 1000 preference shares, all fully paid. A debenture, dated June 17, 1907, to secure £1200, has been registered. Directors: W. H. d'A. Findlay, Esq.; H. Aldrich, Esq.; A. G. Davey, Esq.; W. B. Welch, Esq., M.R.C.S. Manager, E. Prior; secretary, E. F. Hope.

Burgin, John, director Hemsworth Electricity Supply Co., Ltd., Crosshill, Hemsworth, nr. Wakefield.

Burgoine, Alfred, Ltd., electric launch builders, Kingston-on-Thames; & Riverside, Hampton Wick. (Telegs.: "Burgoine, Kingston-on-Thames." Teleph. No. 26, Kingston.)

Burkinshaw, Henry, A.M.I.E.E., Caxton House, Westminster, S.W.

Burland, Dr., director Paignton Electric Power & Light Co., Ltd., 5, Palace-ave., Paignton, Devon.

Burley, T., telegraph engineer, Midland Railway, Gloucester.

Burley, F. M., & Co., installation contractors, 37, Hamlet Court-rd., Westcliff-on-Sea.

Burmah Electric Tramways & Lighting Co., Ltd., 1, Queen Victoria-st., London, E.C. Registered Oct. 11, 1902. Nominal capital: £200,000 in 20,000 cumulative 6 per cent. preference shares of £5 each & 20,000 ordinary shares of £5 each. Issued: All the preference shares, fully paid, & 18,395 ordinary shares, considered as paid. Directors: E. C. Morgan, Esq. (chairman); F. C. Kennedy, Esq., C.I.E.; D. C. Ellis, Esq.; H. R. Kindersley, Esq. Engineers, Kincaid, Waller, Manville & Dawson; secretary, W. R. Elston.

Burmah Electric Works Syndicate, Ltd., 53 & 54, Chancery-lane, London, E.C. Registered Sept. 12, 1899. Nominal capital: £2000 in £1 shares, all issued. Directors: H. R. Kindersley, Esq. (chairman & secretary); M. F. Kindersley, Esq. (managing & agent); E. R. Kindersley, Esq. Consulting engineers, Kincaid, Waller, Manville & Dawson.

Burman, R. H., sheet metal worker & metal spinner, Windmill-st., Horse Fair, Birmingham. (Telegs.: "Reflection, Birmingham." Teleph. Midland 1655.)

Burn, G. Frank, director Barbados Light Railway, Ltd., 9, Great George-st., London, S.W.

Burn, L., 13, Mayhill-rd., Charlton. Director Broadstone, Ltd.

Burn, Louis, A.M.I.E.E., Max, Ltd., Westcombe Hill, London, S.E. (Telegs.: "Grasimax, London." Teleph. Deptford 1106.)

Burn-Murdoch, Colonel P. R., R.E., A.M.I.E.E., R.E. Office, 22, North Bridge, Edinburgh.

Burn's Patent Tram Car Lifeguard Syndicate, Ltd., manufacturers of & dealers in safety guards for electric tramcars, &c., 12, Bowlalley-lane, Hull.

Burnand, W. E., electrical engineer, Prospect-rd., Totley Rise, Sheffield.

Burnand, W. E., & Co., electrical engineers, Chippinghouse Works, Lowfields, Sheffield. (Teleph. No. 16, Sharrow.)

Burnay, Count Henry de, director Lisbon Electric Tramways, Ltd., 1, London Wall-bldgs., London, E.C.

Burnby, S., & Son, electricians, lighting & telephones, 20, Warner-rd., Camberwell, London, S.E. (Teleph. No. 2881, Hop.)

Burnet, C. D., M.I.M.E., M.I.E.E., electrical engineer, Tudor Accumulator Co., Ltd., 119, Victoria-st., Westminster, London, S.W.; & 25, Courtfield-gdns., Earl's Court, S.W.

Burnet, Lindsay, & Co., engineers & boiler makers, Moore Park Boiler Works, & Burnet's Siding (goods), Govan, Glasgow. (Telegs.: "Burnet, Glasgow." Teleph. No. 52, Govan, P.O. & Nat.)

Burnett, H. R., A.M.I.E.E., borough electrical engineer, Barrow-in-Furness. (Telegrams: "Electricity Works, Barrow-in-Furness." Telephone No. 103.)

Burnett, Sir Wm., & Co., Ltd., manufacturers of "Baker's Preparation for Soldering & Tinning" & "Burnett's Solderine Paste," Nelson Wharf, Millwall, E. (Telegs.: "Burnetts, Isle-of-Dogs." Teleph. No. 747, East.)

Burney, Guy, manager The Sterling Telephone & Electric Co., Ltd., 200, Upper Thames-st., London, E.C. (Telegs.: "Cucumis, London." Teleph. Bank 6089, & Central 12716.)

Burnham, R. H., A.I.E.E., assistant electrical engineer to the South-Eastern & Chatham Railway, Tonbridge, Kent; & Craven House, 31, Gauden-rd., Clapham, London.

Burnham & Co., electrical contractors; speciality: electric signs, St. Paul's Works, Deptford; & at 10, Charles-st., Hatton Garden, London, E.C. (Telegs.: "Onyx, London." Teleph. Nos. 23 & 1087, Deptford); also at Manchester, Birmingham, Glasgow.

Burnie, W. B., D.SC., A.I.E.E., principal, Municipal Technical School, Brighton.

Burnley, Thos., director Electrical Distribution of Yorkshire, Ltd., Calder-rd., Thornhill, nr. Dewsbury.

Burnley Corporation Electricity Supply & Electric Tramways. Works: Aqueduct-st., Burnley. Chairman, Alderman Grey; electrical engineer, Jas. E. Starkie, A.M.I.E.E., A.M.I.M.E. (Teleph. No. 364.)

Burns, J., A.I.E.E., Willans & Robinson, Ltd., Rugby.

Burns, David, & Co., electric light & power contractors, &c., 18, Lowther-st, & 4, Fox-lane, Whitehaven. (Telegs.: "David Burns, Whitehaven." Teleph. No. 31.)

BURNS, J., LTD., vulcanized fibre manufacturers & dealers in all kinds of electrical insulation specialities. Engineers' & Steamship Stores & Mill Furnishers. Manufacturers of Shapes, Stampings, Bushes, Washers, Screwed Work of every description, Gear Wheels, & a great variety of machined pieces in Vulcanized Fibre, Ebonite, Metal & other Materials, as used by General & Electrical Engineers, Steam & Electrical Railways, Electric Tramway Companies, Motor Car Builders, &c., 189, Central-st., London, E.C. (Telegs.: "Isolement, London." Teleph. No. 3176, London Wall.) *See* VULCANIZED FIBRE.

Burnside, W., M.A., F.R.S., professor of physics, Royal Naval College, Greenwich.

Burr, F. H., 2, Camomile-st., London, E.C. Director Caracas Electric Tramways Co., Ltd.

Burr, J. W., A.M.I.E.E., A.M.I.MECH.E., chief assistant electrical engineer, Electricity Works, Croydon.

Burrell, C., 49, boul. Beausejour, Passy, Paris. Director British Thomson-Houston Co., Ltd.

Burrell, Fountaine M., A.I.E.E., 187, Byron-ave., East Ham.

Burrell, C., & Sons, Ltd., engineers, St. Nicholas Works, Thetford, Norfolk. (Telegs.: "Burrell, Thetford." Teleph. No. 6.)

Burroughes, W. J., & Sons, electrical engineers, 143, Queen Victoria-st., London, E.C. (Telegrams: "Illapse, London.")

Burrowes, R. B., A.M.I.E.E., Technical College, 38, Bath-st., Glasgow, N.B.; & 7, Bogton Park, Cathcart, Glasgow.

Burslem Corporation Electricity Works, Burslem, Staffs. (Teleph. No. 458, Potteries.) Engineer, Ashton Bremner, M.I.E.E.

Burstall, F. W., professor of mechanical engineering, University, Birmingham.

Burstall, H. R. J., M.I.C.E., M.I.E.E., consulting engineer, Burstall & Monkhouse, 14, Old Queen-st., S.W.; & Shiplake-on-Thames. (Telegs.: "Instructed, London." Teleph. Westminster 771.)

Burstall & Monkhouse, consulting engineers, 14, Old Queen-st., London, S.W. (Telegrams: "Instructed, London." Telephone No. 771, Westminster.)

Burt, Sir Chas., director Anglo-American Telegraph Co., Ltd., Hillside House, Richmond, Surrey.

Burt, Charles Harley, electric light fittings maker, 195, Wardour-st., London, W.

Burt, N., & Co., Ltd., manufacturers of electroliers, 195, Wardour-st., London, W. (Telephone No. 2277, Gerrard.)

Burthem, Henry, electrical engineer, 163, Liverpool-rd., Warrington.

Burtles, Tate & Co., makers of electric light shades, Poland-st. Glass Works, Oldham-rd., Manchester. (Telegrams: "Burtles, Manchester." Telephone No. 3221.)

Burton, Algernon, A.M.I.E.E., 6, Beach-rd., Penarth, South Wales.

Burton, Lieut.-Col. H., director Auckland Electric Tramways Co., Ltd., Electrical Federation Offices, Kingsway, London, W.C.

Burton, W. C., electrical engineer, director J. G. White & Co., Ltd., 9, Cloak-lane, Cannon-st., London, E.C. Director North Melbourne Electric Tramways & Lighting Co., Ltd.; Para Electric Railways & Lighting Co., Ltd.; Manaos Tramways & Light Co.; Metropolitan District Railway Co.; Underground Electric Railways Co. of London, Ltd.

Burton, W. F., A.I.E.E., Pontvaen, Hay, *viâ* Hereford.

Burton & Ashby Light Railways, Power Station, Swadlincote. (Telegs.: "Light Railway, Swadlincote." Teleph. No. 1, Swadlincote.) Engineer & manager, J. Toulmin. Midland Railway Co., proprietors.

Burton, C. W., Griffiths & Co., milling machines, lathes, drills, &c., 1, 2 & 3, Ludgate-sq., Ludgate-hill, London, E.C. (Telegs.: "Hibou, London." Teleph. Nos.: 5423, Bank; & 9995, Central.)

Burton-on-Trent Corporation Electricity Supply. Works: Wetmore-rd., Burton-on-Trent. (Teleph. No. 207.) Chairman, Alderman T. E. Lowe; electrical engineer & tramways manager, P. J. Pringle, M.I.E.E., M.I.M.E. (Nat. Teleph. No. 202.)

Bury Corporation Electricity Supply & Electric Tramways. Works: Rochdale-rd., Bury. Chairman, Alderman Duxbury; electrical engineer, S. J. Watson, M.I.E.E. (Teleph. No. 550.)

Bury Municipal Technical School, Bury, Lancs. *See* SCHOOLS, CLASSIFIED SECTION.

Bury St. Edmunds Corporation Electricity Works, Bury St. Edmunds. Engineer, Sydney E. Day.

Busby, E., & Son, manufacturers of H.C. copper braided flexible & small arc lamp strands, Excelsior Wire Works, Dartmouth-st., Birmingham. (Telegrams: "Busby, Birmingham.")

Bush, H. W., engineer, Urban Electric Supply Co., Ltd., Newbury, Berks.

Bush, Montague, A.I.E.E., The Old House, Bramley, Surrey.

Bush, T. C., wiring contractor, Wells-rd., Bath.

Bush, E., & Co., electricians, 26, Sunbridge-rd., Bradford. (Telephone No. 02656.)

Bussell, F. G., A.I.E.E., Liverpool & London & Globe Insurance Co., 1, Dale-st., Liverpool.

Butcher, Chas. E., electric lighting contractor, 7, Cochrane-st., Wellington-pl., St. John's Wood; & 273, Finchley-rd., South Hampstead, London, N.W.

Butcher, Jas. D., A.M.I.E.E., 7, Osnaburgh-ter., Regent's Park, London, N.W.

Butcher, John, A.M.I.E.E., 14, Harley-ter., Gosforth, Newcastle-on-Tyne.

Butcher, M. H., A.M.I.E.E., c/o Howard Farrar Robinson & Co., Egypt House, New Broad-st., London, E.C.

Butcher, S., A.I.E.E., c/o Thos. Cook & Son, Banking Department, Ludgate Circus, London, E.C.

Butcher, W. E., A.M.I.E.E., 83, Cannon-st., London, E.C.

Butcher, W. M., A.M.I.E.E., 77A, Queen Victoria-st., London, E.C.

Butcher, Maxwell, & Co., electrical engineers, 77A, Queen Victoria-st., London, E.C. (Teleph. No. 6082, Central.)

Butler, C. F., A.M.I.E.E., managing engineer, Lewes & District Electric Supply Co., Lewes.

Butler, C. McArthur, A.I.E.E., Staple Inn-bldgs. (South), Holborn, W.C.

Butler, E. M., The Park, Harrow. Director Harrow Electric Light & Power Co., Ltd.

Butler, J. B., A.I.E.E., Eckstein Heap & Co., Salford, Manchester.

Butler, Lord A., 7, Portman-sq., W. Chairman Isle of Thanet Electric Tramways & Lighting Co., Ltd.; director Paisley District Tramways Co.; director Lancashire Electric Power Co.

Butler, W. Bryson, 3, Gracechurch-st., London, E.C. Director Delagoa Bay Development Corp., Ltd.

Butler Bros., makers of screws, terminals, &c., 4, Station-buildings, Haggerston, London, N.E.

Butler, J., & Co., electric battery manufacturers, Stanningley, Leeds. (Telephone No. 47, Stanningley.)

Butler & Spragg, Ltd., screw, nut & terminal manufacturers, Cambridge-st., Birmingham. (Telegs.: "Butsprag, Birmingham." Teleph. Central 1927.)

Butt, F. R., & Co., X-ray apparatus makers, 11, Denmark-st., London, W.C.

Butt, J. M., & Co., lamp post manufacturers, Kingsholm Iron Works, Gloucester. (Telegrams: "Butt, Founder, Gloucester." Telephone No. 16.)

Buttenshaw, H. F., A.I.E.E., c/o Siemens Bros., Standard-bldgs., City-sq., Leeds.

Butterfield Bros., electricians, 48, Yorkshire-st., Oldham. (Telephone No. 0962.)

Butterley Co., engineers & contractors, Butterley Iron Works, Derby.

Butters, J. B., B.SC., A.R.C.S., head of Physics, Electricity & Magnetism, &c., Department, Municipal Technical School, Stafford.

Butterworth Bros., Ltd., makers of glasses for electrical apparatus, Newton Heath Glass Works, Manchester. (Telegs.: "Glasses, Newton Heath." Nat. Teleph. No. 22, Failsworth.)

Butterworth, W., & Son, mechanical & electrical engineers, Albert Works, King-st. West, Manchester. (Telegrams: "Butson, Manchester." Telephone No. 3959.)

Button, F. S., M.INST.C.E., consulting engineer, Inglewood, Scott Park, Burnley, Lancs. (Tel. No. 333.)

Button, T., electrician, London-rd., Kingston-on-Thames.

Buxton Urban District Council Electricity Works, Buxton. Engineer, W. J. Leeming, A.M.I.E.E. (Telegrams: "Electricity Works, Buxton." Telephone No. 135.)

Bygrave, W., electrical engineer, East Barnet-rd., & Triangle, New Barnet; also Hadley, Middlesex. (Telegs.: "Bygrave, New Barnet.")

Byng, Gustav, M.I.E.E., 71, Queen Victoria-st., London, E.C. Chairman General Electric Co., Ltd.

Byng, Max, M.I.E.E., 21, Kensington Gore, S.W. Director Thomson Davis Telephone System, Ltd.; director Northwood Electric Light & Power Co., Ltd.

Byrds Electrical Co., electrical engineers, 2, Inner Temple, 24, Dale-st., Liverpool (Teleph. Central 7297); & 7, Atlantic-chbrs., Brazennose-st., Manchester. (Teleph. Central 6548.)

Byrom & Phillips, Ltd., manufacturers of enamelled slate, Wellington-rd., Leeds (Teleph. No. 155); & Gateshead.

Byrt, A., jun., dealer in electrical supplies, 47, High-street, Shepton Mallet, Somerset.

Bytheway, P. C., Engineering Dept., General Post Office, Glasgow.

Cable Accessories Co., Ltd., Tividale, Tipton. (Telegs.: "Disconnect, Tipton." Teleph. No. 11 Y., Oldbury.)

Cable Makers' Association, Parliament Mansions, Victoria-st., London, S.W. A. H. Howard, secretary. (Telegs.: "Howardist, London." Teleph. No. 5366, Westminster.)

Cabral, Dr. B. F., director Delagoa Bay Development Corp., Ltd., 3, Gracechurch-st., London, E.C.

Cadle, C., turbine & waterwheel maker, 39, Wellington Quay, Dublin. (Telegrams: "Cadle, Dublin." Telephone No. 02200.)

Caergwrle & District Electricity Supply Co., Ltd., Caergwrle, nr. Wrexham. Registered Nov. 25, 1908. Nominal capital: £350 in £1 shares.

Caffyn Bros., electrical engineers, 29, Grove-rd., Eastbourne. (Teleph. No. 219.)

Caiger, H. J., consulting engineer, 51, Lime-street, London, E.C.

Caillard, Sir V., King William-st., London, E.C. Chairman Bath Electric Tramways, Ltd.

Caine, J. F., A.I.E.E., 90, Creffield-rd., West Acton, London, W.

Caink, T., A.M.I.C.E., city engineer & surveyor, Guildhall, Worcester. (Telephone No. 32.)

Cairns & Co., electrical engineers, 91, Queen Victoria-st., London, E.C.

Cakebread, Robey & Co., makers of tube clearing rods for cable work, 86, High-st., Stoke Newington, London, N. (Telegs.: "Splendour, London." Teleph. Nos. 236 & 10, Dalston.)

Calcutta Electric Supply Corp., Ltd., Salisbury House, London Wall, London, E.C. Registered Jan. 15, 1897. Nominal capital: £1,000,000 in shares of £5 each. Issued: 100,000 ordinary shares, fully paid, & 40,000 5 per cent. cumulative preference shares, fully paid. Directors: E. Boulnois, Esq. (chairman); P. V. Luke, Esq., C.I.E.; Sir Guilford L. Molesworth, K.C.I.E.; A. M. H. Walrond, Esq.; Col. F. J. G. Murray. Secretary, F. R. Reeves. Local offices: 8, Dalhousie-sq., Calcutta. Agent & manager, F. Rawson, C.M.G. Dividends: 1905, 8½ per cent.; 1906, 8½ per cent.; 1907, 8 per cent.; 1908, 8 per cent.

Calcutta Tramways Co., Ltd., 1, Queen Victoria-st., London, E.C. (Telegs.: "Enshrine, London.") Registered Dec. 23, 1880. Nominal capital: £950,000 in 140,000 ordinary & 50,000 preference shares of £1 each. Issued: 137,610 ordinary shares, 45,304 preference shares. £185,100 is considered as paid; & £350,000 4½ per cent. first debenture stock. Directors: E. C. Morgan, Esq. (chairman); Sir Hy. Kimber, Bart., M.P.; J. G. B. Stone, Esq.; F. D. A. Vincent, Esq. Secretary, W. R. Elston. Dividends: 1903, 6 per cent.; 1904, 1905, 1906, 8 per cent.; 1907, 6 per cent.

Calderbank, H. W., patentee & manufacturers' agent, electrical fittings, 78, King-st., Manchester. (Telephone No. 08610.)

Calderwood, A., electrical engineer, 41A, Ebury-st., London, S.W. (Teleph. No. 1263, Victoria.)

Calderwood, Wm. T., A.M.I.E.E., 75, Waterloo-st., Glasgow.

Caldwell, H. C., A.M.I.E.E., station superintendent, Altrincham Electric Supply, Ltd., Broadheath; & Stamford New-rd., Altrincham.

Caldwell, J., A.M.I.E.E., consulting engineer & electrician, 190, West George-st., Glasgow.

Caldwell & Co., Ltd., electric light engineers, Inverkeithing, N.B. (Telegs.: "Caldwell, Inverkeithing." Teleph. No. 1.)

Caldy Manor Estate, Ltd., 3, Lord-st., Liverpool (Telegs.: "Numbers, Liverpool." Teleph. No. 2304. Western Union & B. McNeil Codes); & 24, Coleman-st., London, E.C. (Telegs.: "Arrestment, London.") Directors: H. Bickersteth, Esq.; G. H. Peers, Esq.; D. B. Rappart, Esq.; J. A. Smith, Esq.; R. Steel, Esq. Secretary, W. E. Mounsey.

Caledonian Wire Works, wire workers & wire cloth manufacturers, 28, Thistle-street, Glasgow.

Calisch, L., A.M.I.E.E., electrical engineer, 12, Pembridge-gdns., Bayswater, London, W.

Callaghan, John T., electrical engineer, Souper & Callaghan, Grosvenor-chbrs., Deansgate, Manchester.

Callas, Sons & May, Ltd., electric bell fitters & electric light contractors, 68–76, Oxford-st., Reading. (Telegs.: "Callas, Reading." Teleph. Nos. 555 & 556.)

Callendar, H. L., M.A., LL.D., F.R.S., professor of physics, Royal College of Science, South Kensington, London, S.W.

Callender, R. S., A.M.I.E.E., Vineyard, Totnes.

Callender, R. W., electrical engineer, Kingston Telephone Exchange, Ashdown-rd., Kingston-on-Thames.

Callender, Thomas Octavius, M.I.E.E., electrical engineer, Hamilton House, Victoria Embankment, London, E.C. (Telephone Nos. 1910 & 1911, Holborn.) Managing director Callender's Cable & Construction Co., Ltd.; director Lancashire Power Construction Co., Ltd.; director Yorkshire Electric Power Co.; director Thomas Bolton & Sons, Ltd.; director Chesham Electric Light & Power Co., Ltd.; director South Wales Electrical Power Distribution Co.; director Durham Collieries Electric Power Co., Ltd.; director Houghton-le-Spring & District Electric Lighting Co., Ltd.

Callender's Cable & Construction Co., Ltd., electric cable makers, Hamilton House, Victoria Embankment, London, E.C. (Telegrams: "Callender, London." Telephone Nos. 1910 & 1911, Holborn.) Registered July 24, 1896. Nominal capital: £500,000 in 60,000 ordinary shares of £5 each & 40,000 5 per cent. cumulative preference shares of £5 each. Issued: 35,000 ordinary, fully paid; 40,000 5 per cent. cumulative preference, fully paid; & £300,000 debenture stock, fully paid. Directors: H. Drake, Esq. (chairman); C. H. McEuen, Esq.; Sir J. F. Flannery, Bart.; John Varley, Esq.; T. O. Callender, Esq. (managing). Secretary, H. E. Harrison. Dividends: 1902, 10 per cent. & 5 per cent. bonus; 1903, 10 per cent. & 2½ per cent. bonus; 1904, 10 per cent. & 2½ per cent. bonus; 1905, 1906, 1907 & 1908, 10 per cent. & 5 per cent. bonus. Carried forward to next year's account, £45,884 10*s.* 7*d.* Reserve fund, £100,000. *See* CABLES.

Callis, F. T., A.I.E.E., 19, Coquet-ter., Heaton, Newcastle-on-Tyne.

Callow, D. J., A.M.I.E.E., electrical engineer, 51, North John-st., Liverpool; & 75, Derbyshire-lane, Stretford. (Teleph. Central 6686.)

Callow, S. H., electrical engineer, Siemens Bros. Dynamo Works, Ltd., Tyssen-st., Dalston, London, N.E.

Callow, Wright & Hewlett, Ltd., electric wiring contractors, 91, High-rd., Willesden Green, London, N.W. (Teleph. No. 81, Harlesden.)

Calmon Asbestos & Rubber Works, Ltd., 1–3, Trinity-pl., Tower Hill, London, E.C. (Telegs.: "Nimbly, London." Teleph. No. 12168, Central.)

Calmont, King & Co., Ltd., electrical engineers, 83, Milton-st., Fore-st., London, E.C. (Teleph. No. 5452, London Wall); & Eton, Windsor. (Telegs.: "King, Eton." Teleph. No. 198.)

Calver, W. G., chief inspector, Corporation Tramways, Reading.

Calverley & Co., electrical engineers, 102, Manchester-rd., Burnley.

Calvert, Ed., A.M.I.E.E., electrical engineer to the District Council, Finchley, N.

Calvert & Heald, electrical engineers, Tubal Works, Market-st., Lancaster. (Telephone No. 9.)

Cam, W. H., & Sons, electrical engineers & contractors, 32, Shambles, Worcester.

Camberley Electric Supply Co., Ltd., Moorgate-ct., Moorgate-pl., London, E.C. Registered June 29, 1904. Nominal capital: £1000 in £1 shares. Issued: 7 shares. Directors: F. W. Reynolds, Esq.; F. E. Savory, Esq. Secretary, H. B. Renwick.

Camble, F., wiring contractor, 4, Castle-st., Exeter.

Camborne Electricity Supply Co., Ltd., Broad Sanctuary-chbrs., Westminster, London, S.W. Registered June 27, 1898. Nominal capital: £10,000 in £1 shares. Issued: £607, fully paid. Directors: P. D. Tuckett, Esq. (chairman); F. E. Gripper, Esq.; E. Charrington, Esq.; H. B. Grotrian, Esq.; Douglas Owen, Esq. Engineer, L. A. Hards, A.I.E.E.; secretary, C. H. Jones. *The whole of the capital is held by the Urban Electric Supply Co., Ltd.*

Camborne & Redruth Electricity Works & Tramways. Urban Electric Supply Co., Ltd., proprietors, Carn Brea, R.S.O., Cornwall. (Telegs.: "Electricity Works, Carn Brea." Nat. Teleph. No. 3, Camborne.) Engineer, L. A. Hards, A.I.E.E.

Camborne School of Mines, Camborne. *See* SCHOOLS.

Cambridge Electric Supply Co., Ltd. Registered offices: Thompson's-lane, Cambridge. (Telegrams: "Electric Supply, Cambridge." Telephone No. 43.) Registered May, 1892. Nominal capital: £100,000 in ordinary shares of £10 each. Issued: £94,230, £9 paid on each. The company issued 300 debentures of £100 each, £30,000, all of which has been paid up. Rate, 4½ per cent. redeemable at par in 1914 or earlier at £103, & 1 debenture, dated Dec. 12, 1906, stamped to cover £15,000, has been registered. Directors: David Munsey, Esq. (chairman); A. A. Campbell Swinton, Esq. (managing); Hon. C. A. Parsons, C.B., F.R.S.; J. B. Simpson, Esq.; P. Wm. Latham, Esq., M.D.; M. D. Bradford, Esq.; R. F. Scott, Esq., M.A. Electrical engineer, R. C. Pierce, A.M.I.E.E.; secretary, J. H. Taylor. Dividends: 1905, 1906, 1907 & 1908, 6 per cent.; first half of 1909, at rate of 4 per cent.

Cambridge Electric Tramways Syndicate, Ltd., 66, Victoria-st., London, S.W. Registered Jan. 12, 1904. Nominal capital: £5000 in £10 shares. Issued: 107 shares, & £911 12*s.* 1*d.* has been paid. Directors: A. A. C. Swinton, Esq.; D. Munsey, Esq. Secretary, M. R. Hamilton.

Cambridge Scientific Instrument Co., Ltd., electrical & scientific instrument makers, Chesterton-rd., Cambridge. (Telegrams: "Instrument, Cambridge." Telephone No. 6.)

Cambridge University Engineering Laboratory, Cambridge, Prof. B. Hopkinson, M.I.C.E. (Teleph. No. 268.)

Cambridge University Press (C. F. Clay, manager), technical publishers, Fetter-lane, E.C. (Telegs.: "Cantabrigia, London." Teleph. Central 6359.)

Cambrook, John, secretary of the West African Telegraph Co., Ltd., Electra House, Finsbury Pavement, London, E.C.

Camburn, A. J., electric lighting contractor, 1, Dover-rd., Folkestone.

Cambuslang Electricity Works, Cambuslang, N.B. (Teleph. No. 4, Cambuslang.) Lanark County Council, proprietors. Engineer, A. J. Abraham, A.M.I.E.E.

Cameron, A., engineer, Blackpool & Fleetwood Electric Tramroad Co., Bispham, nr. Blackpool.

Cameron, H., electrical engineer, Penarth Electric Lighting Co., Ltd., Penarth.

Cameron, John F., borough electrical engineer, Castle-st., Northampton. (Teleph. Nos. 279 & 280.)

Cameron, M. A., Major, R.E., A.I.E.E., Crown Agents' Office, Downing-st., London, S.W.

Cameron, Norman D., electrical & mechanical engineer, 72–74, Victoria-st., London, S.W.

Cammell Laird & Co., Ltd., steel manufacturers & engineers. Head office: Cyclops Works, Sheffield. (Telegs.: "Cammell, Sheffield." Teleph. No. 3800 (6 lines).) Steel Works: Sheffield; Grimesthorpe, nr. Sheffield; & Penistone. Shipbuilding & Engineering Works: Birkenhead.

Campart, César, electrical engineer, 49, Newgate-st., London, E.C. (Telegs.: "Cecampart, London." Teleph. No. 3497, Central.)

Campbell, Albert, B.A., A.M.I.E.E., National Physical Laboratory, Teddington, Middlesex.

Campbell, Allan Chas., A.I.E.E., 15, Royal Mint, Tower Hill, E.

CAMPBELL, ARCHIBALD, A.M.I.E.E., mica goods. Insulating cloths & varnishes. H.T. Porcelain Insulators, G.I. Bolts and Brackets, Trolley Insulators, &c., Lampholders, Fans, Telephone Indicators, Bells, &c., & small Accessories. Shipper electrical supplies, 27, Chancery-lane, London, W.C. (Telegs.: "Unsubdued, London." A.B.C., 4th edit., & Broomhalls Codes. Teleph. Central 7472.) *See advt. under* INSULATING MATERIALS.

Campbell, Archibald Sidney, A.M.I.E.E., 31, Kirkstall-rd., Streatham Hill, London, S.W.

Campbell, A. M., electrician, 58, Leinster-sq., London, W. (Telegs.: "Nauheim, London.").

Campbell, Colin F., 9, King William-st., E.C. Director Telegraph Construction & Maintenance Co., Ltd.

Campbell, Colin M., A.I.E.E., c/o Siemens Bros. & Co., York Mansion, Westminster, London, S.W.

Campbell, D. S., High-st., Montrose. Director North of Scotland Electric Light & Power Co., Ltd.

Campbell, John, domestic electrician, 31, Stafford-st., Oban, N.B.

Campbell, John, electrical & mechanical engineer, Main-st., Pitlochry, N.B.

Campbell, K. F., M.I.E.E., engineer, Duneira, Gledholt, Huddersfield.

Campbell, Peter, electric bell fitter & engineer, 68, George-st., Perth, N.B. (Nat. Teleph. No. 5 X. 4.)

Campbell, R. M., M.I.M.E., A.M.I.E.E., electrical engineer, 19, Klea-ave., Clapham Common, London, S.W.

Campbell, Donald, & Co., paraffin wax & ozokerite, 10, St. Mary Axe, London, E.C. (Telegrams: "Iscanus, London." Telephone Nos.: 404, Avenue; & 6342, Central.)

Campbell Gas Engine Co., Ltd., 114, Tooley-st., London, S.E. (Telegs.: "Enginery, London." Teleph. No. 2666, Hop.) Works at Kingston, Halifax. (Telegs.: "Camgas, Halifax." Teleph. No. 92.)

Campbell & Isherwood, Ltd., manufacturing electrical engineers, Raleigh-st., Bootle, Liverpool. (Telegs.: "Pressure, Liverpool." Teleph. No. 402, Bootle.)

Campbell, Macmaster & Co., soft iron dynamo magnet forgings, armature discs, & eyebolts, 11 & 12, Clement's-lane, London, E.C. (Telegrams: "Duke, London." Telephone No. 2011, Avenue.)

Campbells & Hunter, Ltd., machine tool makers, Dolphin Foundry, Leeds. (Telegrams: "Dolphin, Leeds." Telephone No. 768, National.)

Campion, J. M., 19, Hanger-lane, Ealing, W. Director Delhi Electric Tramways & Lighting Co., Ltd.

Campion, R. H., A.M.I.E.E., engineer, Corporation Electricity Works, Dewsbury.

Camps, H. E. J., & Co., consulting engineers, 6, Crosby-sq., London, E.C. (Telegs.: "Adiabatic, London." Teleph. No. 3331, London Wall.)

Canada (illustrated weekly, 6*d.*), 34/35, Norfolk-st., Strand, W.C.

Canadian Electric Traction Co., Ltd., 13, St. Helen's-pl., London, E.C. (Telegs.: "Cetcolim, London." Teleph. No. 1665, Wall.) Registered Jan. 12, 1904. Nominal capital: £120,000 in £1 shares. Issued: 78,000 shares. Directors: C. Steel, Esq.; H. E. Hoare, Esq.; A. Hickling, Esq.; F. G. Rumball, Esq.; S. A. Chambers, Esq.; R. S. Portheim, Esq.; H. R. Hogg, Esq. Secretary, F. B. Fuller.

Canadian Industrial Co., Ltd., electric light & power contractors, 58, Lombard-st., London, E.C. Registered Nov. 6, 1905. Nominal capital: £50,000 in £1 shares. Secretary, G. Barnett.

Canadian Machinery & Manufacturing News (monthly), 88, Fleet-st., London, E.C. (Single copies, 6*d.*; ann. sub., 4*s.* 6*d.*)

Candler, Geo., & Son, electrical engineers, 258A, Brixton Hill, London, S.W. (Teleph. No. 23, Brixton.)

Cann, Ltd., builders of electrical carriage bodies, &c., Miller-st., Camden Town, London, N.W. (Telegs.: "Cannablist, London." Teleph. No. 2626, North (3 lines).)

Cannell, Charles, electrical engineer, 14, Hanover-rd., Norwich.

Cannell, E. S., electric light engineer, City Asylum, Norwich. (Telephone No. 27.)

Canning, W., & Co., manufacturers of acids for accumulators, Bagot-st., Birmingham.

Canning, W., & Co., makers of electro-plating & depositing machines, 133 to 137, Great Hampton-st., Birmingham (Telegs.: "Materials, Birmingham." Teleph. Nos. 4301, 4302 & 4303); & 18 to 20, St. John's-sq., Clerkenwell, London. (Telegs.: "Nickelator, London." Teleph. No. 5891, Holborn.)

Cannington, Shaw & Co., Ltd., manfrs. of battery jars & cells, Sherdley Glass Works, St. Helen's, Lancs. (Telegs.: "Cannington, St. Helen's." Teleph. No. 11); 84, Silk-st., Manchester (Telegs.: "Cannington, Manchester"); 14, West Campbell-st., Glasgow (Telegs.: "Sherdley, Glasgow." Teleph. No. 4170); & L. & N.W.R. Depôt, Worship-st., E.C. (Telegs.: "Sherdley, London." Teleph. No. 1173, London Wall.)

Cannon, W. G., & Sons, Ltd., electric bell fitters & contractors, 106 & 107, London-rd., London, S.E. (Telegs.: "Radiators, London.")

Cant, B. C. C., electrical engineer, Wayland Electric Works, 154, Sandringham-rd., Dalston, London, N.E. (Teleph. Dalston 1543.)

Canterbury Corporation Electricity Works, Northgate-st., Canterbury. C. A. Blascheck, engineer; F. E. Lewis, assistant engineer. (Telephone No. 2, Canterbury.)

Canterbury & Herne Bay Light Railway, 34, Waterloo-st., Birmingham. Engineer, R. Green, A.M.I.C.E. *Not yet constructed.*

"Cantie" Switch Manufacturing Co., switch manufacturers, contractors to the Admiralty, 67-69, Mount-st., Nottingham. (Telegs.: "Cantie, Nottingham." Teleph. No. 3640.)

Cape Asbestos Co., Ltd., Guildhall Annexe, 23, King-st., Cheapside, London, E.C. (Telegs.: "Incorrupt, London." Teleph. No. 1298, London Wall.)

Cape Electric Tramways, Ltd., 1, London Wall-bldgs., London, E.C. (Telegrams: "Jaggedness, London." Telephone No. 2827, London Wall.) Registered Oct. 29, 1897. Nominal capital: £500,000 in £1 shares. 491,222 shares have been taken up & are fully paid. There are in addition £251,600 6 per cent. debentures secured by trust deed (outstanding balance of £315,000), & £140,000 5 per cent. debentures secured by trust deed. £200,000 5 per cent. debentures, created by resolution of Oct. 25, 1905, have been made, £150,000 of which have been issued (amount outstanding, £132,700). Directors: Col. Sir C. Euan-Smith, K.C.B., C.S.I. (chairman); J. B. Taylor, Esq.; L. Breitmeyer, Esq.; Admiral Sir A. H. Markham, K.C.B.; F. Robinow, Esq.; Dr. F. Rutherfoord Harris, J.P.; W. B. Rommel, Esq. (managing). Consulting engineer, Fearnside Irvine; secretary, S. W. Jameson. Dividends: 1901-02, 16 per cent.; 1902-03, 15 per cent.; 1903-04, 10 per cent.; 1904-05, 5 per cent.

Cape Peninsula Lighting Co., Ltd., 54, St. Mary Axe, London, E.C. (Telegrams: "Reposuos, London.") (Davis & Soper, agents.) Nominal capital: £125,000 in ordinary shares of £1 each, fully paid. 25,917 are held in reserve. Directors: E. R. Syfret, Esq. (chairman); G. Twycross, Esq.; G. Smart, Esq.; T. A. L. Louw, Esq.; J. MacLean, Esq. Resident engineer, C. M. Read; secretary, Allen Thompson. Dividends: 1898, 6 per cent.; 1899, 5 per cent.; 1906, 2½ per cent.

Cape Town-Cairo Railway & Telegraph Combination Syndicate, Ltd., Broad-Street. House, New Broad-st., London, E.C.

Cape Town Consolidated Tramways & Land Co., Ltd., 1, London Wall-bldgs., London, E.C. (Telegs.: "Exaggerate, London." Teleph. No. 2827, London Wall.) Registered June 6, 1906. Nominal capital: £300,000 in £1 shares & £450,000 5 per cent. mortgage debentures. A trust deed, dated Aug. 14, 1906, to secure £450,000 debentures, created by resolution of July 10, 1906, has been registered. Directors: R. Littlejohn, Esq. (chairman); Dr. F. Rutherfoord Harris; G. Pauling, Esq.; H. D. Boyle, Esq.; L. Breitmeyer, Esq. Consulting engineer, Fearnside Irvine; secretary, S. W. Jameson.

Capel & Co., gas & oil engine & suction gas plant manufacturers, "Engine" Works, 168, Dalston-lane, London, N.E. (Telegrams: "Educate, London." Telephone No. 52, Dalston.)

Capell Fan Co., 13, Mosley-st., Newcastle-on-Tyne. (Telegs.: "Centrifuge, Newcastle." Nat. Teleph. No. 1858.)

Capham, Chas., lightning conductor maker, 114, Leytonstone-rd., Stratford, London, E.

Caplatzi, T. D., electrical sundries dealer, 18, Radipole-rd., Fulham, London, S.W.

Cappel, Sir Albert J. Leppoc, K.C.I.E., M.I.E.E., 27, Kensington-court-gardens, London, W. Director Eastern Extension Australasia & China Telegraph Co., Ltd.; director Eastern & South African Telegraph Co., Ltd.; director Eastern Telegraph Co., Ltd.; chairman Pacific & European Telegraph Co., Ltd.; trustee Submarine Cables Trust; director Black Sea Telegraph Co., Ltd.; director Globe Telegraph & Trust Co., Ltd.; director Western Telegraph Co., Ltd.; director West Coast of America Telegraph Co., Ltd.

Capper, D. S., M.A., M.I.C.E., M.I.M.E., M.I.E.E., consulting engineer, professor of civil & mechanical engineering, King's College, Strand, London, W.C.; & 17, Victoria-st., S.W. (Telephone No. 5255, Westminster.)

Car & General Insurance Corporation, Ltd., 1, Queen Victoria-st., London, E.C. (Telegs.: "Insucar, London." Nat. Teleph. Bank 8420.) F. Thoresby, general manager.

Caracas Electric Tramways Co., Ltd., Dashwood House, London, E.C. Registered June 25, 1905. Nominal capital: £40,000 in £1 ordinary shares. Issued: 35,716 shares, 10,000 as paid. Directors: J. S. Austen, Esq.; F. H. Burr, Esq.; H. D. M'Dougall, Esq. Secretary, P. Cross.

Caradine, W., chief engineer, Electric Light Insurance & Maintenance Co., Ltd., 17, Green-st., London, W.C. (Telegs.: "Ajectival, London." Teleph. Gerrard 1533.)

Carbone Arc Lamp Syndicate, Ltd., 67, Mosley-st., Manchester. (Teleph. City 715.)

Carbone, Le, manufacturers of carbons for electrical purposes, 17, Water-lane, E.C. (Telegs.: "Lacombe, London." P.O. Teleph. No. 14671, Central.) *See advts. under* DYNAMO BRUSH MANUFACTURERS & DYNAMO MANUFACTURERS.

Carden, E., general manager of Corporation Tramways, Dover. (Telegrams: "Tramways, Dover." Telephone No. 219D.)

Cardew, Philip, Major, R.E., M.I.E.E., Preece & Cardew, 8, Queen Anne's-gate, Westminster, London, S.W. (Telegrams: "Creephole, London." Telephone Nos. 420 & 446, Westminster.)

Cardiff Alkali Co., Ltd., Cardiff. (Telegrams: "Ammonia, Cardiff." Nat. Telephone No. 767.) SPECIALITY: CRUSHED SALAMMONIAC CRYSTALS FOR LECLANCHÉ BATTERIES.

Cardiff Corporation Electricity Works & Electric Tramways, Hayes, Cardiff. A. Ellis, M.I.E.E., M.I.M.E., engineer & manager. (Teleph. Nos. 1211 & 1240.)

Cardiff Tin Stamping & Enamel Co., Ltd. (T. H. Starkey, agent), enamelled iron reflector makers, Rosebery-bldgs., 83, John Bright-st., Birmingham. (Telegrams: "Starkey, Birmingham." Telephone No. 883.)

Cardin, E., A.M.I.E.E, 108, Acomb-st., Manchester.

Cardwell, C., electrical engineer, 35, Prestonville-rd., Brighton.

Cardwell, G., manager & engineer, Hartlepool Electric Tramways Co., Ltd., West Hartlepool.

Cardwell, Boorman, Ltd., electrical & mechanical engineers, Boswell Court Works, Boswell-ct., Devonshire-st., London, W.C.

Careless, W. R. S., chief assistant engineer, Penarth Electric Lighting Co., Ltd., Penarth.

Carew-Gibson, C., A.M.I.E.E., 22, Leazes-ter., Newcastle-on-Tyne.

Carey, V. G., director Guernsey Elec. Light & Power Co., Ltd., Les Amballes, St. Peter's Port, Guernsey.

Caribbean Anglo-Colombian Cable Co., Ltd., 84, Bishopsgate-st. Within, London, E.C.

Carlaw, John, A.I.E.E., 80, Barrington Drive, Glasgow.

Carlaw, David, & Sons, speed indicator makers, 11, Finnieston-st., Glasgow. (Telegs.: "Automaton, Glasgow." Telephone No. 363, Argyle.)

Carling, Gill & Carling, Ltd., electrical engineers, 59 & 60, High-st., Guildford (Telegs.: "Carling, Guildford." Teleph. No. 6); & Godalming. (Telegs.: "Carling, Godalming." Teleph. No. 6.)

Carlisle Corporation Electricity Supply Works, Carlisle. Engineer, S. T. Allen. (Teleph. No. 67.)

Carlisle Electric Tramways. *See* City of Carlisle Electric Tramways Co., Ltd.

Carlisle Electro-Plating Co., Devonshire Walk, Carlisle.

Carlisle Municipal Technical Institute, Carlisle. *See* SCHOOLS.

Carlmark, J. D., A.M.I.E.E., 392, High-st., West Bromwich, Stafford.

Carlton, N., director Clyde Valley Electrical Power Co., & director Strathclyde Electricity Supply Co., Ltd., 53, Bothwell-st., Glasgow.

Carlyle Bros. & Gumbrell, electrical contractors, 14, Cannon-st., Manchester. (Teleph. No. 392 X.)

Carmarthen Electric Supply Co., Ltd., Salisbury House, London Wall, London, E.C. Registered Oct. 14, 1909. Nominal capital: £10,000 in £1 shares (5000 5 per cent. preference).

Carmichael, O., practical electrical engineer, 81-83, High West-st., Gateshead.

Carmichael, J., & Co., Ltd., engineers, Ward Foundry, Dundee. (Telegrams: "Corliss, Dundee.")

Carnaby & Co., electricians, 9, St. James-pl., Liverpool.

Carnarvon Corporation Electricity Works, Carnarvon. Resident engineer, D. O. Evans, M.I.E.E. (Tel. 30.)

Carnegie, A. Q., A.I.E.E., electrical engineer, 31, Manor House-rd., Newcastle-on-Tyne.

Carolan, E. A., manager, London Office, General Electric Co. (New York), 83, Cannon-st., London, E.C. (Teleph. No. 132, London Wall.) Director Yorkshire Electric Power Co.; director Lancashire Power Construction Co., Ltd.; director British Thomson-Houston Co., Ltd.

Carpenter, F. W., accumulators, induction coils, &c., 13, Cecil-ct., Charing Cross-rd., London, W.C. (Telegs.: "Manograph, London." Teleph. No. 6666, Central.)

Carpenter, T. R., electric light fittings manufacturer, Cranmer Works, 171-179, Bishop-st., Birmingham. (Telegs.: "Carford, Birmingham." National Teleph. No. 1014, Midland.)

Carpmael, H., A.M.I.E.E., *The Engineer*, 33, Norfolk-st., Strand, W.C.

Carpmael & Co., patent agents, 24, Southampton-buildings, Chancery-lane, London, W.C. (Telegrams: "Carpmael, London." Telephone No. 4761, Holborn.)

Carr, A. E., A.I.E.E., Power House, Formby, nr. Liverpool.

Carr, Byrom, electrician, lecturer in electro-metallurgy, Technical School, Sheffield.

Carr, E. R., A.M.I.E.E., electrician, 204, Brixton Hill, London, S.W.

Carr, George Anderson, M.R.S.A., M.I.E.E., Colonel, R.E., Nymans, Midhope-rd., Woking.

Carr, George M., M.I.E.E., superintending engineer, Postal Telegraphs, Leeds.

Carr, J. Martin, A.M.I.E.E., 5, Heathfield House, Rushcroft-rd., Brixton, S.W.

Carr, O., electrical engineer, Headingley, Leeds. (Telephone No. 2 X., Headingley.)

Carr, R. M., A.M.I.E.E., resident electrical & consulting engineer to the District Council, Leek, Stafford.

Carr, Wilson S., M.I.E.E., Vickers Sons & Maxim, River Don Works, Sheffield.

Carr, Charles, Ltd., electric bell manufacturers, Woodland Works, Grove-lane, Smethwick, Birmingham. (Telegs.: "Bells Smethwick, Birmingham." Teleph. No. 2018.)

Carr & Parr, electrical contractors, 67, Edgware-rd., London, W.

Carrick, John Hayton, A.M.I.E.E., Oak Leigh, Otley-rd., Headingley, Leeds.

Carrick, Watson B., consulting electrician, Midland Bank-chbrs., Duke-st., Barrow-in-Furness. (Nat. Teleph. No. 4 X 5.)

Carrick, James, & Sons, Ltd., engineers & crane builders, 108, Dalry-rd., Haymarket, Edinburgh. (Telegrams: "Derrick, Edinburgh." Telephone No. 1515, Central.) G. C. Robb, Esq., managing director & electrical engineer & secretary.

Carrick & Ritchie, Ltd., engineers, crane & turbine manufacturers, Waverley Engineering Works, Abbeyhill, Edinburgh. (Telegs.: "Crane, Edinburgh." Teleph. No. 853.)

Carrington, G., director Missenden & District Electric Light & Power Co., Ltd., High-st., Amersham, Bucks.

Carrington & Button, electric lighting contractors, 9, High-st., Crewe. (Teleph. No. 29A.)

Carron Co., electric radiators & electrical castings, Carron, Stirlingshire (Telegs.: "Carronade, Falkirk." Teleph. Falkirk 37); & 15, Upper Thames-st., London, E.C. (Telegs.: "Carronade, London." Teleph. Bank 884 & 890.)

Carruthers, J. H., & Co., Ltd., pump manufacturers, Polmadie, Glasgow. (Telegs.: "Hoisting, Glasgow." Teleph. No. 36, Nat. & P.O.)

Cars, B., electric lamps, fittings & accessories, 124-130, Tabernacle-st., & 91 & 93, Paul-st., Finsbury, London, E.C. (Telegrams: "Limelights, London." Telephone Nos.: 10331, Central; & 9134, London Wall.)

CARSON & EVANS, mfrs. of ebonite, vulcanite, asbestos, indiarubber & vulcanized fibre, 3, Fenchurch-bldgs., Fenchurch-st., London, E.C. (Telegs.: "Irishism, London." Teleph. No. 2507, Avenue.)
See advts. under EBONITE & VULCANITE.

Carter, A., director Penmachno Corwen & Bettws-y-Coed Light Railway Co., Ltd., c/o Gill, Archer, Maples & Dun, 14, Cook-st., Liverpool.

Carter, Fred. S., A.M.I.E.E., electrical & mechanical engineer, 8, Broad-st., Port Talbot, South Wales.

Carter, Frederick W., M.A., A.M.I.C.E., A.M.I.E.E., A.AM.I.E.E., c/o British Thomson-Houston Co., Rugby.

Carter, G. E., charge engineer, Leyton U.D.C. Electric Light Works, Cathall-rd., Leytonstone.

Carter, G. H., A.I.E.E., consulting & resident electrical engineer, District Council, Heckmondwike, Yorks. (Teleph. No. 13 Y. 3.)

Carter, George H., electrician, 65, Torriano-ave., London, N.W. (Telegs.: "Stepladder, London." Teleph. No. 2853, Hampstead.)

Carter, H. Douglas, A.I.E.E., W. J. Jennings & Co., Argyle-rd., West Ealing, W.

Carter, J. H., consulting electrician, 82, Mark-lane, London, E.C. (Telegrams: "Milling, London." A.B.C. & Engineering Codes.)

Carter, R., electrician, Thetford Electricity Works, Thetford, Norfolk.

Carter, Thomas, A.M.I.E.E., electrical designer, Dene View, Heaton-rd., Newcastle-on-Tyne.

Carter, W., assistant electrical engineer, Corporation Electricity Works, Oldham. (Telephone No. 269.)

Carter, W. C., M.I.N.A., A.M.I.C.E., consulting mechanical & marine engineer, 15, Great St. Helen's, London, E.C. (Telegs.: "Tympanum, London." Teleph. No. 6199, Avenue.)

Carter, Wm. G., electrical engineer, 9, Warwick-st., South Belgravia, S.W. (Nat. Teleph. No. 5328, Westminster.)

Carter, A. B., & Co., Ltd., electric sign makers, 107A, Strand, London, W.C. (Telegs.: "Electrogra, London." Teleph. No. 5287, Central.)

Carter, A. B., & Co. (Germany), Ltd., electrical & mechanical engineers, 107A, Strand, London, W.C.

Carter & Aynsley, makers of electric light fittings castings, 54, Bishopsgate-st. Without, London, E.C. (Teleph. Nos.: 3302 & 3303, London Wall; 6233, Central.)

Carter, James, & Sons, fuel economiser makers, Atlas Works, Robinson-st., Stalybridge. (Telegrams: "Carter, Stalybridge." Telephone No. 106.)

Carter, J., Sons & Co., Ltd., engineers, tool makers, &c., New Bailey-st., Salford, Manchester. (Telegs.: "Carters, Engineers, Salford." Nat. Teleph. Nos. 1875, 4480 & 6719.)

Cartmell, J. Monkhouse, dealer in second-hand electrical machinery, 64, Buchanan-st., Glasgow. (Nat. Telephone No. 6427, Royal.)

Cartwright, John T., carbons & carbon brushes, 50, Wellington-st., Glasgow.

Cartwright, Selsey A., A.M.I.E.E., Ederline, Leopold-rd., Ealing, W.

Carty, S. W., assistant engineer, Corporation Tramways, Liverpool.

Carus-Wilson, Prof. C. A., M.A., M.I.E.E., 41, Old Queen-st., Westminster, London, S.W. (Telegs.: "Cirrostomi, London." Teleph. No. 5054, Westminster.)

Carvalho, Dr. Jose Paes de, 7, rue Gustave Flaubert, Paris. Director Para Electric Railways & Lighting Co., Ltd.

Carver, W. M., A.M.I.E.E., London manager Drake & Gorham, Ltd., 66, Victoria-st., S.W.; & Strathmore, Rydens-rd., Walton-on-Thames.

Carville Power Station, Wallsend-on-Tyne. Newcastle-on-Tyne Electric Supply Co., Ltd., proprietors. Power station superintendent, G. W. Briggs. (Telegs.: "Power, Wallsend." Nat. Teleph. No. 68.)

Casartelli, J., & Son, opticians & instrument makers, 43, Market-st., Manchester. (Nat. Tel. City 2958.)

Cascade (1906) Power Co., Ltd., 695, Salisbury House, London, E.C. Registered Aug. 27, 1906. Nominal capital: £75,000 in £1 shares. Issued: £52,262 & £45,290 4 per cent. debentures, less £6338 redeemed. Mortgage dated Oct. 19, 1909 (supplemental to trust deed, dated Sept. 21, 1906), securing £75,000 4 per cent. first mortgage debentures. Directors: F. Faithfull Begg, Esq.; O. Wethered, Esq.; A. G. Bartholomew, Esq. Secretary, H. Robbins.

Casella, C. F., & Co., mathematical, surveying, meteorological & electrical instrument makers, 11–15, Rochester-row, London, S.W. (Telegs.: "Escutcheon, London." Teleph. No. 5599, Westminster.)

Cash, H. J., A.M.I.E.E., Caxton House, Tothill-st., Westminster, London, S.W.

Cash, H. J., & Co., Ltd., electrical & heating engineers & contractors, Caxton House, Tothill-st., Westminster, S.W.; & at Tower House, Carfax, Oxford. (Teleph. Westminster 243; & Oxford 399.)

Cashmore, Percy, electrical engineer, Lyndhurst, Fairview-rd., Sutton, Surrey.

Cashmore & Co., Ltd., lead mfrs., Victoria-st., Bristol. (Telegs.: "Cashmore." Teleph. No. 1443.)

Caslake & Co., Ltd., art metal workers, Scrubb-lane, Willesden Junction, N.W. (Telegs.: "Tueiron, London." Teleph. Harlesden N.W. 102.)

Casperds Ltd., electrical & general engineers, 128, Southbridge-rd., Croydon. (P.O. Teleph. Croydon 704.)

Casperson Bros., electrical supply contractors, 11 & 25, Upper Mill Hill, Boar-lane, Leeds. (Teleph. Central 45 X.)

Cass, Sir John, Technical Institute, Jewry-st., Aldgate, London, E.C. *See* Schools.

Cassel Self-Regulating Water Wheels, Ltd., 231–233, Dashwood House, New Broad-st., London, E.C. (Telegs.: "Meagreness, London." Teleph. No. 2686, Central.)

Cassell & Co., Ltd., publishers of electrical & scientific books, &c., La Belle Sauvage, Ludgate-hill, London, E.C. (Telegs.: "Caspeg, London." Teleph. No. 2920, Holborn (4 lines).)

Cassels, W. R., A.I.E.E., 15, York House, Kensington Palace gdns., London, W.

Casserley, S. W., LL.B., A.I.E.E., 7, Crown Office-row, London, E.C.

Cassier, Louis, Co., Ltd., The, 33, Bedford-st., Strand, W.C. (Telegrams: "Revolvable, London." Telephone No. 3807, Central.)

Cassier's Magazine, an engineering & electrical monthly (price 1*s.*; 12*s.* per. ann., including postage), 33, Bedford-st., Strand, W.C. (Telegrams: "Revolvable, London." Telephone No. 3807, Central.)

Cassirer, Dr., & Co., lighting cables. London representatives: G. Straus & Co., Ltd., 211, Upper Thames-st., E.C.

Casson, S. H., A.M.I.E.E., electrical engineer, c/o Royce, Ltd., 1, Partickhill-rd., Glasgow. (Telegs.: "Royces, Glasgow." Nat. Teleph. No. 754, Partick.)

Casson, Wm., A.M.I.MECH.E., A.M.I.E.E., chief assistant engineer, Central London Railway Co., Caxton-rd., Shepherd's Bush, London, W. (Teleph. No. 196, Hammersmith.)

Castle, E. L., A.M.I.E.E., Matthews & Yates, Ltd., Cyclone Works, Swinton, Manchester.

Castle & Co., compass makers & adjusters, English-st., Hull. (Telegs.: "Compass." Corp. Tel. 484.)

Castle Electrical Manufacturing Co., induction coil makers, 45, Poland-st., London, W. (Teleph. Central 3229.)

Castle Rubber Co., Ltd., manufacturers, Dashwood House, New Broad-st., London, E.C. (Telegrams: "Rutulian, London.") Works: Warrington (Telegrams: "Castle, Warrington." Telephone No. 49); 30, Renfield-st., Glasgow; & 8, Triangle-chbrs., Union Passage, Birmingham.

Castner-Kellner Alkali Co., Ltd., 13, Abchurch-lane, London, E.C. (Telegrams: "Muidos, London." Telephone No. 5147, Bank.)

Catchpole, E., & Sons, manufacturers of coal pitch & mastic composition for insulating purposes; rosin oil; creosote; tar; pitch for sealing batteries, &c., Plough Bridge, Rotherhithe, London, S.E. (Teleph. No. 17, Deptford.)

Cateaux, John L., A.M.I.E.E., 9, Leopold-rd., Ealing, W. (P.O. Teleph. No. 662.)

Cateaux, J. L., & Co., 10, Bush-lane, London, E.C. (Telegs.: "Cleodara, London." Teleph. No. 2895, London Wall.) High efficiency auto-transformers for metallic filament lamps & arc lamps.

Cater, J. McIlvaine, A.M.I.MECH.E., A.M.I.E.E., Consolidated Accessories Co., 27, Clement's-lane, London, E.C. (Telegs.: "Inbrake, London." Teleph. No. 5735, Central.)

Cater, Stoffell & Fortt, Ltd., wiring contractors, High-st., Bath.

Caterham Electricity Works. Urban Electric Supply Co., Ltd., proprietors. (P.O. Teleph. No. 23.) Engineer, Hy. Joseph.

Cathcart, C. H., & Co., electrical engineers, 3, Dorset-bldgs., Salisbury-square, Fleet-street, E.C. (Telegrams: "Coefficient, London." Telephone No. 5081, Holborn.)

Catley, Edward, A.I.E.E., superintending engineer, Post Office Telegraphs, Metropolitan (North) District, Mount Pleasant, London, E.C.

Caton, Wm., electrician, 28, Peter-st., Oldham. (Telephone No. 6 X.)

Cattell, S. A., & Son, electrotypers & photo-zincographers, 1, Dorset-bldgs., Salisbury-sq., London, E.C. (Telegrams: "Etchers, London." Telephone No. 2947, P.O., Central.)

Catterson-Smith, J. K., A.M.I.E.E., Applied Electricity Laboratories, The University, Liverpool.

Catton & Co., Ltd., makers of steel castings, Black Bull-st., Hunslet, Leeds. (Telegrams: "Cattons, Leeds." Telephone No. 561.)

Cauldon, Ltd., earthenware manufacturers, Cauldon Place Works, Shelton, Staffs.

Caunter, L. G. (Baxter & Caunter), 86, Charing Cross-rd., London, W.C.

Causer, W., M.I.M.E., consulting engineer, 48, St. Paul's-sq., Birmingham.

Causer, W., & Co., hydraulic & general engineers, 48, St. Paul's-sq., Birmingham. (Telegrams: "Causer, Birmingham.")

Causley, S. & C., casings & covers for electrical wires, 33, High-street, Kingsland, London, N.E.

Cauty, R. P., A.M.I.E.E., 904, Chester-rd., Stretford, Manchester.

Cave, C. J. P., director Barbados Light Railway, Ltd., 9, Great George-st., Westminster, London, S.W.

Cave, J. C., engineer, Belturbet Electric Lighting Co., Belturbet, Ireland.

Cavehill & Whitewell Tramway Co., 2, May-st., Belfast.

Caven, Robert, manager Bessbrook & Newry Electric Tramway Co., Bessbrook, co. Armagh. (Telegrams: "Tramway, Bessbrook.")

Cavendish House Co., Ltd., installation contractors, Promenade, Cheltenham.

Caverhill, W. C., & Co., Ltd., electric bell fitters, Berwick-on-Tweed. (Telegrams: "Caverhill, Berwick." Telephone No. 099.)

Cawley, G., consulting engineer, 25, Victoria-st., Westminster, London, S.W. (Telegrams: "Conferring, London." A1 & A.B.C. Codes used. Telephone No. 26, Victoria.)

Cawte, G. R., electrician, 13, Strand-st., Douglas, Isle of Man. (Teleph. No. 73.)

Cawthra, J. H., M.I.E.E., A.M.I.MECH.E., borough electrical engineer, South Shields. (Teleph. No. 191.)

CELLULOID LTD., raw celluloid manufacturers, 11, Ironmonger-lane, London, E.C. (Telegs.: "Diolullec, London." Western Union & Bedford McNeill's Codes. Teleph. London Wall 491.) Works: Port Talbot, South Wales.

Central, The, magazine of the City & Guilds Central Technical College Old Students' Association (three times a year), Central Technical College, Exhibition-rd., London, S.W.

Central Electric Co., electrical engineers, 6, Cecil-ct., Charing Cross-rd., London, W.C. (Teleph. Central 5526.)

Central Electric Co., wholesale merchants, 26 & 28, Queen-st., Albert-sq., Manchester. (Teleph. No. 4242.)

Central Electric Supply Co., Ltd., 19, Carnaby-st., London, W. (Telegs.: "Licensable, London." Teleph. Nos.: Offices, 5082, Gerrard; 9383, Central; Works, 1581, Paddington.) Registered June 24, 1897. Capital: £100,000 in £5 shares, all taken up & fully paid, & £500,000 4 per cent. debenture stock, of which £400,000 has been issued. An acknowledgment of indebtedness under seal, dated March 6, 1905, creating £50,000 further debenture stock (making with £300,000 already created a total of £350,000 debenture stock, & being supplemental to a trust deed dated July 2, 1901, securing not more than £500,000); an instrument of charge of even date under the Land Transfer Acts, 1875 & 1897, securing £55,000 with respect to the issue of said £50,000 stock; & an instrument of charge under the same Acts, dated June 15, 1908, securing the sum of £50,000 debenture stock & a premium of £5000 thereon, have been registered. Directors: W. Leaf, Esq. (chairman); E. Boulnois, Esq. (vice-chairman); R. W. Wallace, Esq., K.C.; J. Browne-Martin, Esq.; Bennett Fitch, Esq.; Sir John H. Morris, K.C.S.I. Joint engineers, Sir A. B. W. Kennedy & S. T. Dobson; joint managers, F. J. Walker & L. H. Hordern; secretary, F. J. Walker. Dividends on ordinary shares: 1905 & 1906, *nil.*; 1907 & 1908, 5 per cent.; first half of 1909, *nil.*

Central Ireland Electric Power Co., 36, College Green, Dublin. Directors: Wm. Geoghegan, Esq., J.P.; Captain H. Riall Sankey, R.E. (retired); S. Geoghegan, Esq.; A. B. Wilson, Esq.; F. P. Griffiths, Esq.

Central London Railway Co., Oxford Circus Station, London, W. (Telegs.: "Rheomotor, London." Teleph. Gerrard 260 (2 lines)); & Shepherd's Bush, W. (Teleph. Hammersmith 196.) Incorporated Aug. 5, 1891. Nominal capital: £3,480,000, loans £1,086,000. Issued: £1,868,520 ordinary stock, £565,740 preferred stock, £565,740 deferred stock, £926,000 loans. Directors: Sir H. Oakley (chairman); Rt. Hon. Viscount Esher, G.C.B., &c.; Viscount St. Aldwyn; Rt. Hon. Lord Knollys, G.C.B, &c.; the Hon. A. H. Mills; Rt. Hon. Lord Rathmore; R. Fleming, Esq. Consulting engineers, B. Mott & H. F. Parshall; resident engineer, E. P. Grove; secretary, R. O. Graham.

Central Marine Engine Works, marine engineers, boiler makers, & forge masters, West Hartlepool. (Telegrams: "Central, Westhartlepool." Telephone Nos.: 18, P.O.; & A. 58, Nat.)

Central News, Ltd., telegraphic news agency (manager, John Moore), 5, New Bridge-st., Ludgate Circus, London, E.C. (Telephone Nos. 21, 29 & 32, Holborn.)

Central Technical College Old Students' Association. Hon. secretary, Dr. E. Frankland Armstrong, 55, Granville Park, Lewisham, London, S.E.

Century Electric Co., electrical engineers, 14, Brown-st., Manchester. (Telegs.: "Bulldogs, Manchester." Teleph. No. 182 Y.)

"Certus" Gearless Co., Ltd., mechanical & electrical engineers, Inverness Works, Staines-rd., Hounslow.

Chadburn, W. I., The Grove, Mansfield. Director Mansfield & District Tramways, Ltd.

Chadburn's (Ship) Telegraph Co., Ltd., telegraph instrument makers, Cyprus-rd., Bootle, Lancs. (Telegs.: "Chadburn, Liverpool." Teleph. No. 275, Bootle.) Registered March 19, 1898. Nominal capital: 60,000 preference shares of £1 each & 60,000 ordinary shares of £1 each. Issued: 50,000 preference shares, fully paid, & 10,000 considered as paid; 50,000 ordinary shares, fully paid, & 10,000 considered as paid. Directors: W. Chadburn, Esq. (chairman); T. Orford, Esq.; R. R. Bevis, jun., Esq.; H. Muir, Esq.; T. R. Pennington, Esq. Secretary, C. S. Peterson. Dividends: 1907 & 1908, 6 per cent. on preference & 8 per cent. on ordinary per ann.; & first half of 1909, 6 per cent. on preference per ann.

Chadwick, E. O., A.I.E.E., Strode & Co., 48, Osnaburgh-st., London, N.W.

Chadwick, J. M., electrician, Findhorn House, Forres, N.B.

Chadwick, R., 43, St. Martin's-lane, London, W.C. Director Charing Cross, West End & City Electricity Supply Corp., Ltd.; director Suppliers Construction Co., Ltd.

Chadwick & Roberts, electrical engineers, 8, Wharncliffe-bldgs., Boscombe, Bournemouth.

Chagford & Devon Electric Light Co., Ltd., Chagford, Devon. Registered Nov. 18, 1890. Nominal capital: £2000 in £1 shares. 324 shares have been taken up & fully paid, & 750 shares with £1 considered as paid. Directors: F. R. Reeves, Esq. (chairman); E. H. Reeves, Esq. Engineer & secretary, G. H. Reed.

Challice, G., wiring contractor, 69, Sidwell-st., Exeter.

Challis, L. S., A.M.I.E.E., 98, Philbeach-gdns., Earl's Court, London, S.W.

Challoner, T., & Sons, wiring contractors, Parker-st., Blackpool.

Chalmers, A. D., A.M.I.E.E., A.M.I.MECH.E., Corporation Electricity Department, Gillingham, Kent. (Telephone No. 22, Gillingham.)

Chalmers, Wm., electric light & power contractor, 142, Bath-st., Glasgow. (Telephone No. 4724, Corp.)

Chaloner & Son, electrical engineers, 118, Friargate, Preston.

Chalwin & Edwards, electric light fittings makers, 70, High Holborn, London, W.C. (Teleph. No. 5048, Holborn.)

Chamber of Commerce, The, London. *See* London Chamber of Commerce.

Chamber of Commerce Journal (monthly, 6*d.*; ann. sub., 6*s.*), Oxford-ct., Cannon-st., London, E.C. (Telegs.: "Convention, London." Teleph. Bank 327.)

Chamberlain, A., J.P., 4, New Bartholomew-st., Birmingham. Chairman Midland Electric Light & Power Co., Ltd.

Chamberlain, John, 4, New Bartholomew-st., Birmingham. Director Chamberlain & Hookham, Ltd.; director Midland Electric Light & Power Co., Ltd.; director Credenda Conduits Co.

Chamberlain, W., mains superintendent, Corporation Electricity Works, Oldham. (Teleph. No. 269.)

Chamberlain & Hookham, Ltd., electrical engineers, New Bartholomew-st., Birmingham. (Telegs.: "Solar, Birmingham." Teleph. No. 2161.) Re-registered Jan., 1899. Capital: £100,000 in 10,000 ordinary & 10,000 preference shares of £5 each. All the ordinary & 8000 preference have been taken up & fully paid. Directors: Arthur Chamberlain, Esq. (chairman); Geo. Hookham, Esq.; John Chamberlain, Esq. Secretary, J. Brown. *See advt.* ELECTRICITY METERS.

Chamberlin, Geo. M., St. Catherine's Close, Norwich. Director Norwich Electric Tramways Co.

Chambers, E., superintendent Western Union Telegraph Co., Penzance.

Chambers, G. K., electrical engineer, British Westinghouse Co., 2, Norfolk-st., Strand, London, W.C.

Chambers, H., district manager National Telephone Co., Warrington.

Chambers, Joseph C., M.I.E.E., National Telephone Co., Commercial-bldgs., Leeds.

Chambers, J. L., A.M.I.E.E., engineer, Post Office Telephones, 83, Wellington-st., Glasgow.

Chambers, S. A., 96, Gresham House, Old Broad-st., E.C. Director Sunderland District Electric Tramways, Ltd.; director Canada Electric Traction Co., Ltd.

Chambers, Scott & Co., crane & winch works, Motherwell. (Teleph. Energy 63.)

Chameleon Signs, Ltd., manufacturers of electrical advertising devices, 318, Dashwood House, London, E.C. (Teleph. No. 12093, Central.)

Chamen, A. Dalby, A.M.I.E.E., 45, Beverley-ter., Cullercoats, Whitley Bay, Northumberland.

Chamen, C. H. K., A.M.I.E.E., Siemens Bros. Dynamo Works, Ltd., 196, Deansgate, Manchester.

Chamen, W. A., M.I.E.E., M.I.M.E., consulting electrical engineer, engineer & general manager South Wales Electrical Power Distribution Co.; engineer & general manager, Treforest Electrical Consumers' Co., Ltd., Royal-chbrs., Park-pl., Cardiff.

Champion, A., electrical engineer, London County Council's Electrical Department, Hungerford House, Victoria Embankment, London, W.C.

Chance Bros. & Co., Ltd., lighthouse engineers, Smethwick, Birmingham. (Telegs.: "Chance, Smethwick." Teleph. No. 121, Oldbury.)

Chance & Hunt, Ltd., manufacturing chemists, Alkali Works, Lea Brook, Wednesbury, Staffs. (Telegrams: "Alkali, Wednesbury." Nat. Telephone No. 6506.)

Chancellor & Peterkin, electrical engineers, 30, Frederick-st., Edinburgh.

Chandler, A. B., 253, Broadway, New York. Vice-president & director Commercial Cable Co.

Channon, A. S., chief assistant engineer, Corporation Electricity Works, Grimsby.

Channon, H. C., M.I.E.E., electrician, Greystead, Grove Hill, Woodford, Essex.

Chanter, F. W., Electrical Federation Offices, Kingsway, London, W.C. Director Potteries Electric Traction Co., Ltd.; director Bombay Electric Supply & Tramways Co., Ltd.

Chaplin, F. Hardress, A.M.I.E.E., 31, Emperor's Gate, S.W.

Chaplin Bros., Ltd., dynamo brushes, Birmingham.

Chapman, A. B., electrical engineer, Corder-rd., Ipswich.

Chapman, Fitzroy Tozer, B.SC., A.M.I.C.E., A.M.I.E.E., 2, Hesketh-ave., Kirkstall, Leeds.

Chapman, F. W. Morris, A.I.E.E., c/o General Electric Co., Ltd., 120, Union-st., Southwark, S.E.

Chapman, G., electrical engineer, Lewis-grove, Lewisham, London, S.E. (Teleph. Lee Green 108.)

Chapman, H., A.M.I.E.E., electrical engineer, Thomas A. Ashton, Ltd., 36, Norfolk-st., Sheffield.

Chapman, J. J., A.I.E.E., 90, St. Paul's-rd., Burdett-rd., London, E.

Chapman, J. R., chief engineer, Underground Electric Railways Co. of London, Ltd., Electric Railway-bldg., St. James Park, Westminster, S.W. Director Metropolitan District Railway; director London United Tramways, Ltd.

Chapman, J. W., electrical engineer, 13, Woodside Park, Gap-rd., Wimbledon, London, S.W.

Chapman, P. M., assistant engineer, Hove Electric Lighting Co., Ltd., Davigdor-rd., Hove, Sussex.

Chapman, Walter, pitch merchant, 12, Theobalds-rd., Holborn, W.C. (Telegs.: "Expeller, London.")

Chapman, W. H., A.M.I.E.E., 82, Earl's Court-rd., London, S.W.

Chapman, A., & Co., electric light engineers, Temple-ter., Chatham.

Chapman, F., Deekes & Co., electrical agents, Hopetoun House, Lloyd's-ave., Fenchurch-st., E.C. (Telegs.: "Microphone, London." Nat. Teleph. Avenue 2636.)

Chapman & Furneaux, makers of high-speed engines for electrical plant, Gateshead-on-Tyne. (Telegrams: "Blackthorn, Gateshead-on-Tyne.")

Chapman & Hall, Ltd., publishers of electrical & scientific books, 11, Henrietta-st., Covent Garden, W.C.

Chapman Spencer, & Messel, Ltd., sulphuric acid manufacturers, 36, Mark-lane, E.C.; Silvertown, London, E. (Telegs.: "Hydrochloric, London." Tel. Nos.: 341, Avenue, & 12925, Central); & Bow, E.

Chappel, T., installation contractor, Leigh-rd., Westcliff-on-Sea.

Chappell, W. E., engineer, British Westinghouse Co., Trafford Park, Manchester.

Chappell, Walter Evans, A.M.I.E.E., 9, Hallewell-rd., Edgbaston, Birmingham.

Chapple, Frank J., A.I.E.E., power house & car shed superintendent, Potteries Electric Traction Co., Ltd., Tramway Depôt, Stoke-on-Trent.

Chard & Co., electrical engineers, 8, Great Portland-st., Oxford-st., London, W. (Tel. No. 6602, Gerrard.)

Charing Cross, Euston & Hampstead Railway Co., Electric Railway-bldg., St. James Park, Westminster, S.W. Incorporated Aug. 24, 1893. Nominal capital: £4,326,000 in £10 shares, all issued. Authorized debentures: £1,442,000, all issued or issuable. Directors: Sir Geo. S. Gibb (chairman); C. A. Grenfell, Esq.; Sir Algernon West; Right Hon. Lord Geo. Hamilton; W. M. Acworth, Esq. Secretary, W. E. Mandelick.

Charing Cross, West End & City Electricity Supply Co., Ltd., 60, St. Martin's-lane, London, W.C. (Telegs.: "Luminator, London." Teleph. Nos. 6826 & 6827, Gerrard.) Registered June 12, 1889. Nominal capital: £2,100,000 in 130,000 preference, 130,000 ordinary, 80,000 "City Undertaking preference" & 80,000 "City Undertaking ordinary" shares of £5 each. £5 per share has been called up & paid on 80,000 preference, 80,000 ordinary & 80,000 "City Undertaking preference" shares. £350,000 is considered as paid on 70,000 "City Undertaking ordinary" shares. £530,000 4 per cent. debenture stock authorized by trust deeds, dated April 30, 1901, Sept. 12, 1902, & June 17, 1904, respectively, of which £445,736 has been issued. £600,000 4½ per cent. debenture stock authorized by trust deed, dated March 31, 1908, all issued. Temporary loans: £70,000. Directors: W. F. Fladgate, Esq. (chairman); George H. Brougham Glasier, Esq. (vice-chairman); Jno. M. Gatti, Esq., B.A. (managing); R. Chadwick, Esq.; R. Gatti, Esq. Secretary, E. Wilmot Seale, F.C.I.S., M.L.S.; engineer-in-chief, H. W. Kingston. Dividends: 1906, 5 per cent.; 1907, 5 per cent.; 1908, 5 per cent.; on preference shares: 1906, 1907 & 1908, 4½ per cent.

Charlestown Electric Light & Power Co., Ltd., Charlestown, co. Mayo. Registered June 16, 1909. Nominal capital: £1500 in £1 shares.

Charlesworth, John, B.SC., teacher of physics & electrical engineering, Northern Polytechnic Institute, Holloway-rd., N.

Charlesworth, S., consulting engineer, Werneth, Oldham.

Charlesworth, S., & Co., electrical engineers, 6, Clegg-st., Oldham, Lancs. (Telegs.: "Charlesworth, Engineers, Oldham." Teleph. No. 63.)

Charlton, A., managing engineer, Kidderminster & District Electric Lighting & Traction Co., Ltd., Kidderminster; & Kidderminster & Stourport Electric Tramway Co., Electrical Federation Offices, Kingsway, London, W.C.

Charlton, G., engineer, Electricity Works, Weston-super-Mare.

Charlton, Wm. John, A.I.E.E., 31, Bede Burn-rd., Jarrow.

Charlton, R. B., & Co., domestic electricians, Manors Railway Station Works, Newcastle-on-Tyne. (Telegrams: "Charlton Manors, Newcastle-on-Tyne." Telephone Nos.: Nat. 1746; & P.O. 457.)

Charnock, Prof. G. F., A.M.I.C.E., M.I.M.E., headmaster electrical engineering department, Bradford Technical College, Bradford. (Telephone No. 321.)

Charrington, Edmund, A.M.I.C.E., electrical engineer, 90 & 91, Queen-st., Cheapside, London, E.C. (Nat. Teleph. No. 8009, Bank.) Director Chislehurst Electric Supply Co., Ltd.; director Urban Electric Supply Co.; director Bromley (Kent) Electric Light & Power Co., Ltd.; director Twickenham & Teddington Electric Supply Co., Ltd.; director Camborne Electricity Supply Co., Ltd.; director South American Light & Power Co., Ltd.

Chartered Institute of Patent Agents. Secretary & registrar: H. Howgrave Graham, Staple Inn-bldgs., London, W.C. (Teleph. Central 9450.) President, O. Imray, Esq. Vice-president, T. A. Hearson, Esq. Council: G. Barker, Esq.; J. E. Bousfield, Esq.; G. Brewer, Esq.; E. Carpmael, Esq.; H. Cheetham, Esq.; W. Clark, Esq.; D. Clerk, Esq.; G. B. Ellis, Esq.; J. C. Fell, Esq.; G. G. M. Hardingham, Esq.; T. A. Hearson, Esq.; O. Imray, Esq.; J. Y. Johnson, Esq.; P. M. Justice, Esq.; B. E. D. Kilburn, Esq.; J. G. Lorrain, Esq.; P. A. Newton, Esq.; W. J. Tennant, Esq.; Sir W. Lloyd Wise.

Charters, J., electrical engineer, 261, West George-st., Glasgow. (Telegs.: "Kilowatt, Glasgow." A.B.C. Code used. Teleph. No. 231, P.O.)

Chartres, C. B., A.I.E.E., c/o C. A. Parsons & Co., 102, St. Mary-st., Cardiff. (Telegs.: "Turbo, Cardiff." P.O. Teleph. No. 119.)

Chase, F., & Co., electric light contractors, 9, Greyhound-rd., Tottenham, N. (Tel. No. 1669, Tottenham.)

Chatham & District Light Railways Co., 83, Cannon-st., London, E.C.; & Chatham. (Telegs.: "Tramways, Chatham." Teleph. Chatham 51, & London Wall 135.) Nominal capital: £303,000 in shares of £10 each, & £101,000 loan capital. Issued: 10,600 ordinary shares, 11,760 5 per cent. preference shares, £61,700 debentures, all fully paid. Directors: A. R. Monks, Esq. (chairman); W. B. H. Martindale, Esq.; J. F. Nauheim, Esq.; H. C. Levis, Esq. Secretary, A. Clements; resident engineer, W. Jensen.

Chatham Dockyard Power Station, Chatham. The Lords Commissioners of Admiralty, proprietors. Engineer-in-charge, F. Purser Fletcher, A.M.I.C.E., A.M.I.MECH.E., A.M.I.E.E.

Chatterton, George, M.A., M.I.C.E., A.I.E.E., 6, The Sanctuary, Westminster, London, S.W. (Teleph. No. 1948, Victoria.)

Chattock, A. P., M.I.E.E., Professor of Physics, University College, Bristol.

Chattock, R. A., M.I.E.E., city electrical engineer & manager, 14, Dale End, Birmingham. (Telegs.: "c/o Dynamo, Birmingham." Teleph. No. 2502, Central.)

Chatwin, Thos., engineers' tool maker, Great Tindal-st., Birmingham. (Telegs.: "Chatwin.")

Chatwin-D'Horschel, J., A.I.E.E., 87, Duke's-ave., Muswell Hill, London, N.

Chatwin, Herschel & Co., electrical engineers, 22, Gray's Inn-rd., London, W.C. (Telegs.: "Cepators, London." Teleph. Central 2880.)

Chauvin, G. von, M.I.E.E., 356, Caxton House, London, S.W. Director West India & Panama Telegraph Co., Ltd.; managing director Siemens Bros. & Co., Ltd.; chairman Siemens Bros. Dynamo Works, Ltd.; director Grand Trunk Railway Co. of Canada; director Nobel Dynamite Trust Co., Ltd.

Cheeld & Co., electrical engineers, Chesham, Bucks. (Telegrams: "Cheeld, Chesham.")

Cheesbrough, F. J., & Royston, patent agents, 15, Water-st., Liverpool.

Cheetham, A., electric light contractor, 287, Upper-st., Islington, London, N. (Teleph. No. 1961, North.)

Cheetham, George, electrical engineer, 22, Grosvenor-sq., Rathmines, co. Dublin.

Cheetham, Howard, chartered patent agent, 18, St. Ann's-st., Manchester. (Telegs.: "Discovery, Manchester." Nat. Teleph. Central 148.)

Cheetham, W. H., Orient House, New Broad-st., E.C. Director Indian Electric Supply & Traction Co., Ltd.

Chelmsford Electric Lighting Co., Ltd., Salisbury House, London Wall, London, E.C.; & Anchor-st., Chelmsford, Essex. *The undertaking of this Company has been transferred to the Electric Supply Corp., Ltd., & is being worked by them in their name.*

Chelsea Electricity Supply Co., Ltd., 19, Cadogan-gardens, Chelsea, London, S.W. (Telegrams: "Economy, London." Telephone No. 363, Kensington.) Registered November 18, 1884. Nominal capital: £370,000 in £5 ordinary shares & £30,000 in £5 preference shares, & debentures to extent of subscribed share capital. Issued capital: £247,180 in ordinary shares, £30,000 in 6 per cent. preference shares, both fully paid; £175,000 in 4½ per cent. debenture stock, fully paid. Directors: Sir Irving Courtenay (chairman); H. R. Beeton, Esq.; W. R. Davies, Esq.; Major W. F. Woods, J.P. Percy Still, M.I.C.E., M.I.E.E., chief engineer; S. J. Cluer, F.C.I.S., secretary. Dividends: 1903, 6 per cent. on preference & 5½ per cent. on ordinary; 1904, 6 per cent. on preference & 6 per cent. on ordinary; 1905, 6 per cent. on preference & 6 per cent. on ordinary; 1906, 6 per cent. on preference & 4½ per cent. on ordinary; 1907, 6 per cent. on preference & 4½ per cent. on ordinary; 1908, 6 per cent. on perference & 4½ per cent. on ordinary; 1909, for half-year to June 30, interim on ordinary 4 per cent. per annum.

Cheltenham Corporation Electric Works, Arle-rd., Cheltenham. (Teleph. No. 106.) Offices: Manchester-st., Cheltenham. (Teleph. No. 331.) W. J. Bache, M.I.E.E., engineer.

Cheltenham & District Tramways, Cheltenham. Engineer & manager, H. J. McCormick.

Chemical & Electrolytic Syndicate, Ltd., 24, Craven-st., London, W.C.

Chemical News (weekly, price 4*d.*), 16, Newcastle-st., Farringdon-st., London, E.C.

Chemical Society, Burlington House, Piccadilly, London, W.

Chemical Trade Journal & Chemical Engineer, 265, Strand W.C. (Telegs.: "Trepex." Tel. Central 13692.)

Chennell, B., Foley House, Newmarket. Director Newmarket Electric Light Co., Ltd.

Chepstow Electric Lighting & Power Co., Ltd., Nelson-st., Chepstow. Registered June 27, 1901. Nominal capital: £10,000 in £1 shares, of which 5410 shares have been issued, 3905 are considered as paid & £1 per share has been called on 1505. £1000 first mortgage debentures issued Oct. 7, 1905. Directors: S. W. Yockney, Esq.; T. V. Ellis, Esq.; G. C. Francis, Esq.; W. Shoolbred, Esq. Secretary, Wm. Thomas; resident engineer, G. L. Coventon.

Cherry, A., director & secretary Hindhead & District Electric Light Co., Ltd., Hindhead, Surrey.

Chesham Electric Light & Power Co.. Ltd., Higham-rd., Chesham. (P.O. Teleph. Chesham 44.) Registered Nov. 16, 1906. Nominal capital: £25,000 in £1 shares & £10,000 debentures. Issued: £15,007 in ordinary shares & £8200 debentures. Directors: T. O. Callender, Esq.; R. Franklin, Esq. Engineer & manager, R. J. Jocelyn Swan, A.M.I.E.E.; secretary, I. I. Cleaton-Roberts. Dividends: 1907, 1908 & first half of 1909, *nil*.

Cheshire Lines Committee, Railway Electric Light Station, Manchester. (Teleph. No. 2647.) Electrician-in-charge, F. W. Lyth.

Chester, J. Ernest, electrical engineer & instructor in metal work, Central Secondary School, Sheffield.

Chester Corporation Electricity Works & Tramways, Chester. (Nat. Telephone No. 162.) Engineer, S. E. Britton, M.I.E.E., M.I.M.E.

Chester School of Science & Art, Chester. *See* SCHOOLS.

Chesterfield, Right Hon. Earl of, 41, Grosvenor-sq., S.W. Director International Ethiopian Railway Trust & Construction Co., Ltd.

Chesterfield Corporation Electricity Works, Chatsworth-rd., Chesterfield. (Telephone No. 78.) R. L. Acland, borough electrical engineer & tramways manager.

Chesterman, James, & Co., Ltd., measuring tape, rule & gauge makers, Bow Works, Sheffield. (Telegrams: "Chesterman, Sheffield." Telephone No. 1942.)

Chesters, A. E. & H., electrical engineers, 91A, Victoria-rd., New Brighton. (Tel. No. 59 X., Liscard.)

Chesters, T., & Son, Ltd., electrical engineers, 17, Dean-st., Waterloo, Lancs. (Tel. No. 74 X., Waterloo.)

Chesterton, Jones & Co., fittings manufacturers, 44, Littleton-st., Walsall.

Cheston, E. C., Clarence-rd., Walmer, Kent. Director Para Electric Railways & Lighting Co., Ltd.

Chetty, C. V. K., A.M.I.E.E., "Windlehurst," Anson-rd., Victoria Park, Manchester.

Chew, William, M.I.E.E., Trafalgar House, Lytham-road, Blackpool.

Chew, James, & Co., Brookhouse Brass & Copper Works, & Albion Works, Blackburn. (Telegrams: "Chew, Blackburn." Telephone No. 163.)

Chichester & District Electric Supply Co., Ltd., Electrical Federation Offices, Kingsway, London, W.C. Registered Oct. 12, 1903. Nominal capital: £20,000 in £1 shares. Issued: 7 shares. Directors: G. J. Somerville, Esq. (chairman); G. Offor, Esq. Secretary, H. A. Stagg.

Chichester Electric Light & Power Co., Ltd., 85, Fleet-st., London, E.C.; & Electricity Works, Chichester. (Teleph. Chichester 56.) Authorized capital: £20,000 in £1 shares. Issued: 20,000 shares, 7000 as paid. Directors: W. W. Crotch, Esq.; J. Mann, Esq.; W. A. S. Hellyar, Esq.; E. Symons, Esq. Consulting engineer, Horace Boot; resident engineer, R. W. Weare; secretary, F. D. Pepper.

Child, A. B., A.M.I.E.E., Melrose, Milton-rd., Hanwell, W.

Child, J. P., electrical engineer, 16, Baxter-ave., Doncaster. (Telegs.: "Child, Doncaster.")

Childs, J. G., & Co., Ltd., electric lift & crane makers, Hawthorn-rd., Willesden Green, London, N.W. (Telegs.: "Kwik, London." Teleph. No. 113, Harlesden.)

Chili Telephone Co., Ltd., 42, Old Broad-st., London, E.C. (Telegrams: "Chiliadal, London." A1 Code. Telephone No. 9343, London Wall.) Registered June, 1899. Nominal capital: £250,000 in £5 shares. Issued: £220,000 in ordinary shares of £5 each, fully paid up, & £12,000 in debentures of £100 each. Edmund Petley, F.C.I.S., secretary. Directors: George Keith, Esq. (chairman); Hon. Herbert T. Allsopp; & Frank W. Jones, Esq. Dividends paid, 1904–05, 8 per cent., £15,360 carried to reserve; 1905–06, 8 per cent., £16,119 carried to reserve; 1906–07, 8 per cent., £9564 carried to reserve; 1907–08, 8 per cent., £13,440 carried to reserve. Reserve fund, £113,000.

Chilian Electric Tramway & Light Co., Ltd., 1, London Wall-bldgs., London, E.C. (Telegs.: "Viajar, London." Teleph. No. 2827, London Wall.) Registered May 3, 1898. Nominal capital: £1,150,000 in 650,000 6 per cent. preference shares of £1 each & 500,000 ordinary shares of £1 each. 5 per cent. debentures, £448,000 (outstanding balance of £500,000). All issued. Directors: Sir J. Wernher, Bart. (chairman); Col. Sir C. Euan-Smith, K.C.B., C.S.I.; Ernst Prieger, Esq.; E. Heinemann, Esq.; J. H. Müller, Esq.; H. de Backer, Esq.; G. Zwilgmeyer, Esq.; Sir G. Fitz-Gerald, K.C.M.G.; L. Breitmeyer, Esq.; C. Muller, Esq. Secretary, S. W. Jameson.

China Furniture & Electrical Fittings Manufacturers' Association (secretary, W. A. Addinsell), 112, Edmund-st., Birmingham. (Telegrams: "Addinsell, Birmingham." Telephone No. 551.)

China & Japan Telephone & Electric Co., Ltd., Alderman's House, Alderman's Walk, Bishopsgate, London, E.C. (Telegs.: "Oakenpin, London." Teleph. No. 2188, London Wall.) Nominal capital: £1 shares, £20,000, & £50,000 debentures; issued capital, £14,761 considered as paid; £12,500 7 per cent. debentures. Directors: H. Grëwing, Esq. (chairman); Thos. Lloyd, Esq.; H. Johnstone Grewing, Esq. Secretary. H. A. Hentsch.

Ching, Comyn & Co., Ltd., electric light & bell fitters, &c., 54, 56 & 58, Castle-st., Long Acre, London, W.C. (Telegs.: "Comyn Ching, London." Teleph. No. 1030, Gerrard.)

Chinnery Signs (1909), Ltd., electric sign makers, 23, Old-st., London, E.C.

Chippenham Electric Supply Co., Ltd. Nominal capital: £5000 in £1 shares (2500 5 per cent. preference). Registered July 19, 1909, by Waterlow Bros. & Layton, Ltd., Birchin-lane, London, E.C.

Chipperfield & Co., model makers, 151, Pentonville-rd., N.

Chipping Norton & District Electric Light & Power Co., Ltd., Chipping Norton, Oxon. Registered June 29, 1908. Nominal capital: £10,000 in £5 shares, of which 1000 are preference shares. £8000 debentures, secured by trust deed, dated March 22, 1909.

Chisholm, A. H., A.I.E.E., electrician & engineer, 162, Abbey-st., Jamaica-rd., Bermondsey, London, S.E.

Chisholm, G. S., electrical engineer, Siemens Bros. Dynamo Works, Ltd., York Mansion, York-st., London, S.W.

Chisholm, Gray & Co., Ltd., brassfounders & electrical accessories manufacturers, Providence Works, Fleet-st., Birmingham. (Telegs.: "Adjust, Birmingham.")

Chislehurst Electric Supply Co., Ltd., Electricity Works, Chislehurst. Registered Jan. 22, 1897. Capital: £15,000 in £5 ordinary shares. All issued & paid up. £10,000 in 5 per cent. debenture stock has been issued to Bromley Co. Directors: F. E. Gripper, Esq. (chairman); R. Taylor, Esq.; D. Grinsted, Esq.; F. Medhurst, Esq.; Edmund Charrington, Esq.; J. C. Wigham, Esq. Secretary, Chas. A. Maby, F.C.I.S.; managing engineer, R. Raine Barker; resident engineer, A. E. Darlington. Dividends free of tax: 1905, 3½ per cent.; 1906, 3 per cent.; 1907 & 1908, 2½ per cent.

Chiswick Electricity Supply Corp., Ltd., The, 14, Ironmonger-lane, London, E.C. (Telegs.: "Wyatilliam, London." Teleph. London Wall 1994); & Chiswick, W. (Teleph. Hammersmith 1052.) Secretary, O. Wyatt Williams. Registered May 13, 1893, as The Bourne & Grant Electricity Supply Co., Ltd. Nominal capital: £100,000 in £1 ordinary shares. Issued: 62,800 ordinary shares, all fully paid. Borrowing powers, £100,000; 4½ per cent. first debenture stock, secured by trust deed, dated Dec. 8, 1908. Issued: £80,000. For directors, *see* West London & Provincial Electric Supply Co., Ltd., which holds all the shares in this Co. Engineer at Aberystwyth, E. P. Perkins; at Chiswick, A. W. Money.

CHLORIDE ELECTRICAL STORAGE CO., LTD.

	Telegrams.	*Telephone Nos.*
Head Offices & Works: Clifton Junction, nr. Manchester.	Chloridic, Pendlebury.	1638, Manchester; & 11, Pendleton.
London Office: 39, Victoria-st., Westminster, S.W.	Chloridic, London.	597, Westminster; & 417, Victoria.

A.B.C., 4th & 5th ed., Lieber & A1 Codes used. Registered Dec. 12, 1891. Nominal capital: £135,250. £62,000 6 per cent. cumulative preference shares & 43,168 ordinary shares, all of £1 each, taken up & fully paid; 30,082 shares being unissued. Directors: Wm. Bannister, Esq., J.P. (chairman); E. Hopkinson, Esq., M.A., D.Sc. (vice-chairman); Sir Bache Cunard, Bart.; Herbert Lloyd, Esq.; Jno. R. Williams, Esq.; Robert E. Lloyd, Esq.; J. de Bernicre Smith, Esq. Engineer, W. S. Naylor; secretary, Daniel P. Dunne, F.C.I.S. Dividends: 1902, 1903, 1904, 1905, 6 per cent. on preference shares, less tax, & 8 per cent. on ordinary shares, free of tax; 1906, 1907 & 1908, 6 per cent. on preference shares, less tax, & 10 per cent. on ordinary shares, free of tax. *See advt. under* ACCUMULATORS.

Chorley & District Tramways, Ltd., 154, Finsbury Pavement House, London, E.C. Registered April 29, 1909. Nominal capital: £300,000 in 50,000 7 per cent. cumulative preferred shares of £4 each, & 3000 preferred ordinary & 7000 ordinary shares of £10 each.

Chorley, I. J., & Co., electrical engineer, Tudor-lane, Cardiff. (Nat. Teleph. No. 972.)

Chorlton, A. E. L., A.M.I.E.E., Granville House, Ellesmere Park, Eccles, nr. Manchester.

Chree, C., LL.D., F.R.S., superintendent of Observatory Department of National Physical Laboratory, 75, Church-rd., Richmond.

Christchurch Electricity Works (Bournemouth & Poole Electricity Supply Co., Ltd.), Christchurch, Hants. Resident engineer, C. McCausland.

Christian, E. A., A.I.E.E., Engineer's Office, Mersey Railway, Central Station, Birkenhead.

Christie, E. J. H., A.I.E.E., The Park, Eccles, Manchester.

Christie, J. A., 5, Threadneedle-st, London, E.C. Director City of Birmingham Tramways Co., Ltd.

Christie, Jas. Watson, A.I.E.E., Engine House, Toddington Manor, Winchcombe, S.O., Glos.

Christie, John, M.I.E.E., engineer & manager, Corporation Electricity Works, Brighton.

Christie, John C., electric light engineer, 3 & 5, Mansell-st., London, E. (Telegs.: "Subsolary, London." Teleph. No. 4384, Avenue.)

Christie, John Catheart, A.M.I.E.E., resident electrical engineer, Arbroath.

Christie, Reginald, electrical engineer, Woodside, Tynemouth.

Christie, Sir W. H. M., K.C.B., M.A., D.Sc., F.R.S., Astronomer Royal, Royal Observatory, Greenwich, S.E.

Christie, W., M.B., C.M., Woodside, Aberdeen. Director Aberdeen Suburban Tramways Co.

Christie & Co., manufacturers' agents, 134, Upper Thames-st., E.C. (Telegs.: "Chrismatis, London." Teleph. No. 10913, Central.)

Christie, George, Ltd., brass & copper wire drawers & weavers, Ladywell Wire Works, Broomloan-rd., Govan, Glasgow (Telegs.: "Ladywell, Glasgow." Teleph. Nos.: 182, Nat.; & 19, Post Office, Govan); & 70 & 71, Bishopsgate-st. Within, London, E.C. (Telegs.: "Stibium, London.")

Christie, W., & Co., mfrs. of dynamo & motor brushes & metal packings, 50, Wellington-st., Glasgow.

Christopher, J., & Sons, power transmission appliances, 39, 41 & 43, Clerkenwell-rd., London, E.C. (Telephone No. 1948, Holborn.)

Christy, Frank, M.I.E.E., Broomfield-rd., Chelmsford. (Telegs.: "Engineering, Chelmsford." Teleph. No. 8.) Director Milford-on-Sea Electric Supply Co., Ltd.; director Bude Elec. Supply Co., Ltd.

Christy, Leonard F., A.M.I.E.E., Broomfield-rd., Chelmsford. (Telegs.: "Engineering, Chelmsford." Teleph. No. 8.)

CHRISTY BROS. & CO., LTD., electrical engineers, Broomfield-rd. Works, Chelmsford. (Telegs.: "Engineering, Chelmsford." Teleph. No. 8.)

Chrystal, Prof. G., experimenter & writer on electrical subjects, 5, Belgrave-crescent, Edinburgh; & University of Edinburgh.

Chubb, Isaac William, A.M.I.E.E., 103, Honeybrook-rd., Clapham-park, London, S.W.

Chubb & Son's Lock & Safe Co., Ltd., electric lock mfrs., 128, Queen Victoria-st., London, E.C.; & 68, St. James's-st., Pall Mall, S.W. (Telegs.: "Chubb, London." A.B.C. & A1 Codes. Teleph. Bank 5305.)

Chuck, Lockett & Co., zinc merchants, 10, Norton Folgate, London, E. (Telegrams: "Plummet, London." Telephone No. 2795, London Wall.)

Church, G. H., M.I.E.E., chief electrician, Works Department, Royal Arsenal, Woolwich.

Church, William, A.I.E.E., Buckingham Palace, London, S.W.

Church Stretton Electric Supply Co., Ltd., Church Stretton, Salop; & 1, Clements Inn, Strand, W.C. Registered May 24, 1904. Nominal capital: £10,000 in £1 shares. Issued: 8054 shares fully paid. A trust deed, dated May 19, 1904, to secure £5000 debentures, created May 13, 1904, has been registered. Charge dated Aug. 28, 1909, to secure £100 (supplemental to a charge dated March 17, 1909). A charge dated Sept. 30, 1909, to secure £50 (supplemental to a charge dated March 17, 1909). Directors: Hon. H. P. Mostyn (chairman); Hon. G. E. Hill Trevor; G. H. Dorrell, Esq.; Captain H. D. Wilkin, R.N., D.S.O. Engineer, G. Payne; secretary, H. Bourdillon.

Churchill, A., electrical engineer, manager Purchasing Dept., British Thomson-Houston Co., Rugby.

CHURCHILL, CHAS., & CO., LTD., importers of American machinery, engineers & manufacturers, 9–15, Leonard-st., London, E.C.; 2–10, Albert-st., Birmingham; 6, Oxford-st., Manchester; Albion-bldgs., St. James's-st., Newcastle-on-Tyne; & 9–11, Wellington-st., Glasgow. (Telegrams: "Opodeldoc." Lieber's & A.B.C., 4th edition, Codes used. Telephone Nos.: London, 1191, London Wall, & 2974, Central; Birmingham, 2117; Manchester, 4285 & 4220; Glasgow, Nat. 733, Argyle; P.O. 2730; Newcastle, 1093.) Registered March 15, 1897. Nominal capital: £60,000 in 6 per cent. preference shares of £1 each, 40,000 allotted & fully paid, £60,000 in ordinary shares of £1 each, 50,000 allotted & fully paid. Directors: Chas. Churchill, Esq. (chairman); W. Chamberlain, Esq.; Chas. H. Churchill, Esq.; J. W. W. Gabriel, Esq.

Churchill, J. & A., technical publishers, 7, Great Marlborough-st., London, W. (Telegs.: "Churchill, Publishers, London." Teleph. No. 13114, Central.)

Churchward, E. C., A.M.I.E.E., general manager & engineer, Scottish Central Electric Power Co., Bonnybridge, Scotland. (Telegs.: "c/o Farad, Falkirk." Teleph. No. 286, Falkirk.)

Churton, T. Harding, M.I.E.E., M.INST.M.E., Atlas Works, Water-lane, Leeds.

Churton, T. Harding, & Co., electrical & general engineers, manufacturers & contractors, Atlas Works, Water-lane, Leeds. (Telegs.: "Magnet, Leeds." Nat. Teleph. No. 933.)

Chutter, G. F., A.M.I.E.E., Brent Tor, Audley-rd., Hendon, N.W.

Cicogna, Chas., 62, London Wall, E.C. Director Anglo-Argentine Tramways Co., Ltd.

Cinque Ports Light Railway, Ltd., 165, Queen Victoria-st., London, E.C. Registered June 16, 1900. Nominal capital: £25,000 in £1 shares, of which £19,907 has been issued as fully paid. Directors: E. Phillips, Esq.; H. C. Hall, Esq. Secretary (*pro tem.*), R. Hunter.

City of Birmingham Tramways Co., Ltd., Electrical Federation Offices, Kingsway, London, W.C. (Telegs.: "c/o Tramway, London." Teleph. No. 2686, Holborn (6 lines).) Registered Sept. 29, 1896. Nominal capital: £600,000 in ordinary shares of £5 each, £400,000 in preference shares of £5 each & £500,000 debentures. Issued: 6047 fully paid ordinary shares, 53,953 ordinary shares with £1 per share paid, 40,000 fully paid preference shares & £300,000 debentures. A mortgage or charge, dated Jan. 8, 1903, supplemental to a trust deed, dated Jan. 29, 1897, to secure £500,000 debentures created by resolution of Sept. 30, 1896 (£300,000 of which have been issued), has been registered. Directors: E. Garcke, Esq. (chairman); Wm. Neale, Esq.; J. A. Christie, Esq.; G. C. Cuningham, Esq., M.I.C.E.; C. S. B. Hilton, Esq.; J. A. Lycett, Esq. (managing). Secretary, B. Kingsford; general manager, R. W. Cramp. Dividends: 1900, 1901, 1902, 1903, 1904, 1905, 1906 & 1907, 10 per cent. on ordinary & 5 per cent. on preference per annum.

City & Brixton Railway Co., 9 & 10, King-st., Cheapside, E.C. Incorporated July 1, 1898. Nominal capital: £1,000,000 shares, £333,300 loans. Issued: *nil.* Directors: C. S. Grenfell, Esq.; J. Crowther, Esq.; S. B. Heward, Esq. Secretary, P. Lonergan.

City of Buenos Ayres Tramways Co. (1904), Ltd., 1, Great Winchester-st., London, E.C. (Telephone No. 484, London Wall.) Registered Oct. 6, 1904. Nominal capital: £1,240,000 in £5 shares, & £174,000 4 per cent. debenture stock, all issued & fully paid. Trust deed registered Dec. 8, 1904. Directors: J. Heaton, Esq.; E. Clapham, Esq.; E. H. Woods, Esq. Secretary, F. C. Crawley. Dividends: 1905, 1906, 1907 & 1908, 5 per cent.; first half of 1909, at the rate of 5 per cent. per ann.

City of Carlisle Electric Tramways Co., Ltd., The, 1, Warwick-rd., Carlisle. (Telegs.: "Tramways, Carlisle." Teleph. No. 0180.) Registered June 16, 1899. Capital: £60,000 in £1 ordinary shares, all taken up & fully paid, & £40,000 4 per cent. debentures. Directors: T. D. Lingard, Esq. (chairman); R. B. Barningham, Esq.; G. Readman, Esq.; R. Creighton, Esq.; J. Barber Glenn, Esq. Secretary, John McNee; electrician, J. B. Wilson. Dividends: 1905, 1¼ per cent.; 1906 & first half of 1907, *nil*.

City Electric Lamp & Engineering Co., 35 & 37, Dickinson-st., Manchester.

City Electrical Co., engineers & contractors, 5, Tottenham-st., W. (Telephone No. 4736, Gerrard.)

City of Ely Electric Light & Power Co., Ltd., 66, Victoria-st., S.W. Registered July 31, 1905. Nominal capital: £5000 in £1 shares, of which 3003 have been taken up. 2s. per share has been called up & £300 6s. has been received. Directors: L. Milne, Esq.; E. J. Owen, Esq. Secretary, E. E. Smith.

City Glass Co., arc lamp globe makers, Wharf-rd., Cubitt Town, London, E. (Teleph. East 3200.)

City & Guilds Central Technical College, Exhibition-rd., London, S.W. *See* SCHOOLS, &c.

City & Guilds of London Institute, H.M. the King, patron & visitor; The Rt. Hon. Earl of Halsbury, chairman of the Council; Sir John Wolfe Barry, K.C.B., chairman of the Executive Committee; George Baker, treasurer; Sir John Watney, hon. sec.; A. L. Soper, assist. sec. Head office: Gresham College, London, E.C. Colleges: City & Guilds Central Technical College, Exhibition-rd., S.W.; & City & Guilds Technical College, Finsbury, E.C.

City & Guilds Technical College, Leonard-st., Finsbury, London E.C. *See* SCHOOLS, &c.

City Ignition Co., ignition coil & accumulator makers, 14, Spencer-st., Goswell-rd., London, E.C. (Telegs.: "Cicoy, London." P.O. Teleph. Central 7822)

City Importing Co., dealers in accumulators, &c., 53, Curtain-rd., London, E.C. (Telegs.: "Cyclicus, London." Teleph. No. 5290, Central.)

City of London College, White-st. & Ropemaker-st., Moorfields, London, E.C. *See* SCHOOLS.

City of London Electric Lighting Co., Ltd., 1, Great Winchester-st., London, E.C. (Telegrams: Offices, "Lumen, London;" Works, "Ripariolum, London." Telephone Nos.: Offices, London Wall 9329; Works, Hop 3440.) Nominal capital: £800,000 in ordinary shares of £10 each, £400,000 in 6 per cent. preference shares of £10 each, £400,000 5 per cent. debenture stock, £400,000 4½ per cent. second debenture stock, & further borrowing powers for £100,000. Subscribed capital: £705,950 in fully paid ordinary shares, £400,000 in fully paid preference shares. £400,000 first debenture stock & £300,000 4½ per cent. second debenture stock, all subscribed & fully paid. Directors: J. B. Braithwaite, Esq. (chairman); F. W. Reynolds, Esq. (deputy-chairman); P. D. Tuckett, Esq.; Frank Bailey, Esq., M.I.C.E., M.I.E.E.; J. Cecil Bull, Esq., F.C.I.S. (joint managing); A. F. Harrison, Esq., F.C.I.S. (secretary). Dividends on ordinary shares: 1904–08, 6 per cent.; 1909 (*interim*), preference, 6 per cent. per annum, ordinary, 5 per cent. per annum

City of London, Corporation of, Electrical Laboratory, Guildhall, London, E.C. (Teleph. Wall 6400–3.) (A. A. Voysey, electrical engineer, & electric inspector under the City of London Elec. Light. Orders.)

City of London Wood-Wool Co., Gainsborough-rd., Homerton, London, N.E. (Telegs.: "Isotropic, London." Teleph. No. 3328, Eastern.)

City of Oxford Electric Tramways, Ltd., Queen Anne's-chbrs., Westminster, London, S.W. Registered Dec. 6, 1906. Nominal capital: £150,000 in £1 shares. Debenture, dated Dec. 14, 1908, to secure £15,000. Directors: B. Bernheim, Esq. (chairman); Sir Robert Buckell; W. B. Cownie, Esq.; Col. F. F. Webb. Secretary, G. Phillips. Dividends: 1907, 1908 & first half of 1909, *nil*.

City of Santos Improvements Co., Ltd., 174, Gresham House, London, E.C. Registered 1880. Nominal capital: £200,000 in £10 ordinary shares, £200,000 in £10 preference shares & £200,000 debentures. Issued: all the ordinary & preference shares & £173,400 debentures. Directors: D. M. Fox, Esq. (chairman); H. K. Heyland, Esq. (managing); E. Henderson, Esq.; H. V. Wollaston, Esq. Electrical engineer, J. T. Cornish; secretary, J. E. Rimmer.

City & South London Railway Co., Ltd., 71, Finsbury Pavement, London, E.C. (Telegs.: "Subway, London." Teleph. London Wall 1675); & 195, Clapham-rd., London, S.W. (Telegs.: "Abstruse, London." Teleph. Hop 3881.) Authorised capital: £1,480,000 in ordinary stock (£200,000 ordinary or preference stock at option of directors), £800,000 in preference stock & £761,859 debentures. Issued capital: ordinary stock, £1,480,000; all the preference stock; debenture stock, £681,829; all stocks being paid up in full. W. F. Knight, secretary; P. V. McMahon, engineer; Thomas C. Jenkin, general manager. Directors: Rt. Hon. C. B. Stuart Wortley, K.C., M.P. (chairman); Charles Seymour Grenfell, Esq.; S. Barclay Heward, Esq.; Harvey Ranking, Esq.; Edwin Tate, Esq. Dividends: June, 1907, 2½ per cent. per ann.; Dec., 1907, 1¾ per cent. per ann.; June 30, 1908, 1½ per cent. per ann.; Dec. 31, 1908, 1½ per cent. per ann.; June 30, 1909, 1¾ per cent. per ann.

Civil & Mechanical Engineers' Society (W. N. Twelvetrees, M.I.M.E., A.M.I.E.E., president; A. S. E. Ackermann, B.SC. (Eng.) Lond., A.C.G.I., A.M.I.C.E., M.R.S.I., hon. sec.), 25, Victoria-st., S.W. (Telegs.: "Windolite, London." Teleph. Victoria 244.)

Civil Service Supply Association, Ltd., dealers in electric light fittings, 136 & 138, Queen Victoria-st., E.C. (Telegs.: "Stores, London." Teleph. No. 654, Bank); & Bedford & Chandos-sts., Strand, London, W.C.

Clack, Chas. Wm., telephone engineer, National Telephone Co., Ltd., Telephone House, Victoria Embankment, E.C.

Clack, Jas. Gifford, A.I.E.E., 4, Trafalgar-rd., Twickenham.

Clacton Urban District Council Electricity Works, Clacton, Essex. (Telephone No. 9.) Engineer, H. W. Everitt.

Cladingbowl, G. A., assistant engineer, District Council's Electricity Works, Aldershot.

Clague, T. M., A.I.E.E., 11, Grey-st., Newcastle-on-Tyne.

Clamp, Ernest John, electrical engineer, 19, The Circus, Greenwich, S.E.

Clapham, C. F., A.I.E.E., 33, Birling-rd., Tunbridge Wells. (Telegs.: "Mooring, Tunbridge Wells.")

Clapham, E., 1, Cushion-crt., London, E.C. Director City of Buenos Ayres Tramways Co. (1904), Ltd.

Clare, H. H., electrician, Borough Council Electricity Works, Globe-lane, Woolwich.

Claremont, E. A., M.I.E.E., M.I.MECH.E., electrical engineer & managing director of W. T. Glover & Co., Ltd.; director Royce, Ltd.; director Trafford Power & Light Supply (1902), Ltd., Manchester.

Clarence Engineering Co., Ltd., general, electrical & manufacturing engineers, 3, Cherry Tree-ct., Aldersgate-st., London, E.C. (Telegs.: "Indifuse, London." Teleph. Central 708.)

Claret, Wm. Edward, A.M.I.E.E., chief assistant engineer, Smithfield Markets Electric Supply Co., Ltd., London, E.C.; & 326, Philip-lane, Tottenham, N.

Clark, Albert B., A.M.I.E.E., c/o General Electric Co., Ltd., 71, Queen Victoria-st., London, E.C.

Clark, Alexander, A.M.I.E.E., c/o General Electric Co., Ltd., 71, Queen Victoria-st., London, E.C.

Clark, A. J., director Brighton & Rottingdean Seashore Electric Tramroad Co., Madeira-rd., Brighton.

Clark, C., electrical & mechanical engineer, Bridgegate, Retford.

Clark, E. J., engineer & general manager, Hart Accumulator Co., Ltd., Marshgate-lane, Stratford, London, E. (Telegs.: "Hartmossel, London." A.B.C. Code, 5th edit. Teleph. Nos. 1306 & 1307, East.)

Clark, H. Ade, WH.SC., A.I.E.E., A.M.I.M.E., head of Engineering Dept., Northern Polytechnic Institute, Holloway, N. (Telegs.: "Pyrenean, London." Teleph. No. 154, N.)

Clark, J. J., J.P., Goldstone House, Fonthill-rd., Hove. Chairman Brighton & Rottingdean Seashore Electric Tramroad Co.

Clark, J. P., A.M.I.E.E., 19, Hessle View, Leeds.

Clark, Robert, electrician, Taybank, Errol, N.B.

Clark, Thomas, A.I.E.E., chief electrician, Telegraph Construction & Maintenance Co., Ltd., Enderby's Wharf, East Greenwich. (Teleph. No. 194, Deptford.)

Clark, Thomas, A.I.E.E., electrician, 62, Roselea Drive, Dennistoun, Glasgow.

Clark, Walter, M.I.E.E., Electrical Power Storage Co., Ltd., Millwall, E.; & Enslin, Ermine-rd., Lewisham, S.E.

Clark, Wm., A.M.I.E.E., 152, Fernhead-rd., Maida Hill, London, W.

Clark, W. A., electrical engineer & contractor, 99, Talbot-rd., Blackpool.

Clark, W. H., electric lighting contractor, St. Laurence's-lane, Norwich.

Clark, A. M. & Wm., chartered patent agents, 53, Chancery-lane, London, W.C. (Telegs.: "Klarcam, London." P.O. Teleph. Central 9436.)

Clark, A. W., & Co., installation contractors, 8½, Douglas-st., Glasgow.

Clark, Forde & Taylor, consulting electrical engineers, 4, Great Winchester-st., London, E.C. (Telegrams: "Curbed, London." Telephone No. 640, London Wall.)

Clark, Hunt & Co., Ltd., iron & steel merchants, 159, 160, High-st., Shoreditch, London, E. (Telegrams: "Clark Hunt, Shoreditch, London." Telephone Nos.: 2547, Wall; 6758, Central; & works, 1795, London Wall.)

Clark, Matthew, & Willmott, electric fittings, 217, St. Vincent-st., Glasgow. (Telegs.: "Luminous, Glasgow." Teleph. No. 1478, Argyle.)

Clark, R., & Co., engineers & electricians, 22–24, Cheapside, Spennymoor.

Clark, Sons & Co., manufacturers of patent indiarubber felt packings, Failsworth, Manchester.

Clark, T. & C., & Co., Ltd., makers of enamelled reflectors, Wolverhampton. (Telegs.: "Clark, Wolverhampton.")

Clark, W. T., & Co., metal spinners, 5, Green-ter., Rosebery-ave., London, E.C.

Clarke, Ashford V., A'M.I.E.E, Colne Lodge, Lexden, Colchester.

Clarke, Dumont, director Commercial Cable Co., 23, Royal Exchange, London, E.C.

Clarke, E. F., electrical engineer, Victoria-chbrs., Birmingham. (Telegs.: "Calculus, Birmingham." Teleph. Central 1788.)

Clarke, Edward R., A.I.E.E., 11, King's Bench Walk, Temple, London, E.C.

Clarke, G. E., borough surveyor & electrical engineer, Boston, Lincs.

Clarke, J. B., A.M.I.E.E., 82, Worcester-st., Stourbridge.
Clarke, Robert, electrical engineer, 39, Featherstone-st., London, E.C.
Clarke, T. J., electrical & mechanical engineer, Havelock Works, Leicester. (Telegs.: "Clamac, Leicester." Teleph. No. 4007.)
Clarke, Thos. T., consulting electrical engineer, 41, Fleet-st., Dublin. (Teleph. No. 1854.)
Clarke, Wm. Barton, A.M.I.E.E., M.S.C.I., electro-chemist, Edison & Swan United Electric Light Co., Ltd., Ponders End, Middlesex.
Clarke, W. E., assistant electrical engineer, *Daily News*, Bouverie-st., E.C.
Clarke, W. F., C.E., Esker House, Lucan. Director Dublin & Lucan Electric Railway Co.
Clarke, Wm. Gay, A.M.I.E.E., Queen Anne's-chbrs., Westminster, London, S.W. (Telegs.: "Unfurl, London." Teleph. Westminster 5238.)
Clarke, W. H., electrical engineer, "Isawood," Chermside-rd., Aigburth, Liverpool.
Clarke, Adam, & Co., electrical engineers, 274, Cooksey-rd., Birmingham.
CLARKE, CHAPMAN & CO., LTD., general & manufacturing electrical engineers, Victoria Works, Gateshead-on-Tyne (Telegrams: "Cyclops, Gateshead." Telephone Nos.: P.O. 137; Nat. 1070 & 1073); 50, Fenchurch-st., London, E.C. (Telegrams: "Cyclops, London"); Colonial House, Water-st., Liverpool (Telegrams: "Ardoch, Liverpool"); 81, St. Vincent-st., Glasgow (Telegrams: "Ardoch, Glasgow"); 22 & 23, Arcade-chbrs., St. Mary's Gate, Manchester (Telegs.: "Cyclops, Manchester." Teleph. No. 3430); & 21, Mount Stuart-sq., Cardiff. (Telegs.: "Cyclops, Cardiff." Teleph. No. 962.) Registered June 14, 1893. Nominal capital: £130,000 in ordinary shares of £10 each, £70,000 in preference shares of £10 each & £100,000 debentures. Issued: 12,736 ordinary & 6985 preference shares, both fully paid, & £100,000 debentures. Directors: H. Walker, Esq. (chairman); H. R. Chapman, Esq.; R. Scope, Esq.; W. I. Taylor, Esq. Secretary, Jas. L. Thompson.
Clarke, J. F., & Sons, electrical engineers, 49, Moorgate-street, London, E.C.
Clarke, R., & Co., pump manufacturers, Union Iron Works, Queen's-rd., Manchester.
Clarke, T., & Co., electrical engineers, 129, Sloane-st., London, S.W.
Clarke, T. A. W., Ltd., mechanical & electrical engineers, Leicester.
Clarkson, S. N., A.M.I.E.E., 815, South-ave, Scotstoun, Glasgow.
Clarkson Bros., Ltd., electrical, hydraulic & general engineers, 8 & 12, Little Hamilton-st., Glasgow.
Clatworthy, Walter A., A.M.I.M.E., M.I.E.E., c/o J. H. Holmes & Co., Newcastle-on-Tyne.
Claxton, R. H., A.I.E.E., c/o National Telephone Co., Ltd., 15, Eldon-chbrs., 20, S. John-st., Liverpool.
Clay, C. B., M.I.E.E., M.I.MECH.E., Salisbury House, London Wall, London, E.C. (Teleph. London Wall 101.)
Clay, R. C., electrical engineer, c/o E. Wingfield Bowles, 28, Victoria-st., Westminster, London, S.W.
Clay, W., director Missenden & District Electric Light & Power Co., Ltd., High-st., Amersham, Bucks.
Clay Bros. & Co., electrical engineers, Western Mail-chbrs., Cardiff. (Telegrams: "Clay, Cardiff." Telephone No. 727.)
Claycross Co., economiser manufacturers, Claycross, Derbyshire. (Telegs: "Jackson, Claycross." Teleph. Chesterfield 147.)
Claye, S. J., Ltd., mechanical & electrical engineers, Railway Wagon Works, Long Eaton (Telegs.: "Claye, Long Eaton." Teleph. No. 23); & London-rd., Derby. (Telegs.: "Claye, Derby." Teleph. No. 253.)
Claypoole, Walter, A.M.I.E.E., c/o J. Swinburne, 82, Victoria-st., London, S.W.
Clayton, Aubrey V., M.I.E.E., consulting engineer, Egypt House, New Broad-st., London, E.C.
Clayton, Chas. E., A.I.E.E., City of London Asylum, Dartford, Kent.
Clayton, Fred., & Co., electrical engineers, 53, Old Dover-rd., Blackheath, London, S.E.
Clayton, Goodfellow & Co., Ltd., engineers & ironfounders, Atlas Works, Blackburn. (Telegrams: "Goodfellow, Blackburn." Telephone No. 27.)
Clayton & Shuttleworth, Ltd., steam engine makers, Stamp End Iron Works, Lincoln. (Telegrams: "Claytons, Lincoln." Telephone No. 43, Nat. A.B.C. & Private Codes used.)
Clayton, Son & Co., Ltd., constructional engineers & boiler makers, Moor-end, Hunslet, Leeds; & 60, Queen Victoria-st., London, E.C. (Telegs.: "Gas, Leeds." Teleph. Nos. 542 & 543.)
Clears, P. J., A.M.I.E.E., 198, Earl's Court-rd., London, S.W.
Cleary, Thos., electrical contractor, 56A, Haverstock Hill, N.W. (Telegs.: "Clearceto, London." Teleph. No. 246, Hampstead, P.O.)
Cleave, W. H. R., wholesale supplies, 6, Bristol Bridge, Bristol.
Cleckheaton District Council Electricity Works & Tramways, Cleckheaton, Yorks. Engineer, A. Pickersgill, A.M.I.E.E. (Teleph. No. 16, Cleckheaton.)
Clegg, A. W., chief assistant engineer, Corporation Electricity Works, Accrington.
Clegg, H., Plas Llanfair, Anglesey. Director Snowdon Mountain Tramroad & Hotels Co., Ltd.
Clegg, Stanley, M.I.E.E., city electrical & tramway engineer, Corporation Electricity Works & Tramways, Lincoln. (Telegs.: "Stanley Clegg, Lincoln." Teleph. Nos. 109 & 213 Private.)
Clegg, W. H., A.M.I.C.E.I., district superintendent of the Edison & Swan United Electric Light Co., Ltd., 127, Albion-st., Leeds. (Telegs.: "Ediswan, Leeds." Teleph. No. 1081.)
Clegg, B. W., & Sons, patent agents, 18, Belinda-street, Hunslet, Leeds.

Clemens, E. T., electric bell fitter, 187, Union-st., Plymouth.

Clement, A. F., telegraph superintendent, North British Railway, Edinburgh. (Local Teleph. No. 53.)

Clements & Son, electricians & electrical stores, 106A, Fenchurch-st., London, E.C. (Teleph. No. 909, Central.)

Clementson, J. J., assistant superintendent, Factories Department, Bovay-pl., Holloway, London, E.C.

Clementson Bros., earthenware manufacturers, Phœnix Works, Broad-st., Hanley.

Clephan, T. J. S., electrician, colliery & mill furnisher, 22 & 24, Standishgate, Wigan. (Telephone No. 362.)

Clerk, Dugald, M.I.C.E., M.I.M.E., F.C.S., consulting engineer & patent agent, 57/58, Lincoln's Inn Fields, London, W.C. (Telegs.: "Cleradam, London." Teleph. Holborn 1518.)

Cleveland & Durham County Electric Power Co., Hinton's-bldgs., Middlesbrough. Incorporated by Acts of Parliament, 1901 & 1903. Nominal capital: £1,000,000 in £10 shares. Debenture stock: £333,000. Issued capital: £449,850 in fully paid shares & £54,828 in shares £2 paid, & £120,853 debenture stock. Directors: Chas. Emmott, Esq. (chairman); Hon. R. James; M. L. Bell, Esq.; R. W. Armstrong, Esq.; P. E. Noble, Esq. Engineers, Merz & McLellan; manager, A. B. Gridley; secretary, R. Greenhough.

Cleveland & Durham Electric Power, Ltd., Hinton's-bldgs., Middlesbrough. Registered July 18, 1906. Nominal capital: £1,000,000 in £5 shares (70,000 5 per cent. cumulative preference, with priority as to capital; 70,000 6 per cent. participating ordinary entitled to moiety of profits after such 6 per cent., & with priority as to capital over deferred shares; & 60,000 deferred). Issued: 66,741 preference shares, 32,111 ordinary shares & 59,392 deferred shares, & £115,000 5 per cent. first debentures & £75,000 second debentures. Directors: C. Emmott, Esq. (chairman); R. W. Armstrong, Esq.; M. L. Bell, Esq.; James Falconer, Esq., M.P.; Hon. Robt. James; P. E. Noble, Esq. Engineers, Merz & McLellan; manager, A. B. Gridley; secretary, C. Skipsey.

Cleveland Trust, Ltd., Electric Light & Power Supply Co., Saltburn-by-the-Sea; & Royal Exchange, Middlesbrough. (Telegrams: "Veritatem, Middlesbrough." Telephone Nos.: 63, Saltburn; 229, Middlesbrough.) Registered Aug. 1, 1891. Nominal capital: £99,500 in £5 ordinary shares & £500 in founders' shares of £5 each. All the ordinary & founders' shares are issued & £2 per share has been paid. Directors: C. A. Head, Esq. (chairman); Sir Th. Fry, Bart. (vice-chairman); W. Hustler Hopkins, Esq.; J. Milner Lennard, Esq.; J. Wilson Watson, Esq. Engineer, C. W. Thompson, A.M.I.E.E.; electrician, A. Fowler; secretary, A. Gordon Hood, A.C.A. Dividends: on ordinary, 1901, 8 per cent.; 1902, 7 per cent.; 1903-1908, 6 per cent.

Cliff, J., & Sons, telegraph insulator manufacturers, 2 & 4, Wharf, Great Northern Goods Station, King's Cross, London, N.W.; & Baltic Wharf, Waterloo Bridge, S.E. (Telegrams: "Cliffs, London." Telephone No. 631, Hop.)

Cliffe, J. E., director Bogota Telephone Co., Ltd., 110, Cannon-st., London, E.C.

Clifford, Arthur, A.M.I.E.E., assistant engineer, Electricity Department, Talbot-st., Nottingham.

Clifford, C. W., The Red House, Market Drayton. Director Market Drayton Electric Light & Power Co., Ltd.

Clifford, D., local manager, National Telephone Co., Limerick.

Clifford, Charles, & Son, Ltd., brass & copper tube makers & wire drawers, screw rod & metal rollers, Fazeley-st., & Dog Pool Mills, Birmingham. (Telegs.: "Clifford, Birmingham." Tel. Nos. 42 & 43.)

Clifton, G. B., M.I.MECH.E., Electrical Engineer's Department, Great Western Railway, Paddington, London, W.

Clifton, R. B., professor of experimental philosophy in the University of Oxford, The Clarendon Laboratory, Oxford.

Climpson, W. S., wiring contractor, 162, Queen's-rd., Hastings.

"Clincher" Patent Plug Co., 115-117, Cannon-st., London, E.C. (Telegs.: "Keyage, London." Lieber's Code. Teleph. No. 8114, Bank.)

Clinker, R. C., A.I.E.E., electrical engineer, Letchworth, Clifton-on-Dunsmore, Rugby.

Clinton, W. C., B.SC., A.M.I.E.E., 52, Claremont-rd., Highgate, London, N.

Clirehugh, S. V., M.I.C.E., M.I.E.E., 51, Marine Parade, Brighton.

Clitherow, Capt. Stacey, director International Ethiopian Railway Trust & Construction Co., Ltd., 34, Clements-lane, London, E.C.

Clive & Co., electrical engineers, 4, High-st., Sutton Coldfield (Teleph. No. 2 Y. 1); & 3, New-st., Birmingham. (Teleph. No. 5990, Central.)

Clontarf & Hill of Howth Tramroad Co., 39, Dame-st., Dublin. (Telegs.: "c/o Railways, Dublin." Teleph. No. 917, Dublin.) Nominal capital: £50,000 in £10 ordinary shares, £25,000 debentures. All the ordinary shares are issued & fully paid up, & £25,000 debentures. Directors: W. L. Murphy, Esq.; E. Anderson, Esq. Secretary, J. P. Chapman. Dividends: 1907, 1 per cent.; 1908, 2 per cent.; half year, June 30, 1909, at rate of 3 per cent.

Close, A. F., electrical engineer, Ushers Quay, Dublin.

Close, F. W., A.M.I.E.E., electrician, 34, Waterloo-rd., Wolverhampton.

Close, Capt. Francis Morton, R.E., A.I.E.E., Ordnance Survey, Southampton.

Clothier, Henry Wm., A.M.I.C.E., A.M.I.E.E., The Green, Wallsend-on-Tyne.

Clothier, J. H., electrical engineer & manager to the Urban District Council, Electric Light Works, St. Anne's-on-Sea. (Telephone No. 12.)

Clothier, T. D., A.M.I.E.E., borough electrical engineer, Bootle.

Cloud, T. C., metallurgical engineer, 4, Lloyd's-ave., London, E.C. (Telegs.: "Vitriolize, London." Teleph. Central 9736.)

Clouder, Joseph F., electrician, 4, Brownhill-rd., Catford, London, S.E. (Teleph. No. 532, Lee Green.)

Clough, Alfred, A.M.I.C.E., resident electrical engineer, Corporation Electricity Works, Liverpool.

Clough, F. H., A.I.E.E., A.M.I.C.E., electrical engineer, British Thomson-Houston Co., Rugby.

Clough, Norman, A.I.E.E., electrician, c/o J. G. White & Co., 9, Cloak-lane, London, E.C.

Clough, Wm., general manager, Corporation Tramways, Bury.

Clough, S. W., & Co., gas & oil engine builders, Shipley, Yorks.

Clowes, Prof. Frank, D.SC., F.I.C., chemical adviser to the London County Council, County Hall, Spring-gardens, London, S.W.

Cluer, S. J., A.I.E.E., F.C.I.S., Chelsea Electricity Supply Co., 19, Cadogan-gardens, London, S.W.

Clunas, J. F., A.M.I.E.E., 84, Fenchurch-st., London, E.C.

Clunas & Co., merchants & manufacturers of marble & slate, 15, Annandale-st., Edinburgh. (Telegs.: "Clunas & Co., Edinburgh." Teleph. No. 1083.)

Clutterbuck, H. F., The Old Bank, Bath. Director Bath Electric Tramways, Ltd.

Clyde Model Dock Yard & Engine Depôt, model yacht builders, engineers, electricians, &c., Argyll Arcade, Glasgow.

Clyde Valley Electrical Power Co. Manager & head office: D. A. Starr, 53, Bothwell-st., Glasgow. (Telegs.: "Valley, Glasgow." Teleph. Nos. 1504 & 1891, Argyle.) Incorporated 1901. Nominal capital: £900,000 in £10 ordinary shares. Borrowing powers: £300,000. Capital subscribed: £600,000. Directors: A. Bonar Law, Esq., M.P. (chairman); F. C. Gardiner, Esq.; Col. Chas. M. King; J. H. Lukach, Esq.; N. Carlton, Esq.; Jas. Mackenzie, Esq. Consulting engineers, Strain & Robertson; secretary, Robt. Robertson. *Stations at Motherwell & Yoker in operation.*

Coaker, Wm. F., A.I.E.E., Carr Hill House, Gateshead.

Coalbrookdale Co., Ltd., ironfounders & engineers, 15 & 16, Rathbone-pl., Oxford-st., London, W. (Telegs.: "Severndale, London." Teleph. Nos.: 6125, Central; & 7650, Gerrard.)

Coales, J. D., D.SC., A.M.I.E.E., senior lecturer & demonstrator in electrical engineering, University, Birmingham.

Coatbridge & Airdrie Electric Supply Co., Ltd., Electricity Works, Coatbridge, N.B. (Telegs.: "Electric, Coatbridge." Teleph. No. 18, Coatbridge); & Moorgate-ct., Moorgate-pl., London, E.C. (Telegs.: "Partnership, London." Teleph. No. 2681, Wall.) Registered June 19, 1906. Authorized capital: £1000 in £1 shares. Mortgages or charges, dated Nov. 28, 1907, to secure £6650, Feb. 6, 1908, to secure £3500, March 5, 1908, to secure £14,338 9*s.* 11*d.*, & June 29, 1908, to secure £7235 17*s.* 8*d.*, have been registered. A further charge, dated Nov. 26, 1908, to secure £2500 has been registered. Charge, dated April 1, 1909, to secure £3500, & further charge, dated June 10, 1909, to secure £7020. Directors: H. B. Renwick, Esq. (managing); A. Ayres, Esq.; F. E. Savory, Esq.; G. Neilson, Esq.; J. M. Arthur, Esq. Managing engineer, W. D. Morgan; secretary, F. C. McQuown; local secretary, J. M. Boyd.

Coatbridge Technical School, Coatbridge, N.B. *See* SCHOOLS.

Coates, A. F., A.M.I.E.E., Chief Engineer's Department, Imperial Tobacco Co, Ltd., Bristol.

Coates, E., A.M.I.E.E., superintendent engineer, Bow Generating Station, London, E.; & 73, Margery Park-rd., West Ham, London, E.

Coates, F., electrical engineer, A. Reyrolle & Co., Ltd., Hebburn Works, Hebburn-on-Tyne.

Coates, H., Pitcullen House, Perth. Chairman Tayside Electric & Gas Light Co., Ltd.

Coates, H. J., A.M.I.E.E., electrical engineer, c/o The General Electric Co., Ltd., Peel Works, Adelphi, Salford, Manchester.

Coates, Victor H., & Co., electrical engineers, 2, Norfolk-st., London, W.C. (Telegs.: "Victomime, London." Teleph. No. 1246, Gerrard.)

Coates, Wm., & Son, Ltd., electric light & power engineers, 1–11, Fountain-st., Belfast (Telegs.: "Megavolt, Belfast." Teleph. No. 244); & 5, Leinster-st., Dublin. (Telegs.: "Megavolt, Dublin." Teleph. No. 1584.) Resident engineer, R. N. Tweedy, A.M.I.E.E.

Coats, James, A.M.I.E.E., 362, Maxwell-rd., Glasgow.

Cobb, Percy R., A.M.I.E.E., c/o Jens Orten-Böving & Co., 9½, Union-ct., Old Broad-st.. E.C.; & 18, Craven Hill-gdns., London, W.

Cobbett, W. Willson, Ltd., "Scandinavia" & "Saturn" textile beltings, 59, Southwark-st., London, S.E. (Telegs.: "Scandinavia, London." Teleph. Nos.: Nat. 2001, Hop.; P.O. 979, Central. A.B.C. Code.)

Cobbetts, white wood for electrical fittings, &c., 66, 68 & 70, Virginia-rd., London, E. (Telegrams: "Stupendous, London." Telephone No. 9664, London Wall.)

Cochrane, J., manufacturer of pumps & condensing plants, Barrhead, Scotland (Teleph. No. 6); & 20, Bucklersbury, London, E.C.

Cochrane, The Hon. Thos., M.P., director Direct United States Cable Co., Ltd., 50, Old Broad-st., E.C.

Cock, J., & Co., electric light contractors, 90, Battersea Rise, London, S.W.

Cockayne, T. B. & W., Ltd., electrical engineers, Angel-st., Sheffield.
Cockburn, A. C., F.C.S., M.I.E.E., 35, Broom-rd., Hampton Wick.
Cockburn, G. E., electrical engineer, 35, Gt. Pulteney-st., London, W. (Teleph. No. 10600, Central.)
Cockburn, A., & Co., valve makers, 25, Gateside-st., Dennistoun, Glasgow. (Teleph. Bridgeton 3214.)
Cockburn High School, Leeds. *See* SCHOOLS.
Cockburn, M., & Co., Ltd., lamp post manufacturers & electrical castings, Gowan Bank Iron Works, Falkirk, N.B. (Telegs.: "Springfield, Falkirk." Teleph. No. 56.)
Cocks, Jas. Mitchell, electrical engineer, 231, Elgin-ave., Maida Vale, London, W.
Cockshott, E. H., A.M.I.C.E., A.M.I.E.E., assistant electrical engineer, City Tramways, Leeds, & 408, Meanwood-rd., Leeds.
Codd, Ll. B., A.M.I.E.E., engineer, Standard Works, Dame Agnes-st., Nottingham.
Codd, Mortimer A., A.I.E.E., 167, Oakwood-ct., Melbury-rd., Holland Park, W. (Telephone No. 594, Western.)
CODD ARC LAMP CO., LTD., manufacturing electrical engineers, Standard Works, Dame Agnes-st., Nottingham.
Coghlan, J. T., assistant engineer, Corporation Electricity Works, Bedford.
Cohen, B. S., A.M.I.E.E., telephone engineer, National Telephone Co., Telephone House, Victoria Embankment, London, E.C. (Teleph. No. 60, Head Office.)
Cohen, A. & E., patentees & manufacturers of the Frédureau patent light diffusing globes, 2, Bury-st., St. Mary Axe, London, E.C. (Telegrams: "Wuttenkirk, London." Telephone No. 5688, Avenue.)
Colchester Corporation Electricity Works & Electric Tramways. (Nat. Teleph. No. 87.) A. R. Sillar, M.I.E.E., M.I.MECH.E., engineer.
Cole, F. G., M.I.E.E., 29, Great George-st., London, S.W.; & 11, Dale-rd., Purley, Surrey.
Cole, Henry A. B., consulting engineer, 50, Lime-st., London, E.C. (Telegrams: "Carbuncle, London." Telephone No. 1750, Avenue.)
Cole, John A., manufacturing electrician, 45, Chapel-rd., West Norwood, London, S.E.
Cole, John R., electric bell manufacturer, 61, Freeman-street, Great Grimsby, Lincolnshire.
Cole, Wm., electrician & installation contractor, 20, Greenhill-parade, Harrow. (Teleph. No. 182, P.O.)
Cole, W. B., A.M.I.E.E., 62, Grosvenor-rd., Canonbury, London, N.
Cole & Co., electrical engineers, Victoria-chbrs., 42, Frederick-st., Edinburgh. (Teleph. No. 3648 Y., Central.)
Cole, Marchent & Morley, Ltd., steam engine & condensing plant makers, Prospect Foundry, Bradford. (Telegrams: "Cole, Bradford." Telephone No. 690.)
Cole, T. & W., Ltd., engineers & boiler makers, Park Road Ironworks, St. Ann's-rd., Burdett-rd., London, E. (Telegrams: "Slidevalve, London." Telephone No. 277, East.)
Coleby & Co., electrical engineers & contractors, 5 & 6, Princes-st., Cavendish-sq., London, W. (Teleph. No. 3224, Paddington.)
Coleman, A., M.I.E.E., Provincial Supt., Midland Province, National Telephone Co., Ltd., Telephone-bldgs., 19, Newhall-st., Birmingham. (Telegs.: "National Telephone, Birmingham." Teleph. No. 24, Central.)
Coleman, Arthur C., electrical engineer, Clifton House, Forest Hall, Northumberland. (Teleph. No. 0483, Benton.)
Coleman, C., electrician, Corporation Electricity Department, Hastings.
Coleman, G. T., electrician, 9, Cheapside, Leicester. (Nat. Telephone No. 990.)
Coleman, Hy. W., Wyther Lodge, Kirkstall, Leeds. Director The Colne & Trawden Light Railways Co.
Coles, W. J., A.M.I.E.E., 3, Park-ter., Beverley, Yorks. (Teleph. No. 63.)
Coles Bros., electrical engineers, High-st., Margate.
Collard, F. B., electrical engineer, Callender's Cable & Construction Co., Hamilton House, Victoria Embankment, London, E.C.
Collard, J. F., A.M.I.E.E., Electric Light Station, Stanhope Lines, Aldershot Camp.
Colledge, Roy & Co., oil manufacturers & refiners, Brown-street, Red Bank, Manchester. (Telegrams: "Friction, Manchester.")
Collet, H. van B., 9, Great George-st., Westminster, S.W. Director Durham Collieries Electric Power Co., Ltd.; director Houghton-le-Spring & District Electric Lighting Co., Ltd.
Collett, A. E., electrician, 1, Reginald-ter., Leeds.
Colley's Patents, Ltd., telegraph paper makers, 3–12, Marine-st., Bermondsey, London, S.E. (Telegs.: "Overeager, London." Teleph. No. 2987, Hop.)
Collier, W. H., Greystoke, Hale, Cheshire. (Telephone No. 305, Altrincham.) Chairman Railway Lighting, Ltd.
Collier, John, & Co., electrical engineers, King-st. West, Manchester. (Telegrams: "Ampere, Manchester." Telephone No. 3806.)
Collieries Electric Power Development Synd., Ltd., Dashwood House, New Broad-st., London, E.C. Registered Nov. 8, 1906. Nominal capital: £10,000 in £1 shares. Issued: 6000 shares, 4000 with 10s. called. Directors: Hon. A. Stanley, M.P.; Rt. Hon. Lord Armstrong; W. Meall Green, Esq.; C. E. Featherstonehaugh, Esq.; F. M. Voules, Esq. Secretary, C. H. B. Tucker.

Colliery Guardian (weekly, 5*d.*), 30 & 31, Furnival-st., Holborn, E.C.

Collings, F. S., A.M.I.E.E. 62, St. Augustine's-rd., Camden-sq., London, N.

Collinge, J., A.M.I.E.E., Generating Station, Frederick-rd., Salford, Manchester.

Collings, J. B., Bonamy House, Grange, Guernsey. Director Guernsey Railway Co., Ltd.

Collings, W. A., electrical engineer, Siemens Bros. Dynamo Works, Ltd., 46, High-st., Southampton. (Nat. Teleph. No. 1003.)

Collins, Adrian C., A.M.I.C.E., A.I.E.E., 61, Old Broad-st., London, E.C. (Teleph. No. 10541, Central.)

Collins, B. H., M.I.E.E., Liverpool Corporation Electric Supply Dept., Hatton Garden, Liverpool; & 17, Hawarden-ave., Sefton Park, Liverpool.

Collins, E. T., 28, Baldwin-st., Bristol. Director Keynsham Electric Light & Power Co., Ltd.

Collins, Henry, Tilehurst-rd., Reading. Chairman Reading Electric Supply Co., Ltd.

Collins, Percy, J.P., 81–83, Cheapside, London, E.C. Director Frinton-on-Sea & District Electric Light & Power Co., Ltd.

Collins, Thomas, superintendent Postal Telegraph Office, Brighton.

Collins, W., A.M.I.C.E., M.I.E.E., resident engineer, Crompton & Co., Ltd., 28, Baldwin-st., Bristol.

Collins & Co., electrical engineers, 31½, Whittall-st., Birmingham.

Collins & Price, electrical engineers, 28, Market-st., Hoylake (Teleph. No. 36 X., Hoylake); & 35, Moorfields, Liverpool. (Teleph. No. 5735, Central.)

Collinson, Vibert, civil engineer, 2, East India-ave., London, E.C. (Teleph. Central 65.)

Collinson Bros., electrical engineers, 3, Millergate, Bradford.

Collis, Alfred Geo., A.M.I.E.E., "Westholme," Belgrave-rd., New Moston, Failsworth, Manchester.

Collis, A. B., electrical engineer, West Quay Iron Works, Southampton.

Collis, W. H., M.I.E.E., A.K.C., A.M.I.C.E., deputy resident electrical engineer, Liverpool Corporation Electric Supply Department, Hatton Garden, Liverpool.

Colne Borough Electricity Works, Colne. (Telephone Nos.: 61; Engineer's House, 62.) A. G. Cooper, A.M.I.E.E., engineer.

Colne & Trawden Light Railways Co., Albion Works, Armley-rd., Leeds; & Colne, Lancs. (Telegs.: "Greenwood, Leeds;" & "Trams, Colne." Teleph. Nos.: 270, Leeds; & 30, Colne.) Nominal capital: £108,000 in ordinary & preference shares & £36,000 5 per cent. debentures. Issued: all the debentures. Directors: H. Copperthwaite, Esq. (chairman); H. W. Coleman, Esq.; A. Greenwood, Esq.; H. Greenwood, Esq.; A. G. Hopper, Esq. Manager & engineer, Marten Turner; secretary, J. B. Peck.

Colombo Electric Tramways & Lighting Co., Ltd., 11, St. Benet-pl., London, E.C. Registered Feb. 21, 1902. Nominal capital: £150,000 in £10 ordinary shares & £120,000 5 per cent. first mortgage debenture stock. £130,840 in ordinary shares has been issued & is fully paid. Directors: Henry Brooks, Esq. (chairman); H. Ansell, Esq.; I. M. Boustead, Esq.; H. Tabor Brooks, Esq.; Herbert Brooks, Esq. Secretary, P. Pears. Dividends: 1904, 1 per cent.; 1905 & 1906, 2½ per cent.; 1907, 4 per cent.; 1908, 5 per cent.

Colonial Agents in London. *See* CLASSIFIED SECTION.

Colonial Rail & Tramway Syndicate, Ltd., 16, St. Helen's-pl., London, E.C. Registered Feb. 14, 1908. Nominal capital: £2100 in 2000 "A" shares of £1 each & 2000 "B" shares of 1*s.* each. Secretary, E. Hamilton Burton.

Colquhoun, Wm., manufacturers' agent, 11, Queen Victoria-st., E.C.

Colquhoun, T. M., & Co., installation contractors, 153, Canning-st., Bridgeton, Glasgow.

Colson, A., M.I.C.E., M.I.E.E., electrical engineer, Leicester Corporation, Leicester. (Telegrams: "Gas, Leicester." Telephone No. 433.)

Colson, T. M., A.M.I.E.E., engineer & manager, Electricity Works, Hamilton.

Colston, J. R., electric light & power engineer, 3, New Inn Hall-st., Oxford. (Teleph. No. 418.)

Colthurst-Vesey, Capt. C., J.P., D.L., Lucan House, Lucan. Director Dublin & Lucan Electric Railway Co.

Coltman, H., & Sons, engineers & boiler makers, Loughborough. (Telegs.: "Coltmans, Loughborough." Nat. Teleph. No. 27.)

Coltman, W. W., & Co., boiler makers, Loughborough. (Telegs.: "Boilers, Loughborough." Teleph. No. 51.)

Colton, C. S., electrical engineer, c/o British Westinghouse Co., Norfolk-st., London, W.C.

Column Printing Co., Ltd., electrical news distributors, 20, Orange-st., Haymarket, London, W.C. (Telegs.: "Operant, London." Teleph. No. 5430, Gerrard.)

Colville, David, & Sons, Ltd., iron & steel manufacturers, Motherwell, N.B. (Telegs.: "Colville, Motherwell." Teleph. Glasgow, Royal 3755, & Motherwell 9.)

Colwyn Bay Urban District Council Electricity Works. (Telegrams: "Tudman, Colwyn Bay." Telephone No. 63.) Engineer & manager, A. R. Tudman, A.M.I.E.E.

Combe Barbour, branch of Fairbairn, Lawson, Combe Barbour, Ltd., engineers & machinists, Falls Foundry, Belfast. (Telegs.: "Combe, Belfast." Teleph. No. 18.) London office: 81 & 83, Knightrider-st., E.C. (Telegs.: "Gordolobo, London." P.O. Teleph. No. 1674, Central.)

Combe, G., & Co., consulting electrical engineers, Castle-lane-pl., Belfast. (Telegrams: "Potential.")

COMBINATION METALLIC PACKING CO., LTD., jointing specialists, Hillgate, Gateshead-on-Tyne. (Telegs.: "Combination, Gateshead." Teleph. Central 2364.)

Commans, R. E., M.I.C.E., mining engineer, 6, Queen-st.-pl., E.C. (Telegs.: "Adelaide, London." Teleph. No. 815, Bank.)

Commercial Cable Co., The, 23, Royal Exchange (Telegraphic address: "Yakcam, London." Telephone Nos. 1146 & 1147, Avenue); Stock Exchange Office, 1, Shorter's-ct., & 6, Throgmorton-st., The Baltic (Teleph. No. 7436, Central); 1, Northumberland-ave., W.C. (Teleph. No. 5145, Gerrard); 11, Duke-st., London Bridge, S.E. (Teleph. No. 878, Hop); 14, Mark-lane, London, E.C. (Teleph. No. 1145, Avenue); East India Avenue, Leadenhall-st., E.C. (Teleph. No. 1146, Avenue.) General offices: 55 & 56, Bishopsgate-st. Within, E.C. (Teleph. No. 2789, London Wall.) Head office: New York. Authorized capital: ordinary, $25,000,000, of which $23,000,000 have been issued, & $20,000,000 4 per cent. gold bonds or 4 per cent. debenture stock, all of which have been issued. President, Clarence H. Mackay, Esq.; George G. Ward, Esq., vice-president & general manager. Directors: George G. Ward, Esq. (chairman); Clarence H. Mackay, Esq.; Charles R. Hosmer, Esq.; G. Clapperton, Esq.; A. B. Chandler, Esq.; E. C. Platt, Esq.; the Right Hon. Lord Strathcona & Mount Royal; James Gordon Bennett, Esq.; Thomas Skinner, Esq.; Col. Wm. Jay; Dumont Clarke, Esq.; R. A. Smith, Esq.; S. S. Dickenson, Esq.; Albert Beek, Esq. (secretary); C. E. Merritt, Esq. Electrician, Chas. Priest, Esq., New York. Consulting electrician, John Gott, Esq., London. Manager in England, Fred. Ward, Esq. Quarterly dividends have been regularly paid on the shares since 1889.

Commercial Contract Corporation, Ltd., electrical & general contractors, 58, Lombard-st., London, E.C. (Telegrams: "Earliness, London." Telephone No. 159.)

Commercial Electric Co., Wellington-chbrs., 2, Victoria-st., Manchester (Telegs.: "Filament, Manchester." Teleph. City 3853); & 38, Leeds Exchange-chbrs., Briggate, Leeds.

Commercial Electro-Chemical Analysis Co., 15, Queen-st., London, E.C. (Telegs.: "Electrolyt, London." Teleph. No. 7608, London Wall.)

Commercial India Rubber Manufacturing & Supply Co., Ltd., 585, Commercial-rd., London, E.

Commercial Motor (weekly, 1*d.*), 7, 9, 11, 13 & 15, Rosebery-ave., London, E.C. (Telegs.: "Commercial Motor, London." Teleph. No. 5292, Holborn (3 lines).)

Commissioners of H.M. Works & Public Buildings, Storey's-gate, London, S.W. (Telegs.: "Travaux, London." Teleph. No. 2802, Victoria (4 lines).)

Compagnie Française de Charbons pour l'Electricité, 13, Idol-lane, London, E.C. (Tel. No. 133, Avenue.)

Compagnie Française des Câbles Télégraphiques, 24, Royal Exchange, London, E.C. (Telegs.: "Telepany, London." Teleph. Avenue 645); 2, Mincing-lane, London, E.C. (Teleph. Avenue 646); 5, New Bridge-st., E.C. (Teleph. Central 5952); Baltic Exchange, E.C. (Teleph. Central 7335); 24, Hop Exchange, S.E. (Teleph. Central 12007); 36, Victoria-st., S.W. (Teleph. Victoria 3651); & 44, Broad-st., New York, &c.

Compagnie Générale d'Electricité de Lourenço Marques (London agency), 408/423, Salisbury House, London Wall, London, E.C. (Telegs.: "Gergitha, London." Teleph. Nos. 2321 & 2322, Wall.) Registered in France. Capital: Fr. 1,250,000 in shares of Fr. 100 each. Directors: H. E. M. Bourke, Esq. (chairman); A. M. Billington, Esq. (consulting engineer); A. Davidson, Esq; M. L'Epine, Esq.; H. Sauer, Esq., M.D.

Compagnie Internationale pour le Chauffage des Chemins de Fer Systéme Heintz, Ltd., 82, York-rd., King's Cross, London, N.

Compensating Gearing Syndicate, Ltd., 10 & 11, Jermyn-st., London, W. (Teleph. No. 6534, Gerrard.)

Comtelburo, Ltd., telegraphic agents, 11, Tokenhouse-yard, London, E.C. (Telegrams: "Comtelburo, London." Telephone No. 1827, London Wall. Private Code used.)

Conacher, J., general manager Metropolitan Electric Supply Co., Ltd., 16, Stratford-pl., London, W.

Concanon, J. B., 28, Austin Friars, London, E.C. (Telegs.: "Concanon, London." Teleph. No. 2150, London Wall.) Director Brisbane Electric Tramways Investment Co., Ltd.; chairman Anglo-Argentine Tramways Co., Ltd.; director Brisbane Tramways Co., Ltd.

Concentric Condensers, Ltd., 22, Henrietta-st., W.C.

Concentric & General Contract Co., electrical engineers & contractors, 52, Queen Victoria-st., London, E.C.

Concordia Electric Wire Co., Ltd., electric wire manufacturers & dealers, 64, Salusbury-rd., Kilburn, N.W. (Telegs.: "Polianite, London.")

Conder, E. R., A.I.E.E., electrical inspector, National Boiler & General Insurance Co., Ltd., 38, Harboard-rd., Sheffield.

Conference of Railway Telegraph Engineers & Superintendents. Hon. secretary, G. A. Neale, Hull & Barnsley Railway, Hull. (Telegs.: "Neale, Junction, Hull." Nat. Teleph. No. 232 X.)

Congdon & Muir, electrical & mechanical engineers, 42, Deansgate, Manchester. (Telegs.: "Congdon, Manchester." Teleph. No. 4682, Central.)

Coninck-Westenberg, D. J. L., A.M.I.E.E., 9, Farquhar-rd., Wimbledon Park, London, S.W.

Connal, Allan R., A.M.I.E.E., Lawrence, Bow-lane, Finchley, London, N.

Connal, D. L., & Co., electric light & power contractors, Hunter-pl., Greenock.

Connell, F. R., A M.I.E.E., electrical engineer, 1, Exeter-rd., Brondesbury, London, N.W.

Connett, A. N., M.I.C.E., M.I.E.E., chief engineer, J. G. White & Co., 9, Cloak-lane, Cannon-st., London, E.C. (Telegs.: "Connett care Whitterick, London." Teleph. No. 3306, London Wall.)

Conning, Walter Day, A.M.I.E.E., 55, Gunton-rd., Clapton, N.E.

Connolly, H., electrician & director, Connolly Bros., Ltd., Blackley Vale Mills, Blackley, Manchester.

Connolly, James, M.I.E.E., electrical engineer, director & secretary Connolly Bros., Ltd., Blackley, Manchester.

CONNOLLY BROS., LTD., insulated wire & cable makers, Blackley Vale Mills, Blackley, Manchester. (Telegrams: "Connollys, Blackley." Telephone No. 2361.) London agents: C. F. Quicke & Co., 315, Euston-rd., N.W. (Telegrams: "Quicongo, London." Telephone No. 4226, Gerrard.) Registered June 1, 1895. Nominal capital: £30,000 in £5 shares & £30,000 debentures. Issued: £19,810 & all the debentures, all fully paid. Particulars of £2500 second mortgage debentures, treated by resolution of Dec. 16, 1907, & secured by a supplemental trust deed, dated Dec. 18, 1907 (having also, subject to the rights of the first mortgage debenture holders, the benefit of the original trust deed of July 15, 1901, covering £30,000 first mortgage debentures), have been filed. The said supplemental trust deed has also been registered. Directors: Jas. Connolly, Esq. (secretary); H. Connolly, Esq. (electrician). *See* CABLES.

Conquest, H., director Somerset & District Electric Power Co., Ltd., Broad Sanctuary-chbrs., Westminster, S.W.

Consett Electricity Works. Cleveland & Durham Electric Power, Ltd., proprietors. (Telegs.: "Unit, Consett." Teleph. No. 2, Consett.) General manager, A. B. Gridley; northern manager, C. W. Fairweather; resident engineer, F. H. McLoughlin.

Consolidated Accessories Co., general & electrical engineers, 27, Clement's-lane, London, E.C. (Telegs.: "Inbrake, London." Teleph. No. 5735, Central.)

Consol Electric Lamps, 17, Victoria-st., Westminster, London, S.W. (Teleph. No. 75, Westminster.)

Consolidated Electrical Co., Ltd., Broad-st. House, London, E.C. (Telegs.: "Goldsandes, London." Teleph. No. 9080, London Wall.) Registered April 16, 1903. Nominal capital: £125,000 in £1 shares (15,000 of which are cumulative 6 per cent. preference). All subscribed. The company holds 72,267 shares in the Anglo-Portuguese Telephone Co., Ltd. (out of an issued total of £100,000), besides shares & debentures in other companies. Directors: Herbert Allen, Esq. (chairman); J. H. S. Thomson, Esq.; Charles Woolley, Esq. Secretary, T. Taunton, F.I.C.S. Dividends on ordinary: March, 1907, 3½ per cent.; March, 1908, 3½ per cent.; March, 1909, 3½ per cent.

Consolidated Russian Asbestos & Rubber Co., 11 & 12, Bridgewater-st., London, E.C.

Constable, Ernest J., A.M.I.E.E., Electricity Works, Bloom-st., Manchester.

Constable, J. A., resident engineer, Generation Dept., South Metropolitan Electric Light & Power Co., Ltd., 183 & 185, High-st., Lewisham, S.E.

Constable, Archibald, & Co., Ltd., publishers of electrical & general engineering & scientific books, 16, James-st., Haymarket, London, S.W. (Telegrams: "Dhagoba, London." Telephone No. 12432, Central.)

Constans, Philip, electrician, 303, High Holborn, London, W.C.

Constantine, C., electrical engineer, 90 & 92, Fargate, Sheffield.

Continuous Rail Joint Co. of Great Britain, Ltd., 20, King William-st., London, E.C. (Telegrams: "Junctionis, London." P.O. Telephone No. 5002, Central.)

Contract Journal & Specification Record (weekly; ann. sub., 26*s.*; foreign, 34*s.* 8*d.*), 127/130, Temple-chbrs., Temple-ave., London, E.C. (Telegs.: "Seejasir, London." Teleph. Holborn 5264.)

Contractors' Supply & Equipment Co., tramway tool makers, 12, Cherry-st., Birmingham.

Conway, R., director Bettwys-y-Coed Electric Lighting Co., Ltd., Miners Bridge House, Bettwys-y-Coed.

Cooch, Herbert, A.M.I.E.E., Electricity Works, 85, Fenchurch-st., London, E.C.

Coode, Son, & Matthews, consulting engineers, 9, Victoria-st., London, S.W. (Telegrams: "Penlee, London." Telephone No. 47, Westminster.)

Cook, David, M.I.C.E., M.I.E.E., consulting engineer, 165, Queen Victoria-st., E.C. (Telegrams: "Nasibwali, London." Telephone No. 5143, Bank); & 30, Lancaster Park, Richmond, Surrey.

Cook, E. B., A.I.E.E., 110, Cleveland-rd., Sunderland.

Cook, Ernest H., D.SC. (LOND.), A.R.C.S., F.I.C., consulting electrician, analytical & consulting chemist, Clifton Laboratory, 27, Berkeley-sq., Bristol. (Telephone No. 439.)

Cook, Ernest Rider, A.I.E.E., "Ceeilhurst," Uplands Park, Enfield.

Cook, S. H., director Leatherhead & District Electricity Co., Ltd., 28, Victoria-st., S.W.

Cook, W. F., electric light contractor, 150, High-st., Plumstead, London, S.E. (Teleph. No. 442, Woolwich.)

Cook, William W., M.I.E.E., Nutwell, Shortlands, Kent. (Teleph. No. 33, Bromley.)

Cook, Charles E., & Son, telegraph, telephone & electrical tool makers, Ashton-in-Makerfield. (Telegs.: "Cookandson, Ashton-in-Makerfield.")

Cook, F. W., & Co., installation contractors, Bargate-st., Southampton.

Cooke, A. G., M.A., A.M.I.E.E., principal Paddington Technical Institute, Saltram eres., London, W.

Cooke, C. J, electrical engineer, 112, Station-rd., Wood Green, London, N.

Cooke, Conrad W., M.I.E.E., consulting electrical engineer, The Pines, Langland-gdns., Hampstead, N.W.

COOKE, E. J., 2, 4, 5, Parsonage, MANCHESTER.

Walrus & Bull Neck Leather for Polishing.
Tanned Buffalo Butts & Bends.
Rolled Hard Leather for Polishing, &c.
Buff Leather in Hides, Butts & Strips.
Hard Raw Hide Mallets specially made for workers in Brass, Silver, Copper, &c., &c.
Large Buff & Glazer Wheels covered with Bull Neck or Walrus Leather.
All kinds of Leathers for Mining, Engineering & Metal Polishing Trades.
(Telegraphic Address: "HIDES, MANCHESTER." Tel. No. 1544.)

Cooke, F. W., M.I.E.E., assistant telegraph superintendent, Gt. Northern Railway Co., Retford.

Cooke, Geo., electrical engineer, Hawthorn-st., Wilmslow, Cheshire.

Cooke, John, concrete for engine beds, &c., Folly Hall, Huddersfield. (Telegrams: "Compo, Huddersfield." Telephone No. 395.)

Cooke, W. Cozens, A.M.I.E.E., Edison & Swan United Electric Light Co., Ltd., Ponder's End, N.

Cooke, W. H., A.M.I.E.E., Corporation electrical engineer, Luton.

Cooke, J., & Son, electrolier manufacturers, Midland Davy Lamp Works, 203, Lawley-st., Birmingham. (Telegrams: "Clanny, Birmingham.")

Cooke, T., & Sons, Ltd., scientific instrument makers, 14, Great Chapel-st., Westminster, London, S.W. (Telegs.: "Coordinate, London." A.B.C., 4th & 5th edits. Teleph. Victoria 625.)

Cooke, W., & Co., electrical engineers, Queen-st. Arcade, Cardiff.

Cookes & Swinnerton, steel hoop & wire manufacturers, Barrow Steel Wire Works, Barrow-in-Furness.

Cooksey, D. F., A.M.I.C.E., M.I.E.E., consulting engineer, 5, Maitland-rd., Reading.

Cookson, M., electric light contractor, 79, London-st., Southport. (Teleph. No. 538.)

Cookson, W. A., Laverock Bank, Seaforth. Director Liverpool District Lighting Co., Ltd.

Cookson & Co., Albion House, 59/61, New Oxford-st., London, W.C. (Telegs.: "Kuemacoo, London." Teleph. Gerrard 6409.)

Cookson & Co., Ltd., lead manufacturers & antimony refiners, Milburn House, Dean-st., Newcastle-on-Tyne. (Telegs.: "Cookson, Newcastle-on-Tyne." Nat. Teleph. Nos. 986 & 987, Central.)

Coom, W. J., secretary, British Electric Calibrated Fuse Co., Harpenden, Herts. (Telegs.: "Electrical, Harpenden." Teleph. No. 22, Harpenden.)

Coombes, H. H., installation contractor, 6, Nelson-st., Southend-on-Sea. (Teleph. No. 35 X.)

Coombs, D. H., electrical engineer, Whitchurch & Pangbourne Electric Supply Co., Ltd., Whitchurch, Oxon.

Coon, J. M., consulting electrical engineer, St. Austell. (Telegs.: "Rosemellyn, St. Austell." Nat. Teleph. No. 1 Y.)

Cooney, Wm. A., resident electrical engineer, Electricity Works, Kildare, Ireland.

Cooper, A. G., A.M.I.E.E., borough electrical engineer, Colne, Lancs. (Telephone No. 62.)

Cooper, Arthur R., A.M.I.C.E., A.M.I.E.E., engineer, District Electric & London Underground Electric Railways, St. James' Park Station, London, S.W.

Cooper, G. P., A.M.I.E.E., May Bank, Clarendon-rd., Wallington, Surrey.

Cooper, J. H., director Paignton Electric Light & Power Co., Ltd., 5, Palace-ave., Paignton.

Cooper, J. N., A.M.I.E.E., 141, Wymering Mansions, Elgin-ave., London, W.

Cooper, John, electrician, 333, Gray's Inn-rd., King's Cross, London, W.C. (Teleph. No. 310, North.)

Cooper, J. S. S., M.A., B.SC., A.M.I.E.E., electrical engineer, c/o British Westinghouse Co., Norfolk-st., Strand, W.C.

Cooper, M. K., A.M.I.E.E., 27, Oswald-st., Glasgow.

Cooper, R., 53, Coleman-st., London, E.C. Director Mersey Railway Co.

Cooper, R. Elliott, joint engineer, Manchester & Liverpool Electric Express Railway Co., 41, Coleman-st., London, E.C.

Cooper, Robert G., A.M.I.E.E., electrical engineer, 6, Dogo-st., Cardiff.

Cooper, R. W., director Loch Leven Water & Electric Power Co., 14, Austin Friars, London, E.C.

Cooper, S. W., Albert-rd., Bournemouth. Director Penzance & District Electric Supply Co., Ltd.

Cooper, T., M.A. (Cantab), A.M.I.C.E., M.I.M.E., M.I.E.E., Metropolitan Asylums Board, Victoria Embankment, E.C. (Telegs.: "Engineer, Asylum Board, London." Teleph. No. 2461, Holborn.)

Cooper, T. L. Reed, M.I.MECH.E., director J.-L. Manufacturing Co., Ltd., Johnson-Lundell Works, Southall, Middlesex.

Cooper, V. B. D., A.M.I.C.E., M.I.E.E., 22, Buckingham-gate, Westminster, London, S.W. (Telegrams: "Megohm, London." Telephone No. 134, Westminster.)

Cooper, Wm. J., A.M.I.MECH.E., A.M.I.E.E., Bourne House, Whyteleafe, Surrey; & British Engine, Boiler & Electrical Insurance Co., Ltd., 12, King-st., Manchester. (Telegs.: "Longridge, Manchester." Teleph. Nos. 7157, 7158, Nat.)

Cooper, William Ranson, M.A., B.SC., A.I.C., M.I.E.E., consulting electrical engineer, 82, Victoria-st., London, S.W. (Teleph. Westminster 292.)

Cooper, C., & Co., electrical engineers, Albert-rd., Bournemouth; & 14, Gloster-rd., London, S.W.

Cooper & Cunningham, electrical contractors, 32, Market-pl. & Market Gates, Great Yarmouth. (Teleph. No. 80.)

Cooper, Edwin, & Co., engineers, 86, Leadenhall-st., London, E.C. (Telegrams: "Endure, London.")
Cooper, Geo., & Son, electric bell fitters, 17, Sheet-st., Windsor.
Cooper, J. K., & Son, electrical engineers, Castle Hill, Maidenhead.
Cooper, M. K., & Co., consulting electrical engineers, 27, Oswald-st., Glasgow. (Teleph. Argyle 2688.)
Cooper, W. G., & Co., electrical & motor engineers, Bourne House, Whyteleafe, Surrey.
Coote, Alfred W., district superintendent of the Edison & Swan United Electric Light Co., Ltd., 3, Anne-st., Hull. (Telegrams: "Ediswan, Hull." Telephone No. 449.)
Coote, Edward, A.I.E.E., Harleyford, St. Margarets, Twickenham.
Coote, J. F., A.M.I.E.E., engineer-in-chief's department, National Telephone Co., Temple-ave., London, E.C. (Nat. Telephone No. 60, Head Office.)
Coote, P., consulting electrical engineer, 3, North-st., Quadrant, Brighton. (Teleph. No. 334, P.O.)
Cope, F., & Co., electrical contractors, 5, Whitcombe-st., London, S.W.
Cope & Timmins, Ltd., art metal workers, 21, Newman-st., London, W. (Telegrams: "Tenso, London." Telephone No. 2837, Gerrard); & Icknield-sq., Birmingham. (Telegrams: "Vitrified, Birmingham." Telephone No. 3593.)
Copeland & Co., electrical engineers, Parkin-st., Stockton-on-Tees.
Copland, C. D., M.I.E.E., consulting electrical engineer, 16, John Dalton-st., Manchester.
Copland & Cardin, consulting electrical engineers, 16, John Dalton-st., Manchester.
Copper Co., Ltd., manufacturers of compound wire bars, &c., Queenborough, Kent.
Copperthwaite, H., The Crescent, Scarborough. Chairman The Colne & Trawden Light Railways Co.
Copperthwaite, R. A., resident engineer, N.E.R. Tynemouth Electricification, Heaton Carriage & Wagon Works, Walker Gate. (Nat. Teleph. No. 2896.)
Copping, J. L., electrical engineer, Blackman Export Co., Ltd., 70, Finsbury Pavement, London, E.C.
Corbett, F., electrical engineer, 6, Baker-st., London, W. (Telephone No. 182, Paddington.)
Cordoba (Argentine) Electric Tramways Construction Co., Ltd., 2, Broad Street-pl., London, E.C. Registered Feb. 12, 1907. Nominal capital: £50,000 in £1 shares. Directors: G. Kitchin, Esq.; W. Rutherford, Esq.; G. Flett, Esq.; M. S. Myers, Esq.
Cordoba Light, Power & Traction Co., Ltd., 62, London Wall, London, E.C. (Telegs.: "Hydrolipo, London." Teleph. City 2735.) Registered Sept. 24, 1908. Nominal capital: £500,000 in £1 shares. Issued: 410,947 shares & 5 per cent. debenture stock, £200,000. Trust deed, dated March 12, 1909, to secure £500,000 debenture stock & £25,000 premium. Directors: Sir J. I. Courtenay (chairman); G. Kitchin, Esq.; T. Frame Thomson, Esq. (deputy-chairman); H. A. Trotter, Esq.; T. N. Vail, Esq. Secretary, A. C. Whitmee.
Cork Electric Tramways & Lighting Co., Ltd., 83, Cannon-st., London, E.C.; & Cork. (Telegrams: "Tramways, Cork." Telephone Nos.: 135, London Wall; & Offices, 78; Power Station, 535, Cork.) Registered June 18, 1897. Nominal capital: £125,000 in £10 ordinary shares & £125,000 in 5 per cent. cumulative preference shares of £10 each & £115,000 in 4 per cent. mortgage debenture bonds of £100 each. Issued: £115,000 ordinary & £123,270 preference. £115,000 debentures. Directors: A. R. Monks, Esq. (chairman); W. M. Murphy, Esq.; E. Anderson, Esq.; H. C. Levis, Esq.; W. B. H. Martindale, Esq. Resident engineer, H. H. Nalder; secretary, A. Clements. Dividends: 1903, 1904, 1905 & 1906, 5 per cent.; 1907 & 1908, 3 per cent.
Corke, N. R., A.M.I.E.E., 24, Birdhurst-rd., South Croydon.
Corking, J. T., electrician, Jackson-st., Gateshead.
Corlett, G. S., electrical engineer (Corlett Electrical Engineering Co., Ltd.), Wigan. (Telegrams: "Corlett, Wigan." Telephone No. 63.)
Corlett, W. J., electrician, 21 & 23, Nelson-st., Douglas, Isle of Man. (Teleph. No. 249.)
Corlett Electrical Engineering Co., Ltd., Wilcock-st., Wigan. (Telegs.: "Corlett, Wigan." Teleph. No. 63.) Issued capital: £6200 in 620 ordinary shares of £10 each, on all of which the full amount has been paid. Directors: Peter Kirk, Esq.; George Arthur Kirk, Esq. (secretary); George Stephen Corlett, Esq. (managing); Thomas Kirk, Esq.; Wm. Tomlinson, Esq.
Cormack, A. Campbell, M.I.E.E., National Boiler & General Insurance Co., 22, St. Ann's-sq., Manchester.
Cormack, J. D., B.SC., A.M.I.C.E., M.I.MECH.E., M.I.E.E., professor of mechanical engineering, University of London, Engineering Laboratory, University College, Gower-st., London, W.C. (Teleph. Central 3979.)
Cornall, Thomas, electric light contractor, Haymarket-st., Bury. (Nat. Telephone No. 103.)
Cornelius, V. A., A.M.I.E.E., Fire Brigade, Southwark Bridge-rd., London, S.E.
Cornell, Wm. T., electrician, 67, May-st., West Kensington, & 4, Church Walk, Kensington, London, W.
Cornford, E., electrical engineer (Roberts, Cornford & Co.), 8A, City-rd., London, E.C.
Cornwall Electric Power Co., 89 & 90, Cheapside, London, E.C. Nominal capital: £450,000. Loan: £150,000. Directors: F. H. Lewis, Esq.; C. Foster, Esq.; O. Wethered, Esq. Consulting engineer, Maurice Georgi; secretary, John A. Stoneham.
Cornwallis-West, G. F. M., director Associated Cos. of the British Electric Traction Co., Ltd., Electrical Federation Offices, Kingsway, W.C.
Corrick, W. W., electric lighting contractor, 141, Liverpool-rd., London, N. (Teleph. No. 1768, North.)
Corrie, A. Wynne, Park Hall, Oswestry. Chairman Oswestry Electric Lighting & Power Co., Ltd.

Corse, W. J., & Co., wholesale manufacturing electricians, 45, Union-st., Plymouth. (Teleph. No. 871.)

Corson, F. H., A.M.I.C.E., A.M.I.E.E., chief electrical engineer, Corporation Electricity Works, Gloucester.

Cort, Arthur, & Co., vulcanized fibre & gutta-percha manufacturers, 303½, Camberwell-rd., London, S.E. (Telegs.: "Cort, Camberwell." Teleph. No. 3273, Hop.) Factory: Bullace Works, Camberwell. Sole agents for Great Britain for H. Rost & Co.

Cort, Robert, & Son, Ltd., civil, electrical & mechanical engineers, Kennet Iron Works, De Bohun-rd., Reading. (Telegs.: "Corts, Reading." Teleph. No. 1002.)

Cosens & Co., electrical engineers & contractors, The Quay, Weymouth.

Cossor, A. C., Ltd., glass blowers for electrical purposes & incandescent lamp makers, 54, Farringdon-rd., London, E.C. (Teleph. No. 10547, Central.)

Costa Rica Electric Light & Traction Co., Ltd., 249, Dashwood House, New Broad-st., E.C. (Telegrams: "Anelectric, London." P.O. Telephone No. 3975, Central.) Registered March 10, 1898. Nominal capital: £130,000 in £1 shares, all issued & paid. A principal trust deed, dated March 30, 1898, to secure £130,000 5 per cent. debentures, created March 14, 1898, & a supplemental trust deed, dated Dec. 23, 1903, to secure £100,000 further 5 per cent. debentures, created Nov. 25, 1902, have been registered. A second supplemental trust deed modifying the previous deeds was executed on June 20, 1906. Two trust deeds, dated Oct. 16, 1908, & Sept. 14, 1909 (the second deed modifying the first), were registered to secure £15,000 & £85,000 = £100,000 6 per cent. prior lien debentures authorized, all ranking *pari passu* repayable on July 1, 1954, redeemable by a sinking fund to commence with the year 1914. Directors: W. F. Leese, Esq. (chairman); F. Davies, Esq.; C. A. Vansittart, Esq.; F. M. Crisp, Esq.; F. Witting, Esq. Secretary, J. Zillhardt. Dividends: 1906, 1907, 1908 & first half of 1909, *nil; interest on debentures paid regularly to date.*

Coton, Chas., A.I.E.E., Gipsy Lodge, Bexley Heath, Kent.

Cotsworth, H. G., A.M.I.E.E., A.M.I.MECH.E., head of Electrical Engineering Department, Wigan & District Mining & Technical College, Wigan, Lancs.

Cotsworth, Wm., A.M.I.E.E., Sunny Bank, Westmoreland-rd., Urmston, nr. Manchester.

Cottam, G. H., M.I.E.E., chief electrical engineer, Borough Council Electricity Works, Hampstead, London, N.W.

Cotterell, Arthur E., assistant provincial superintendent, National Telephone Co., Ltd., 36, Whitefriars-st., London, E.C. (Teleph. Nos.: 101, Head office.)

Cotterell, Morton B., director of Veritys, Ltd., Hardman-st., Deansgate, Manchester.

Cotton, W. F., D.L., Hollywood, Dundrum, Co. Dublin. Director Dublin United Tramways Co., Ltd.

Cotton Bros., electric wiring contractors, Back Church-st., Blackpool.

Cotton Powder Co., Ltd., manufacturers of explosives, safety fuses & electric firing appliances, 32, Queen Victoria-st., London, E.C. (Telegs.: "Tonita, London." A.B.C. Code, 5th edition. Teleph. No. 7942, Central.)

Cottrell & Beszant, electric lighting contractors, 5, Cases-st., Liverpool, W.

Coubro & Scrutton, wireless telegraph mast constructors, 11, West India Dock-rd., London, E.; & Works: Millwall, London, E. (Telegs.: "Coubro, London." Nat. Teleph. Nos. 7 & 699E.)

Coubrough, A. C., M.A., B.SC., C.E., M.I.E.E., manager, Electrical Department, Mather & Platt, Ld., Park Works, Manchester. (Telegs.: "Coubrough, c/o Sprinkler, Manchester." Teleph. No. 5661.)

Couch, Charles Thomas, electrician, 133, Cambridge-street, Pimlico, London, S.W.

Couldwell, A., electrical engineer, 3, Leyden-st., Glasgow. (P.O. Teleph. 4897; & Nat. Charing Cross 321.)

Coulson, W. A., M.I.E.E., 47, Broad-st., Mile End, Glasgow. Director Mavor & Coulson, Ltd.

Coulson-Crawford, Henry, A.M.I.E.E., electrical engineer, Victoria Bridge, Manchester.

Coultas, C., instructor in electrical engineering, Municipal Technical School, Birmingham.

County Chemical Co., Ltd., makers of motor & accumulator repair outfits, &c., Chemico Works, Bradford-st., Birmingham. (Telegs.: "Hilda, Birmingham." Teleph. Midland 1720–1.)

County of Durham Electric Power Supply Co., Royal Exchange-bldgs., Newcastle-on-Tyne. Nominal capital: £500,000 in shares, & £166,000 by loan. Directors: J. H. Armstrong, Esq. (chairman); W. L. Madgen, Esq.; J. T. Merz, Esq., D.C.L.; R. P. Sloan, Esq.; Sir Lindsay Wood, Bart. Consulting engineers, Merz & McLellan; manager, A. S. Esslemont; secretary, N. H. Firmin. Dividends: 1902, 4 per cent.; 1903, 2 per cent.; 1906, 3½ per cent.; 1907, 3½ per cent.; 1908, 3·8 per cent.

County of Durham Electrical Power Distribution Co., Ltd., Royal Exchange-bldgs., Newcastle-on-Tyne. (Telegs.: "Energy, Newcastle-on-Tyne." Teleph. Nos. 882–886, Newcastle.) Registered April 19, 1899. Capital: £500,000 in 50,000 5 per cent. preference shares of £5 each & 50,000 ordinary shares of £5 each & £250,000 first mortgage debenture stock, secured by trust deed, all subscribed. Directors: J. T. Merz, Esq., D.C.L. (chairman); J. H. Armstrong, Esq.; W. L. Madgen, Esq.; R. P. Sloan, Esq.; Rt. Hon. Robt. Spence Watson, LL.D.; Sir Lindsay Wood, Bart. Consulting engineers, Messrs. Merz & McLellan; manager, A. S. Esslemont; secretary, A. Winlo. Dividends on ordinary shares: 1905 & 1906, 4 per cent.; 1907, 2 per cent.

County Fire Office, Ltd., 50, Regent-st., London, W.; & 14, Cornhill, E.C. (Telegs.: "County Fire, London." Teleph. Nos. 822 & 11982, Central.)

County of London Electric Supply Co., Ltd., Moorgate-court, Moorgate-pl., London, E.C. (Telegs.: "Partnership, London." Teleph. Nos.: 2681 & 2682, London Wall; & 7492, Central.) Registered as the County of London Electric Lighting Co., Ltd., June 30, 1891. Name changed in 1893 & 1904. Directors: J. B. Braithwaite, Esq. (chairman); F. W. Reynolds, Esq.; A. H. Sanderson, Esq.; F. E. Savory, Esq.; R. P. Sellon, Esq.; Joseph Shaw, Esq. General manager & secretary, H. B. Renwick; engineer-in-chief, C. P. Sparks, M.INST.C.E. Nominal capital: £800,000 in £10 ordinary shares, & £800,000 in £10 preference, in addition to which £1,000,000 can be raised by debentures. Issued: 40,000 ordinary shares of £10 each & 55,000 6 per cent. preference shares of £10 each, fully paid. £400,000 4½ per cent. debenture stock & £400,000 4½ per cent. second debenture stock, secured by trust deed, dated Jan. 23, 1899, a trust deed, dated May 12, 1903, & an acknowledgment of indebtedness, dated Oct. 13, 1904. Particulars of £500,000 first debenture stock, & £500,000 second debenture stock, created by resolutions of various dates from Jan. 23, 1899, to June 28, 1909, & secured by trust deeds, dated Jan. 23, 1899, May 12, 1903, & July 5, 1909, have been filed. Dividends on preference shares, 6 per cent. for 1901, 1902, 1903, 1904, 1905, 1906, 1907 & 1908. On ordinary shares: 1904, 4½ per cent.; 1905, 1906, 1907 & 1908, 5 per cent.

County of Middlesex Light Railways, County Engineers' Department, Guildhall, Westminster, S.W. (Telephone No. 218, Westminster.) Engineer, H. T. Wakelam, M.I.C.E.

County of Northampton Electric Power & Traction Co., Ltd., Electrical Federation Offices, Kingsway, London, W.C. Registered April 24, 1900. Nominal capital: £25,000 in £10 shares, all issued, & fully paid. Directors: W. L. Madgen, Esq. (chairman); Lord Vaux of Harrowden; Geo. Offor, Esq. Managing engineer, W. J. S. Jones, A.M.I.E.E.; secretary, C. H. Godward.

Couper, James, & Sons, manufacturers of globes & shades for gas, oil & electric lighting, &c., City Glass Works, Glasgow. (Telegs.: "Coupers, Glasgow." Teleph. Nos.: 2804, Corp.; & 6649, Royal, Nat.)

Coupier & Co., bronze statuary figures for electric lighting, 195, Wardour-st., W. (Teleph. Gerrard 2277.)

Course, W., & Son, engineers, Hassett-st., Bedford.

Court, John R. T., electrical engineer, 1, Undercliff-rd., Lewisham, London, S.E.

Courtenay, Sir Irving, M.A., M.I.E.E., chairman of United River Plate Telephone Co., Ltd.; & Chelsea Electricity Supply Co., Ltd.; director Electric Construction Co., Ltd.; director Oxford Electric Co., Ltd.; director Cordoba Light, Power & Traction Co., Ltd.; director London Electric Supply (Joint Committee), Ltd.; chairman & managing director Electrical Power Storage Co., Ltd., 4, Great Winchester-st., E.C.

Coutts, Frederick, A.I.E.E., general manager & engineer, Paisley District Tramways Co., Paisley, N.B. (Teleph. No. 218.)

Coutts & Co., electrical engineers, 140, Bath-st., Glasgow. (Telegs.: "Clutches, Glasgow." Teleph. No. 397, Douglas.)

Couves, H. A., electrical engineer, c/o Newcastle-on-Tyne Electric Supply Co., Ltd., Hood-st., Newcastle-on-Tyne.

Couzens, George Edwin, electrical engineer, 219, 221 & 223, Commercial-rd., Landport, Portsmouth.

Couzens, H. H., A.M.I.E.E., West Ham Corporation electrical engineer, Tucker-st., Canning Town, London, E.; & 84, Romford-rd., Stratford, E.

Couzens, H. W., M.I.E.E., consulting electrical engineer, Morgan, Williams & Couzens, 39, Victoria-st., London, S.W. (Telegs.: "Consonance, London." Teleph. No. 5029, Westminster.) Managing director & engineer Northwood Electric Light & Power Co., Ltd.

Coveney, Arthur, tramways engineer & general manager, Urban District Council Tramways, Erith. (Nat. Teleph. No. 36, Erith.)

Coveney, E., electrical engineer, 20, Belle Vue-rd., Ramsgate. (Teleph. No. 9 Y.)

Coventon, G. L., resident engineer, Chepstow Electric Light & Power Co., Nelson-st., Chepstow.

Coventry Corporation Electricity Works. (Teleph. No. 161.) Engineer, G. Tough.

Coventry Electric Tramways Co., The, Tramway Depôt, Priestly's Bridge, Coventry (Telegs.: "Tramways, Coventry." Teleph. No. 372); & 8, Crosby-sq., London, E.C. (Telegs.: "Carwheel, London.") The old company incorporated by Act of Parliament has been wound up & absorbed by the new company incorporated by Act of Parliament, 1897. By Act of Parliament dated Aug. 14, 1903, the capital was increased to £130,000 in £10 shares, all issued & fully paid. Borrowing powers also increased to £34,000 in 4½ per cent. debenture bonds of £100 each, all issued & fully paid. Directors: Baron E. B. d'Erlanger (chairman); Hon. A. G. Brand; F. FitzGerald, Esq.; E. A. Hopkins, Esq. (managing). Manager & resident engineer, T. R. Whitehead; consulting engineer, I. E. Winslow; secretary, J. G. Mills. Dividends: 1901, 1902 & 1903, 2½ per cent.; 1904, 2 per cent.; 1905, 3 per cent.; 1906, 3 per cent.; 1907, 1908 & 1909, 3½ per cent.

Coventry Municipal Technical Institute, Earl-st., Coventry. (Telephone No. 193.)

Cowan, E. W., M.I.E.E., 4, Queen Victoria-st., London, E.C.

Cowan, John, electrical engineer, Gateacre Nurseries, Gateacre, Lancs. (Telegrams: "Cowan, Gateacre." Telephone No. 70.)

Cowan, J. H., Colonel, R.E., A.M.I.E.E., War Office, Whitehall, London, S.W.

Cowan, S. H., Captain R.E., A.M.I.E.E., c/o Cox & Co., 16, Charing Cross, London, S.W.

Cowans Limited, manufacturing electrical & mechanical engineers, Springfield-lane, Salford, Manchester (Telegs.: "Control, Manchester." Teleph. City 4897 Manchester); & Mansion House-bldgs., 4, Queen Victoria-st., London, E.C. (Telegs.: "Keypoint, London." Teleph. Central 7234.) Works: Springfield-lane, Salford. Registered May 16, 1898. Capital: £24,520 in 3504 ordinary shares of £5 each & 2000 preference shares of £3 10s. each. Issued: 1504 ordinary, 2000 preference & £6000 debentures.

Cowans, Sheldon & Co., Ltd., electric crane manufacturers, Carlisle. (Telegrams: "St. Nicholas, Carlisle." Telephone No. 1013.)

Cowap, G. F., electrician & engineer, Tarporley, Cheshire.

Coward, John, & Co., copper merchants, Exchange-buildings, Lombard-st., Newcastle-on-Tyne.

Cowburn Safety Valve Co., Ambrose-st., West Gorton, Manchester. (Telegrams: "Valvular, Manchester." Telephone No. 5221, Central.)

Cowes Electricity Works, Isle of Wight Electric Light & Power Co., Ltd., Cowes, Isle of Wight. (Teleph. No. 44, Cowes.) Engineer & manager, A. E. Mayes, A.M.I.E.E.

Cowey Engineering Co., Ltd., speed indicator makers, Kew Gardens Railway Station, Kew Gardens, London, S.W. (Telegs.: "Cowey, Kew Gardens." Teleph. No. 447, P.O., Richmond.)

Coweys, Ltd., electrical & mechanical engineers, 39, Victoria-st., Westminster, London, S.W.

Cowie, C. M., The Castle, Bude. Director Bude Electric Supply Co., Ltd.

Cowley, F., superintendent for Ireland for National Telephone Co., Ltd., Crown Alley, & Temple Bar, Dublin.

Cowlishaw, Walker & Co., Ltd., clutch makers, Etruria, Stoke-on-Trent. (Telegs.: "Cowlishaw.")

Cownie, W. B., general manager & secretary National Electric Construction Co., Ltd., Queen Anne's-chbrs., Westminster, London, S.W. Director Musselburgh & District Electric Light & Traction Co., Ltd.; director Rhondda Tramways Co., Ltd.; director Mexborough & Swinton Tramways Co.; director Wisbech Electric Light & Power Co., Ltd.; director West Yorkshire Tramways Co.; director North British Electric Power Syndicate, Ltd.; director City of Oxford Electric Tramways, Ltd.; director Folkestone, Sandgate & Hythe Tramways Co.; director Oxford Tramways Syndicate, Ltd.; director Torquay Tramways Co., Ltd.

Cowper-Coles, Sherard, M.I.E.E., consulting electro-metallurgist, Grosvenor Mansions, Victoria-st., S.W. (Telegs.: "Zincking, London." Teleph. Westminster 748; Works, Kensington 1112, Willesden 522.)

Cowper-Coles Copper Corporation, Ltd., 82, Victoria-st., London, S.W.

Cowper-Coles Engineering Co., Ltd., electro-metallurgists, mechanical, consulting, electrical & chemical engineers, Grosvenor Mansions, 82, Victoria-st., London, S.W. (Telegs.: "Zincking, London." Teleph. Westminster 748.)

Cowper-Coles Galvanizing Syndicate, Ltd., galvanizers & electro-metallurgists, Grosvenor Mansions, Victoria-st., Westminster, S.W. (Telegs.: "Zincking, London." Teleph. No. 748, Westminster.) Capital: £2000 in 500 "A" & 1500 "B" shares of £1 each. All have been taken up, & 500 of each class issued as fully paid. The full amount has been called & paid on the remainder. Debentures: £1200. Issued: £1100.

Cowper-Coles Inventions Development Co., Ltd., electrical engineers & metallurgists, Grosvenor Mansions, 82, Victoria-st., S.W. (Telegs.: "Zincking, London." Teleph. No. 748, Westminster.)

Cowtan & Sons, Ltd., engineers & contractors, 309, Oxford-st., London, W. (Telegs.: "Cowtan Sons, London." Teleph. No. 5036, Gerrard.)

Cox, A. W., A.M.I.E.E., Highfield Works, Feltham, Middlesex.

Cox, Chas. W., district manager Edison & Swan U. E. L. Co., Ltd., Renshaw-st., Liverpool. (Telegs.: "Ediswan, Liverpool." Teleph. Royal 5052.)

Cox, E. F., borough electrical engineer, Wishaw, N.B.

Cox, Ernest Jas., A.M.I.E.E., 318, Kennington Park-rd., London, S.E.

Cox, Ernest Spencer, A.I.E.E., 22, St. James's-sq., Bath.

Cox, Geo., A.M.I.E.E., 23A, Castletown-rd., West Kensington, London, S.W.

Cox, H. Ainslie, teacher of electricity, Harris Institute; & Dick, Kerr & Co., Ltd., Preston, Lancs.

Cox, H. G., electrician & electrical stores, 365, Soho-rd., Handsworth, Birmingham.

Cox, H. Porter, electrical engineer, 4, Speldhurst-rd., Bedford Park, London, W.

Cox & Childs, electric light & power contractors, Mansfield.

Cox & Co., electrical & mechanical engineers, 70, Higham-rd., Rushden, Northants. (Telegs.: "Cox, Engineer, Rushden." Nat. Teleph. No. 1 Y.)

Cox, Harry W., & Co., Ltd., manufacturers of X-ray & electro-medical apparatus, 47, Gray's Inn-rd., London, W.C.

Cox & Sons, electrical engineers, 80A, Preston-rd., Brighton. (Telephone Nos. 62, Corp. & Nat.)

Cox, Sons, Buckley & Co., art metal workers, 10, Henrietta-st., Covent Garden, London, W.C.

Coxeter & Son, electro-medical manufacturers, 18–20, King's-rd., London, N.W. (Telegs.: "Coxeter, London." Teleph. North 417.)

Coxon, J., A.M.I.E.E., "Hillcrest," Alric-ave., New Malden, Surrey.

Coxon, J., electrical & mechanical engineer, High-st., Cheadle, Staffs. (Telegs.: "Coxon, Cheadle.")

Cox-Walker, E., M.I.E.E., Messrs. Cox-Walkers, Ltd., electrical engineers & contractors, Darlington.

Cox-Walker, Edgar Cooke, A.M.I.E.E., Messrs. Cox-Walkers, Ltd., Darlington.

COX-WALKERS, LTD., Electrical Engineers, Darlington. (Telegs.: "Cox-Walkers, Darlington." Nat. Teleph. No. 87.) *See advt., page* 15.

Coy, E. E., wholesale electrical supplies, 77, St. John's-rd., Bootle, Liverpool.

Coy, T. J., electric bell fitter & metal worker, 164, Ferndale-rd., Brixton, London, S.W.

Cozens-Hardy, E. H., M.I.E.E., M.I.M.E., The Hollies, Woolton, Liverpool.

Crabb, Herbert G., electrical engineer, 35, Penwortham-rd., Streatham Park, S.W.

Crace-Calvert & Thomson, Royal Institution Laboratory, 79A, Princess-st., Manchester.

Cragg, J. H., director Ingleton Electric Lighting & Power Co., Ltd., Greta Printing Works, Ingleton, Yorks.

Cragg, R. B. H., A.I.E.E., Electricity Works, Spa-rd., Bermondsey, London, S.E.

Craig, Edwin E., A.M.I.E.E., 37, New King-st., Belfast.

Craig, J. Hally, M.I.E.E., Baltic-chbrs., Wellington-st., Glasgow.

Craigpark Electric Cable Co., Ltd., manufacturers of insulated wires & cables, Flemington-st., Springburn, Glasgow. (Telegs: "Percha, Glasgow." Nat. Teleph. 20, & P.O. S. 50.) A. B. MacLean, managing director.

Cramb, Alex. C., M.I.E.E., M.I.MECH.E., borough electrical engineer, Croydon, & 57, Oakfield-rd., Croydon.

Cramer, Frank B., A.M.I.E.E., electrical engineer, 7, Kensington Court-gdns., London, W.

Cramme, Wm., & Co., electrical accessories, 87 & 88, Long-lane, London, E.C. (Telegs.: "Ocebrab, London." Teleph. No. 14473, Central.)

Cramp, Wm., consulting electrician, 20, Mount-st., Manchester. (Telegs.: "Cramping, Manchester." Teleph. Central 3583.)

Crampton, Wm. John, M.I.E.E., electrical engineer, 73, Queen Victoria-st., London, E.C. (Teleph. No. 6057, Bank); & Cambridge.

Crampton & Co., electrical engineers. Head office: 73, Queen Victoria-st., London, E.C. (Teleph. No. 6057, Bank); & Llandaff-chbrs., Regent-st., Cambridge. (Teleph. No. 48.)

Crane, Allen Robert, A.M.I.E.E., Corporation Electricity Works, Aylestone-rd., Leicester.

Crane, Fredk., Chemical Co., makers of lacquer & varnish, 22 & 23, Newhall Hill, Birmingham. (Telegs.: "Chemical, Birmingham." Teleph. Central 2379.)

Cranmer & Cheshire, manufacturers of electric fittings, 82, Vyse-st., Birmingham. (Telegs.: "Flambo, Birmingham.")

Crapper, Ellis H., B.ENG., M.I.E.E., consulting electrical engineer & head of Electrical Engineering Dept., Department of Applied Science, The University, Sheffield; & 32, Springhill-rd., Sheffield.

Crathorne & Green Manufacturing Co., electrical engineers, Wagner-st., Old Kent-rd., London, S.E. (Telegs.: "Crathorne, London." Teleph. No. 1277, Hop.)

Craven, C., Chorley, Lancs. Director West Cumberland Electric Tramways Co.

Craven Bros., Ltd., engineers & crane makers, Osborne-st., Rochdale-rd., Manchester.

Cravens, Ltd., railway carriage & wagon & tramcar builders, Darnall, nr. Sheffield. (Telegs.: "Craven, Sheffield." Teleph. Nos. 1148 & 3918.)

Crawford, Arthur, A.M.I.E.E., 3, Athergold-rd., Clapham Rise, London, S.W.

Crawford, C., electrical inspector, British Engine, Boiler & Electrical Insurance Co., Ltd., 12, King-st., Manchester.

Crawford, The Earl of, K.T., F.R.S., M.I.E.E., Hon. M.I.M.E., The Carlton Club, Pall Mall, S.W. (Teleph. No. 4100, Mayfair.) Director London Electric Supply Corp., Ltd.; chairman The Syndicate of Electrical Engineers, Ltd.

Crawford, Ernest S., electrician, Buncrana Electric Supply Co., Buncrana, co. Donegal.

Crawford, F. C., A.I.E.E., India Rubber, Gutta Percha & Telegraph Works Co., Ltd., Silvertown, E.

Crawford, Jos., M.I.M.E., electrical engineer, 2, Exchange-st., Manchester. (Teleph. City 46.)

Crawford Municipal Technical Institute, Cork. (Telegs.: "Technical, Cork." Tel. No. 577.) *See* SCHOOLS.

Crawley, Chas. W. S., M.I.E.E., consulting electrical engineer, 89, Upper Richmond-rd., Putney, S.W.

Crawley, G. R. E., electrical engineer, 89, Upper Richmond-rd., London, S.W.

Crawshaw, C. B., A.I.E.E., Rufford Lodge, Dewsbury.

Crawshaw, E., electrical engineer, Malaga Electricity Co., Ltd., 39, Coleman-st., London, E.C.

Crawter, F. W., A.M.I.C.E., A.M.I.E.E., Chloride Electrical Storage Co., Ltd., 39, Victoria-st., Westminster, S.W.

Crawter, Wm., A.M.I.E.E., Manor Works, Braintree, Essex.

Creak, Capt. Ettrick W., R.N., C.B., F.R.S., M.I.E.E., 9, Hervey-rd., Blackheath, S.E.

Credenda Conduits Co., 70, Scholefield-st., Birmingham.

Creed & Co., telegraph instrument makers, 156, St. Vincent-st., Glasgow.

Creighton, R., director City of Carlisle Electric Tramways Co., Ltd., 1, Warwick-rd., Carlisle.

Cremorne Motors, Ltd., mechanical & electrical engineers, Lots-rd., Chelsea, London, S.W.

Cresswell's Asbestos Co., Ltd., asbestos spinners & manufacturers, Wellington Mills, Bradford, Yorks. (Telegrams: "Asbestos, Bradford." Telephone No. 950, Nat.)

Crewe Corporation Electricity Works, Crewe, Cheshire. Engineer, H. H. Denton, M.I.E.E. (Teleph No. 57.)

Crews, H. Clavell, M.I.E.E., Crews & Handford, Clarence-chbrs., 4, Piccadilly, Manchester. (Tel. City 4565.)

Crews & Handford, consulting electrical engineers, Clarence-chbrs., 4, Piccadilly, Manchester.

Cridge, A. J., A.M.I.E.E, assistant electrical engineer, Corporation Electric Supply Dept., Commercial-st., Sheffield. (Telegs.: "Electricity, Sheffield." Teleph. No. 1909.)

Crighton, G., superintendent Western Union Telegraph Co., 21, Royal Exchange, E.C. (Telegs.: "Western Union, London;" & "Unpack, London." Teleph. No. 3761, Wall.)

Crinks, P. F., A.I.E.E., 123, Redland-rd., Bristol.

Cripps, E. H., woodworker for electricians, 161, Kennington-rd., London, S.E. (Teleph. Hop. 1629.)

Cripps, F. H., director Barbados Light Railway, Ltd., 9, Great George-st., London, S.W.

Cripps, G., A.I.E.E., assistant electrical engineer, Corporation Electricity Works, Bedford.

Cripps, W. Harrison, 2, Stratford-pl., London, W. Chairman Metropolitan Electric Supply Co., Ltd.; director London Electric Supply (Joint Committee), Ltd.

Crisp, F. M., 5, Lansdowne-rd., London, W. Director South American Syndicate, Ltd.

Crisp, H. C., engineer-in-charge, Corporation Electricity Works, Morley.

Crisp & Smith, electric bell fitters, Orwell-pl., Ipswich.

Crispin, Richd., & Co., electrical engineers & agents, 6, Lloyd's-ave., London, E.C. (Teleph. London Wall 4376.)

Critchley, C. A., wiring contractor, Church-st., St. Helens.

Critchley Bros., wiring contractors, Hall-st., St. Helens.

Crittall, Richard, & Co., electrical & general engineers & art metal workers, 197, Wardour-st., Oxford-st., London, W. (Telegs.: "Crittall, London." Teleph. No. 4416, Central.)

Croager Bros., lubricating oils, engine-room stores & sundries for lighting stations, &c., 17, Sutton-pl., & Link-st. Works, Homerton, N.E. (Telegs.: "Croager, London." Teleph. No. 160, Dalston.)

Crockatt & Pike, agents for electrical & mechanical plant & accessories, Caxton House, Westminster, London, S.W.

Crocker, Ernest, A.M.I.E.E., c/o City of Birmingham Electric Supply Department, 14, Dale End, Birmingham.

Croft, B., A.M.I.E.E., Power House & Tramways assistant, Corporation Electricity Works, Belfast.

Croft, Edgar, electrical engineer, Street House, Dudley Hill, Bradford.

Croft, J., director Oulton Broad Electricity Co., Ltd., Oulton Broad, Lowestoft, Suffolk.

Croft & Perkins, Ltd., makers of flexible & insulating couplings, Thornbury, Bradford, Yorks. (Telegs.: "Pulleys, Bradford." Teleph. Nos. 3099 & 3100.)

CROGGON & CO., LTD., manufacturers of electric bell, telephone & electric light supplies, 16 & 230, Upper Thames-st., London, E.C.; Colonial-chbrs., Temple-st., Liverpool; & 7, John-st., Glasgow. (Telegs.: "Croggon, London;" "Croggon, Liverpool;" "Croggon, Glasgow." Teleph. Nos.: 4861, London Wall (2 lines), London; 1191, Liverpool; 3353, Glasgow.) *See advt. under* ELECTRICIANS—MFG.

Crombie, Jas., superintendent, Eastern Telegraph Co., Ltd., 5, Royal Bank-pl., Glasgow.

Cromer Urban District Council Electricity Works, Cromer, Norfolk. (Teleph. Cromer 41.) Engineer, C. W. Bentley.

Crompton, Claud, A.M.I.E.E., Crompton & Co., Ltd., Arc Works, Chelmsford.

Crompton, R. E. B., Colonel, C.B., M.I.C.E., M.I.E.E., consulting engineer, Thriplands, Kensington-et., London, W. (Teleph. Kensington 695.) Chairman Kensington & Knightsbridge Electric Light Co., Ltd.

CROMPTON & CO., LTD., electrical engineers, manufacturers & contractors, Salisbury House, London Wall, London, E.C. (Telegs.: "Crompton, London." Teleph. Nos.: Nat. London Wall 1959; P.O. Central 488 & 14802); Chelmsford (Telegs.: "Crompton, Chelmsford." Teleph. Chelmsford 2); Glasgow, Manchester, Newcastle, Birmingham & Bristol. Hew Stevenson, Esq., general manager; E. Reeves, secretary. Directors: John Trotter, Esq. (chairman); Bernard Gibson, Esq.; Carleton F. Tufnell, Esq.; L. H. Hanbury, Esq.; Col. R. E. B. Crompton, C.B. Share capital: £300,000; £255,000 issued & called up. Five per cent. debentures issued, £100,000; 6 per cent. "Short Term Notes," £9375. Dividends: 1906–7, 1907–8, 5 per cent.; 1908–09, *nil.* *See advt. inside front cover.*

Crook, R. M., A.I.E.E., 89, Park View, Witton, Blackburn.

Crook, H. W., & Son, electric lighting contractors, 195, Westbourne Grove, London, W. (Teleph. No. 574, Western.)

Crookell, W., electrical engineer, Water-st. Works, Middleton, nr. Manchester (Teleph. No. 193); & at 9, Douglas-st., Higher Broughton, Manchester.

Crookell, W., & Co., electric light, power & telephone engineers, Water-st. Works, Middleton, nr. Manchester. (Telegs.: "Crookell, Middleton, Manchester." Teleph. No. 133.)

Crookes, Henry, A.R.S.M., M.I.E.E., F.C.S., 109, Ladbroke Grove, Notting Hill, London, W.

Crookes, Sir William, D.SC. (hon.) Oxon, Camb., Ireland, Cape of Good Hope, F.R.S., LL.D., M.I.E.E., corresp. Inst. de France (Acad. Sci.), 7, Kensington Park-gdns., London, W. (Telegs.: "Crookes, London." Teleph. Paddington 555.) Chairman Notting-hill Electric Lighting Co., Ltd.

Cropper, Charlton, & Co., electrical engineers, Station-st., Nottingham.

Crosbie, C. W., A.M.I.E.E., c/o British Westinghouse Co., Trafford Park, Manchester.

Crosbie, J. B. Talbot, A.M.I.E.E., electrical engineer, Crosbie & Nutter, 134, Renfield-st., Glasgow.

Crosby Steam Gage & Valve Co., indicators, recorders & valves, 147, Queen Victoria-st., London, E.C. (Telegs.: "Crosby, London." Teleph. No. 7122, Central.)

Crosier, Stephens, & Co., carbons, stampings, machine tools, graphite, antimony, &c., 2, Collingwood-st., Newcastle-on-Tyne. (Telegs.: "Cromil, Newcastle, Tyne." Nat. Teleph. No. 1461.)

Crosland, J. F. L., M.I.C.E., M.I.M.E., M.I.E.E., chief engineer, The Vulcan Boiler & General Insurance Co., Ltd., 67, King-st., Manchester. (Telegrams: "Boiler, Manchester." Telephone Nos.: 1188, 4708 & 5214, Nat.; 7, P.O.)

Cross, Alfred S., A.M.I.E.E., 55, Broomgrove-rd., Sheffield. (Teleph. Central 498.)

Cross, E., A.M.I.E.E., engineer & manager, Corporation Tramways, Rotherham. (Telegs.: "Cross, Trams, Rotherham." Teleph. Nos.: Howard-st. office, 241; Depôt, 152; Power house, 138.)

Cross, G., electrician, Newdigate-st., Nuneaton.

Cross, H., electric fittings dealer, 93, London-rd., London, S.E. (Teleph. No. 14790, Central.)

Cross, Harold G. E., A.I.E.E., 56, Durnford-st., Stonehouse, Devon. (Teleph. Plymouth 947.)

Cross, Wm., A.M.I.E.E., electrical engineer, 7, Ridley-pl., Newcastle-on-Tyne.

Cross Bros., electric bell fitters, 21, Working-st., Cardiff. (Telegrams: "Cross, Cardiff." Telephone Nos.: 530, Nat.; & 506, P.O.)

Cross & Co., electric fittings, Apollo Works, Blews-st., Birmingham (Teleph. No. 1178); & 214–222, St. John-st., Clerkenwell, E.C. (Teleph. Nos.: 725, Holborn; & 9901, Central.)

Cross & Cross, Ltd., electrical engineers & contractors, Union Iron Works, Pleck-rd., Walsall (Telegs.: "Iron, Walsall." Teleph. No. 9); & 39, Victoria-st., Westminster, London, S.W. (Telegs.: "Puentes, London.")

Cross, G. & A. J., Ltd., electrical & mechanical engineers & lighting contractors, 14, High-st., Tunbridge Wells.

Cross, George, & Sons, lightning conductor manufacturers & erectors, 23, Grange-rd., Smethwick.

Cross, W., & Son, electricians, 159A, Belgrave Gate, Leicester.

Crossley, Jonas H., A.M.I.E.E., "Lyncroft," Stanningley-rd., Armley, Leeds.

Crossley Bros., Ltd., Otto Gas Engine Works, Openshaw, Manchester. (Telegrams: "Crossleys, Openshaw." Telephone No. 419.)

Crossley, George, Ltd., pulley makers, wire-drawing machinists, &c., Albion Iron Works, Cleckheaton, Yorkshire. (Telegrams: "Crossleys, Cleckheaton." Telephone No. 39.)

Crotch, Arthur, author of "Elementary Telegraphy & Telephony," "Telegraph Secondary Cell Installations," "The Hughes & Baudot Telegraphs," "Telegraphic Systems," &c., Engineer-in-Chief's Department, G.P.O. (West), St. Martin's-le-Grand, London, E.C.

Crotch, W. W., 199, Piccadilly, London, W. Director Chichester Electric Light & Power Co., Ltd.

Crouch, A. P., secretary, India Rubber, Gutta Percha & Telegraph Works Co., Ltd., 106, Cannon-st., London, E.C.

Crouch, J. M., electric fittings maker, Mason's Hill (Teleph. No. 98, Bromley), & 25, Widmore-rd., Bromley, Kent. (Teleph. No. 1073.)

Crouch, Sidney S., A.M.I.E.E., H. Davies & Co., 586, Salisbury House, London Wall, E.C.

Crowden & Garrod, Ltd., makers of brazing & soldering lamps, Falcon House, Southwark-st. (Telegs.: "Nedwore, London." Teleph. No. 527, Hop.); Clenham-st.; & Southwark Bridge-rd., London, S.E.

Crowe, P. B., A.M.I.C.E., M.I.E.E., consulting engineer, Queen Anne's-chbrs., Westminster, London, S.W.

Crowe, W. M., managing director & secretary British L. M. Ericsson Manufacturing Co., Ltd., Byron House, 82/85, Fleet-st., E.C.

Crowell, S. G., director Mexico Electric Tramways, Ltd., Threadneedle House, 31, Bishopsgate-st. Within, E.C.

Crowhurst & Lee, electric bell contractors & fitters, 2, Alexandra-rd., Wimbledon.

Crowley, J. F., B.A., A.M.I.E.E., Siemens Bros. Dynamo Works, Ltd., Stafford.

Crowley, John, & Co., Ltd., annealed castings for electrical purposes, Meadow Hall Iron Works, Sheffield; Aldermary House, Watling-st., London, E.C.; 69, Corporation-st., Manchester; & 79, West Regent-st., Glasgow. (Telegrams: "Crowley, Sheffield." Telephone No. 25.)

Crown Agents for the Colonies, Whitehall-gdns., S.W. (Telegs.: "Crown, London." P.O. Teleph. Nos. 1632 & 1633, Victoria.) *See* CLASSIFIED SECTION.

Crown Coverings for boilers, piping, &c., in asbestos, magnesia, telluric cement & slag wool, enclosed in steel sheeting & removable. Over 96 per cent. saving in radiation. Unequalled for superheated steam. Cannot be impaired, however intense the heat. Sole makers: Sutcliffe Bros., Grosvenor Works, Godley, nr. Manchester. (Telegs.: "Sutcliffe Bros., Hyde." Teleph. Hyde 70.)

Crowther, Alfd., A.M.I.E.E., electrical engineer, West Riding Asylum, Menston, Leeds. (Teleph. No. 32A, Otley.)

Crowther, J., director City & Brixton Railway Co., 9 & 10, King-st., Cheapside, E.C.

Crowther, J., B.SC. (Lond.), principal Municipal Technical College, Halifax. (Teleph. No. 493.)

Crowther, J. A., engineer, Urban District Council, Wallasey.

Crowther, J. Percival, A.M.I.E.E., engineer to Urban District Council, Worksop, Notts.

Crowther, S. H., station superintendent, Hexham & District Electric Supply Co., Ltd., Hexham, Northumberland.

Crowther, W. C., electrical inspector, British Engine, Boiler & Electrical Insurance Co., Ltd., 12, King-st., Manchester.

Croydon Corporation Electricity Works & Electric Tramways, Factory-lane, Croydon. (Teleph. Croydon 152 & 409.) Show-rooms: 3, Park-lane. (Teleph. No. 154.) Alex C. Cramb, M.I.E.E., M.I.MECH.E., chief engineer.

Croydon Polytechnic, Croydon. *See* SCHOOLS, CLASSIFIED SECTION.

Crozier, M., electrical contractor, Mendora-rd., Fulham, S.W.

Cruickshank, D., 138, Leadenhall-st., London, E.C. Director Indian Electric Supply & Traction Co., Ltd.

Cruickshank, R., Ltd., electricians, Camden-st., Birmingham. (Telegs.: "Cruickshank, Birmingham." Teleph. Central 1909.)

Cruikshank & Fairweather, Ltd., patent agents & consulting engineers, 62, St. Vincent-st., Glasgow (Telegs.: "Patents, Glasgow." Teleph. Nos.: Nat. 791, & P.O. 135); & 65 & 66, Chancery-lane, London, W.C. (Telegs.: "Fanfaron, London." Teleph. Holborn 5165.)

Cruikshanks, F. L., A.I.E.E., 23, Primrose Hill, Low Fell, Gateshead-on-Tyne.

Cruse Controllable Superheater Co., 5, Blackfriars-st., Salford, Manchester. (Telegs.: "Generator, Manchester." Teleph. Nos. 2801/2.)

Crust, Robert, installation contractor, 14, Booth-st., Bradford.

Crypto Electrical Co., electrical engineers, 155, 157 & 159, Bermondsey-st., London, S.E. (Telegs.: "Commutator, London." A.B.C. 5th edit. Code. Teleph. Nos. 12830 & 12831, Central.)

CRYSELCO, LTD., metal & carbon lamp manufacturers. Registered July 14, 1898. Nominal capital: £15,000 in 15,000 ordinary shares of £1 each, & £10,000 debentures. Issued: all the ordinary shares, fully paid, & £10,000 debentures. Directors: F. W. French, Esq. (chairman); M. Griffith, Esq.; H. S. Deacon, Esq. (managing). Engineer, A. R. Powell; secretary, H. Stanley Deacon. Dividends: 1905-06, 1906-07 & 1907-08, 10 per cent. per ann.; 1908-09, 10 per cent. per ann. & 10 per cent. bonus. *See advt. under* INCANDESCENT LAMPS—ELECTRIC.

	Telegrams.	*Telephone Nos.*
Head Offices: Kempston Works, Bedford.	Cryselco, Kempston.	677, Bedford.
Depôts:		
Belfast: 43A, High-st.	Ardrey, Belfast.	1134, Belfast.
Bristol: 7, St. Stephen's-ave.	Fuse, Bristol.	1867, National.
Cardiff: 7 & 8, Western Mail-chbrs.	Cryselco, Cardiff.	226, Post Office.
Glasgow: 182, West George-st.	Cryselco, Glasgow.	2196, Argyle.
London: 38 & 39, Beech-st., E.C.	Cryselco, London.	7043, Central.
Manchester: 4, St. Mary's Parsonage.	Bowran, Manchester.	4887, Manchester.
Newcastle: 3, St. Nicholas-bldgs.	Bowran, Newcastle.	1780, National.
Swansea: 63, Wind-st.	Cryselco, Swansea.	226, National.

Crystal Palace Co.'s School of Practical Electrical Engineering, the Crystal Palace, London, S.E. Principal, J. W. Wilson, M.I.C.E., M.I.MECH.E.; vice-principal, Maurice Wilson, A.M.I.C.E.

Crystal Palace Old Students' Society. Hon. secretary & treasurer: P. Griffith, M.I.C.E., M.I.M.E, 54, Parliament-st., S.W.

Crystalate Manufacturing Co., Ltd., insulating fittings manufacturers, Tonbridge. (Telegs.: "Crystalate, Hadlow." Teleph. No. 33, Tonbridge.)

Cuba Submarine Telegraph Co., Limited, 58, Old Broad-street, London, E.C. (Telegrams: "Silverbush, London.") Registered Jan. 22, 1870. Issued capital: £160,000 in ordinary shares of £10 each; & £60,000 in preference shares, likewise of £10 each; all being fully paid up. Directors: Chas. W. Parish, Esq. (chairman); George Keith, Esq.; Robert Kaye Gray, Esq.; Alexander G. Low, Esq. Secretary, Jas. Scott. Dividends: 1905 & 1906, 10 per cent. per annum on preference, 5 per cent. per annum on ordinary; & June, 1907, 10 per cent. on preference & 6 per cent. on ordinary.

Cubey, T. H., electrical engineer, 31 & 32, King-st.; Works: 41, Queen-st., South Shields. (Nat. Teleph. No. 468.)

Cullen, F. G., electrician, 2, Alfred-rd., Kingston-on-Thames.

Cullen, James, telegraph engineer, postal telegraphs, Southern District, Tipperary.

Cullen, W. H., electrical engineer & manager, Castner-Kellner Alkali Co., Ltd., Wallsend, S.O. (Telegs.: "Muidos, Wallsend." Nat. Teleph. No. 41.)

Culley, W. R., I.S.O., superintendent Submarine Dept., Post Office Telegraphs Cable Depôt, Woolwich.

Culligan, M., A.M.I.E.E., 64, Victoria-st., S.W.

Culverwell, E., The Parade, Minehead. Director Minehead Electric Supply Co., Ltd.

Cumberland Construction Co., Ltd., tramway & light railway contractors, 13, Spring-gdns., Manchester. Registered Nov. 30, 1900. Nominal capital: £10,000 in £100 shares. £3500 has been issued with £27 per share called up & £945 has been received. Directors: T. D. Lingard, Esq. (chairman); Geo. Flett, Esq.; A. L. Ormrod, Esq.; T. S. Turnbull, Esq. Secretary, Jno. Hall.

Cumberland Electricity & Power Gas Co., 4, South Parade, Leeds. (Teleph. No. 7.)

Cumberland Power Synd., Ltd., 4, South Parade, Leeds. (Teleph. No. 7.) Registered Nov. 4, 1905. Nominal capital: £5000 in £5 shares. Issued: 876 shares. Directors: A. Lupton, Esq.; W. F. Smith, Esq.; J. T. Pullon, Esq.; R. Williamson, Esq. Engineer, John Sturgeon; secretary, J. Milnes.

Cummings, Geo. Ernest, A.I.E.E., 1, Homefield-rd., Chiswick, London, W.
Cummins, C. D. C., A.I.E.E., assistant electrical engineer, Tramway Power House, Osbourne-st., Hull. (Corp. Teleph. No. 445.)
Cummins, C. P. C., A.M.I.E.E., Pembroke Technical School, Ringsend, Dublin.
Cummins, Christopher J., A.M.I.E.E., 12, Lower Abbey-st., Dublin.
Cummins & Sons, electrical engineers, 12, Lower Abbey-st. & 10, Marlborough-st., Dublin.
Cunard, Sir Bache, Bart., Neville Holt, Market Harboro. Director Lanarkshire Tramways Co.; director Chloride Electrical Storage Co., Ltd.
Cuningham, A. A., Ward & Cuningham, Craven House, Kingsway, London, W.C.
Cuningham, Granville C., M.I.C.E., general manager Central London Railway, Oxford Circus Station, London, W. (Telegs.: "Rheomotor, London." Teleph. Gerrard 260); director City of Birmingham Tramways Co., Ltd.
Cuningham, Sir Wm. J., K.C.S.I., Queen Anne's Mansions, London, S.W. Director Madras Electric Supply Corp., Ltd.
Cunliffe, E. H., A.M.I.E.E., "Strathmore," Mayfield-ave., Woodford Green, Essex.
Cunliffe, L. D., 2, White Lion-ct., Cornhill, E.C. Director Newcastle-upon-Tyne Electric Supply Co., Ltd.; director Durham Collieries Electric Power Co., Ltd.; director Houghton-le-Spring & District Electric Lighting Co., Ltd.
Cunliffe & Croom, Ltd., machine tool makers, Broughton Iron Works, Manchester. (Telegrams: "Lathe, Manchester." Telephone No. 1886.)
Cunliffe-Owen, E., C.M.G., secretary Metropolitan Electric Supply Co., Ltd., 16, Stratford-pl., London, W. (Telegrams: "Kilowatt, London." Telephone No. 403, Paddington.)
Cunningham, Ch. J., A.I.E.E., electrical engineer, Poplar Training Schools, Hutton, Essex.
Cunningham, D., director Manchester & Liverpool Electric Railway Synd., Ltd., 11, Cornhill, London, E.C.
Cunningham, Jas. C., Albert-cres., 317, Albert-rd., Langside, Glasgow.
Cunningham, R. N., A.I.E.E., 171, Edgware-rd., London, W. (Teleph. Paddington 5173 & 5174.)
Cunningham, T., engineer, Corporation lighting, Pwllheli, Carnarvon.
Cunningham, T. C., Lieut., R.A., A.I.E.E., c/o Cox & Co., 16, Charing Cross, London, S.W.
Cunningham & Houliston, mechanical engineers, 57, Neilston-rd., Paisley.
Cunnington & Harris, Ltd., electrical engineers, 21, North Audley-st., Grosvenor-sq., London, W.
Cunnynghame, H. H., C.B., M.I.E.E., electrician, Home Office, Whitehall, London, S.W.
Cupper, Tom, nickel plater, 17, Cross-st., Hatton Garden, London, E.C.
Curel, F. G., engineer, Witney Electric Supply Co., Ltd., Electricity Works, Witney.
Curgenven, L. W., Eng.-Lieut., R.N., A.M.I.E.E., The Admiralty, Whitehall, London, S.W.
Curnock, W. E. M., M.SC., B.ENG., A.M.I.E.E., Battersea Polytechnic, London, S.W.
Curphey, Harry, A.M.I.E.E., L.C.C. Tramways Reconstruction, 26, Sotheby-rd., Highbury, London, N.
Curran Bros., electrical engineers & installation contractors, 2, Kent-st., Belfast. (Teleph. No. 3129.)
Curry, M. H., A.M.I.E.E., Tramways Office, Priestly's Bridge, Coventry.
Curteis, A. F. R., A.M.I.E.E., 4, Marloes-rd., Kensington, London, W.
Curtis, A., A.M.I.E.E., Red Friars, Radlett, Herts. (Teleph. No. 95.)
Curtis, J. P., electrical engineer, High-st., Weston-super-Mare.
Curtis, P. C., electrician, 2, Grafton-st., Dublin.
Curtis, Wm., & Sons, electrical engineers, contractors, &c., 98 & 99, Mid-abbey-street, Dublin. (Telegrams: "Curtis, Dublin." Telephone No. 343.)
Curtis's & Harvey, Ltd., makers of electric fuses, 3, Gracechurch-st., E.C. (Teleph. Nos. 580 & 581, London Wall.)
Curtis-Hayward, A. C., B.A., A.I.E.E. (Bowman & Curtis-Hayward), Maxwell House, 11, Arundel-st., London, W.C. (Teleph. No. 4340, Gerrard.)
Curwen, Charles, electrical engineer, 64, Victoria-st., London, S.W. (Teleph. Gerrard 485.)
Curwen, Maskell E., European manager, J. G. Brill Co., 110, Cannon-st., London, E.C.
Cushing, Thos., F.R.A.S., M.I.E.E., "Rosslynlee," Woodside Green, London, S.E.
Cussons, G., scientific apparatus & modeller, The Technical Works, Lower Broughton, Manchester.
Cutbill, W. J. C., 37, Old Jewry, London, E.C. Director Electric Traction Co. of Hong Kong, Ltd.
Cutforth, E. F., A.M.I.E.E., Furze Hill, Redhill, Surrey.
Cuthbert, A. G., A.M.I.E.E., 42, Deansgate, Manchester.
Cuthbertson, Chas., A.M.I.E.E., chief electrician, Electricity Supply Department, Longton, Staffs.
Cuthbertson, Jas. E., A.I.E.E., Glebe-st., Falkirk, N.B.
Cuthill, A., chief station engineer, Corporation Electricity Works, Sheffield.
Cutler, T. A. F., A.M.I.E.E., "Brookleaze," Lyncombe Vale, Bath.
Cutting Bros., Ltd., electrical engineers, Park Works, Stamford, Lincs. (Telegs.: "Cutting, Stamford." Teleph. No. 12.)
Cutting, F., & Co., electrical engineers, 70, St. John's-hill, Wandsworth, London, S.W.
Cuttriss, S. W., M.I.E.E., electrical engineer & expert, Prudential-bldgs., Park-row, Leeds. (Teleph. No. 270 X.)

Cutts, A. G., chief electrical engineer, Leeds Copper Works, Ltd., Leeds.
Cyanite Paint Co., makers of fireproof cyanite paints, &c., Portland-pl., Clapham-rd., London, S.W.

Dade, C. H., secretary British Electric Traction Co., Ltd., Electrical Federation Offices, Kingsway, London, W.C.
Dagger, R., assistant engineer, Corporation Electricity Works, Blackpool.
Dagleas, J. T., electrical contractor, Burrow-st., South Shields.
Dagleas & Sons, wiring contractors, Fowler-st., South Shields.
Daglish, E., A.M.I.E.E, electrical engineer, 168, Southgate-rd., Hackney, London, N.
Daimler Motor Co. (1904), 219–229, Shaftesbury-ave., W.C.
Dalby, E. O., Granville House, Granville-ave., Long Eaton. Director Harrington Electric Light Co., Ltd.
Dale, A. Arthur, electrician, Daisy Bank House, Leckhampton, nr. Cheltenham, Glos. (Teleph. No. 95, Cheltenham.)
Dale, C. E., engineer-in-charge, Electricity Works, Belfast.
Dale, Dr. F., Belmont-rd., Scarborough. Director Scarborough Tramways Co.
Dale, G. H., assistant, Corporation Tramways, Northampton.
Dale, Henry J., electrician, 15, New Oxford-st., W.C.
Dale, S., A.I.E.E., 12, Whalley-ave., Whalley-rd., Whalley Range, Manchester.
Dales, Chas., optician & electrician, Westbourne, Bournemouth. (Teleph. No. 223.)
Dalglish, A. & W., boiler makers, Glasgow.
Dalkeith Electricity Works (Electric Supply Corporation, Ltd.), Dalkeith, Midlothian. (Teleph. No. 0199, Dalkeith.) Resident engineer, J. A. Gow Russell.
Dallas, D. F., electrician, 13, Cromwell-rd., Wimbledon.
Dallas, J. D., A.M.I.E.E., electrician, 67, Ridgmount-gdns., Gower-st., London, W.C. (Teleph. No. 5830, Central.)
Dalling, Thos., engineer, Strathpeffer & Dingwall Electric Lighting Co., Strathpeffer, S.O., Ross-shire.
Dalman, J. C., & Sons, electrical castings, River-st., Birmingham. (Telegs.: "Dalman, Birmingham." Teleph. Central 624.)
Dalrymple, Jas., general manager, Corporation Tramways, Glasgow.
Dalrymple, Sir Chas., 20, Onslow-gdns., W. Director Metropolitan District Railway.
Dalton, F. W., A.I.E.E., Ing's Grove, Mirfield, Yorks.
D'Alton, P. W., M.I.C.E., M.I.MECH.E., M.I.E.E., c/o Dick, Kerr & Co., Abchurch-yard, Cannon-st., London, E.C.
Dalton, W., A.I.E.E., A.M.I.M.E., assistant electrical engineer, Corporation Electricity Works & Electric Tramways, Newcastle-on-Tyne.
Dalton Lacquer Manufacturing Co., Ltd., cold lacquer manufacturers, 8, St. James's-sq., Manchester.
Dalzell, R. A., provincial superintendent, National Telephone Co., Ltd., Telephone-ave., Bristol. (Telegs.: "National Telephone, Bristol." Teleph. No. 1.)
Dalziel, W. Gascoyne, director South Wales Electrical Power Distribution Co., Royal-chbrs., Queen-st., Cardiff.
Damard Lacquer Co., 98, Bradford-st., Birmingham. (Telegs.: "Damardest, Birmingham." Teleph. Midland 1421.)
Dania, G., A.M.I.E.E., 110, Cannon-st., London, E.C.
Daniel, G. A., electrician, Nettlefolds, Ltd., Castle Works, Tydu, near Newport, Mon.
Daniels, Ernest, A.M.I.E.E., Coventry Ordnance Works, Ltd., Coventry.
Danks, H. & T. (Netherton), Ltd., boiler makers & engineers, Crown Boiler Works, Netherton, Dudley. (Teleph. Cradley 25.)
Danks, John, & Son, Proprietary, Ltd., mechanical engineers & brass founders, 32, Union-st., Wednesbury.
Danks, Thomas, & Co., Ltd., electrical engineers & contractors, Thurland-st., Nottingham. (Telegs.: "Danks, Nottingham." Teleph. No. 2265 (3 lines).) Registered 1881. Nominal capital: £50,000 in ordinary shares of £20 each. Issued: 200 shares fully paid, & 1600 shares with £10 paid per share. Directors: A. E. Blake, Esq., J.P. (chairman); Wm. Danks, Esq.; J. N. Greenall, Esq. (managing); H. Gee, Esq. (secretary). Electrical engineer & assistant manager, E. B. Greenall. Dividends: 1901 & 1902, 12½ per cent.; 1903, 1904, 1905 & 1906, 15 per cent.; 1907, 12½ per cent.; 1908, 12½ per cent.; & first half of 1909, 10 per cent.
Danson, J. W. W., Gresford Lodge, Gresford. Director The Rangoon Electric Tramway & Supply Co., Ltd.
Danvers, Alan, M.I.E.E., 1, Broad-st.-pl., London Wall, London, E.C.
Darby, G. G., electrical engineer & dealer in electrical supplies, 16, West-st., Fareham, Hants. (Nat. Teleph. No. 23 X.)
Dargue, W. H., acetylene gas & electrical engineer, 57, Grey-st., Newcastle-on-Tyne.
Dargue Acetylene Gas Co., Ltd., manufacturers of acetylene gas apparatus & dealers in calcium carbide, &c., Newcastle-on-Tyne.
Dargue, Griffiths & Co., Ltd., electrical engineers, 51, North John-st., Liverpool.
Darke, W. C., electrician, 129, Seaford-rd., Tottenham, N.

Darker, A. H., A.M.I.E.E., A.M.I.M.E., J. Stone & Co., Ltd., Deptford, London.
Darlington, A. E., resident engineer, Chislehurst Electric Supply Co., Ltd., Chislehurst.
Darlington Corporation Electricity Works & Electric Tramways, Darlington. (Teleph. No. 135, Darlington.) Engineer & manager, J. R. P. Lunn.
Darlington Forge Co., Ltd., steel castings & forgings, Darlington (Telegs.: "Forge, Darlington"); & 50, Fenchurch-st., London, E.C. (Telegs.: "Cyclops, London." Teleph. No. 4251, Avenue.)
Darlington Technical College, Darlington. *See* SCHOOLS, CLASSIFIED SECTION.
Darrah, H. M., A.I.E.E. (of Baxendale & Co.), Avon Holm, Priestnall-rd., Heaton Mersey, nr. Manchester.
Dartford Urban District Council Electricity Works, Dartford, Kent. J. D. Pember, A.M.I.E.E., engineer. (Teleph. No. 28, P.O.)
Dartmouth Electricity Supply Works, Dartmouth. (Telegs.: "Electricity Works, Dartmouth." Teleph. No. 3.) Urban Electric Supply Co., Ltd., proprietors. Chief engineer, G. E. Smith, A.M.I.E.E.
Darton, F., & Co., electric motor & dynamo manufacturers, 142, St. John-st., Clerkenwell, E.C.; Works: 52, Clerkenwell-rd.; & Woodford.
Darwen Corporation Electricity Works. (Telegs.: "Garnett, Darwen." Teleph. No. 185.) Engineer & manager, Chas. Garnett, A.M.I.E.E.; engineer & general manager of electric tramways, R. W. Smith-Saville, M.I.C.E.
Darwen Municipal Technical Institute, Darwen. *See* SCHOOLS.
Darwin, Major Leonard, 12, Egerton-pl., S.W. Chairman India Rubber, Gutta Percha & Telegraph Works Co., Ltd.; director Spanish National Submarine Telegraph Co., Ltd.
Darwood, J. W., Rangoon. Director The Rangoon Electric Tramway & Supply Co., Ltd.
Dashwood, E. S., electrical engineer, Fountain-st., Belfast.
Dashwood, E. S., Green Edge, Carrickfergus. Director Greystone Electric Light & Power Co., Ltd.
Dashwood, G., electrical engineer, Canterbury.
Dashwood & Sons, Ltd., general engineers, Sycamore Works, Wimbledon. (Telegrams: "Dashwoods, Wimbledon." Telephone No. 82, Wimbledon.)
Dasnières, V., chemical broker & agent, 10, St. Mary Axe, London, E.C. (Telegrams: "Dasnières, London." Lieber's Code used. Telephone No. 408, Central.)
Daubeny, E. C., M.I.E.E., I.R., G.P. & Tel. Works Co., Ltd., 106, Cannon-st., London, E.C.; & 40, Edwardes-sq., Kensington, London, W.
Daulman, W., electrician, Edward-st., Nuneaton.
Dauncey, G. D., A.M.I.E.E., 45, Newhall-st., Birmingham.
Dauncey, J. N., A.M.I.E.E., Old Ford Motor & Construction Co., 15, Barbican, London, E.C.
Davenport, F. R., M.I.E.E., c/o Peter Brotherhood, Ltd., 53, Parliament-st., London, S.W. Works: Peterborough.
Davenport, H., electrical engineer, 517, Corn Exchange-bldg., Manchester. (Telegs.: "Mechanism, Manchester.")
Davenport, G., & Co., Ltd., electric lamp makers, 95, Clerkenwell-rd., London, E.C.
Davenport, Sparrow, & Co., electrical engineers, Brazennose-st., Manchester.
Davenport Vernon & Co., Ltd., electric light, telephone & bell fitters, High-st., & Church-st., High Wycombe, Bucks. (Telegrams: "D. Vernon, High Wycombe." Telephone No. 19.)
Davey, A. G., Church-rd., Burgess Hill. Director Burgess Hill & District Electric Supply Co., Ltd.
DAVEY, PAXMAN & CO., LTD., manufacturers of steam engines & boilers, steam superheaters, gas & oil engines, Standard Iron Works, Colchester, Essex; & 78, Queen Victoria-st., London, E.C. (Telegrams: "Paxman, Colchester;" "Paxman, London." Telephone Nos.: 52, Colchester; 697, Bank.) Directors: J. Paxman, Esq., C.E., J.P. (chairman); W. Paxman, Esq.; W. Marriage, Esq., J.P. Secretary, W. H. King. *See* ENGINE MAKERS—GAS.
Davidge, H. T., B.SC., M.I.E.E., professor of electricity & optics, Ordnance College, Woolwich, S.E.
Davidson, A., director Cie. Générale d'Electricité de Lourenço Marques, 408–423, Salisbury House, London Wall, E.C.
Davidson, C. S., engineer, Barnes Urban District Council Electricity Works, Mortlake, S.W.
Davidson, Henry, A.M.I.E.E., Electricity Works, Frederick-rd., Pendleton, Lancs.
Davidson, Hugh S., A.M.I.E.E., 49, Middle Abbey-st., Dublin.
Davidson, W., electrical inspector, British Engine, Boiler & Elec. Insce. Co., Ltd., 12, King-st., Manchester.
Davidson & Co., Ltd., electrical & general engineers, 37, Corporation-st., Manchester. (Teleph. City 3363.)
Davidson & Co., Ltd., Sirocco electric fans & blowers, Sirocco Engineering Works, Belfast (Telegs.: "Sirocco, Belfast." Nat. Teleph. No. 327); & 53, Bothwell-st., Glasgow.
Davidson, F., & Co., electro-medical apparatus manufacturers, 29, Great Portland-st., London, W. (Telegs.: "Rewrite, London." Teleph. Gerrard 6530.)
Davie, J. F., A.M.I.E.E., electrical engineer, Palmer & Co., 7, Great Castle-st., London, W. (Teleph. No. 2342, Gerrard.)
Davie, H. A., Ltd., engineers, Holmside, Sunderland.
Davie & Horne, feed water heater & filter makers, Johnstone Engine Works, Johnstone, nr. Glasgow. (Telegs.: "Evaporator, Johnstone." Teleph. No. 54.)
Davies, A. P., Adpar, Newcastle-Emlyn. Director Newcastle-Emlyn & District Electric Supply Co., Ltd.

Davies, A. W., A.M.I.E.E., c/o Mavor & Coulson, Ltd., Mile End, Glasgow.
Davies, Benj., Goldenkey, Mardy. Director Mardy Electric Light Co., Ltd.
Davies, Benjamin, A.M.I.E.E., Wilford, Chase Green-ave., Enfield, Middlesex.
Davies, Cyril E., A.M.I.E.E., Beaconsfield-ter., Sandal, Yorks.
Davies, D., director Llandrindod Wells Electric Light & Power Co., Ltd., 20, Old Bank-bldgs., Chester. Director Mardy Electric Light Co., Ltd.
Davies, D. H., assistant engineer, Corporation Electricity Works, Darlington.
Davies, D. O. Sydney, B.SC., lecturer in physics, City of Norwich Technical Institute, Norwich.
Davies, Ernest, engineer, Mardy Electric Light Co., Ltd., Mardy, Glam.
Davies, E., High-st., Ogmore Vale. Director Ogmore Valley Electric Light & Power Supply Co., Ltd.
Davies, E. Ayerst, A.M.I.C.E., A.M.I.E.E., 124, Croydon-rd., Anerley, S.E.
Davies, E. R., Pwllheli, N. Wales. Director N. Wales & District Light Railway & Elec. Power Synd., Ltd.
Davies, F., 21, Mincing-lane, London, E.C. Director Costa Rica Electric Light & Traction Co., Ltd.
Davies, F. E., A.I.E.E., A.M.I.MECH.E., 51, Tregunter-rd., S.W.
Davies, Francis H., A.M.I.E.E., 22, The Park, Ealing, W.
Davies, Fred. W., electrical engineer, Victoria Electrical Works, East Parade, Huddersfield.
Davies, Gomer B., A.M.I.E.E., Borough Electrical Engineer's Office, Burn-rd., West Hartlepool.
Davies, H. S., A.I.E.E., G.W.R., Locomotive Works, Swindon; & 80, Goddard-ave., Swindon.
Davies, J., electrical contractor, 69, High Bridge, Newcastle-on-Tyne.
Davies, J. H. (Melbourne), consulting engineer, Caxton House, Westminster, London, S.W. (Telegs. & Cables: "Buckjumper, London." Teleph. Westminster 6079.)
Davies, L. H., A.M.I.E.E., 41, Hunton-rd., Gravelly Hill, Birmingham.
Davies, P. L., A.M.I.E.E., 57, Botanic-rd., Liverpool.
Davies, T., A.M.I.E.E., 8, Cardiff-st., Aberdare.
Davies, T. C., chairman Llangollen & District Electric Light & Power Co., Ltd., Bridge-st., Llangollen.
Davies, T. Pritchard, engineer, U.D.C. Electricity Works, Llandilo.
Davies, Wm., Manchester House, Sycamore-st., Newcastle-Emlyn. Director Newcastle-Emlyn & District Electric Supply Co., Ltd.
Davies, W. A., A.M.I.C.E., consulting engineer, architect & surveyor, County-chbrs., Hounslow. (Telegs.: "Davies, Hounslow." Teleph. No. 33.)
Davies, W. H., lecturer on mechanical engineering, Municipal Technical School, Manchester.
Davies, W. R., 10, Moorgate-st., London, E.C. Director Brompton & Kensington Electricity Supply Co., Ltd.; director Chelsea Electricity Supply Co., Ltd.
Davies, Arthur W., & Co., electrical engineers, 37, Queen-st., Hammersmith, London, W.
Davies Bros. (Newport), Ltd., slate & slate slab merchants & manufacturers, London-wharf, Newport, Mon. (Telegrams: "Davies Bros., Newport." Telephone Nos.: 504, P.O.; & 130, Nat.)
Davies, C. H., & Co., manufacturers of electrical accessories, 160, Francis-st., Birmingham.
Davies & Co., oil engine makers, Abergavenny. (Telegs.: "Engineer." Teleph. P.O. No. 38.)
Davies, G., & Son, chartered patent agents, 4, St. Anne's-square, Manchester. (Telegrams: "Inventor, Manchester." Telephone No. 3184.)
Davies, Hubert, & Co., engineers & shippers, 586, Salisbury House, London, E.C. S. S. Crouch, London manager. (Telegs.: "Hudaspa, London." Teleph. No. 2351, Wall.)
DAVIES, KENT & STEWART, LTD., manufacturers of electrical accessories & flexible wires, 17, Berners-st., Oxford-st., London, W. (Telegs.: "Polarizing, London." Teleph. No. 6150, Gerrard.) Works: 41, Berners-mews, W.
Davies & Metcalfe, Ltd., injector makers, Romiley, nr. Manchester. (Telegs.: "Loco Works, Romiley." Teleph. No. 219, Stockport.)
Davies, Parker & Co., dynamo oil manufacturers, Grays.
Davies Patent Boiler Co., 28, Victoria-st., London, S.W. (Telegs.: "Dapabo." Tel. 1638, Victoria.)
DAVIES & RANSOME, electrical & mechanical engineers, testing & purchasing agents for Australia, Caxton House, Westminster, London, S.W. (Telegs. & Cables: "Buckjumper, London." Teleph. Westminster 6079.) *See advt., page* 14.
Davis, Alfred, A.M.I.E.E., Hollins-lane, Warrington.
Davis, Arthur, machine plate engraver, Pack Horse Yard, Huddersfield. (Teleph. No. 757.)
Davis, Charles, manufacturer of ivory goods, 29, Charles-st., Hatton Garden, London, E.C.
Davis, Charles M., A.I.E.E., North Shields Electric Works, Tanner's Bank, North Shields.
Davis, Clement Frederick, A.I.E.E., Osmington, Priestly-rd., Sidcup.
Davis, E., 27, Old Jewry, E.C. Director East India Construction Syndicate, Ltd.; director Singapore Electric Tramways, Ltd.
Davis, Fred, electrician, 35, Halifax-rd., Todmorden. (Teleph. No. 12 X.)
Davis, F. W., A.M.I.E.E., Cleveland Bridge & Engineering Co., Gateshead.
Davis, Henry, electric light & power engineer, All Saints' Works, Derby.
Davis, H. J., Killabey, Enniscorthy. Director Marconi's Wireless Telegraph Co., Ltd.; director Marconi International Marine Communication Co., Ltd.
Davis, J., electrical apparatus for schools, 13, Paternoster-row, E.C. (Telegs.: "Educateurs, London.")

Davis, Major H. E., A.I.E.E., 17, Moor-st., Cambridge Circus, London, W.

Davis, T., A.M.I.E.E., electrical engineer, Oaklands, Hill-lane, Southampton.

Davis, W., manufacturer of lamp shade fringe, silk cords & fancy trimmings, 36, 34 & 24, Spital-sq., Bishopsgate, London, E.C. (Nat. Telephone No. 9212, London Wall.)

Davis, W. H., jun., electrical engineer, All Saints' Works, Derby.

Davis, Edward, & Co., mica & corundum brokers & consulting experts, 3, Fen-ct., Fenchurch-st., London, E.C. (Telegrams: "Bulwark, London." Telephone No. 4243, Avenue.)

DAVIS ELECTRICAL CO., LTD., THE, wholesale electrical supplies, 17, Moor-st., Cambridge Circus, London, W. (Telegs.: "Unmatchable, London." Teleph. No. 7253, Central.) *See advt. under* METALLIC FILAMENT LAMPS.

Davis, H. C., & Son, electric light engineers, 39, St. James-st., Brighton. (Telephone No. 1438.)

DAVIS, J., & SON (DERBY), LTD., electric light & power engineers, All Saints' Works, Derby. (Telegrams: "Davis, Derby." Telephone No. 240, Derby. A.B.C. & Lieber Codes used.) Registered July 13, 1900. Nominal capital: £35,000 in £1 shares. Directors: H. Davis, Esq.; M. Attwood, Esq.; C. P. Stevenson, Esq.; W. H. Davis, Esq.

Davis, Smith & Co., fittings, Star Works, Bracebridge-st., Birmingham.

Davis & Son, electrical engineers & installation contractors, 120, Bute-st., Cardiff.

Davis & Soper, agents to Corporation of Cape Town, Port Elizabeth Municipality, Bloemfontein Corporation, Bulawayo Municipality, also Cape Peninsula Lighting Co., Ltd., 54, St. Mary Axe, London, E.C. (Telegrams: "Reposnos, London." Telephone No. 4481, Avenue.)

DAVIS & TIMMINS, LTD., manufacturers of screws & terminals, York-rd., King's Cross, N., & Wood Green, N. (Telegs.: "Conductivity, London." Teleph. No. 11070, Central.) Registered March 17, 1899. Nominal capital: £50,000 in £1 ordinary shares & £60,000 in £1 preference shares. Issued: 47,000 ordinary & all the preference shares, all fully paid. Directors: Sir H. C. Mance, C.I.E., M.I.C.E. (chairman); Sir H. Benbow, D.S.O., K.C.B., R.N. (retd.); Geo. E. Davis, Esq. (managing); W. Negus, Esq. *See* SCREWS.

Davis-Perrett, Ltd., oil eliminating plant, Caxton House, Westminster, London, S.W. (Telegs.: "Purigator, London." Teleph. Westminster 5997.)

Davison, Alex., electrician & electrical instrument maker, 47, London-street, Glasgow.

Davson, S. F., mechanical & electrical engineer, 203, Maida Vale, London, W.

DAVY, ARTHUR E., light & power engineer & contractor, Riversdale, Donnybrook, Dublin. (Teleph. Ballsbridge 149.)

Davy, Cecil Wm., Major, R.E., M.I.E.E., 21, Lower Pembroke-st., Dublin.

Davy, J. H., electrician, 2, Victoria-ave., New Barnet.

Davy, W. J., A.M.I.C.E., A.I.E.E., M.I.M.E., Sphere Engineering Works, St. Albans, Herts. Managing director Arc Lamps, Ltd.

Davy Bros., Ltd., electric light engine & boiler makers, Park Iron Works, Sheffield. (Telegs.: "Motor, Sheffield." Teleph. Nos. 44, 2429 & 2418.) Registered Oct. 10, 1872. Nominal capital: £60,000 in £1 5 per cent. cumulative preference shares & £105,000 in £35 ordinary shares, & £30,000 5 per cent. mortgage debentures & £6400 mortgage. Issued: £90,000 ordinary shares with £30 per share paid, & 32,216 preference shares, fully paid, & £30,000 mortgage debentures. Directors: R. Eddison, Esq., J.P. (chairman); Wm. H. Ellis, Esq.; A. J. Capron, Esq. (managing). Secretary, J. B. Bardsley. Dividends: 1905–06, 1906–7, 4 per cent.; 1907–8, 5 per cent.; 1908–09, 4 per cent.

Davy-Faraday Research Laboratory of the Royal Institution for the promotion by original research of the development & extension of chemical & physical science, 20, Albemarle-st., London, W. Director, Prof. Sir J. Dewar, LL.D., F.R.S.; superintendent, Dr. A. Scott, M.A., D.SC., F.R.S.

Dawbarn, R. A., M.INST.C.E., M.I.E.E., consulting electrical engineer, Mordey & Dawbarn, 82, Victoria-st., London, S.W. (Telegs.: "Biphase, London." Teleph. No. 5086, Westminster.)

Dawe, H. J., electrical engineer, 173, Uxbridge-rd., London, W.

Dawe, Philip, A.M.I.C.E., "Boldrewood," Worple-rd., Wimbledon, S.W.

Dawes, F., director Underground Electric Railways Co. of London, Ltd., Electric Railway House, Broadway, Westminster, S.W.

Dawkins, T. C., electrical engineer, Southampton Docks, Southampton.

Dawnay, Archibald Davis, consulting engineer, Wales & West of England Girder Works, East Moors, Cardiff. (Telegrams: "Dawnay, Cardiff." Telephone No. 694.)

Dawson, Alfred E., telegraph engineer, Postal Telegraphs, Limerick.

Dawson, Boyd, A.M.I.E.E., electrical engineer, 176A, King's-rd., Chelsea, London, S.W. (Teleph. Kensington 1338.)

Dawson, Chas. Wm., A.M.I.E.E., Clarence Iron & Steel Works, Leeds.

Dawson, J. E., A.M.I.E.E., mains superintendent, Corporation Electricity Works, West Hartlepool. (Telephone No. 378.)

Dawson, J. Wm., A.M.I.E.E., assistant electrical engineer, Tramways Department, Hall Ings, Bradford.

Dawson, Philip, M.I.C.E., M.I.E.E., M.I.MECH.E., consulting engineer, St. Stephen's House, Victoria Embankment, London, S.W. (Telegs.: "Kincaid, London." Teleph. Westminster 10 & 11.)

Dawson, Roger, & Co., electric light engineers & contractors, art metal workers, &c., 62, Berners-st., London, W. (Telegs.: "Detector, London." Teleph. Gerrard 3974 & 3975.)

Day, Arthur A., A.M.I.C.E., M.I.E.E., borough electrical engineer, Bolton.

Day, B., Chapel Allerton, Leeds. Director Yorkshire District Light Railway Syndicate, Ltd.

Day, B. J., A.M.I.E.E., Crowland, Llandaff, South Wales.

Day, C. F., electric bell manufacturer, 110, High-street, Stoke Newington, London, N.

Day, Chas., A.M.I.E.E., managing director Mirrlees Bickerton & Day, Ltd., Hazel-grove, nr. Stockport.

Day, Ernest R., 21, Ironmonger-lane, London, E.C. Chairman Hankow Light & Power Co., Ltd.

Day, Gerald St. John, electrical engineer, Mumps Electrical Works, Oldham. (Telegs.: "Day, Electrician, Oldham." Teleph. No. 116 X.)

Day, H. S., Electrical Federation Offices, Kingsway, London, W.C. Director of companies associated with the British Electric Traction Co., Ltd.

Day, J., electrical engineer, Park-pl., Cardiff.

Day, Sydney E., engineer, Corporation Electricity Works, Bury St. Edmunds, Suffolk.

Day, Davies & Hunt, patent & trade marks registration agents, 321, High Holborn, London, W.C. (Telegs.: "Registration, London." Teleph. City 646.)

Dayson, A. R., M.I.E.E., tramways manager & engineer, Corporation Tramways Offices, Sunderland.

Deacon, H. S., managing director Cryselco, Ltd., Kempston, Beds.

Deacon, Maurice, M.I.C.E., M.I.E.E., Chase Cliffe, Whatstandwell, Matlock.

Dean, Alfred E., X-ray apparatus maker, 82, Hatton Garden, London, E.C. (Teleph. Central 2248.)

Dean, H., A.I.E.E., 6, Gerald-rd., Lower Broughton, Manchester.

Dean, John, installation contractor, 32, Queen-st., Aberdeen.

Dean, Smith & Grace, manufacturers of machine tools, Worth Valley Tool Works, Parkside, Keighley. (Telegrams: "Grace, Keighley." Telephone No. 7288.)

Deane, B. P. F., A.M.I.E.E., 38, Uxbridge-rd., Ealing, London, W.

Deane, H. F. E., A.I.E.E., 7, Clareville-grove, South Kensington, London, S.W.

Deansgate Foundry, Ltd., iron founders & electrical & mechanical engineers, Deansgate, Bolton, Lancs. (Telegrams: "Bennis, Bolton.")

Dearling, G. S., elec. engineer, Robt. W. Blackwell & Co., Ltd., Parliament-chbrs., Great Smith-st., S.W.

Dearlove, A. L., M.I.C.E., M.I.E.E., telegraph engr. (Clark, Forde & Taylor), 4, Great Winchester-st., E.C.

De Beer, S., A.M.I.E.E., 8, Waterloo-rd., London, S.E.

De Carli, F., electrical engineer, 11, Nassau-st., Shaftesbury-ave., London, W.

De Dion Bouton, 1907, Ltd., makers of Petrol Motors, Motor Dynamo Combinations, &c., 10, Great Marlborough-st., Regent-st., London, W. (Telegs.: "Andesite, London." Teleph. Nos. 8160 & 8161, Central.)

Dee Oil Co., Ltd., The, oil manufacturers & refiners. Works & head office: Saltney, Chester (Teleph. No. 213); 49, Lime-st., London, E.C. (Teleph. No. 6340, Avenue); Colonial House, Water-st., Liverpool (Teleph. No. 5516); & E. Pulsford, 10, rue Taitbout, Paris. (Telegs.: "Cestrian," Saltney, London or Liverpool.)

Deeley, R. M., engineer, Heysham, Morecambe & Lancaster Railway, Heysham.

De Grave, L. W., A.I.E.E., St. Alkmunds, Derby.

De Grelle, Houdret & Co., electrical agents, 130, London Wall, London, E.C. (Telegrams: "Degrelle, London." Nat. Telephone No. 1858, London Wall; P.O. No. 2684, Central.)

Delagoa Bay Development Corporation, Ltd., electric tramway, waterworks & telephone owners, 3, Gracechurch-st., London, E.C. (Telegs.: "Delatus, London." Teleph. Avenue 2947.) Registered Jan. 20, 1903. Nominal capital: £300,000 in £1 ordinary shares & £200,000 6 per cent. debentures. Issued: £267,400, fully paid, & £178,600 debentures. Directors: H. K. Heyland, Esq. (chairman); Frank Gotto, Esq.; W. B. Butler, Esq.; Dr. B. F. Cabral. Sec., W. L. Castleden. Dividends: *nil.*

De Lattre, Alfred L., A.I.E.E., staff engineer, General Post Office, London, E.C.; & Glendale, Sunny-gdns., Hendon, N.W.

Delaware Hard Fibre Co., insulating material manufacturers, 189, Central-st., London, E.C. (Telegs.: "Isolement, London.") *See* VULCANIZED FIBRE.

Delbrück, L., 61 & 62, Mauerstr., Berlin. Director Indo-European Telegraph Co., Ltd.

Delebecque, Victor, A.M.I.E.E., Ivydene Court-lane, Erdington, Warwickshire. (Teleph. No. 1065, B'ham.)

Delf, R., & Co., electricians, 243-5-9, Fulham-rd., London, S.W. (Teleph. No. 2142, Western.)

Delhi Electric Tramways & Lighting Co., Ltd., Basildon House, Moorgate-st., London, E.C. Registered May 14, 1906. Nominal capital: £30,000 in £1 ordinary shares & £140,000 in £1 7 per cent. preferred & participating shares, & £50,000 debentures secured by trust deed, dated Jan. 3, 1908. Issued: £100,000 in 7 per cent. preferred & participating shares, fully paid, & £34,800 debentures. Directors: Col. Sir Buchanan Scott, K.C.I.E. (chairman); T. W. Stratford Andrews, Esq.; J. M. Campion, Esq.; R. Carrol Pearman, Esq. Secretary, A. W. R. Lovering. Dividends: *nil.*

De Linde, Albert, A.M.I.C.E., M.I.E.E., Sanctuary House, Tothill-st., Westminster, London, S.W.

Dell & Son, turbine importers, 26, Mark-lane, London, E.C. (Telegrams: "Cosgrove, London." Telephone No. 2275, Avenue.)

Dellagana, B., & Co., Ltd., electrotypers, 11, Shoe-lane, London, E.C.

Dellagana, James, & Co., electrotypers, Turnagain-lane, Farringdon-st., E.C.

Delta Metal Co., Ltd., manufacturers of "Delta" metal, manganese & aluminium bronze, copper, yellow metal, brass & other metallic alloys & Dick's patent extruded metals. Registered offices & works: East Greenwich, London, S.E. (Telegs.: "Delta, London." A.B.C. Code, 5th edition, used. Teleph. Nos. 249 & 250, Deptford.) Branch works: Birmingham. (Telegs.: "Extrusion, Birmingham." Teleph. Central 6480, 6481 & 6482.) Registered March 12, 1888. Nominal capital: £150,000 in ordinary shares of £1 each. 85,000 shares have been issued, & are fully paid. Directors: S. Sanders, Esq. (chairman); H. A. Dugard, Esq.; J. W. Meyjes, Esq. (managing, London); & Edw. Price (managing, Birmingham). Secretary, A. F. H. Dick. Dividends: for the last seven years, 12½ per cent. per ann.

Dempster, Moore & Co., Ltd., engineers' machine tool makers, 49, Robertson-st., Glasgow. (Telegs.: "Dempster, Glasgow." Teleph. Nos.: 505, Argyle (2 lines); & 3905, Corp.)

Dendy, F. W., Eldon House, Osborne-rd., Newcastle-on-Tyne. Director Newcastle-on-Tyne Electric Supply Co., Ltd.

Denison, T., & Co., mechanical engineers, Arrow Works, West-st., Leeds. (Telegrams: "Denison, West-st., Leeds." Telephone No. 1160.)

Denner, E. G., & Co., wholesale electrical contractors, West-st., Sheffield. (Telegs.: "Denner, Electrician, Sheffield." Teleph. Central 2326.)

Dennis, F. H., A.M.I.E.E., electric light engineer & contractor, High-st., Chelmsford, Essex. (Telegrams: "Dennis, Engineer, Chelmsford." Nat. Teleph. No. 181.)

Dennis, F. W., A.M.I.E.E., 49, Queen Victoria-st., London, E.C. (Telegs.: "Fredennis, London." Teleph. No. 343, Bank.)

Dennis, James H., & Co., Ltd., pure sulphate of copper manufacturers, Widnes, Lancs.; & 24, Chapel-st., Liverpool. (Telegrams: "Dennisson, Liverpool." Telephone No. 980, Central.)

Dennis, W., Adams & Co., electrical engineers & contractors, 17, Little Pulteney-st., London, W. (Teleph. No. 8786, Gerrard.)

DENNIS, W. F., & CO., wire drawers, 49, Queen Victoria-st., London, E.C. (Telegs.: "Fredennis, London." Teleph. Bank 343.)

Dennison, Kett & Co., Ltd., mechanical & electrical engineers & contractors, Mansion House-chbrs., 11, Queen Victoria-st., London, E.C.

Denny, A., M.I.E.E., Leven Ship-yard, Dumbarton.

Denny, C. W., electrical engineer, 18, Wellington-rd., Old Charlton, London, S.E.

Denny, Wm., & Bros., electrical engineers & shipbuilders, Dumbarton (Telegrams: "Denny, Dumbarton." Telephone Nos. 1 & 15); & 19, St. Helen's-pl., London, E.C.

De Nordwall, Chas. F., M.I.E.E., 605-6, Caxton House, Westminster, London, S.W.; & 15, Tavistock-rd., Croydon. Managing director A.E.G. Electrical Co. of South Africa, Ltd., Johannesburg & London. Representing Allgemeine Elektricitäts Ges. (Foreign Dept.) of Berlin.

Densham, E. D., assistant, Richmond (Surrey) Electric Light & Power Co., Ltd., Richmond, Surrey.

Densham, Wm., A.M.I.E.E., c/o Marconi's Wireless Telegraph Co., Ltd., 9, Hall-st., Chelmsford, Essex.

Dent, Sir Alfred, K.C.M.G., 54, Old Broad-st., London, E.C. Chairman Shanghai Elec. Construc. Co., Ltd.

Dent, E., & Co., electrical contractors, 41, Stonegate, York.

Denton, E., electrical engineer, Town Council, Pudsey.

Denton, F. M., A.C.G.I., electrical engineer, Beverley, East Yorks.

Denton, H. H., M.I.E.E., borough electrical engineer, Corporation Electricity Works, Crewe.

Denton, J. J., teacher of electricity, Working Men's College, 46, Great Ormond-st., W.C.

Denton, J. J., A.M.I.E.E., 25A, Hatton Garden, E.C.

Denton, C. J., & Co., engineers' stores contractors, 5, Laurence Pountney Hill, London, E.C. (Telegrams: "Sycee, London." Telephone No. 5625, Bank.)

Denton Electrical Construction Co., Ltd., elec. & mech. engrs., 11, Ashton-rd., Denton, nr. Manchester.

De Pass, E., chartered patent (designs & trade mark) agent, 78, Fleet-st., E.C. (Teleph. Central 11970.)

Derby & Co., Ltd., platinum dealers, 44, Clerkenwell-rd., London, E.C. (Telegs.: "Plativet, London." Teleph. No. 13059, Central.)

Derby Corporation Electricity Supply. Works: Sowter-rd., Derby. (Telegs.: "Electric, Derby." Works Tel. No. 237, Private House 98.) Chairman, Alderman A. Butterworth, J.P.; engineer & manager, T. P. Wilmshurst, M.I.E.E.; works superintendent, W. C. Pinn; superintendent of mains, E. Boissier.

Derby Electrical Co., Ltd., elec. mfg. engineers, St. George's Engineering Works, Wood's-lane, Derby.

Derby Technical College, Derby. (Teleph. No. 327.) *See* SCHOOLS, CLASSIFIED SECTION.

Derbyshire, P., wiring contractor, Duke-st., St. Helens. (Teleph. No. 21 X.)

Derbyshire & Nottinghamshire Electric Power Co., 53, Temple-chbrs., Temple-ave., E.C. Power Station: Ilkeston. (Telegs.: "Power, Ilkeston." Teleph. No. 38.) Incorporated by Act of Parliament, July 26, 1901. Nominal capital: £1,800,000 in shares of £1 each. Loans, £600,000. Directors: A. R. Holland, Esq. (chairman); Dr. E. H. Fraser; G. H. Brougham Glasier, Esq.; Sir J. T. McCraith; R. Franklin, Esq.; W. S. B. McLaren, Esq.; H. Rüffer, Esq. Consulting engineer, C. S. Vesey Brown; engineer & manager, A. E. Loos; secretary, J. F. Beatson, 85, Gracechurch-st., London, E.C.

De Renzi, A. J. C., A.M.I E.E., resident engineer, Corporation Electricity Works, Newcastle-under-Lyme. (Teleph. No. 10A.)

Dering, George E., M.I.E.E., telegraphic & electrical engineer, Lockleys, Welwyn, Herts.

Dermatine Co., Ltd., dermatine manufacturers, 95, Neate-st., Camberwell, London, S.E. (Telegrams: "Dermatine, London." Telephone No. 31, Hop.)

DERNIER, LOUIS, & CO., electric light shade makers, 23, Newman-st., Oxford-st., London, W. (Telegs.: "Prettiness, London." Teleph. No. 7505, Gerrard.)

Derriman, W. H., A.I.E.E., 11, Carey Mansions, Westminster, London, S.W.

Derwent Valley Electric Power Co., Ltd. Registered Nov. 20, 1909, by Minet, Pering, Smith & Co., 7, St. Helen's-pl., London, E.C. Nominal capital: £2000 in £1 shares.

Deutsch, Commercienrat Felix, director Electrical Co., Ltd., 121 & 125, Charing Cross-rd., W.C.

Deutsch, Franz, Warnford-court, Throgmorton-st., E.C. Chairman Electrical Co., Ltd.

Devey, A. C., M.I.E.E., Lennox House, Norfolk-st., London, W.C.

Devonport Corporation Electricity Works & Electric Tramways. (Telegrams: "Electricity Works, Stonehouse, Devon." Telephone No. 421.) J. W. Spark, engineer.

Devonport & District Tramways Co., Electrical Federation Offices, Kingsway, London, W.C. (Telegs.: "Devonport, c/o Tramway, London." Teleph. No. 2686, Holborn); & Devonport. (Telegs.: "Tramways, Milehouse, Devonport." Teleph. No. 62, Devonport.) C. W. Durnford, manager. Incorporated by Act of Parliament, 1898. Nominal capital: £155,000 in £10 ordinary shares & £37,500 debentures. Issued: £132,470 ordinary shares, & £18,700 4 per cent. debentures, all fully paid. Directors: W. G. Bond, Esq. (chairman); J. S. Raworth, Esq.; C. S. B. Hilton, Esq. P. N. Gray, secretary. Dividends: 1901, 6 per cent.; 1902, 1903 & 1904, 4 per cent.; 1905–1908, *nil.*

Devonport Municipal Science, Art & Technical School, Devonport. *See* SCHOOLS.

Devonshire, J., A.I.E.E., 101, Finsbury Pavement, & 2, Stafford-ter., Phillimore-gardens, London, W. Managing director Metropolitan Electric Tramways, Ltd.; managing director North Metropolitan Electric Power Supply Co.; chairman North Metropolitan Electrical Power Distribution Co., Ltd.; director South Metropolitan Electric Tramways & Lighting Co., Ltd.; director Northwood Electric Light & Power Co., Ltd.

Dewar, E., A.M.I.E.E., 24, London-rd., High Wycombe, Bucks.

Dewar, Prof. Sir J., M.A., F.R.S., D.SC., LL.D., M.I.E.E., Royal Institution, Albemarle-st., London, W.; & 1, Scroope-ter., Cambridge.

Dewey, Oswald, elec. engineer, Reason Mfg. Co., Ltd., 55, Wellington-rd., Heaton Chapel, nr. Stockport.

Dewhurst, —, electric light engineer, 52, North End-rd., West Kensington, London. (Telephone No. 1375, Western, P.O.)

Dewhurst, Edward, Mount-st. Electrical Works, Preston. (Telegs.: "Electric, Preston." Teleph. No. 81.)

Dewhurst's Engineering Co., Ltd., mechanical, electrical & hydraulic engineers, Attercliffe-rd., Sheffield. (Telegs.: "Ladles, Sheffield." Teleph. Central 1614, 3589 & 3861.) Works: Tinsley Park-rd.

De Winton, W. H., A.I.E.E., 60, Duke's-ave., Chiswick, London, W. (Teleph. No. 340, Chiswick.)

Dewrance & Co., anti-friction metal manufacturers, 165, Great Dover-st., S.E. (Telegs.: "Dewrance, London." Teleph. Hop. 3237 (3 lines).)

Dewsbury Corporation Electricity Works & Tramways, Bradford-rd., Dewsbury. (Telegs.: "93, Bradford-rd., Dewsbury." Teleph. Nos. 225; Private, 301.) Engineer, R. H. Campion.

Dewynter, G. F., A.M.I.E.E., 34, Derby-rd., Ponder's End, Enfield, London, N. (Teleph. Waltham X. 13.)

De Wynter, L. J., A.M.I.E.E., "Clarach," Rainhill, Lancs.

Dexter, Arthur & Co., Ltd., cable wax manufacturers, 3, Pope's Head-alley, London, E.C. (Telegs.: "Pumiciform, London." Teleph. No. 1358, Central.)

Dexter, W., & Son, electric bell fitter, Wellingborough.

Dey Time Registers, Ltd., makers of "Dey" time registers, 40, Paradise-st., Liverpool (Telegs.: "Sonnez, Liverpool." Teleph. No. 7150, Central); & 100B, Queen Victoria-st., London, E.C. (Telegs.: "Countable, London." Teleph. No. 5690, Bank.)

Diamond Coal Cutter Co., electrical & general engineers, Stennard Works, Wakefield.

Diamond Reflector Syndicate, reflector & shade manufacturers, Dock House, Billiter-st., London, E.C. (Telephone No. 326, Avenue.)

Dibben & Barclay, electrical engineers, 170, Sloane-st., London, S.W. (Teleph. No. 1667, Kensington.)

Dibdin, W. J., F.I.C., F.C.S., consulting & analytical chemist, 2, Edinburgh-mansions, Howick-pl., Victoria-st., Westminster, London, S.W. (Telegs.: "Logically, London." Teleph. Victoria. 292.)

Dick, J. R., B.SC., M.I.E.E., joint managing director W. Lucy & Co., Ltd., Oxford.

DICK, KERR & CO., LTD., tramway engineers & contractors. Registered Aug. 24, 1899. Nominal capital: £350,000 in 6 per cent. cumulative preference shares of £1 each, of which £305,000 has been issued, & £300,000 in ordinary shares of £1 each, of which £260,000 has been issued, & £300,000 4½ per cent. debenture stock, all issued; amount now outstanding, £265,430. Directors: John Kerr, Esq. (chairman); Claud T. Cayley, Esq. (deputy-chairman); G. Richardson, Esq.; D. C. Ellis, Esq.; T. D. Lingard, Esq.; R. H. Prestwich, Esq.; George Flett, Esq. (managing director); W. Rutherford, Esq. (assistant managing). Secretary, F. Mott. Dividends (ordinary shares): 1903, 10 per cent. &

5 per cent. bonus (free of tax); 1904, 1905, 1906, 1907, 10 per cent. (free of tax); 1908, 10 per cent. (less tax); 1909, 6 per cent. (less tax).

	Telegrams.	*Telephone Nos.*
Head Office: Abchurch-yard, Cannon-st., London, E.C.	Dicker, London.	5867, 5868 & 5869, Bank.
Works: Strand-rd., Preston, Lancs.; & Kilmarnock, N.B.	Motor, Preston.	986 (2 lines).
	Britannia, Kilmarnock.	5.
Branch Offices:		
Cardiff: Royal-chbrs., Park-pl.	Dicker, Cardiff.	407, Cardiff.
Glasgow: 175, West George-st.	Solenoid, Glasgow.	1262, Argyle.
Manchester: Northern Assurance-bldgs., Albert-sq.	Dicker, Manchester.	4668.
Newcastle: Milburn House.	Dicker, Newcastle.	3159.

Dick-Kerr Engineering Society, Electric Works, Strand-rd., Preston, Lancs. R. N. Norris, hon. sec.

Dick, R. & J., gutta-percha, canvas & balata driving band manufacturers, Glasgow; factory, Greenhead (Telegrams: "Guttapercha, Glasgow." Nat. Telephone No. 2534, & Corp. Y. 461); Birmingham; Manchester; Newcastle-on-Tyne; Leeds; Bristol; Belfast; Dublin; & 58, Queen Victoria-st., London, E.C. (Telephone No. 5065, Bank.)

Dick's Asbestos Co., asbestos manufacturers, 51 & 52, Fenchurch-st., London, E.C. (Telegs.: "Eagle, London." Teleph. No. 513, Avenue.)

Dickens, H. T., director Wycombe (Borough) Electric Light & Power Co., Ltd., High Wycombe.

Dicker, A., The Acme Motor & Traction Co., The Ham, Brentford.

Dickins, A. C., electric light & telephone contractor, 14, Kingswell-st., Northampton.

Dickinson, A. J., creosote, pitch, tar, &c., Surrey Canal, Deptford, London, S.E. (Telegrams: "Dickinson, Tar Works, Deptford." Telephone No. 403, Deptford.)

Dickinson, Alfred, M.I.E.E., Central House, New-st., Birmingham (Telegs.: "Traction, Birmingham." Teleph. No. 1823. A.B.C., McNeill's & Lieber's Codes); & 219, Gresham House, Old Broad-st., London, E.C. (Telegs.: "Noitcart, London." Teleph. London Wall 1373.)

Dickinson, E. W., A.M.I.E.E., station superintendent, L.C.C. Generating Station, East Greenwich.

Dickinson, Francis, A.I.E.E., Parkside, Prescot-rd., St. Helens, Lancs.

Dickinson, Harold, A.M.I.C.E., M.I.M.E., M.I.E.E., electrical engineer, Corporation Electric Lighting Dept., Central Station, Whitehall-rd., Leeds. (Telegs.: "Electricity, Leeds." Teleph. Nos.: 3525-6, Office; & 2055, Works.)

Dickinson, H. H., electric fittings dealer, Church-rd., Formby, Lancs. (Teleph. No. 174, Formby.)

Dickinson, W., National Telephone Co., Ltd., Northampton.

Dickinson, Alfred, & Co., civil, electrical & mechanical engineers, Central House, New-st., Birmingham (Telegs.: "Traction, Birmingham." Teleph. No. 1823. McNeill's, A.B.C. & Lieber's Codes used); & 219, Gresham House, Old Broad-st., London, E.C. (Telegs.: "Noitcart, London." Teleph. London Wall 1373.)

Dickinson & Burne, Ltd., mechanical & electrical engineers, Church Acre Works, Guildford. (Telegs.: "Ferrarius, Guildford." Nat. Teleph. No. 40.)

Dicks, J., & Son, installation contractors, High-st., Winchester.

Dickson, E. H. L., A.M.I.E.E., mains engineer, Electricity Works, Frederick-rd., Salford.

Dickson, J., forgings & magnet castings, 5, Laurence Pountney Hill, London, E.C. (Telegs.: "Nougat, London." Teleph. No. 107, Bank.)

Dickson, James, dynamo brush maker, 48, Gray's Inn-rd., W.C. (Telegrams: "Dicksonia, London." Telephone No. 4650, Holborn.)

Dickson, J. D. Hamilton, electrician, 6, Cranmer-rd., Cambridge.

Dickson, S., F.C.S., analytical & consulting chemist, 2, Broadway, Westminster, London, S.W. (Teleph. Westminster 192-3.)

Dickson, W. K. L., A.M.I.E.E., 4, Denman-st., Piccadilly Circus, London, W.

Dieppe, Richard C., A.M.I.E.E., electrical engineer, 47, Trinity-rd., Tulse Hill, S.W.

Diesel Engine Co., Ltd., crude oil engines, 179, Queen Victoria-st., E.C. (Telegrams: "Dieselben, London." Teleph. No. 5848, Central.)

Dieselhorst, Wilhelm, A.M.I.C.E., Messrs. Siemens Brothers & Co., Woolwich, London, S.E.

Digby, W. P., A.M.I.MECH.E., A.M.I.E.E., consulting electrical engineer & electro-chemist, 28, Victoria-st., Westminster, London, S.W. (Teleph. No. 666, Victoria.)

Diggle, Jas., electrical engineer, Co-operative Society, Bolton.

Dimmack, A., A.M.I.E.E, electrical engineer, Corporation Electricity Works, Swindon. (Teleph. No. 28.)

Dinham-Peren, A. E. H., A.M.I E.E., 94, Jackson-st., Stretford, Manchester.

Dinham, Fawcus & Co., Ltd., coal factors & exporters, 3, Cross-lane, Coal Exchange, London, E.C. (Telegs.: "Fawcus, London." Teleph. Nos. 2304 & 2308, Avenue.)

Dinin, Alfred (André A. Godin, manager), 1, Red Lion-sq., Holborn, London, W.C. (Telegs.: "Container, London." Teleph. No. 6897, Central.)

Dinning & Cooke, electric bell fitters & contractors, 91–95, Percy-st., Newcastle-on-Tyne. (Telegrams: "Dinning, Newcastle, Tyne." Telephone Nos.: 1322, Nat.; 493, G.P.O.)

Direct Spanish Telegraph Co., Ltd., 66, Electra House, Finsbury Pavement, London, E.C. (Telephone No. 1128, London Wall.) Registered Nov. 8, 1872. Nominal capital: £65,000 in £5 ordinary shares, £30,000 £5 preference shares & £30,000 4½ per cent. first mortgage debentures. Issued: £64,655 ordinary shares, £30,000 preference shares & £30,000 debentures, all fully paid up. Directors: The Marquis of Tweeddale, Kt. (chairman); Sir John Denison-Pender, K.C.M.G.; F. Alex Johnston, Esq. Walter Judd, electrician; secretary, F. T. Preddle. Dividends: 1900–1907, 4 per cent. per annum. The dividend on preference shares is a fixed sum, viz. 10 per cent. per annum.

Direct United States Cable Co., Ltd., General Offices, 50, Old Broad-st., London, E.C. (Telegrams: "Direct, London." Telephone No. 1384, Avenue.) Consulting electricians, Clarke, Forde & Taylor. T. Finnis, general manager & secretary. Directors: E. M. Underdown, Esq., K.C. (chairman); Sir James Pender, Bart.; C. E. Günther, Esq.; Jno. Varley, Esq.; The Hon. Thos. Cochrane, M.P.; H. C. B. Underdown, Esq. Incorporated July 17, 1877. Nominal capital: £1,300,000 in £20 shares. 60,710 shares have been taken up, & £1,214,200 agreed to be considered as paid. Dividends: 1904–05, 3¼ per cent.; 1905–06, 4¼ per cent.; 1906–07, 4⅝ per cent.

Direct West India Cable Co., Ltd., 33, Old Broad-st., E.C. (Telephone No. 2914, Central.) Registered Sept. 1, 1897. Nominal capital: £120,000 in 24,000 shares of £5 each. Issued: 12,000 shares, & £2 10*s.* per share called up. There are £43,500 4½ per cent. debentures of £100 each, £120,000 issued. Directors: T. Skinner, Esq. (chairman); Lt.-Col. T. G. H. Glynn; Geo. G. Ward, Esq.; Fred Ward, Esq. General manager, Joseph Rippon, Esq.; secretary, O. Rochs. Dividends: 1899–1909, 6 per cent. each year.

District Electric Co., Ltd., electrical engineers & contractors, 39 & 40, Berry-st., Wolverhampton. Manager, Lionel S. Aldridge, A.I.E.E. (Teleph. No. 385.)

District Messenger & Theatre Ticket Co., Ltd., 100, St. Martin's-lane, London, W.C. (Telegs.: "Opponents, London." Teleph. No. 1023, Gerrard.)

Ditmas, F. I. L., F.G.S., A.I.E.E., M.I.M.E., consulting mining & electrical engineer, The Moorings, Fleet, Hants. (Telegs.: "Ditmas, Fleet.")

Ditton Instrument Co., electrical instruments, Ferry Works, Thames Ditton, Surrey.

Ditton Oil Mills (1904), Ltd., stearine & elastic pitch, Brown's-bldgs., Exchange, Liverpool. (Telegs.: "Mucilage, Liverpool." Teleph. No. 6168.)

Dix, H. W. W., A.M.I.E.E., Penrhos, Anderton Park-rd., Moseley, Birmingham.

Dixon, A. W., A.M.I.E.E., Exchange Garage, Crown-st., Leeds.

Dixon, Edward, A.M.I.E.E., 74, Bartholomew-rd., Camden-rd., N.W.

Dixon, E. H., B.SC., A.M.I.E.E., Hartley University College, Southampton.

Dixon, G., A.I.E.E., Brotton Hall, Brotton, S.O., Yorks.

Dixon, H., A.M.I.E.E., resident engineer, Electric Supply Corporation, Ltd., St. Andrews, N.B.; & Argyle House, Argyle-st., St. Andrews.

Dixon, H. B., M.A., F.R.S., professor of chemistry, The University, Manchester.

Dixon, H. Leslie, A.M.I.E.E., engineer & manager, Leatherhead & District Electricity Co., Ltd., Leatherhead, Surrey. (Teleph. No. 6, P.O.)

Dixon, John, A.M.I.MECH.E., consulting electrical & mechanical engineer, 219, St. Vincent-st., Glasgow. (Teleph. Corp. 2638.)

Dixon, Lewis Wm., A.I.E.E., managing engineer, Merthyr Electric Traction & Light Co., Ltd., Merthyr Tydvil.

Dixon, Rowland Edward, A.I.E.E., Swinegate, Leeds. (Teleph. No. 3600, Leeds (3 lines).)

Dixon, R. F., assistant electrical engineer, Corporation Electric Tramways Power Station, Osborne-st., Hull. (Corp. Teleph. No. 445.)

Dixon, T. W. H., electrician, Glevering Hall, Wickham Market, Suffolk.

Dixon, Walter, M.I.E.E., M.I.M.E., 30, Kelvinside-gdns., Glasgow, W.

Dixon, W. H. T., assistant electrician, Central Station, C. L. C. Railway Co., Manchester.

Dixon Bros. & Hutchinson, Ltd., petrol & paraffin electric sets, Woolston, Southampton. (Telegs.: "Cylinder, Southampton." A.B.C. Code. Teleph. No. 389.)

Dixon & Corbitt & R. S. Newall & Co., Ltd., lightning conductor manufacturers, Gateshead-on-Tyne (Telegrams: "Dixon, Gateshead." Telephone No. 1159); 130, Strand, London, W.C. (Telegrams: "Corbitt, London." Telephone No. 2705, Gerrard); & 4, West Nile-st., Glasgow. (Telegrams: "Wirerope, Glasgow.")

Dixon, S., & Son, Ltd., manufacturers of gun-metal steam fittings, tramway equipment, engineers, &c., 31, Swinegate, Leeds. (Telegs.: "Brass, Leeds." Teleph. Nos. 3600 (3 lines).)

Dixon, Thos., & Sons, electric light contractors, 44, Buckingham Palace-rd., 47, Lower Belgrave-st., & 62, Vauxhall Bridge-rd., London, S.W. (Telephone No. 722, Westminster.)

Dixon, Walter, & Co., consulting electrical & general engineers, 38, Bath-st., Glasgow. (Telegs.: "Fresco." Teleph. Nos.: Royal Nat. 3656; P.O. 3659. A.B.C. Code.)

Dixon, W. F., & Co., gear wheels & buffalo raw-hide pinions, 60, Percival-st., C.-on-M., Manchester. (Telegs.: "Ixion, Manchester." Teleph. No. 5461.)

Dobbie, J. Thos., electrical engineer, 58, Pollok-street, Glasgow.

Dobbie, R. S., M.I.E.E., A.M.AM.I.E.E., 33, Vicarage-rd., East Sheen, London, S.W.

Dobbie, McInnes, Ltd., electrical & engineering instrument manufacturers, 57, Bothwell-st., Glasgow. (Telegrams: "Compass, Glasgow." Nat. Telephone Nos.: 1545, Argyle; & Corporation, 2913.) London office: 113, Fenchurch-st., E.C.

Dobell, Hubert, A.M.I.E.E., Whittington Court, Andoversford, S.O., Glos.

Dobie, L., The Hill, Heswall, nr. Birkenhead. Director Heswall Electric Light Co., Ltd.

Dobie, John, & Co., electrical tool dealers, 75, Sauchiehall-st., Glasgow. (Teleph. No. 777, Douglas.)

Dobson, John, A.M.I.E.E., 11, Stopford-pl., Stoke, Devonport.

Dobson, J. E., electrical engineer, Bruce Peebles & Co., Ltd., East Pilton Works, Edinburgh.

Dobson, J. M., director Fort William Electric Lighting Co., Ltd., Fort William.

Dobson, Sydney T., M.I.C.E., M.I.E.E., chief engineer, St. James & Pall Mall Electric Light Co., Ltd., & joint engineer Central Electric Supply Co., Ltd. Offices: Carnaby-st., Golden-sq., W. (Telegs.: "Licensable, London." Teleph. Gerrard 633 & 5082, & Central 9383.)

Dobson, Wm., A.M.I.E.E., 17, Melrose-ave., Willesden Green, London, N.W.

Dobson, R. & H., electrical engineers & contractors, 39, Dean-rd., Salford.

Dockrell, H. J., Capt., R.N., A.I.E.E., Sydney House, Shefford, R.S.O., Beds.

Dockrell, W. R., chairman Frinton-on-Sea & District Electric Light & Power Co., Ltd., St. Mary's-rd., Frinton-on-Sea.

Dockrell, Thos., Sons & Co., Ltd., electrical engineers, 38 & 39, South Great George's-st., Dublin. (Telegs.: "Dockrell, Dublin." Teleph. No. 2330 (3 lines).)

Dodd, Cyril H., M.E., A.I.E.E., Bôd Amlwg, Pentre Hill, Mold, N. Wales.

Dodd, F. K., electric bell fitter, York-st., Broadstairs, Kent. (Telephone No. 091.)

Dodd & Dodd, consulting & civil engineers, 37, Waterloo-st., Birmingham. (Telegs.: "Culvert, Birmingham." Teleph. Central 5918.)

Dodd & Oulton, Ltd., brassfounders & electrical fittings manufacturers, 8, Stanley-st., Liverpool. (Teleph. Central 1177 (3 lines).)

Dodimead, J., & Son, general wood workers for electricians, 50, Tottenham Court-rd., London, W. (Telephone No. 1137, Central.)

Dodman, A., & Co., Ltd., engineers & boiler makers, Highgate Foundry, King's Lynn. (Telegrams: "Dodman, Lynn." Telephone No. 20.)

Dodson, John, electric light contractor, 29, Fetter-lane, London, E.C.

Dodsworth, G., maker of vertical & water tube boilers, Depôt Road Boiler Works, Middlesborough, Yorks.

Dolby, D. J., electrical engineer, Victoria-st., Great Grimsby.

Dolby & Williamson, consulting electrical engineers, 8, Princes-st., Westminster, London, S.W. (Teleph. No. 782, Victoria.)

Dollar Electricity Works (The Electric Supply Corporation, Ltd.), Dollar, N.B. Engineer, K. M. Scott Moncrieff.

Dollery & Palmer, engineers' agents, 110, Cannon-st., London, E.C. (Telegs.: "Deflection, London.")

Dollond & Co., scientific instrument makers, 35, Ludgate Hill (Telephone No. 1375, Central); 62, Old Broad-st., E.C.; & 5, Northumberland-ave., London, W.C.

Dolton, Wm., A.M.I.E.E., engineer, Postal Telegraphs, Mount Pleasant, London, E.C.

Domeier & Co., platinum refiners, &c., 8, Harp-lane, London, E.C. (Telegs.: "Domeier, London." Teleph. Avenue 2220. A.B.C. Code.)

Don, A. L., director South African Lighting Association, Ltd., 16, King-st., E.C.

Donachie, J. A., engineer, Clyde Valley Electrical Power Co., 53, Bothwell-st., Glasgow.

Donald, James T., & Co., Ltd., air propeller manufacturers & electricians, 35, M'Alpine-st., Glasgow. (Telegs.: "Mechanikos, Glasgow." Teleph. Nos.: Nat., 66, 1232 & 1524, Argyle; & Post Office, 2239 & 308.)

Donaldson, J. M., A.M.I.C.E., A.I.E.E., electrical engineer, The Old Rectory, St. Albans.

Donaldson, J. W., director North Wales & District Light Railway & Electric Power Syndicate, Ltd., 6, Booth-st., Manchester.

Doncaster Corporation Electricity Works & Tramways, Doncaster. E. S. Rayner, A.M.I.E.E., chief engineer & tramways manager. (Teleph. Nos. 43 & 94.)

Doncaster Electrical Co., Ltd., light & power engineers & contractors, Printing Office-st., Doncaster. (Telegs.: "Child, Doncaster.") J. P. Child, engineer & manager.

Donnelly & Moore, consulting engineers, 19, Nassau-st., Dublin. (Teleph. No. 2960.)

Donner, Wm. H., M.I.E.E., electrical engineer, Burnside, Meikleriggs, Paisley.

Donnet, J. W., A.M.I.E.E., Curtis Turbine Dept., British Thomson-Houston Co., Ltd., Rugby.

Donnison, Fred. A., A.I.E.E., 116, Great Portland-st., London, W. (Telegs.: "Lightly, London." Teleph. Nos.: 2794 & 2319, Gerrard; & 480, Paddington.)

Donnison, Sillem & Co., contractors for installations, 116, Great Portland-st., W. (Telegrams: "Lightly, London." Telephone Nos.: 2794 & 3319, Gerrard; & 480, Paddington.)

Donnithorne, H. E., A.M.I.E.E., 76, Queen's-gate, London, S.W.

Donoghue, E., electrical engineer, Corporation Electricity Works, Blackpool.

Donovan, Edward W., M.I.M.E., A.I.E.E., Donovan & Co., Ltd., Broughton Bridge Iron Works, Salford, Manchester. (Telegs.: "Dazzle, Manchester." Teleph. No. 3404.)

Donovan, G. O., M.I.E.E., electrical engineer, 126, Chester-rd., Erdington, Birmingham.

Donovan, H. C., M.I.E.E., electrical engineer, 51, Coleraine-rd., Westcombe-park, London, S.E.

Donovan, J. W., consulting engineer, 11, Norfolk-st., Sunderland. (Telegrams: "Donovan, Sunderland." Telephone No. 743.)

Donovan & Co., electrical manufacturers & general suppliers, 22, Barwick-st., Birmingham. (Telegs.: "Efficiency, Birmingham." Teleph. No. 4280, Central.)

Donovan & Co., Ltd., mechanical & electrical engineers, Broughton Bridge Iron Works, Salford. E. W. Donovan, managing director. (Telegs.: "Dazzle, Manchester." Teleph. No. 3404. A.B.C. Code.)

Doolette, G. P., 9, St. Mildred's-ct., London, E.C. Director Kalgoorlie Electric Power & Lighting Corp., Ltd.

Doran, J. G., A.M.I.E.E., chief assistant electrical engineer, Bermondsey Electricity Works, London, S.E.

Dorchester Electric Light & Power Co., Ltd. Registered May 10, 1906. Nominal capital: £15,000 in £1 shares. Secretary, J. V. Nyren, 42A, Bravington-rd., Paddington, W.

Dore, John, & Co., coppersmiths, &c., High-st., Bromley-by-Bow, London, E. (Telegrams: "Cuivre, London." Telephone No. 136, Eastern.)

Dorking Electricity Supply, Dorking, Surrey. (Teleph. No. 177, Dorking.) (*Leased to Edmundson's Electricity Corp., Ltd.*) Resident engineer, Henry Joseph, A.M.I.E.E.

Dorman, C. M., M.I.E.E., c/o Dorman & Smith, Ordsal Electrical Works, Salford, Manchester. (Telegrams: "Current, Manchester." Telephone No. 1741.)

Dorman, W. H., electrical engineer, Foregate-st., Stafford.

Dorman, Long & Co., Ltd., steel & iron manufacturers, Middlesborough (Telegrams: "Dorman, Middlesbrough." Telephone No. 20); & 19, Victoria-st., London, S.W. (Telegrams: "Pugilism, London." Telephone No. 152, Westminster.)

DORMAN & SMITH, manufacturing electrical engineers & electricians, Ordsal Electrical Works, Salford, Manchester. (Telegs.: "Current, Manchester." Nat. Teleph. No. 1741.) Agents—London: Sambidge & Co., 17, Victoria-st., S.W. (Telegs.: "Prefix, London." Teleph. Victoria 530.) Scottish: Andrews & Co., 198A, St. Vincent-st., Glasgow. Birmingham: S. T. Pemberton, Council-chbrs., Colmore-row. Newcastle-on-Tyne: F. T. Hanks, 1, Higham-pl. Australasian: Haes & Eggers, 163, Clarence-st., Sydney, N.S.W. Continental: H. Doyer & Co., Nieuwland No. 3, Rotterdam. *See advt., page* 21.

Dormann, E., A.M.I.E.E., engineer, Aron Electricity Meter, Ltd., 80A, Salusbury-rd., Kilburn, London, N.W.

Dorrell, G. H., 4, Elm-ct., Temple, E.C. Director Church Stretton Electric Supply Co., Ltd.

Dorrell, H. B., A.M.I.E.E., mains superintendent, Corporation Electricity Works, Bury.

Doudney, S. P., A.M.I.E.E., chief assistant engineer, British Insulated & Helsby Cables, Ltd., Prescot, Lancs.

Doughty, C. H., A.I.E.E., Shoreditch Town Hall, Old-st., London, E.C. (Telephone No. 1514, London Wall.)

Douglas, C. E., A.M.I.E.E., Salford Iron Works, Manchester.

Douglas, Orlando, electrical engineer, 52, Carlton-vale, London, N.W.

Douglas, G. C., & Co., chartered patent agents, 41, Reform-st., Dundee. (Teleph. No. 1487.)

Douglas Southern Electric Tramways, Ltd., 24, Brazennose-st., Manchester; & Douglas, Isle of Man. (Telegs.: "Traffic, Douglas.") Registered Oct. 21, 1895. Nominal capital: £50,000 in £1 shares (of which 30,000 are preference). 25,973 preference & 15,472 ordinary have been taken up, & £1 per share called. Directors: T. J. Hutchinson, Esq. (chairman); E. A. Hopkins, Esq.; J. E. Winslow, Esq. Traffic manager, Reg. Orton; secretary, J. E. Sharples. Dividends: 1906, 7 per cent. on preference shares & 1¼ per cent. on ordinary; 1907, 6 per cent. on preference; 1908, 5½ per cent. on preference.

Douglas, William, Ltd., electrical engineers & contractors for electric lighting, telephones, &c., 11 & 13, Picardy-pl., Edinburgh. (Teleph. No. 1037.) Registered Nov. 7, 1900.

Douglas, Wm., & Sons, Ltd., electrical engineers, Douglas Wharf, Putney, London, S.W. (Telegrams: "Ibidem, London." Telephone No. 242, Battersea.)

Douglass, Archibald, A.I.E.E., 49, Turnpike-lane, Hornsey, London, N.

Douglass, W. T., M.I.E.E., M.I.C.E., 15, Victoria-st., S.W.

Dould, Charles, manufacturer of silk & cotton covered wire, 1A, Fore-st., London, E.C. (Telegrams: "Afforest, London." P.O. Teleph. No. 3052, Central.)

DOULTON & CO., LIMITED, manufacturers of Stoneware Troughing, Conduits & Pipes for underground electric mains, Stoneware & Porcelain for electrical purposes, Insulators for Electric Traction, Power Transmission, Telegraph & Telephone. Royal Doulton Potteries, Lambeth, London, S.E.; Rowley Regis, nr. Dudley, Staffs.; St. Helens, Lancs.; Paisley, N.B.; Burslem, Staffs.; & at Birmingham, Liverpool, Manchester & Glasgow. (Telegs.: "Doulton, London;" "Doulton, Liverpool;" "Doulton, Manchester;" "Doulton, Glasgow;" & "Doulton, Burslem." Teleph. Nos.: 2260, Victoria (4 lines); 345, Birmingham; 680 (Central), Liverpool; 997, Manchester; 506, Argyle, Nat., & 3746, Corp., Glasgow; 302, Burslem.) Registered Nov. 29, 1898. Nominal capital: £400,000 in £1 ordinary shares, £350,000 in 5 per cent. cumulative preference shares, £350,000 in first mortgage irredeemable debenture stock. Issued: all the shares, fully paid. Directors: H. L. Doulton, Esq. (chairman); R. D. Doulton, Esq.; W. A. Turnbull, Esq.; E. C. Hannen, Esq.; L. J. E. Hooper, Esq.; & J. C. Bailey, Esq. Secretary, C. L. Jones. Dividends: 4 per cent. on debenture stock & 5 per cent. on preference shares per annum. *See* CABLE MFRS.

Dove, W. E. B., A.M.I.E.E., Bondgate, Darlington.

Dove, W. E., & Co., Ltd., electrical engineers, Bondgate, Darlington.

Dover, Alfred, A.M.I.E.E., Battersea Polytechnic, London, S.W.

Dover, F. W., manufacturer of carved wood electric light fittings, switch & electric blocks, &c., Sycamore Tree Works, 114, Rockingham-st., Sheffield. (Telegs.: "Sycamore, Sheffield." Teleph. No. 393.)

Dover Corporation Electricity Works, Dover. (Telegrams: "Electric, Dover." Telephone No. 291.) Engineer, L. W. Woodman, M.I.E.E.

Dover Corporation Tramways. (Telegs.: "Trams, Dover." Teleph. No. 219D, Dover.)

Dover School of Science, Art & Technology, Dover. *See* SCHOOLS.

Dovey, C. H., electric bell fitter, Camborne.

Dow, John Stewart, A.M.I.E.E., Mayfield, Shepherd's Hill, Highgate, London, N.

Dow, W., & Son, wiring contractors, St. Marnock-st., Kilmarnock.

Dowling, E., chief engineer, Smithfield Markets Electric Supply Co., Ltd., 57, Charterhouse-st., E.C.

Dowling, F. N., electrical engineer, Swan-bldgs., Edmund-st., Birmingham.

Dowling, J., & Co., electrical engineers, 5, Upper Queen-st., Belfast.

Down, Fred. J., M.I.E.E., A.M.I.C.E., F.C.S., advisatory electrical engineer, expert & supplier of traction & lighting specialities, 6, 7 & 8, Crutched Friars, London, E.C.; & for insulation specialities only, Harpenden, Herts. A founder, 1883, of Laing, Wharton & Down. (Telegs.: "c/o Windsail, London." London Teleph. Central 1370.)

Down Bros., Ltd., electro-medical apparatus manufacturers, 21 & 23, St. Thomas-st., Borough, London, S.E. (Telegs.: "Down, London." Teleph. Nos.: 965, Hop; & 8339, Central.)

Downe, Reginald Sydney, M.I.E.E., general manager & engineer, Brompton & Kensington Electricity Supply Co., Ltd., 254, Earl's Court-rd., London, S.W.

Downer, Harold, electric light engineer, 110, High-st., Watford. (Telephone No. 0256.)

Downes, F., A.M.I.E.E., Great Northern Railway Telegraph Superintendent's Office, Retford, Notts.

Downes & Davies, electrical factors & agents, 67, Stanley-st., Liverpool. (Teleph. Central 5794.)

Downham, Joseph, electric light contractor, Fleet-st., Bury, Lancs. (Telegs.: "Downham, Bury." Teleph. No. 34.)

Dowse, C. M., A.M.I.E.E., 100, Inderwick-rd., Stroud Green, London, N. Teacher of electrical engineering, Northampton Institute, Clerkenwell, E.C.

Dowsett, H. M., A.I.E.E., electrician, Hillcrest, Galleywood-rd., Chelmsford.

Dowsing, H. J., M.I.E.E., electrical engineer, 24, Budge-row, Cannon-st., London, E.C. (Telephone No. 469, Bank.) Managing director Dowsing Radiant Heat Co., Ltd.

Dowsing Radiant Heat Co., Ltd., 24, Budge-row, Cannon-st., London, E.C.; West End Medical establishment: 28, York-pl., Baker-st., W.; & branches at Aberystwyth, Acton, Bath, Bournemouth, Bexhill, Belfast, Birmingham, Bromley (Kent), Buxton, Brixton, Barmouth, Bradford, Blackheath, Blackpool, Cambridge, Canterbury, Cork, Cheltenham, Dublin, Durham, Edinburgh, Exeter, Eastbourne, Ealing, Folkestone, Glasgow, Harrogate, Hastings, Hull, Hindhead, Ilford, Liverpool, Leamington, Llandrindod Wells, London, Manchester, Margate, Matlock, Matlock Baths, Malvern, Nottingham, Norwood, Oxford, Plymouth, Peebles, Ryde, Sheffield, Scarborough, Southport, Shanklin, Southsea, Strathpeffer, Southampton, Streatham, Tunbridge Wells, Ventnor, Woodhall Spa, Whitley Bay, Worthing, Weston-super-Mare & at Hospitals & Infirmaries throughout the country. Registered Dec. 8, 1898. Directors: Wm. Conolly, Esq. (chairman); H. J. Dowsing, Esq. (managing); A. C. Newstead, Esq.; D. McLaurin, Esq. Secretary, Geo. F. Stevens. Nominal capital: £12,000 in shares of £1 each, & £10,000 debentures.

Dowson, A. H., manager West of England & South Wales Branch, Veritys, Ltd., 59, Victoria-st., Bristol.

Dowson, J. Emerson, M.I.C.E., A.I.E.E., 39, Victoria-st., Westminster, S.W. (Telegrams: "Gaseous.")

Dowson Economic Gas & Power Co., Ltd., gas generating machines ("The Dowson Gas System is the cheapest form of motive power for central stations, owing to low fuel consumption & trifling waste while the apparatus is standing still, ready for work"), 39, Victoria-st., Westminster, London, S.W. (Telegrams: "Gaseous, London." Telephone No. 29, Victoria.)

D. P. BATTERY CO., LTD. Works & offices: Lumford Mills, Bakewell, Derbyshire. (Telegs.: "Battery, Bakewell." Teleph. No. 2.) London address: 11, Victoria-st., S.W. (Telegs.: "Cumulose, London." Teleph. No. 291, Westminster.) Registered May 11, 1895, with a capital of £10,000 in £1 shares, divided into 4996 "A," 4996 "B," & 8 "other" shares. The whole of these have been subscribed for, & the full amount has been called on all the shares, & £25,000 debentures, £12,000 issued. Manager, J. Waddell; secretary, A. Furniss. *See* BATTERIES—STORAGE.

Drabble, W. T., millwright & electrical engineer, Providence Works, West-st., Leeds. (Teleph. No. 3593.)

Drake, Arthur Penrhyn, A.M.I.E.E., A.M.I.MECH.E., 83, Ingram-rd., Sheffield.

Drake, A. P., electrical inspector, British Engine, Boiler & Electrical Insurance Co., Ltd., 12, King-st., Manchester.

Drake, Bernard, M.I.E.E., 66, Victoria-st., Westminster, London, S.W.; & Hurnford, Sanderstead. (Telephone Purley 71.) Chairman Drake & Gorham, Ltd.; director D. P. Battery Co., Ltd.

Drake, Henry, 66, Campden Hill Court, London, W. Chairman Callender's Cable & Construction Co., Ltd.

Drake, Mervyn G., A.M.I.E.E., director Drake & Gorham, Ltd., 66, Victoria-st., London, S.W.

Drake & Dauncey, electrical engineers, 45, Newhall-st., Birmingham.

DRAKE & GORHAM, LTD., electrical, mechanical & hydraulic engineers, 66, Victoria-st., Westminster, London, S.W. Works: 1, Felix-st., London, S.E. Branches: 47, Spring-gardens, Manchester; & Baltic-chbrs., 50, Wellington-st., Glasgow. (Telegs.: "Accumulator, London;" "Accumulator, Manchester;" & "Accumulator, Glasgow." Teleph. Nos.: Westminster 893 (3 lines); P.O. Victoria 1218.) Registered May 22, 1901. Nominal capital: £125,000 in £1 shares, all issued & fully paid. Directors: B. M. Drake, Esq. (chairman); J. M. Gorham, Esq.; J. C. Forster, Esq.; E. H. Story, Esq.; John Forbes, Esq.; Mervyn G. Drake, Esq.; G. C. Hamilton, Esq. Manager, London Office, W. M. Carver; secretary, A. C. Read. Dividends: 1904–05, 6 per cent.; 1906–07, *nil.*; 1907–08, 5 per cent.; 1908–09, 2½ per cent. *See advt. under* CONTRACTORS—ELEC. LIGHT & POWER.

Draper, C. H., D.SC., head master, Municipal Technical College, Richmond-ter., Brighton.

Draycott, G. E., A.M.I.MECH.E., lecturer in engineering, Borough Polytechnic, Borough-rd., London, S.E.

Drennan, John, A.M.I.E.E., 93, Hulme Hall-rd., Cheadle Hulme, Cheshire.

Drennan, Glover & Cooper, electrical engineers, 429–31, Corn Exchange-bldgs., Manchester. (Telegs.: "Turbines, Manchester." Teleph. City 459.)

Drew, J. W., director St. Austell & District Elec. Lighting & Power Co., Ltd., 118, Queen Victoria-st., E.C

Drew, Clark & Co., makers of electric tramway maintenance & construction waggons, &c., Diamond Ladder Works, Lea Bridge-rd., & 9, Waterloo-rd., London, S.E. (Telegs.: "Drew Clark, Leyton." Teleph. Walthamstow 458.)

Dring, J., manager National Telephone Co., Ltd., St. Nicholas-st., Worcester. (Tel. No. 5, Worcester.)

Dring & Fage, scientific & electrical instrument makers, 56, Stamford-st., London, S.E. (Telegs.: "Dringauge, London." Teleph. No. 11323, Central.)

Driver, Geo., & Sons, electrical & mechanical engineers, Hythe-rd., Willesden Junction, London, N.W. (Telegrams: "Britto, London." Telephone No. 79, Harlesden.)

Dronfield Malleable Casting Co., malleable iron & steel founders, Dronfield, nr. Sheffield. (Telegrams: "Casting Co., Dronfield.")

Drummond, Alfred L. E., M.I.E.E., district manager National Telephone Co., Ltd., Newcastle-on-Tyne.

Drummond, B. G., A.M.I.E.E., resident engineer & manager, Hendon Electric Supply Co., Ltd., Hendon.

Drummond, H. H. J. W., A.I.E.E., 5, Carlos-pl., London, W.

Drummond Bros., Ltd., lathe & tool makers, Rhydes Hill, nr. Guildford. (Telegs.: "Lathes, Stoughton." Teleph. No. 153.)

Drury, Guy Lyndon, A.M.I.E.E., c/o N. E. Railway Electrification Scheme, Carriage Works, Walker Gate, Newcastle.

Drury Bros., electric bell-gong dome founders, &c., Stock Orchard-st., Holloway, London, N.

Dryburgh, Alex. P., A.I.E.E., Joshua Buckton & Co., Ltd., Leeds.

Drysdale, C. V., D.SC., M.I.E.E., A.C.G.I., Electrical Engineering & Applied Physics Department, Northampton Institute, St. John-st., Clerkenwell, London, E.C. (Teleph. No. 3072, Holborn.)

Drysdale, Wm, A.M.I.E.E., 103, Duke-st., Barrow-in-Furness.

Drysdale & Co., Ltd., Bon Accord Engine Works, Glasgow. (Telegs.: "Bonaccord, Glasgow." Teleph. Nos.: 2505, Nat.; & Y. 279, Corp.)

Dubbin, Jas., A.M.I.E.E., Balliol House, Toynbee Hall, London, E.

Dublin & Central Ireland Power Syndicate, Ltd., 36, College Green, Dublin; & 79, Mark-lane, London, E.C. Registered Aug. 16, 1907. Nominal capital: £10,000 in £1 shares. Directors: S. Geoghegan, Esq. (chairman); F. H. Pim, Esq., A.C.A.; J. Lindsay, Esq.; Capt. H. Riall Sankey; J. Sturgeon, Esq.; F. P. Griffith, Esq.; R. W. George, Esq.

Dublin Corporation Electricity Works. (Teleph. No. 546.) Engineer, Mark Ruddle, M.I.E.E, M.I.C.E.I.

Dublin Electrical Stores, 41, Fleet-st., Dublin. (Teleph. No. 1854.)

Dublin General Agency, 18, Furlough-ter., Fairview, Dublin. (Teleph. No. 858.)

Dublin Local Section of the Institution of Electrical Engineers. Prof. W. Brown, B.SC., chairman; T. Tomlinson, hon. secretary, 16, Beresford-pl., Dublin.

Dublin & Lucan Electric Railway Co., Conyngham-rd. Terminus, Dublin. (Telegs.: "Lucan, Tramway, Dublin." Teleph. Nos.: 2282, Dublin; & 5, Lucan.) Authorized capital: £30,000 in £10 ordinary shares, £22,750 in 5 per cent. cumulative preference shares of £10 each & £17,580 debentures. Issued: all the ordinary & 1900 preference & £16,330 debentures, all fully paid. Directors: W. Mooney, Esq., J.P. (chairman); W. F. Clarke, Esq., C.E.; J. W. Hill, Esq., J.P.; Captain C. Colthurst-Vesey, J.P., D.L.; E. Anderson, Esq., C.E. Secretary & electrical engineer, H. Harrison. Dividends on ordinary shares: 1906, 1907, 1908 & first half of 1909, *nil*.

Dublin Technical School, Kevins-st., Dublin. *See* SCHOOLS, CLASSIFIED SECTION.

Dublin United Tramways Co., 1896, Ltd., 9, Upper Sackville-st., Dublin. (Telegs.: "Tramways, Dublin." Teleph. No. 58.) Registered Sept. 28, 1896. Nominal capital: £700,000 in £10 ordinary shares & £600,000 in £10 6 per cent. preference shares. Issued: All the ordinary & preference shares, fully paid. £300,000 3½ per cent. mortgage debentures & £300,000 3½ per cent. "B" debenture stock, & £212,000 mortgage bonds of old companies taken over. Directors: W. M. Murphy, Esq. (chairman); P. B. Bernard, Esq.; W. F. Cotton, Esq.; W. Anderson, Esq. (managing). Secretary, R. S. Tresilian, F.C.I.S., A.I.C.E.I.; electrical engineer, Percy S. Sheardown, M.I.E.E.; manager, C. W. Gordon. Dividends: on preference shares, 6 per cent.; on ordinary shares, 1904–1907, 6 per cent.; 1908, 6 per cent. & ½ per cent. bonus.

Duchy Development Association, Ltd., electrical engineers, 89 & 90, Cheapside, London, E.C.

Duckenfield, E. E. V., A.M.I.E.E., "Estcourt," Derngate, Northampton.

Duckenfield, E. E. Vernon, & Co., electrical engineers & contractors, Northampton. (Teleph. No. 420.)

Duckering, C., lamp post manufacturer, Rosemary-lane, Lincoln. (Telegs.: "Duckering, Lincoln." Teleph. No. 63.)

Duckham, Alex., & Co., Ltd., oil & chemical manufacturers, Phœnix Wharf, Millwall, London, E. (Telegs.: "Alexicaco, London." Teleph. East 1046 & 674.)

Dudbridge Iron Works, Ltd., makers of Dudbridge gas & oil engines & gas plants, Stroud, Glos. (Telegs.: "Humpidge, Cainscross." Nat. Teleph. No. 7.)

Duddell, W., M.I.E.E., F.R.S., consulting electrical engr., 56, Victoria-st., S.W. (Tel. Westminster 5753.)

Dudgeon, F. S., Ltd., agents for Kodolitsch's Electric Drilling Machines, 30, Great St. Helen's, London, E.C. (Telegs.: "Plasmo, London." Teleph. No. 1434, Avenue.)

Dudley, R. L., chief assistant engineer, Corporation Electricity Works, Dudley.

Dudley Corporation Electricity Works & Tramways, Dudley. (Teleph. No. 67.) C. E. Savage, A.I.E.E., borough electrical engineer.

Dudley Electrical Company, electricians, High-st. & King-st. Works, Dudley. (Telegrams: "Theedam, Dudley." Telephone No. 14.)

Dudley, Stourbridge & District Electric Traction Co., Ltd., Electrical Federation Offices, Kingsway, London, W.C. (Telegs.: "c/o Tramway, London." Teleph. No. 2686, Holborn (6 lines).) Nominal capital: £100,000 in £5 ordinary shares, £100,000 in £5 5 per cent. preference shares, all issued & fully paid, & £100,000 4½ per cent. debenture stock, all issued. Directors: J. A. Lycett, Esq. (managing); S. R. Blundstone, Esq. General manager, R. W. Cramp; secretary, B. Kingsford. Dividends: 1900, 4 per cent.; 1901 & 1902, 4½ per cent. on ordinary; 1903, 4 per cent.; 1904, 3 per cent.; 1905, 1906 & 1907, 5 per cent.

Duesbury, Trevor, A.M.I.E.E., engineer & manager, Corporation Electricity Works, Sutton Coldfield.

Duff, H. J., wiring contractor, Dumbarton-rd., Stirling.

Duff, William, & Co., boiler coverers, 60, Elliott-st., Glasgow. (Telegs.: "Coverers, Glasgow." Teleph. Nos.: Nat. 771; & Corp. 4056.)

Duffett, W. H., A.M.I.E.E., 2, Daisy-ave., Longsight, Manchester.

Dufton, H. C., engineer, Herne Bay Pier Co., Ltd., Herne Bay.

Dufty, N. E., elec. engineer, c/o Lahmeyer Electrical Co., Ltd., 109 & 111, New Oxford-st., London, W.C.

Dugard Bros., manufacturers of rolled metals, copper wire, tape, & solid bar for electrical & other purposes, Vulcan Mills, Birmingham. (Telegrams: "Vulcan, Birmingham." Telephone No. 98.)

Dugdale, Joseph W., general manager & engineer, Corporation Tramways, Ashton-under-Lyne.

Dugdill, E. J., & Co., electrical contractors, Failsworth, near Manchester. (Telegs.: "Dugdills, Electricians, Failsworth.")

Dugdill, John, & Co., movable fittings makers, Failsworth, nr. Manchester.

Dukas, M., 31, Orsett-ter., Hyde Park, W. Director Electricity Supply Co. for Spain, Ltd.

Duke, A. M., A.M.I.E.E., electrical engineer, 69, Lansdowne-rd., Old Charlton, London, S.E.

Duke, James, electric bell fitter, 4, Bethlehem-st., Great Grimsby.

Dukes, Bernhard, patent agent, 1, Great James-st., Bedford-row, London, W.C. (Telegrams: "Erfinder, London." Telephone No. 9570, Central.)

Dulverton Electric Lighting Co., Ltd., High-st., Dulverton, Somerset. Registered Feb. 17, 1904. Nominal capital: £3000 in £1 shares & £2000 5 per cent. debentures. Issued: 1677 shares, & £1296 has been received. A memorandum of satisfaction in full of a mortgage, dated May 9, 1905, to secure £150, has been registered. Directors: B. Bayley, Esq.; G. B. Fisher, Esq.; F. M. Lock, Esq.; C. U. Nelder, Esq.; W. B. Woodbury, Esq.; J. Moore, Esq.; J. H. Edwards, Esq. Secretary, R. Sowton Barrow.

Dumaresq, Major A. H., R.E., M.I.E.E., School of Military Engineering, Chatham.

Dumbarton Burgh & County Tramways Co., Ltd., 23, Rutland-st., Edinburgh. Registered April 13, 1907. Nominal capital: £155,000 in 80,000 ordinary & 75,000 preference shares, all of £1 each, & £80,000 5 per cent. debenture stock. All issued & fully paid. Directors: Major Chas. Heaton Ellis, J.P. (chairman); Geo. Balfour, Esq.; K. Sanderson, Esq., W.S. Engineer & manager, J. McMahon; secretary, Jno. Dishart.

Dumbarton Electricity Works (Electric Supply Corporation), Dumbarton. (Teleph. No. 171.) Chief engineer, K. A. Scott-Moncrieff; resident engineer, W. A. Ritchie.

Dumfries Electricity Supply Co., Ltd., Dumfries, N.B. (Telegs.: "Electricity Works, Dumfries." Nat. Teleph. No. 8.) Registered Jan. 7, 1909. Nominal capital: £40,000 in £1 shares. Manager & secretary, Talfourd Ely, A.M.I.E.E.; resident engineer, W. H. Scott.

Duncan, E. MacGregor, M.I.E.E., consulting engineer, 27, Old Queen-st., Westminster, London, S.W.; & 16, Museum-st., Ipswich. (Teleph. Westminster 5288.) Director Windsor Electrical Installation Co., Ltd.

Duncan, J. M., inspecting engineer, 19, Minna-rd., Pitsmoor, Sheffield.

Duncan, R. C., mains engineer, Electricity Works, Paisley.

Duncan, W. J. V., electrical engineer, Phœnix Works, Mentmore-ter., London Fields, N.E. (Telegs.: "Foxship, London." Teleph. No. 1744, Dalston.)

Duncan, Watson & Co., manufacturers of dynamo & other oils, Dashwood House, New Broad-st., London, E.C. (Telegrams: "Olivoline, London." Nat. Telephone No. 2545, London Wall.)

Dundalk Electric Tramways Co., Ltd., 118, Grafton-st., Dublin. Registered Nov. 23, 1896. Nominal capital: £1000 in £1 shares, with power to increase. Directors: Wm. Nolan, Esq.; R. M. D. Sanders, Esq.; M. Nugent, Esq. Secretary, R. N. Metcalfe; engineer, J. H. Ryan.

Dundee, Broughty Ferry & District Tramways Co., Ltd., 4, High-st., Dundee. (Telegs.: "Brief, Dundee." Teleph. No. 1267.) Works at Milton, Monifieth, N.B. (Teleph. No. 24, Monifieth.) Registered April 4, 1905. Nominal capital: £40,000 in £1 ordinary shares, £50,000 in £1 6 per cent. cumulative preference shares & £40,000 5 per cent. debentures. Issued: 28,743 ordinary shares, & all the preference shares & debentures, all fully paid. Directors: Ex-Provost Brownlee (chairman); G. Balfour, Esq.; Jno. Smith, Esq.; D. W. Wybrants, Esq. Engineer & manager, D. Fisher; secretary, Ed. Cowan.

Dundee Corporation Electricity Supply & Electric Tramways, Dundee. (Telegs.: "Energy, Dundee." Teleph. No. 1635.) Engineer-in-chief, H. Richardson, M.I.E.E.

Dundee Institute of Architects (Wm. Salmond, hon. secretary), 6, High-st., Dundee.

Dundee Technical College, Dundee. *See* SCHOOLS.

Dunfermline & District Tramways Co., 37, Castle-st., Edinburgh. (Telegrams: "Legatum, Edinburgh." Teleph. Nos. 5590 & 5591.) Nominal capital: £150,000 in £1 shares. Directors: R. S. Portheim, Esq.; M. T. Pickstone, Esq.; C. A. Osborne, Esq.; A. H. Beatty, Esq. Secretary, G. A. Nicolson.

Dunham, White & Co., Ltd., wholesale manufacturers of lubricators, oil feeders, &c., Harrow Green Works, Leytonstone-rd., London, N.E. (Telegs.: "Esellvie, London.")

Dunhill, Alfred, Ltd., makers of accumulators for motor cars, 359-61, Euston-rd., London, N.W. (Telegs.: "Dunsend, London." Teleph. Nos.: 527, North; & 1909, Holborn.)

Dunkley's, Ltd., electric motor car makers, Market-st., Smithfield, Birmingham (Telegs.: "Dunkley, Birmingham." Teleph. Mid 1961); & 76, Houndsditch, London, E.C. (Teleph. Central 6187.)

Dunlop, D. J., Inch Works, Port Glasgow. Director Greenock & Port Glasgow Tramways Co.

Dunn, C. T., electric light engineer, 11, Tideswell-rd., Eastbourne.

Dunn, Edmund, electrician, Queen-st., Ramsgate (Telegs.: "Edmund Dunn, Ramsgate." Teleph. No. 100); & 8, The Broadway, Broadstairs. (Teleph. No. 16 Y.)

Dunn, H. E., electrician, Marconi's Wireless Telegraph Co., Ltd., Watergate House, Adelphi, London, W.C.

Dunn, W. J., chief electrician, Law Accident Insurance Society, Ltd., 215, Strand, London, W.C.

Dunn, Walter T., secretary of The Junior Institution of Engineers, 39, Victoria-st., London, S.W. (Telephone No. 912, Victoria.)

Dunn, H., & Son, electrical engineers & power contractors, 32, Newington Causeway, London, S.E. (Teleph. Hop 1167.)

Dunn, J., & Co., electricians, 102½, North-st., Glasgow. (Teleph. No. 241 X 2, Charing Cross.)

Dunton, E. W., engineer, D.P. Battery Co., Ltd., 11, Victoria-st., Westminster, S.W. (Telegs.: "Cumulose, London." Teleph. No. 291, Westminster.)

Du Pasquier, A. E., A.M.I.E.E., A.M.I.M.E., c/o British Westinghouse Co., 102, St. Mary-st., Cardiff.

Dupré, F. H. & P. V., analytical chemists, 2, Edinburgh Mansions, Howick-pl., London, S.W. (Telegs.: "Dupresis, London." Teleph. No. 1870, Victoria.)

DURANT, B. & R., electrical contractors for mine lighting, power & signalling, material manufacturers, also manufacturers of the "Perfecta" portable electric hand lamp for mine officials, &c., Chapeltown, nr. Sheffield. (Telegs.: "Durant, Chapeltown, Sheffield.")

Durell & Co., electrical engineers, 58, Fenchurch-st., London, E.C. (Telephone No. 350, Avenue.)

Durham, Churchill & Co., Hallamshire Motor & Engineering Works, Grimesthorpe, Sheffield. (Telegrams: "Velometer, Sheffield." Nat. Telephone No. 3046, Sheffield.)

Durham Collieries Electric Power Co., Ltd. Registered office: Basildon House, London, E.C. Power station: Philadelphia, Co. Durham. (Telegs.: "Power, Shiney Row." Teleph. No. 16, Houghton.) Registered Jan. 31, 1905. Nominal capital: £155,000 in 125,000 6 per cent. cumulative preference shares of £1 each & 30,000 ordinary shares of £1 each, £200,000 debentures & £50,000 prior lien Income Bonds. Issued: 25,000 ordinary shares, fully paid, & 45 ordinary shares with 10*s.* paid, 85,102 preference shares, fully paid, & 517 preference shares with 10*s.* paid, £193,280 debentures & £4000 prior lien Income Bonds. Secured by trust deed, dated March 11, 1909. Directors: A. W. Tait, Esq. (chairman); Sir D. Fox; L. D. Cunliffe, Esq.; T. O. Callender, Esq.; H. van B. Collat, Esq. Secretary, S. W. Hemmin. Dividends: 1907, 1908 & first half of 1909, *nil.*

Durham & District Electric Traction Co., Ltd., Electrical Federation Offices, Kingsway, London, W.C. Registered Nov. 30, 1903. Nominal capital: £30,000 in £1 shares. Issued: £7. Directors: W. J. Greer, Esq. (chairman); G. J. Somerville, Esq.; R. P. Simpson, Esq. Secretary, C. H. Godward.

Durham Electricity Works. *See* County of Durham Electrical Power Distribution Co.

Durnford, C. W., A.M.I.E.E., engineer & manager, Devonport & District Tramways Co., Devonport.

Durrant, F., electrical engineer, 28, Windsor-rd., Bexhill-on-Sea.

Durrant, W. H., contracting electrician, 53, Tonning-st., Lowestoft.

Dussek, A. E. H., manager of the British Electrical Trade Supply & Bitumen Co., Canal Bank, Trundley-rd., Deptford, S.E.

Dussek Bros. & Co., oil manufacturers, Verney-rd., Old Kent-rd., S.E. (Telegrams: "Dussek, London." Telephone No. 1239, Hop.)

Düsseldorfer Eisen und Draht Industrie (Schwarte & Hammer), wire makers, 6, Lime-st., London, E.C.

Dutilh-Smith, McMillan & Co., tramcar builders, 29, Great St. Helens, London, E.C. (Telegs.: "Millimodus, London." Teleph. Avenue 759.) Registered in Del., U.S.A., Feb. 16, 1901. Capital: $500,000 in shares of $100.

Dutton, F., electric light contractor, 9, Croft-st., Heckmondwike, Yorks.

Dutton, S., superintendent, Telegraph Department, Relay Station, Haverfordwest.

Dutton, E. K., & Co., consulting engineers & patent agents, Queen's-chbrs., 5, John Dalton-st., Manchester. (Telegrams: "Dotus, Manchester." Telephone No. 752, Nat.)

Dutton, F., & Co., lightning conductor manufacturers & erecters, Heckmondwike, Yorks.

du Verge, Leopold de R., A.M.I.E.E., deputy borough elec. engineer & tramways manager, Newport, Mon.

Dwyer, J. J., telegraph engineer, Postal Telegraphs, Southern District, Waterford.

Dyer, A. R., Palm Hall, Winchester. Director Winchester Electric Light & Power Co., Ltd.

Dyer, C. F., A.M.I.E.E., 19, Hessle View, Brudenell-rd., Leeds.

Dyer, Wm. A., A.M.I.E.E., electrical engineer, 50, Chelverton-rd., Putney, London, S.W.

Dyer & Young, commutator makers, Stansted, Essex. (Telegs.: "Commutator, Stansted.")

Dyke, Geo. Bewsey, B.SC., A.M.I.E.E., Thelma, Stanhope-rd., Highgate, London, N.

Dykes, A. H., A.M.I.C.E., M.I.E.E., consulting engineer, 1, Victoria-st., Westminster, S.W. (Telegs.: "Rheophore, London." Teleph. No. 231, Vic.)

Dymond, J. D., electrical engineer, Foote & Milne, Ltd., 66, Victoria-st., Westminster, London, S.W.

Dynamotor, Ltd., dynamo makers, Bush-lane House, Cannon-st., London, E.C.

Dyson, J. D., A.M.I.E.E., electrical engineer, c/o Hubert Davies & Co., 586, Salisbury House, London Wall, E.C. (Telegs.: "Hudaspa, London." Teleph. London Wall 6540 (3 lines).)

Dyson, J. E., general electrical engineer, Shambles-lane, Huddersfield. (Telegrams: "Dyson, Electrician, Huddersfield." Telephone No. 894.)

E. M. F., LTD., manufacturing electrical engineers, wholesale electrical supplies, metal filament lamps, &c., 10, Ironmonger-lane, E.C. (Telegs.: "Emeffian, London." Teleph. London Wall 158.) Stores: 172–176, King's Cross-rd. Works: Victoria Works, Walsall; & 205A, Pentonville-rd., London, N. *See advt. under* METALLIC FILAMENT LAMPS.

Eachus, T. E., resident engineer, North Metropolitan Electrical Power Distribution Co., Ltd., St. Albans. (Teleph. St. Albans 55.)

Eade & Sons, electric bell & telephone fitters, Balcombe-rd., Horley, & Charlwood, Surrey.

Eadie, J. C., A.M.I.E.E., c/o Siemens Bros. Dynamo Works, Ltd., 196, Deansgate, Manchester.

Eadie, Norman, electrical engineer, J. T. Donald & Co., Ltd., 35, McAlpine-st., Glasgow.

Eadie, Jas., & Sons, iron & steel tube for conveying wires, &c., Clydesdale Tube Works, Rutherglen, Glasgow. (Telegs.: "Clydesdale, Glasgow." Teleph. No. 104, Rutherglen.)

Eadon, Moses, & Sons, Ltd., steel & tool makers, President Works, Sheffield. (Telegs.: "Eadon, Sheffield." A.B.C. Code used. Teleph. Nos. 37 & 28.)

Eady, H., district manager, National Telephone Co., St. Helier, Jersey.

Eager, Edwin, A.I.E.E., "Summerfield," Bower-rd., Hale, Cheshire.

Eagles, J., A.R.C.S., principal Technical & Art School, Doncaster.

Eagleston & Son, electric wiring contractors, St. Clement's, Oxford. (Teleph. No. 514.)

Eakin, W. C., engineer-in-charge, Corporation Electricity Department, Bradford.

Ealing Corporation Electricity Works, Ealing, W. (Telegs.: "Knight, Electricity Works, Ealing." P.O. Teleph. Ealing 282.) Engineer, J. D. Knight, A.M.I.C.E., M.I.E.E., M.I.MECH.E.

Eames, A. E., controller Central Telegraph Office, G.P.O., St. Martin's-le-Grand, E.C.

Eardley, A. T., manager, Corporation Electric Tramways, Stockport.

Earle, Hardman A., M.I.C.E., M.I.E.E., Knightsbridge Mansions, Brompton-rd., London, S.W. Director Yorkshire Electric Power Co.

Earley & Co., electrical engineers, 16, Beaufort-rd., Birmingham.

Earnshaw, A. T., electrical engineer, 50, Verdant-lane, Hither Green, S.E. (Teleph. Lee Green 683.)

Earp, Wm. R., & Co., ammonia manufacturers, Halton-road, Runcorn.

East Africa & Uganda Corp., Ltd. Registered Aug. 22, 1906. Nominal capital: £100,000 in £1 shares, & £175 in 1*s.* shares. Directors: Sir F. W. R. Fryer (chairman); R. C. Abdy, Esq.; Sir E. Cable; C. S. Cox, Esq.; W. J. James Fawcus, Esq.; E. Gedge, Esq.; Lord Hindlip.

East Anglian Engineering Co., Ltd., elec. engs., Stowmarket, Suffolk. (Telegs.: "Anglian, Stowmarket.")

East Cheshire Light Railways Syndicate, Ltd., 129, Stamford-st., Stalybridge. Registered Jan. 16, 1904. Nominal capital: £3000 in £5 shares. Directors: G. Pearson, Esq.; M. Fenton, Esq., J.P.; L. H. Moorsom, Esq.; J. Ridyard, Esq., J.P.; A. H. Gibbings, Esq.

East Ham Corporation Electric Lighting & Tramways, Nelson-st., East Ham. W. C. Ullmann, M.I.E.E., M.I.MECH.E., engineer & manager. (Teleph. Nos. 57 & 100, East Ham.)

East India Tramways Co., Ltd., 79, Lombard-st., London, E.C. Registered July 25, 1902. Nominal capital: £80,000, 35,000 £1 ordinary shares, 15,000 £1 preference shares & 30,000 £1 deferred shares. Issued: 33,433 ordinary, 7500 preference & all the deferred shares, the preference having 15*s.* per share paid, the rest fully paid. Directors: Jno. Abbott, Esq. (chairman); H. Dixon Kimber, Esq.; C. Dugald Buckler, Esq. Secretary, Geo. Gale. Dividends: 1905, 1906 & 1907, 5 per cent. on preference; 1905 & 1906, 1 per cent. on ordinary; 1907, 2 per cent. *Lines not yet converted to electric.*

East London College, People's Palace, Bow & Bromley Branch (Sir J. H. Johnson, treasurer), Railway Station, Bow-rd., London, E.

East London College (University of London), Mile End-rd., E. (Telegs.: "Easloncol, London." Nat. Teleph. East 3384.) *See* SCHOOLS.

Eastbourne Corporation Electricity Works, Roselands, Eastbourne. (Telegs.: "Electricity Works, Eastbourne." Teleph. No. 33.) Chief engineer, J. K. Brydges, M.I.E.E.

Easten, Stephen, Ltd., electrical contractors, 23, Bath-lane, Newcastle.

Easter & Dickinson, electrical engineers, Victoria-st., Great Grimsby.

Easterbrook, Allcard & Co., Ltd., engineers' tool makers, Albert Works, Sheffield. (Telegrams: "Easterbrook, Sheffield." Telephone No. 26, Owlerton.) London office: 9, Fenchurch-ave., E.C. (Telegrams: "Eastrallar, London." Telephone No. 5762, Avenue.)

Eastern Extension Australasia & China Telegraph Co., Ltd., Electra House, Finsbury Pavement, London, E.C. (Telegs.: "Occidental, London." Teleph. No. 1126, London Wall.) Registered April 24, 1873. F. E. Hesse, general manager & secretary. Directors: Sir John Wolfe Barry, K.C.B. (chairman); Francis A. Bevan, Esq.; Sir Albert J. Leppoc Cappel, K.C.I.E.; the Hon. Geo. Peel; Sir John Denison-Pender, K.C.M.G.; the Hon. A. G. Brodrick; the Marquess of Tweeddale, K.T. Nominal capital: £3,000,000 in £10 shares, all taken up & fully paid, & £752,400 4 per cent. mortgage debenture stock. Dividends: 1894 & each year since, 5 per cent. & 2 per cent. bonus; 1908, 7 per cent.

Eastern & South African Telegraph Co., Ltd., Electra House, Finsbury Pavement, London, E.C. Directors: Sir John Wolfe Barry, K.C.B. (chairman); Sir J. Denison-Pender, K.C.M.G. (managing); Sir A. J. Leppoc Cappel, K.C.I.E.; J. C. Denison-Pender, Esq.; F. Alex. Johnston, Esq.; Rt. Hon. Visc. Midleton; Marquess of Tweeddale, K.T. Issued capital: called & paid, £600,000 in £10 shares. Registered mortgage debentures, 4 per cent. (Mauritius Sub.) £199,500. Electrician, Walter Judd; secretary, A. R. Hardie.

Eastern Telegraph Co., Ltd., Electra House, Finsbury Pavement, London, E.C. (Telegs.: "Eastern, London." Teleph. Nos. 3632 & 1127, London Wall.) Nominal capital: £4,000,000 in ordinary stock, £2,000,000 in 3½ per cent. preference stock. Issued: £5,999,890 & fully paid, & 4 per cent. mortgage debenture stock, £1,896,706. Directors: Sir John Wolfe Barry, K.C.B. (chairman); Sir J. Denison-Pender, K.C.M.G. (vice-chairman & managing director); the Right Hon. Lord Allerton; Sir Albert J. Leppoc Cappel, K.C.I.E.; J. C. Denison-Pender, Esq.; F. Alex. Johnston, Esq.; Right Hon. Lord Pirrie, K.P., P.C.; the Marquess of Tweeddale, K.T. Electrician, Walter Judd; secretary, A. R. Hardie.

Eastlakes, Ltd., electrical engineers, 1, Carteret-st., Westminster, S.W. (Teleph. No. 591, Westminster.)

Eastmond & Sons, electric bell fitters, Torrington.

Easton, J. J., electrical engineer, Siemens Bros. & Co., Ltd., Caxton House, Westminster, S.W.

Easton & Anderson, electrical, hydraulic & mechanical engineers, Broad Sanctuary-chbrs., S.W. (Telegs.: "Egyptian, London." Teleph. No. 545, Westminster); & 9, Gracechurch-st., E.C.

Easton & Bessemer, Ltd., engineers, Whitehall Iron Works, Taunton. (Telegrams: "Eastwald, Taunton." A.B.C. Code used. Telephone No. 0146.)

Easton, Courtney & Darbishire, electrical engineers, 25, Victoria-st., London, S.W. (Telegrams: "Escourre, London." Telephone No. 39, Westminster.)

Easton Lift Co., Ltd., Broad Sanctuary-chbrs., Westminster, London, S.W.

Easton, R., & Son, electric lift makers, 28 & 30, Southwark Bridge-rd., London, S.E.

Eastwood & Co., electrical engineers, Railway Works, & Kirkgate, Wakefield.

Eaton, Samuel, & Sons, manufacturers of electric light fittings, 66–72, Barr-st., St. George's, Birmingham. (Telegs.: "Lighthouse, Birmingham." Teleph. No. 5055.)

Eaton Telephone Disinfector Co., Ltd., 36, Jewin-st., London, E.C.

Eberl, F. H., assistant electrical engineer, Urban District Council, Aldershot.

Ebonestos Manufacturing Co., The, "Ebonestos" insulator manufacturers, 127, Pomeroy-st., Old Kent-rd., S.E. (Telegs.: "Ebonestos, London." Teleph. No. 887, Deptford.) *See advt.*, INSULATING MATERIALS.

Eborall, A. C., M.I.MECH.E., M.I.E.E., managing director Brown, Boveri & Co., Ltd., Caxton House, Westminster, S.W. (Tel. No. 5606, Gerrard); & "The Highlands," Lampton, nr. Hounslow, Middlesex.

Eccles, E. E., M.I.E.E., resident engineer & manager, British Aluminium Co., Ltd., Foyers, Loch Ness, N.B.

Eccles, E. S., M.I.E.E., British Aluminium Co., Foyers, N.B.

Eccles Corporation Electric Lighting & Tramways. Electrical engineer, H. W. Angus, A.M.I.E.E. (Teleph. Eccles 50.)

ECCO BATTERY & ELECTRICAL CO., manufacturers of batteries, contractors to H.M. Government, Invicta Works, Bow Common-lane, London, E. (Telegs.: "Medikaster, London." A.B.C. Code. Teleph. East 3633.)

Eck, Justus, M.A. (Cantab.), M.I.E.E., 10, Priory-rd., Chiswick, W. (Telegs.: "Eck, Chiswick"); & 53-57, Park-st., Southwark, S.E. (Teleph. No. 2970, Hop.)

Eckstein, A., M.I.E.E., electrical engineer, 5, Chapel Walks, Cross-st., Manchester. (Telegs.: "Reaction, Manchester." Teleph. No. 5155.)

Eckstein, Heap & Co., manufacturing electrical engineers, specialities in switch gear & suppliers of all kinds of electrical accessories, 5, Chapel Walks, Manchester (Teleph. No. 5155); & works: Waverley Mills, St. Simon's-st., Salford. (Telegs.: "Reaction, Manchester." Teleph. No. 6363.)

Eclipse Electrical Co., electrical engineers, 77, St. John's-rd., Bootle, Liverpool.

Economic Electric Co., Twickenham, S.W. (Telegs.: "Economic, Twickenham." P.O. Teleph. Richmond 316.)

Economic Electro-Plating Co., 42, Nicolson-st., Edinburgh.

Ecuador Telephone Co., Ltd., 42, Old Broad-st., London, E.C. (Telegs.: "Chiliadal, London." Teleph. No. 9343, London Wall.) Nominal capital: £100,000. Issued capital: £25,000 in ordinary shares of £5 each, all paid. Edmund Petley, F.C.I.S., secretary. Directors: George Keith, Esq. (chairman); Frank W. Jones, Esq.; Rupert Upton, Esq. Dividends: 1900-05, 2½ per cent. per annum; 1906-08, *nil.*

Eddington, A., A.I.E.E., c/o Mrs. Langham, Hill House, Springfield, Chelmsford.

Eddison, R. W., engineer, Steam Plough Works, Leeds. Director John Fowler & Co. (Leeds), Ltd.

Ede, Harry John, A.I.E.E., 6, Ormonde-bldgs., Station-rd., Epsom.

Ede, Stuart S. Moore, A.M.I.C.E., consulting engineer, Caxton House, Westminster, S.W. (Telegs.: "Sned, London." Teleph. No. 5194, Westminster.)

Edelsten, John, & Son, makers of tools & files, Warrington. (Telegs.: "Edelsten, Warrington.")

Eden, Augustus, M.I.E.E., 315, Finchley-rd., London, N.W.

Eden, R. H. H., man. director Yarmouth (I. of W.) Electricity Supply Co., Ltd., Yarmouth, Isle of Wight.

Edey, F. G., & Co., installation contractors, 25, Warwick-lane, London, E.C. (Teleph. Central 2547.)

Edgar, F. J., A.M.I.E.E., lecturer in electrical engineering, Acton & Chiswick Polytechnic, Bedford Park, London, W., 42, Drayton-gdns., West Ealing, London, W.

Edgar, Wm., electric light contractor, 23 & 24, Lower Mall, Hammersmith, London, W. (Telegs.: "Gasoso, London." Teleph. No. 14, Hammersmith, W.)

Edgcome, J. E., M.I.M.E., M.I.E.E., consulting & borough electrical engineer, Corporation Electric Light Station, Kingston-upon-Thames, Surrey. (Nat. Teleph. No. 93, Kingston.)

Edgcumbe, Kenelm, A.M.I.C.E., M.I.E.E., electrical engineer, Collindale Works, Hendon, London, N.W. (Telegs.: "Evergendos, London." Teleph. No. 175, P.O., Finchley.)

Edgware & Hampstead Railway Co., Electric Railway House, Broadway, Westminster, S.W. Capital: £360,000 in £10 shares & £120,000 debentures. Issued: 2367 shares, & £11,334 has been received. Directors: C. A. Grenfell, Esq. (chairman); H. Heymann, Esq.; C. S. Louch, Esq. W. E. Mandelick, secretary.

Edinburgh Corporation Electricity Supply Department, Dewar-pl. (Telegs.: "Generation, Edinburgh." Teleph. Central 2105.) Engineer, Frank A. Newington, M.I.E.E.

Edinburgh & District Tramways Co., Ltd., 1, South Charlotte-st., Edinburgh.

Edinburgh Suburban Electric Tramways Syndicate, Ltd., 47, Queen-st., Edinburgh. Registered April 3, 1905. Nominal capital: £10,000 in £1 shares. Engineer, W. N. Colam, M.I.C.E., M.I.MECH.E.; secretary, Jas. F. Whyte, S.S.C.

EDISON & SWAN UNITED ELECTRIC LIGHT CO., LTD. Nominal capital: £750,000 in "A" shares of £5 each, £132,180 in £5 "B" shares & £5891 in 5*s.* "B" shares; £350,000 4 per cent. first debentures & £300,000 in 5 per cent. second debentures. Paid-up capital: £297,783 in "A" shares, £3 paid, £85,695 in "A" shares, fully paid, £5891 "B" 5*s.* shares, £307,895 4 per cent. first debentures & £67,720 5 per cent. second debentures. Directors: H. Wolfenden, Esq. (chairman); E. B. Ellice-Clark, Esq., M.INST.C.E.; Sir Joseph Wilson Swan, D.SC., F.R.S.; Eustace Quilter, Esq.; Wm. Murray, Esq.; H. Charles Gover, secretary; W. Hepworth Collins, A.M.I.C.E., Commercial & Sales Manager. Dividends: 1905-06 & 1906-07, 4½ per cent.; 1908, 2½ per cent.; 1909, *nil.* Manufacturers of incandescence electric lamps & electric light fittings of every description.

	Telegrams.	*Telephone Nos.*
Head Office, Depôt & Show-rooms: Ediswan-bldgs., 36 & 37, Queen-st., London, E.C.	Ediswan, London.	162, Bank (4 lines).
Central Stores: 11, College Hill, London, E.C.	Ediswan, London.	5053, Bank.
Works: Ponder's End, S.O., Middlesex; & South Benwell, Newcastle-on-Tyne.	Ediswan, Ponder's End.	28, Dalston.
Branch Offices:		
Belfast: 134, Royal-ave.	Ediswan, Belfast.	649, Belfast.
Birmingham: International Exchange-bldg., Edmund-st.	Ediswan, Birmingham.	997, Birmingham.
Cardiff: Westgate-st.	Ediswan, Cardiff.	771, Cardiff.
Dublin: 12, Dawson-st	Ediswan, Dublin.	618, Dublin.
Dundee: 13, Castle-st.	Ediswan, Dundee.	143, Dundee.
Glasgow: 153, West George-st.	Ediswan, Glasgow.	769, Argyle; 1610, Corp.
Hull: 1, Anne-st.	Ediswan, Hull.	449, Hull.
Leeds: 127, Albion-st.	Ediswan, Leeds.	1081, Leeds.
Liverpool: Renshaw-st.	Ediswan, Liverpool.	2366, Royal, Liverpool.
Manchester: Marble-st., Spring-gdns.	Ediswan, Manchester.	532, Central.
Newcastle-on-Tyne: 38, Grey-st.	Ediswan, Newcastle-on-Tyne.	1655, Newcastle.
Nottingham: 12, Castlegate.	Ediswan, Nottingham.	4251, Nottingham.
Sydney, N.S.W.: 58, Clarence-st.	Ediswan, Sydney, N.S.W.	

"Royal Ediswan Metfil" (metallic filament) lamps, of all voltages & candle powers, can be obtained from all contractors & electrical dealers. Trade mark: Ediswan.
Fully illustrated catalogue free to any part of the world.

Edison Ore-Milling Syndicate, Ltd., Fitzalan House, Arundel-st., Strand, London, W.C. (Telegrams: "Obsession, London." Telephone No. 5214, Gerrard.)

Edler, A., & Co., electrical engineers, 19 & 20, Appold-st., Finsbury, London, E.C. (Telegrams: "Unadulterated, London." Telephone No. 3431, Central.)

Edmeston, A., & Sons, makers of patent friction clutches, Springfield Engineering Works, Patricroft. (Telegrams: "Edmeston, Patricroft." Telephone No. 107, Eccles.)

Edmiston, Brown & Co., mechanical & electrical engineers, 224, St. Vincent-st., Glasgow.

Edmond, P., district manager, National Telephone Co., 33, Friar's-st., Stirling.

Edmonds, Courtenay H. W., A.M.I.E.E., c/o McKenzie & Holland, Worcester.

Edmonds, H. T. G., A.M.I.E.E., 59, Highfield-rd., Rock Ferry, Cheshire.

Edmonds, J. F., A.M.I.E.E., telephone engineer, 4, The Crescent, Barnes, London, S.W. (Teleph. Hammersmith 300.)

Edmondson, F., A.M.I.E.E., general manager & engineer, Manx Electric Railway Co., Ltd., 1, Strathallan-cres., Douglas, Isle of Man. (Telegs.: "Electric, Douglas, Man." Teleph. No. 61.)

Edmondson, John Alfred, A.M.I.C.E., A.I.E.E., Cowlishaw, Walker & Co., Etruria, Stoke-on-Trent.

Edmunds, Henry, M.I.E.E., M.I.C.E., electrical & consulting engineer, Parliament Mansions, Victoria-st., Westminster, London, S.W. (Telegs.: "Cylindroid, London." Teleph. No. 5266, Westminster.) Director W. T. Glover & Co., Ltd.; director Zone Dynamo Co., Ltd.

Edmundson, H. W., electric light engineer, 22, St. Albans-ter., Gateshead.

Edmundson, J. E., A.M.I.E.E., resident engineer, Urban Electric Supply Co., Ltd., Grantham & Stamford; & 151, Dudley-rd., Grantham; & Melton Mowbray Electric Light Co., Ltd., Melton Mowbray.

Edmundson, J. W., elec. light engineer (managing director Sunbeam Lamp Co., Ltd.), Gateshead-on-Tyne.

Edmundson's Electricity Corporation, Ltd., electric light engineers, Broad Sanctuary-chbrs., Westminster, S.W. (Telegrams: "Edmundsons, London." Telephone Nos.: 14, Westminster; & 3474, Gerrard.) Registered April 7, 1897. Nominal capital: £800,000 in 80,000 £5 ordinary shares, 80,000 £5 6 per cent. cumulative preference & £460,000 4½ per cent. first mortgage debenture stock, all issued & fully paid. An acknowledgment of indebtedness, dated Jan. 19, 1906, to secure £100,000 debenture stock (supplemental to trust deed dated July 10, 1899, & to six acknowledgments of indebtedness dated respectively April 27, 1900, Aug. 1, 1901, Nov. 14, 1902, Sept. 28, 1903, Aug. 19, 1904, & Dec. 7, 1905, securing debenture stock to an amount not exceeding three-fifths of

paid-up capital for time being), has been registered, & £100,000 5 per cent. prior lien debenture stock (partly paid). Directors: P. Debell Tuckett, Esq. (chairman); A. A. Campbell Swinton, Esq.; S. Beeton, Esq. General manager, F. E. Gripper; engineer, J. C. Wigham; secretary, C. H. Jones, F.C.I.S. Dividends on ordinary shares: 1906, 4 per cent.; 1907-08, *nil.*

Edward & Co., electrical engineers, 10, Rose-st., Edinburgh. (Teleph. No. 3138.)

Edward, George, & Co., makers of patent machinery for covering electric cables with lead, Hercules Iron Works, Johnstone, near Glasgow.

Edwardes, Gen. Sir Stanley, K.C.B., Sponden, Sandhurst. Chairman Nairobi Electric Power & Lighting Co., Ltd.

Edwards, A. E. A., M.I.MECH.E., consulting mechanical & electrical engineer, 105, Colmore-row, Birmingham. (Teleph. No. 10 X, Central.)

Edwards, E., electrician, West Cliff, Herne Bay.

Edwards, Ernest, A.I.E.E., 92, Lee-rd., Blackheath, S.E.

Edwards, F. H., A.M.I.E.E., chief assistant electrical engineer, Electricity Works, Walnut Tree-rd., Erith.

Edwards, G. T. C., resident engineer, Bristol Tramways & Carriage Co., Bristol. (Telegs.: "Track, Bristol." Nat. Teleph. No. 335.)

Edwards, H. Withers, A.M.I.E.E., assistant engineer, Corporation Electricity Works, Burslem.

Edwards, James, electric lighting contractor, 40, Union-st., Brechin. (Teleph. No. 95.)

Edwards, J. H., manager, Messrs. Geo. Hill & Co., Trafford Electric Works, Cornbrook, Manchester.

Edwards, J. Herbert, electrical engineer, 2, Fernbank-rd., Bristol. Director Dulverton Electric Lighting Co., Ltd.; director Ludlow Electric Light Co., Ltd.; director Chippenham Electric Supply Co., Ltd.; director Tewkesbury Electric Light Co., Ltd.

Edwards, T., engineer, 84, Rotherhithe New-rd., S.E.

Edwards, W. Rowland, A.M.I.E.E., electrical engineer, Weybridge.

Edwards, W. V., A.M.I.E.E., electrical engineer, Hastings & District Electric Tramways Co., Ltd., Hastings.

EDWARDS AIR PUMP SYNDICATE, LTD., THE, air pumps & condensing plants, as fitted to the principal electrical stations, 3 & 5, Crown-crt., Old Broad-st., London, E.C. (Telegrams: "Management, London." Telephone No. 2369, London Wall.) Registered Sept. 29, 1897. Nominal capital: £25,000 in £1 ordinary shares. Issued: 10,435 shares fully paid & 14,565 shares with 15*s.* per share paid. Directors: C. Williamson Milne, Esq. (chairman); D. B. Morison, Esq., M.I.M.E., M.I.N.A.; Leslie S. Robertson, Esq., M.I.C.E., M.I.M.E., M.I.N.A. Secretary, W. S. Gregg; Manager, F. L. Rowe, A.M.I.MECH.E. Dividends: 1906 & 1907, 20 per cent.; 1908, 15 per cent.; & first half of 1909, 5 per cent.

Edwards & Armstrong, electrical engineers, 53, Queen-st., Cardiff. (Telegs.: "Armature, Cardiff." Nat. Teleph. No. 894.)

Edwards & Barnes, stampers & electrical fittings manufacturers, 237, Broad-st., Birmingham. (Telegrams: "Darner, Birmingham." Cables: "Tonbar, Birmingham." Telephone No. 543.)

Edwards & Co., Ltd., electric launch builders, Millwall, London, E. (Telegrams: "Yola, London." Telephone No. 712, Eastern.)

Edwards, E. E., & Co., electrical engineers, 43, Mincing-lane, London, E.C. (Teleph. No. 916, Central.)

Edwards, Hy., & Co., electrical engineers, 39, Lombard-st., E.C. (Telegs.: "Abpater." Telephone No. 5808, Ave.)

Edwards & Shaw, consulting electrical & mechanical engineers, 105, Colmore-row, Birmingham. (Teleph. No. 10 X, Central.)

Edwards, S. J., & Son, electrical engineers, 129, Claughton-rd., Birkenhead. (Teleph. No. 15.)

Edwardson, E. W., A.M.I.E.E., Edgware, Middlesex.

Edwill, G., engineer, Pontypool Electric Light & Power Co., Ltd., Club-chbrs., Pontypool, Mon.

Eeles, H., F.C.I.S., secretary Oxford Electric Co., Ltd., 45, Broad-st., Oxford.

Efandem Co., manufacturing electricians & mechanical engineers, 244/246A, Corporation-st., Birmingham. (Telegs.: "Efandem, Birmingham." Teleph. No. 5928, Central.)

Efficient Lighting & Heating Co., electrical & hot-water engineers, 15, Hill-st., Park-rd., Regent's Park, N.W. (Teleph. No. 996, Mayfair.)

Egan, C. Howard, electrical engineer, 61, Park-ave., Sydney Parade, co. Dublin. (Teleph. Ballsbridge 84.)

Egan, C. H., & Co., electrical engineers & contractors, Lincoln-pl., Dublin.

Egerton, —, director Western Electric Distributing Corporation, Ltd.

Eggers, F. T., A.I.E.E., 11, Portland-pl., London, W.

Egham & District Electric Light Co., Ltd., The Elms, Egham, Registered Sept. 23, 1908. Nominal capital: £25,000 in £5 shares. Directors: F. S. Powell, Esq.; F. J. Powell, Esq. (secretary).

Ehrich & Graetz, manufacturers of electric lamps & fittings, 66, Queen-st., Cheapside, London, E.C. (Telegs.: "Ingbooth, London." Teleph. Bank 5979.)

Ekin, Tom, M.I.C.E., M.I.M.E., consulting electrical engineer, 21, Old Queen-st., Westminster, London, S.W. (Telegrams: "Arrowhead, London.")

Ekins & Co., Ltd., electrical engineers, G.N. Works, Hertford.

Elders, J., electrical engineer, J. Butler & Co., Stanningley, Leeds.

Eldon Electric Co., Ltd., wholesale importers & merchants, 61, High Bridge, Newcastle-on-Tyne. *In voluntary liquidation.* Liquidator, A. G. Robson.

Electric & Automatic Engineering Co., electrical & mechanical engineers, George-st., Chatham. (Teleph. No. 415.)

Electric Batteries & Carbons, Ltd., 709, Salisbury House, London, E.C.

Electric Battery Co., manufacturers of accumulators & motor accessories, 180, High Holborn, London, W.C. (Telephone No. 8151, Central.)

Electric Blasting Apparatus Co., electric high & low tension fuze manufacturers, Cinderford, Gloucestershire. (Telegs.: "Blasting, Serridge Junction.")

Electric Circuit Breaker, Ltd., 72, Albion-st., Leeds.

Electric Coin Freed Meter Dimming Synd., Ltd., Albion-chbrs., 11, Adam-st., Strand, London, W.C. (Teleph. No. 1977, Gerrard.) Registered Sept. 28, 1899. Nominal capital: £5000 in £1 shares.

ELECTRIC CONSTRUCTION CO., LTD., electrical engineers, manufacturers & contractors, Wolverhampton. Head office: Dashwood House, 9, New Broad-st., London, E.C. (Telegs.: "Electric, Wolverhampton;" "Concordance, London." Teleph. Nos.: London, 2671, London Wall; & 10920, Central; Wolverhampton, 75 & 430.) Directors: Walter S. B. McLaren, Esq. (chairman); Sir Henry C. Mance, C.I.E.; Sir Irving Courtenay; Sir James Pender, Bart.; Philip E. Beachcroft, Esq. James Gray, managing director; David Willock, secretary. The statutory return of this company shows that out of a nominal capital of £400,000 in 150,000 ordinary & 50,000 7 per cent. cumulative preference shares, all of £2 each, 112,100 ordinary & 31,390 preference shares have been taken up, with the full amount called on each. There is an authorized issue of £200,000 4 per cent. perpetual first mortgage debenture stock & of 50,000 4½ per cent. redeemable second mortgage debenture stock, the whole of which has been issued, secured by trust deeds, dated 1897 & 1899. Dividends on ordinary shares: 1897–1903, 6 per cent. per ann.; 1904, 4 per cent.; 1905–1907, *nil.*

ELECTRIC CONTROL, LTD., manufacturers of "Empire" autostarters, 177, Reid-st., Bridgeton, Glasgow. (Telegs.: "Control, Glasgow." Teleph. Bridgeton 2847.)

Electric Conversion Syndicate, Ltd., 13, St. Helen's-pl., London, E.C.

Electric Fountain Co., Sheffield House, 162, Oxford-st., London, W. (Teleph. No. 2784, City.)

Electric & General Assurance, Ltd., 9, St. Mildred's-ct., E.C. (Telegs.: "Tractasset, London." Teleph. No. 9613, London Wall.)

Electric & General Investment Co., Ltd., 1 & 2, Great Winchester-st., London, E.C. (Telegs.: "Pontyberem, London." Teleph. No. 9329, London Wall.) Registered May 20, 1890. Nominal capital: £100,000 in £5 ordinary shares, £99,500 in £5 6 per cent. cumulative preference shares & £500 founders' shares of £5 each. Issued: £99,500 preference shares of £5 each, fully paid; £20,000 ordinary shares of £5 each, of which £1 per share is paid; & 100 founders' shares of £5 each, fully paid. Directors: Jos. B. Braithwaite, Esq.; J. Cecil Bull, Esq.; Emile Garcke, Esq. Secretary, S. R. Shaw. Dividends on founders' shares: May, 1908, *nil* & £10 from reserve fund; May, 1909, *nil* & £8 from reserve fund. On ordinary shares: May, 1908, *nil* & 6*d.* from reserve fund; May, 1909, *nil* & 6*d.* from reserve fund.

Electric & General Lighting Engineering Co., 1, Arundel-st., Strand, W.C. (Teleph. No. 7614, Gerrard.)

Electric & General Stores Co., 16 & 18, Bridge-st., & Bridge-cres., Sunderland (Telegs.: "Volta, Sunderland." Teleph. No. 262); & Commercial-chbrs., 104, Albion-st., Leeds. (Teleph. No. 2638.)

Electric Haulage Co., Ltd., 50, Mark-lane, London, E.C. (Telegs.: "Lighterage, London." Teleph. No. 2052, Avenue.) Registered July 22, 1901. Nominal capital: £10,000 in £1 shares.

Electric Ignition Co., Ltd., manufacturers & patentees of electric ignition apparatus as applied to motor cars & electrical accessories, Royal Wellington Works, Sampson-rd. North, Birmingham.

Electric Installations, wiring contractors, Electricity Works, Dumfries, N.B. Engineer-in-charge, W. H. Scott.

Electric Insurance & Contracting Co., 23, Foubert's-pl., Regent-st., London, W. (Telephone No. 13453, Central.)

Electric Lamp Buyer's Association, 11, Queen Victoria-st., London, E.C.

Electric Landaulet Co., Ltd., Upper Manor-st., King's-rd., S.W. (Telegs.: "Embassies, London." Teleph. Kensington 304 & 1025, & Paddington 1317.)

Electric Light Insurance & Maintenance Co., Ltd., 37 & 38, Mark-lane, London, E.C.

Electric Light, Power & Hiring Co., Ltd., Haslingden (Telegs.: "Electric Co., Haslingden." Teleph. No. 90, Haslingden); & Manchester. (Telegs.: "Theermann, Manchester." Teleph. No. 3982, Manchester.) Registered Dec. 30, 1901. Nominal capital: £15,000 in £1 shares. Issued: £13,206 with 20*s.* per share called. Directors: J. S. Higham, Esq., M.P.; A. Smethurst, Esq., J.P. Electrical engineer, W. P. Theermann; secretary, A. Barnes.

Electric Lighting & Engineering Co., The, mechanical & electrical engineers, 137 & 139, Duke-st. Liverpool. (Telephone No. 1966, Royal.)

Electric Lighting & Tramways Accessories Co., 73 & 75, Finsbury Pavement, London, E.C. (Teleph. London Wall 9844.)

Electric Locomotive Motor Propulsion Co., Ltd., electrical engineers, 25, Brewer-st, Regent-st., W.

ELECTRIC & ORDNANCE ACCESSORIES CO., LTD., CHESTON-RD., ASTON, BIRMINGHAM. Manufacturers of every description of Electrical Machinery & Supplies, Dynamos, Motors, Electric Hoists & Lifts, Portable Electric Tools, Flexible Shafts, "Ordnance" Centrifugal Fans for Heating & Ventilating—Induced & Forced Draught Plants, &c., Propeller Fans, Ceiling, Desk & Cabin Fans, &c., Drying Plants, Electric Heating & Cooking Apparatus, Telephones for all purposes, "Stewart" Arc Lamps, "Victor" Arc Lamps, Switchboards of every description, Motor Starters & Switchgear Panels, Circuit Breakers, Speed Regulators, &c. Controllers for Tramway Work, Crane Work, Machine Tools, &c., Ship Fittings, Colliery Fittings, Railway Fittings, &c. Registered Aug. 29, 1901. Nominal capital: £150,000 in £1 shares. Mortgages & charges: £130,000.

	Telegrams.	*Telephone Nos.*
Head Offices & Works: Cheston-rd., Aston, Birmingham.	Stellite, Birmingham.	Nat. 176 & 179, East; P.O. 9 (Trunk Calls).
Hanley Works: Shelton Potteries, Slippery-lane, Hanley.	Stellite, Hanley.	Nat. 63.
Branch Offices & Agencies:		
London: (For electric motors & for export business) 32, Victoria-st., S.W.	Vickers, London.	842, Westminster.
Manchester: 196, Deansgate.	Ordnance, Manchester.	5974.
London Agents: (For manufactures other than electric motors) Baxter & Caunter, 86, Charing Cross-rd., W.C.	Rapidolite, London.	3463, 3464, Gerrard.
Glasgow Agents: J. & A. Anderson, 231, St. Vincent-st, Glasgow.	Farads, Glasgow.	P.O. 1605.
Newcastle Agent: J. W. Morley, Consett-chbrs., Pilgrim-st.	Protract, Newcastle.	2983.
Belfast Agent: J. Whaley, 7, North-st.		
South Wales & South West of England: C. R. Hough, 23, Woodland Park, Newport, Mon.		135, Maindee.

Code used: A.B.C., 5th edit.

Electric Ordnance Co., Ltd., Ingram Court, Fenchurch-st., London, E.C.

Electric Ozone Syndicate, Ltd., Letchford-bldgs., Bethnal Green, London, N.E. (Telegs.: "Electrozone, London." Teleph. No. 5336, Central.) Registered July 19, 1895. Capital: £12,000 in £10 shares, all issued & fully paid. Debentures issued: £6000. Directors: F. J. Hanbury, Esq. (chairman); R. S. Warren, Esq.; D. H. C. Higgins, Esq.; Axel Larsen, Esq.; Dr. J. A. Leo Henderson. Secretary, C. B. Smalman-Smith, F.C.I.S.

Electric Prepayment Meters, Ltd., Milford Works, Queen's-rd., Battersea, London, S.W. (Telegs.: "Elapratus, London." Teleph. Battersea 1702.)

Electric Pulley Block Co., Ltd., 47, York-st., Buckingham Gate, Westminster, S.W. (Telegs.: "Poklington, London." Teleph. Victoria 2051.)

Electric Railway Journal (weekly), Hastings House, Norfolk-st., Strand, London, W.C.

Electric Railway Signalling Syndicate, Ltd., 68-74, Palmerston House, Old Broad-st., London, E.C. (Telegrams: "Westernwind, London." Telephone No. 331, London Wall.) Registered April 10, 1902. Nominal capital: £10,000 in £1 shares, 7810 of which are issued & fully paid, 6 shares have nothing called. Directors: R. de la Bere, Esq.; J. E. Spagnoletti, Esq. Secretary, C. F. Palmer.

Electric Reduction Co., Ltd., 22, Austin Friars, London, E.C.

Electric Sign & General Advertising Co., Ltd., 38/39, Coweross-st., London, E.C. (Telegrams: "Signorello, London." Telephone No. 3515, Central.) Registered Oct. 12, 1895. Nominal capital: £5000 in £1 shares. Issued: £2000; 1000 of these are considered as paid, & £1000 has been called & paid on the rest. Directors: G. C. Fricker, Esq. (chairman & electrical engineer); A. W. Poulton, Esq. (managing); F. Miller, Esq. Secretary, T. P. Hickmore, A.C.I.S.

Electric Stores, Ltd., electrical apparatus manufacturers & dealers, Royal London-bldgs., Wolverhampton. (Telegs.: "Stores, Wolverhampton." Teleph. No. 545.)

Electric Supply Co. of Ireland, Ltd., 30, Lower Osmond Quay, Dublin. Registered Jan. 17, 1903. Nominal capital: £100 in £1 shares.

Electric Supply Co. of Victoria, Ltd., 14, Dale-st., Liverpool. (Telegs.: "Construct, Liverpool." Teleph. No. 2032, Central.) Registered May 26, 1900. Nominal capital: £150,000 in £1 ordinary shares, £150,000 in £1 6 per cent. preference shares & £200,000 5 per cent. debenture stock. Issued: 125,000 ordinary & 147,375 preference shares, fully paid, & £167,955 debentures, secured by trust deeds, dated July 7, 1905, & May 9, 1907. A memorandum of satisfaction in full of charges dated Oct. 1, 1901, March 10, 1904, & Dec. 8, 1904, securing £100,000, has been filed. Directors: E. K. Muspratt, Esq., J.P. (chairman); J. C. Stitt, Esq., J.P.; J. Taylor, Esq., J.P.; J. S. Harmood Banner, Esq., M.P., J.P.; G. Crosland Taylor, Esq., J.P.; F. Faithfull Begg, Esq. Electrical engineer, B. Deakin, M.I.E.E.; secretary, G. Saies, F.C.I.S. Dividends on ordinary shares: 1906, 1907 & first half of 1908, *nil*.

Electric Supply Co. of Western Australia, Ltd., 14, Dale-st., Liverpool. (Telegs.: "Construct, Liverpool." Teleph. Central 2032.) Registered March 18, 1898. Nominal capital: £100,000 in £1 ordinary shares. Capital issued: £75,007, all called up. Directors: W. Marriner Brigg, Esq. (chairman); E. K. Muspratt, Esq., J.P.; G. Crosland Taylor, Esq.; J. S. H. Banner, Esq., M.P.; J. Taylor, Esq.; J. C. Stitt, Esq. Engineer, B. Deakin; secretary, G. Saies, F.C.I.S.

Electric Supply Corporation, Ltd., Salisbury House, London Wall, London, E.C. (Telegs.: "Elsucor, London." Teleph. No. 14479, Central.) Registered April 8, 1897. Nominal capital: £250,000 in £5 shares. Issued: £210,000. The full amount has been called up on 35,000 & £35,000 is considered as paid on 7000. Debentures authorized: £150,000 5 per cent. debenture stock, secured by trust deed, dated July 18, 1904. Issued: £99,125. Directors: J. G. B. Stone, Esq. (chairman); Sir Home Gordon; R. T. Hinckes, Esq.; F. R. Reeves, Esq. Electrical engineers, Crompton & Co., Ltd.; secretary, W Abbott; chief engineer & general manager, K. A. Scott Moncrieff.

Electric Supply Stores, 77, Fore-st., London, E.C.

Electric Taxicab Co., Ltd., Dashwood House, New Broad-st., London, E.C. *In voluntary liquidation.* Liquidator, W. Milne.

Electric Traction Co. of Hongkong, Ltd., 19, St. Swithin's-lane, London, E.C. Registered Nov. 20, 1902. Nominal capital: £325,000 in £1 ordinary shares & £195,000 debentures of £100 each, secured by trust deed, dated July 1, 1903. Issued: all the ordinary shares & the debentures, all fully paid. Directors: E. C. Morgan, Esq. (chairman); W. J. C. Cutbill, Esq.; R. Miller, Esq. General manager & engineer in Hongkong, J. J. Stodart Kennedy; secretary, H. W. C. Dermer.

Electric Vehicles Development Co., Ltd., 149, Bishopsgate-st. Without, London, E.C.

Electric Welding Co., Ltd., owners of the Thomson Electric Welding patents for the United Kingdom, 28, Basinghall-st., London, E.C. (Telegs.: "Smithcraft, London." Teleph. No. 1447, London Wall.) Nominal capital: £460,000 in 45,000 ordinary & 1000 founders' shares, all of £10 each, & £29,400 debentures. 24,230 ordinary & 953 founders' shares have been taken up, £6 has been called on ordinary & £10 on founders' shares, & all the debentures are issued. Directors: M. F. Armstrong, Esq.; L. Bishop, Esq.; F. W. Hull, Esq. Engineer, R. J. Wallis-Jones; secretary, Edwin Hayes.

Electrical Apparatus Co., Ltd., Milford Works, Queen's-rd., Battersea, London, S.W. (Telegs.: "Elapratus, London." Teleph. No. 1702, Battersea.)

Electrical Bleaching Co. (1904), Ltd., 196, Deansgate, Manchester. (Telegs.: "Bleaching, Manchester." Teleph. No. 4143.)

Electrical Co., Ltd., The, manufacturing electricians & contractors, 122, 123 & 124, Charing Cross-rd., London, W.C. (Telegs.: "Galvanoscope, London." Teleph. Gerrard 4311, 4312, 4313 & 4314.)

Electrical Contracting Co., electrical contractors, 425, Fulham Palace-rd., Fulham, London, S.W. (Teleph. No. 68, Putney.)

Electrical Contracting Co., 40, Cannon-st., Manchester.

Electrical Contractor (official organ of the Electrical Contractors' Association, Incorp.), 20, Bucklersbury, London, E.C. (Monthly, 2*d.*) (Telegs.: "Entraining, London." Teleph. No. 881, Bank.)

Electrical Contractors' Association (Incorp.), 20, Bucklersbury, E.C. L. G. Tate, A.M.I.E.E., hon. sec.

Electrical Contractors' Association, Incorp. (Liverpool Branch). Geo. J. Harford, hon. secretary, 47, Tithebarn-st., Liverpool. (Teleph. No. 6730.)

Electrical Contractors' Association, Incorp. (Manchester Local Branch). Hon. secretary, W. A. Shaw, Warren-st., Stockport.

Electrical Contractors' Association, Incorp. (Newcastle Branch). Hon. secretary, T. H. Cubey, 43, Queen-st., South Shields.

Electrical Contractors' Association, Incorp. (Northern Section). Hon. secretary, R. Robson, Haymarket-lane, Newcastle-on-Tyne. (Telegs.: "Coleman, Newcastle-on-Tyne." Teleph. Central 616, & City 221.)

Electrical Contractors' Association, Incorp. (Scottish Section), 168, St. Vincent-st., Glasgow. James M. Davies, jun., C.A., secretary. (Telegs.: "Liquidetto, Glasgow." Tel. Nos.: 1747, Nat.; & 1014, P.O.)

ELECTRICAL CONTRACTS & MAINTENANCE CO., LTD., successors to The Private Wire & Telephone Installation Co., Ltd., & the Electrical Engineering & Maintenance Co., general electrical engineers, Sanctuary House, Westminster, S.W. (Telegs.: "Inductine, London." Teleph. Gerrard 757.)

Electrical Distribution of Yorkshire, Ltd., Calder-rd., Thornhill, nr. Dewsbury. (Telegs.: "Power, Dewsbury." Teleph. No. 155, Dewsbury.) Registered June 19, 1905. Nominal capital: £25,000 in £1 shares, 7 fully paid, 8077 issued, fully called. Directors: J. Nevin, Esq., J.P. (chairman); R. Armitage, Esq., J.P., M.P.; Thos. Burnley, Esq.; A. G. Lupton, Esq., J.P.; R. W. Wickham, Esq., J.P. Engineer & manager, W. B. Woodhouse, A.M.I.M.E., A.M.I.E.E.; secretary, J. J. H. Stansfield, F.C.I.S.

ELECTRICAL ENGINEER (weekly journal, price 3*d.*), 149, Fleet-st., London, E.C. (Tel. Central 9157.)

Electrical Engineer Institute of Correspondence Instruction, 13, Southampton-st., High Holborn, London, W.C. (Telegs.: "Electracor, London." Teleph. No. 7723, Gerrard.) Joseph Wetzler, M.I.E.E., president.

Electrical Engineering (price 1*d.* weekly), 203-206, Temple-chbrs., Temple-ave., London, E.C. (Telegs.: "Circling, London." Teleph. No. 5509, Holborn.)

Electrical Engineering Plant Manufacturers' Association, c/o London Chamber of Commerce (Incorporated), Oxford-ct., 109, Cannon-st., London, E.C. W. J. Eales, secretary. (Telegrams: "Convention, London." Telephone No. 327, Bank.)

ELECTRICAL & ENGINEERING SUPPLIES CO., LTD., manufacturers & factors of electrical & engineering supplies, 36 & 37, Upper Thames-st., London, E.C. (Telegs.: "Elecloyd, London." Cables: "Electrical, London." Western Union Code. Teleph. Central 9332.) *See advt. under* MOTOR MFRS.—ELEC.

Electrical Engineering Supply Co., Haymarket-lane, Newcastle-on-Tyne. (Telegs.: "Coleman, Newcastle." Teleph. Nos.: 616, Central; & 221, City.)

Electrical Engineers London Division R. E. Territorial Force, Regency-st., London, S.W. (Telegs.: "Effossion, London." Teleph. Nos.: 1288, Victoria; & 4406, General.)

Electrical Fittings Co., Ltd., 38, Conduit-st., London, W. (Telegs.: "Elopement, London." Teleph. No. 1401, Gerrard.)

Electrical Fittings Manufacturers' Association, 112, Edmund-st., Birmingham. Secretary, W. A. Addinsell.

Electrical & General Engineering Co., electric light engineers, 17, Gracechurch-st., London, E.C. (Telegrams: "Installing, London." Telephone No. 2551, Avenue.)

Electrical Illuminating Co., electrical engineers, Lowther Arcade, Carlisle. (Teleph. No. 217.)

Electrical Industries Development Co., Ltd., 62, London Wall, London, E.C.

Electrical Industries & Investments (weekly; ann. sub., 6*s.* 6*d.*), 37 & 38, Strand; & 1, Buckingham-st., London, W.C.

Electrical Industries Supply Co., electrical & mechanical engineers & contractors, 2, Macdonalds-lane, Corporation-st., Manchester.

Electrical Installations, Ltd., electrical engineers, contractors & telephone experts, Bassishaw House, Basinghall-st., London, E.C. (Telegs.: "Stanlorio, London." Teleph. No. 13894, Central.)

Electrical League, Bank-bldgs., Kingsway, London, W.C.

Electrical Magazine & Engineering Monthly (monthly, 6*d.*), Bazaar-bldgs., Drury-lane, London, W.C. (Telegs.: "Bazaar, London." Teleph. Central 11142.)

Electrical & Mechanical Exhibition, Ltd., Carlton House, 11–13, Regent-st., London, S.W.

Electrical & Motor Co., The Garage, Banbury.

Electrical Power Engineering Co., Stechford, nr. Birmingham. (Telegs. "Torque, Stechford." Teleph. Stechford 21.)

ELECTRICAL POWER STORAGE CO., LTD., 4, GREAT WINCHESTER-ST., LONDON, E.C. WORKS: WEST FERRY-RD., MILLWALL, LONDON, E. (TELEGRAMS: "STORAGE, LONDON." TELEPHONE NO. 1253, LONDON WALL.) The nominal capital of £100,500 is divided into 20,000 ordinary shares & 100 founders' shares of £5 each. 18,592 of the former & 66 of the latter have been taken up, 15,460 of the ordinary have been issued as fully paid; £4 per share has been called on the remaining 3132 ordinary, & the full amount has been called on the founders' shares; £30,000 in £100 debenture bonds has been authorized, of which £10,000 is issued. Directors: Sir Irving Courtenay (chairman & managing director); Frederick Green, Esq.; Sir James Pender, Bart.; James Gray, Esq. Chief engineer, H. W. Butler; secretary, Malcolm Leggett, F.C.I.S. Dividends: 1903–1907, 6 per cent.; 1907–1908, 5 per cent.; 1908–1909, *nil.* *See* BATTERIES —STORAGE.

Electrical Press, Ltd., 37 & 38, Strand; & 1, Buckingham-st., London, W.C.

ELECTRICAL REGULATORS & ECONOMISERS, LTD., 51, North John-st., &16, Cumberland-st., Liverpool. *See advt. under* REGULATORS.

ELECTRICAL REVIEW (weekly, price 4*d.*), H. Alabaster, Gatehouse & Co. Publishing office: 4, Ludgate Hill, London, E.C. (Telegrams: "Ageekay, London." Nat. Telephone No. 933, Holborn; P.O. No. 4425, Central.)

Electrical Securities Trust, Ltd., 43, Charlotte-sq., Edinburgh.

Electrical Standardizing Testing & Training Inst., Faraday House, 62–70, Southampton-row, W.C. (Telegs.: "Standardizing, London." Teleph. Central 9999.) Principal, Alexander Russell, M.A., D.SC., M.I.E.E.; secretary & business manager, H. Foulds, F.C.I.S., A.I.E.E.

Electrical Standards Laboratory, Board of Trade, 8, Richmond-ter., Whitehall, S.W.

Electrical Stores (S. Haynes, district manager), Manchester-chbrs., 57, Parliament-st., Nottingham. (Teleph. No. 3842.)

Electrical Stores Supply Co., manufacturers & exporters of insulating materials, &c., Marsden-chbrs., Marsden-st., Manchester. (Telegs.: "Impregnate, Manchester." Teleph. No. 5461, Central. A.B.C. Code.)

Electrical Sundries Co., 63, Berners-st., London, W. (Telegrams: "Diagometer, London." Telephone No. 6791, Central.)

Electrical Sundries Manufacturing Co., electricians, 84, Ashton Old-rd., Manchester.

Electrical Times (with which is incorporated *Lightning*), (weekly), 8, Bream's-bldgs., Chancery-lane, London, E.C. (Telegs.: "Equivolt, London." Teleph. No. 4426, Central.) (Ann. sub., 10*s.* 6*d.*)

Electrical Trades Supply, Ltd., electrical & mechanical engineers, Britannia Works, Great Charles-st., Birmingham. (Telegs.: "Motors, Birmingham." Teleph. No. 1601.) Registered Oct. 30, 1900. Nominal capital: £5000 in £1 shares, 4507 of which are issued & fully paid. Directors: D. Shanks, Esq. (chairman); A. Handley, Esq.; G. Handley, Esq. Secretary, W. F. Cox.

Electrical Trades Union, 26, Cannon-st., Manchester. (Teleph. City 861.) Secretary, J. Rowan.

Electrical World (of New York) (weekly), Hastings House, Norfolk-st., Strand, London, W.C.

Electrician (weekly, price 6*d.*), published at 1, 2, & 3, Salisbury-court, Fleet-street, London, E.C. (Telegrams: "Electrician Newspaper, London." Telephone No. 949, Holborn.)

Electricity (weekly, one penny). The best weekly electrical paper at the popular price. Established 1890. Annual subscription, United Kingdom, 6*s.*; Foreign, 8*s.*, post free. 36, Maiden-lane, Strand, London, W.C. (Teleph. Central 3287.)

Electricity Generating Co., Ltd., 16, Great George-st., Westminster, S.W.

Electricity, Ltd., electricity suppliers, c/o Walker, Son & Field, 61, Carey-st., London, W.C. Registered Aug. 6, 1908. Nominal capital: £1000 in £1 shares. Directors: C. A. F. Duranty, Esq.; C. E. de Wolf, Esq.; W. C. Bacon, Esq.; N. Dunn, Esq.; J. F. Harrison, Esq.

Electricity Supply Co. for Spain, Ltd., electricity supply, 88, Leadenhall-st., London, E.C. (Telegs.: "Substantial, London.") Registered June 7, 1889. Directors: R. C. Wyatt, Esq. (chairman); M. Dukas, Esq.; H. E. Boyer, Esq.; L. Weil, Esq. Secretary, Charles Hill. Nominal capital: £4975 in 5*s.* ordinary shares, £25 in 5*s.* founders' shares & £100,000 in £5 preference shares. Issued: all the ordinary & founders' shares, fully paid; £86,650 preference shares, fully paid; & £22,500 6 per cent. first mortgage debentures, £12,500 7 per cent. second mortgage debentures & £116,100 5 per cent. consolidated debentures.

Electrics (monthly; ann. sub., 4*s.* 6*d.*), a paper for power users & the official publication of the Society of Power Company Officials, 37 & 38, Strand, & 1, Buckingham-st., London, W.C.

Electrocab Development Co., Ltd. Registered June 13, 1908. Nominal capital: £100 in £1 shares.

ELECTROCARS, LTD., Alderman's House, Alderman's Walk, Bishopsgate-st., London, E.C. (Telegs.: "Ignotum, London." Teleph. No. 9696, London Wall.)

Electrochemical & Metallurgical Industry (*of New York*) (monthly), Hastings House, Norfolk-st., Strand, London, W.C.

Electrofons Co., electrical engineers, Lord's-chbrs., 26, Corporation-st., Manchester. (Telegs.: "Parabola, Manchester." Teleph. City 2531.)

Electro-Harmonic Society. Hon. sec., W. E. Lane, A.M.I.E.E., Finsbury Pavement House, London, E.C. (Teleph. Central 3569.)

Electrolytic Apparatus Syndicate, Ltd., 11, Victoria-st., London, S.W.

Electrolytic Co. (Spain & Portugal), Ltd. Registered March 19, 1908. Nominal capital: £255,000 in £1 ordinary shares & 100,000 founders' shares of 1*s.* each.

Electrolytic Plating Apparatus Co., Ltd., Charles-st., Walsall; & 70, Vittoria-st., Birmingham. (Telephone Nos.: 11, Walsall; 2439, Birmingham.)

Electro-Mechanical Brake Co., Ltd., Eagle Works, Moor-st., West Bromwich. (Telegs.: "Brakes, West Bromwich." Teleph. No. 291.)

Electromobile Co., Ltd., 7, Hertford-st., London, W. (Telegs.: "Monopolize, London." Teleph. Nos. 6850 & 6851, Gerrard.) Registered Oct. 17, 1902. Managing director, Theo. G. Chambers, A.R.S.M.; electrical engineer, H. L. Joly, A.M.I.E.E.; secretary, G. Cockerton.

ELECTROMOTORS, LTD., manufacturers of electric motors, dynamos, switches, &c., Openshaw, Manchester. (Telegs.: "Magnet, Manchester." Teleph. No. 7094 (2 lines).) London office: 49, Queen Victoria-st., E.C. (Telegs.: "Orders, London." Teleph. No. 3525, London Wall (2 lines).) Registered Feb. 24, 1899, with a capital of £50,000 in £1 ordinary shares. 42,370 have been issued, 16*s.* paid. Directors: W. H. Johnson, Esq. (chairman); W. T. Stubbs, Esq. (managing); J. H. Stubbs, Esq. (managing); A. McDougall, Esq.; B. Longbottom, Esq., M.I.E.E. General manager, B. Longbottom, M.I.E.E.; secretary, T. M. Gribbin.

Electro Peat Coal Co., Ltd., 11, Ironmonger-lane, London, E.C. (Telegs.: "Draconion, London." Teleph. No. 272, Bank.)

Elektrotechnische Fabrik Rheydt Max Schorch A. G., 35, Basinghall-st., London, E.C. Registered in Germany, Dec. 17, 1900. Capital: M. 1,750,000 in shares of M. 1000.

Eley, Chas. V. A., electrical engineer, 2, Victoria-sq., Birmingham. (Telegs.: "Plans, Birmingham." Teleph. Central 2996.)

Elgar, H. T., wiring contractor, 19, Middle-st., Hastings.

Elieson, C. P., electric traction engineer, 24, St. Mary Abbot's-ter., Kensington, London, W. (Teleph. No. 2918, Kensington.)

Elkington, L. H., Manor House, Fladbury. Director Fladbury Electric Light & Power Co., Ltd.

Elland Urban District Council Electricity Works, Elland, Yorks. (Teleph. No. 31, Elland.) Engineer, A. V. Wardrop, A.M.I.E.E.

Ellice-Clark, E. B., M.I.C.E., Gore Court, Otham, Kent. Director Edison & Swan U. E. L. Co., Ltd.; director Amazon Telegraph Co., Ltd.; director Altrincham Electric Supply, Ltd. (ex-officio)

Elliot, C. H., electrical engineer, Kirk Braddon, Croydon-rd., Beckenham, Kent.

Elliot, George, & Co., Ltd., wire manufacturers, Sheaf Steel & Wire Mills, Heeley, Sheffield. (Telegs.: "Sheaf, Sheffield." Teleph. No. 51.)

Elliott, A. C., D.SC., M.I.C.E., professor of engineering, University College of South Wales & Monmouthshire, Cardiff.

Elliott, C., A.M.I.E.E., district manager, National Telephone Co., Ltd., 9, Berkeley-st., Gloucester.

Elliott, Claud J., A.M.I.E.E., 9, Lancaster-rd., Pendleton, Manchester.

Elliott, G., K.C., director La Reina de Plata, Ltd., 62, New Broad-st., London, E.C.

Elliott, J. E., A.M.I.E.E., 12, Broad-st., Oxford.

Elliott, James Mountjoy, A.M.I.E.E., Beverley, Buxton-rd., Rodwell, Weymouth.

Elliott, Wm. R., A.M.I.E.E., 8, Cowper-ave., East Ham, London, E.

ELLIOTT BROTHERS, electricians, Century Works, Lewisham, London, S.E.; & 36, Leicester-sq., W.C. (Telegs.: "Ohm, London." A.B.C. Code. Teleph. Nos. 218 & 237, Deptford.)

Elliott, J. E., & Co., electrical & mechanical engineers, 12, Broad-st., Oxford (Teleph. No. 426); & 23, Bridge-st., Banbury.

Elliott & Mansell, electrical engineers, 12, Soho-st., Soho-sq., London, W. (Teleph. No. 7796, Gerrard.)

Elliott's Metal Co., Ltd., manufacturers of brass & copper tubes, sheets, plates, rods, wire, &c., Selly Oak Works, Birmingham; Pembrey Copper Works, Burry Port, R.S.O. Llanelly, S. Wales; Leadenhall-bldgs., London; 14, Brown-st., Manchester; 11, Irwell-st., Liverpool; Paris; & Newcastle. (Telegrams: "Elmeco, Selly Oak;" "Elmeco, London;" "Elmeco, Liverpool;" "Elliotts, Burry-Port.")

Ellis, Alderman Geo., Eastern Villas-rd., Landguard, Southsea. Director South London Electric Supply Corp., Ltd.

Ellis, Arthur, M.I.MECH.E., M.I.E.E., city elect. engineer & manager, Corp. Lighting & Tramways, Cardiff.

Ellis, A. H., A.M.I.E.E., c/o London Electric Supply Corp., Ltd., Stowage Wharf, Deptford, S.E.

Ellis, Barker, A.M.I.E.E., Corporation Tramways, Manors, Newcastle-on-Tyne.

Ellis, D. C., 54, New Broad-st., E.C. Director Burma Electric Tramways & Lighting Co., Ltd.; director Singapore Electric Tramways, Ltd.

Ellis, G. A., specialist in equipments for electric launches & motor cars, Goring-on-Thames. (Teleph. No. 41 X.)

Ellis, Harry S., A.M.I.E.E., A.M.I.MECH.E., assistant electrical engineer, Corporation Electricity Offices, Whitaker-bldgs., Victoria-sq., Bradford.

Ellis, H. T., director Scarborough Electric Supply Co., Ltd., Dinton, nr. Aylesbury.

Ellis, John E., A.M.I.E.E., borough electrical engineer, Corporation Electricity Works, Corporation-st., Morley, Yorks. (Telephone No. 89.)

Ellis, R. E., consulting engineer (Mewburn, Ellis & Pryor), 70, Chancery-lane, London, W.C. (Telegrams: "Patent, London." Telephone No. 243, Holborn.)

Ellis, T. V., Oakcliff, Woodcroft. Director Chepstow Electric Lighting & Power Co., Ltd.

Ellis, T. Wm., electrical engineer, 52, St. George-st., Swansea. (Teleph. No. 975.)

Ellis, W., F.R.S., M.I.E.E., electrician, 78, Coleraine-rd., Blackheath, S.E.

Ellis, W. I., M.I.C.E., civil engineer & turbine manufacturer, 49, Deansgate, Manchester.

Ellis, C. H., & Co., electrical engineers, 29, Chivalry-rd., New Wandsworth, London, S.W.

Ellis, E., & Co., lightning conductor manufacturers, 21, Emmett-street, Poplar, London, E. (Telegrams: "Stayfall, London.")

Ellis, Simpson & Saunders, electric light shade makers, 3 & 4, St. Martin's-court, Ludgate Hill, London, E.C. (Telegs.: "Mitre, London." Teleph. No. 753, Bank.)

Ellis, Son & Paramore, dealers in electro-medical apparatus, 39, Church-st., & (works) Spring-st., Sheffield.

Ellis & Ward, electrical engineers & contractors, 75, Edmund-st., Birmingham. (Telegs.: "Magnet, Birmingham." Teleph. Central 1405.)

Ellison, C. H., M.I.E.E., telegraph superintendent, North-Eastern Railway, York. (Telegrams: "Ellison, Railway, York.")

Ellison, George, manufacturing electrical engineer, Victoria Works, 17–18, Warstone-lane, Birmingham. (Telegs.: "Induction, Birmingham." Teleph. No. 5296.)

Ellistown Collieries Co., cable conduit makers (Archer's patent), Ellistown, nr. Leicester.

Ellwood, J., electric light contractor, Queen's Docks, Whitehaven.

Elm Street Engineering Works, electrical & mechanical engineers, 16, Elm-st., Gray's Inn-rd., W.C. (Teleph. Holborn 2151.)

Elmhirst, R. J., A.M.I.E.E., electrical engineer, Peninsular & Oriental Steam Navigation Co., P. & O. Factory, Royal Albert Docks, London, E.; & 9, Lonsdale-rd., Leytonstone, N.E.

Elmore, F. E., A.M.I.E.E., 72, Gloucester-ter., Hyde Park, London, W.

Elmore, F. E. & A. S., electro-metallurgists, 4, Broad-st.-pl., London, E.C. (Telegrams: "Citroids, London." Teleph. Nos. 3905-6, Wall.)

Elmore's German & Austro-Hungarian Metal Co., Ltd., Finsbury House, Blomfield-st., London, E.C. (Telegs.: "Rohren, London." Teleph. London Wall 1114.) Harry Ellis, F.R.G.S., secretary.

Elmslie, A. G., Ltd., electrical contractors, 129, Union-st., Aberdeen.
Elphinstone, George K. B., M.I.E.E., 14, Sussex Mansions, South Kensington, London, S.W.
Elsden Manufacturing Co., electrical & mechanical engineers, Gloucester Works, Old Ford, London, E.
Else, J. E. C., wiring contractor, Duke-st., St. Helens.
Elt & Co. (A. S. Bowden), international, patent, trade mark & negotiation agents, 14, Bedford-row, London, W.C.
Elvy, J. C., A.M.I.E.E., St. Pancras Borough Electricity Dept., 57, Pratt-st., Camden Town, N.W.
Elwell, John, iron, steel & tinplate merchant & manufacturer, Sherborne-st., Birmingham. (Telegs.: "Sections, Birmingham." Teleph. No. 733.)
Elwin, E. P., electrician, 1, Anerley Park, Anerley, London, S.E.
Ely, Talfourd, A.M.I.E.E., India Rubber, Gutta Percha & Telegraph Works Co., Ltd., Silvertown, Essex; acting works manager, Electricity Works, Ross; & manager & secretary Dumfries Electricity Supply Co., Ltd., Dumfries, N.B.
Ely Electrical & General Agency, 24, Hatton Garden, London, E.C.
Elyard-Brown, D., electrical engineer, c/o C. A. Vandervell & Co., Warple Way, Acton Vale, London, W. (Telegs.: "Vanteria, London." Teleph. No. 544, Chiswick, P.O.)
Emanuel, A., & Sons, Ltd., manufacturers of electric fittings, 9, 11 & 13, George-st., Manchester-sq., London, W. (Telegs.: "Emanuel, London." Teleph. Nos. 26 & 447, Paddington); & Speaking Stile Walk, Birmingham.
Emanuel, Max & Co., Statuettes for electric lights. 41, Shoe-lane, London, E.C. (Telegrams: "Mosanic, London." Telephone No. 1630, Holborn.)
Embleton, H. C., Central Bank-chbrs., Leeds. Director Yorkshire Electric Power Co.
Emerson, S. F., electric lighting contractor, Acacia Grove, & 9A, Grange-rd., West Kirby.
Emery, W., & Co., manufacturers of electric light fittings, Albion Brass Works, 167, Arundel-st., Sheffield. (Telegrams: "Emery, Sheffield." Nat. Telephone No. 2118.)
Emley & Sons, Ltd., elec. & mech. engineers, 42, Westgate-rd., Newcastle-on-Tyne. (Teleph. No. 1119.)
Emmert, V., dealer in electric lamps, 115, Fore-st., London, E.C.
Emmett, Walter, A.I.E.E., 13, Southgate, Wakefield. (Teleph. No. 176.)
Emmott, C., North Bailey, Durham. Chairman Cleveland & Durham Electric Power, Ltd.; director Cleveland & Durham Electric Power Co.; chairman Northern Counties Electricity Supply Co., Ltd.
Emmott, Walter, M.INST.C.E., M.I.E.E., consulting engineer, 35, Commercial-st., Halifax. (Teleph. No. 785)
Empire Electrical Co., dealers in electrical supplies, Muscovy House, Trinity-sq., London, E.C.
Empire Porcelain Co., earthenware manufacturers, Stoke-rd., Stoke-on-Trent.
Empire Roller Bearings Co., Ltd., 15, Victoria-st., Westminster, London, S.W. (Telegrams: "Empireste, London." Telephone No. 1003, Victoria.)
Empson, A. W., A.M.I.E.E., "Wallerscote," Portway, West Ham, London, E.
Emtage, W. T., M.A., professor of physics & mechanics, University College, Nottingham.
Endacott, Norman, A.I.E.E., Grove Cottage, Worting-rd., Basingstoke.
Endean, W. F., manager Middleton Tramways, Middleton. (Teleph. No. 37.)
Endolithic Manufacturing Co., Ltd., ivory, bone, ivorine, brass & other metal switchboard labels & address tablets, Pomona-bldgs., 61½, Fore-st., London, E.C. (Telegs.: "Dendron, London." Teleph. Nos.: 3421, London Wall; & 11630, Central.)
Enfield Electricity Works, Enfield, Middlesex. (Telegs.: "Electricity Works, Enfield." Teleph. No. 227, Enfield.) North Metropolitan Electric Power Distribution Co., Ltd., proprietors. Resident engineer, A. H. Bennett.
Engel, Leon, & Co., electrical engineers, 46, Fore-st., London, E.C. (Teleph. London Wall 8081.)
Engelbert & Co., lubricant manufacturers, 119–125, Finsbury-pavement, London, E.C. (Telegrams: "Engelbert, London." Telephone No. 2514, London Wall.)
Engelhardt, H., 11, Bradford-ave., London, E.C. Sole British agent for Karlsbader Kaolin Industrie-Ges.
Engholm, A. Goldie, A.M.I.M.E., A.M.I.E.E., 30, Church-st., Birmingham. (Telegs.: "Engholm, Birmingham." Teleph. No. 925, Central.)
Engineer, The (*partly electrical*), 33, Norfolk-st., Strand, London, W.C. (Telegrams: "Engineer Newspaper, London." Telephone No. 13352, Central.) (*6d.* weekly.)
Engineer-in-Charge & Works Manager (monthly, price *2d.*; ann. sub., *3s. 6d.*), 26–29, Poppins-ct., Fleet-st., London, E.C. (Telegs.: "Prensa, London." Teleph. No. 9071, Central.)
Engineer & Iron Trades Advertiser (published every Tuesday), devoted to the engineering, electrical & allied trades. A. R. Goldie, publisher, Glasgow. (Telegs.: "Argolie, Glasgow." Teleph. Nos.: 411, Nat.; & 3059, P.O.)
Engineering (*partly electrical*, *6d.* weekly), 35 & 36, Bedford-st., Strand, London, W.C. (Telegrams: "Engineering, London." Telephone No. 3663, Gerrard.)
Engineering, Electric & Construction Syndicate, Ltd., 57½, Old Broad-st., London, E.C. Registered May 4, 1906. Nominal capital: £100,000 in £1 shares. Directors: C. G. Arbuthnot, Esq.; H. R. Arbuthnot, Esq.; L. G. Arbuthnot, Esq.; W. R. Arbuthnot, Esq.
Engineering Employers' Federation, 105, West George-st., Glasgow. (Telegs.: "Verify, Glasgow." Teleph. Nos.: 4797, Nat. (3 lines); & P.O., Central.)

Engineering Instruments, Ltd., electrical engineers & manufacturers, 272B, Upper-st., Islington, London, N. (Telegs.: "Instruvis, London." Teleph. North 43); & Skerne Works, Darlington. Nominal capital: £50,000 in 37,500 ordinary £1 shares, fully paid, & 12,500 deferred £1 shares, issued as fully paid. Debentures issued: £3000. £5000 debentures created, Nov. 30, 1906, £380 issued. Directors: R. Stewart Bain, Esq. (chairman); F. W. Harmer, Esq.; R. J. Wallis Jones, Esq.; Claude W. Atkinson, Esq. (managing); E. Garside, Esq. (managing). Secretary, W. K. Richmond.

Engineering Magazine (monthly; ann. sub., 12*s.* 6*d.*), Kean-st., Aldwych, London, W.C. (Telegs.: "Enarched, London." Teleph. No. 4732, Gerrard); & New York.

Engineering & Mining Journal of New York, 6, Bouverie-st., Fleet-st., London, E.C. (Telegs.: "Backlash, London." Teleph. No. 5158, Holborn.)

Engineering Record (of New York) (weekly), prior to 1887 "The Sanitary Engineer," Hastings House, Norfolk-st., Strand, London, W.C.

Engineering Review, 104, High Holborn, London, W.C. (Telegs.: "Engrevico, London." Teleph. Holborn 1049.)

Engineering & Scientific Association of Ireland, meeting at "The Royal College of Science," Dublin. Arthur E. Porte, M.I.E.E., & G. Idle, M I.N.A., hon. secretaries.

Engineering Society Municipal Technical Schools, Brunswick-rd., Gloucester. E. W. A. Carter, 3, Palace-yard, Gloucester, hon. secretary.

Engineering Standards Committee (Leslie S. Robertson, M.I.C.E., Secretary), 28, Victoria-st., Westminster, London, S.W. (Telegrams: "Standation, London." Nat. Telephone No. 128, Westminster; & P.O. No. 1681, Victoria.)

Engineering Times (monthly, price 2*d.*; ann. sub., 3*s.* 6*d.*), 30 & 31, St. Swithin's-lane, London, E.C. (Telegs.: "Advertiras, London." Teleph. No. 7126, London Wall.)

Engineers' Supply Co., 23, Lime-st., London, E.C. (Telegrams: "Thumscrew, London.")

Engineers' Universal Supply Stores, 25 & 27, Sumner-st., Southwark, S.E. (Telegs.: "Oiltanks, London." Teleph. No. 5866, Central.)

England, Harry, general manager Yorkshire (West Riding) Tramways Co., Ltd., Belle Isle, Wakefield. (Telegs.: "England, Belle Isle, Wakefield." Teleph. No. 213.)

English, S. W., electrical engineer, 82, Cromwell-rd., Wimbledon, London, S.W.

English Electric Manufacturing Co., Ltd. *See* Dick, Kerr & Co., Ltd.

English Mechanic (*partly electrical*, 2*d. weekly*), Clements House, Clements Inn Passage, Strand, London, W.C. (Telegrams: "Timeserver, London." Telephone No. 1633, Holborn.)

Enright, James, B.SC., M.I.E.E., consulting electrical engineer, 68, Lincoln's Inn Fields, London, W.C. (Teleph. Holborn 287); & 202, Holland-rd., Kensington, W.

Enright, James Stephen, A.M.I.E.E., 68, Lincoln's Inn Fields, London, W.C. (Teleph. Holborn 287); & 202, Holland-rd., W.

Entwisle & Gass, Ltd., electrical & mechanical engineers, Atlas Foundry, Nelson-st., Bolton. (Telegrams: "Foundry, Bolton." Telephone No. 68. A.B.C. Code used.)

Entwistle, Wm. S., A.I.E.E., Marconi's Wireless Telegraph Co., Ltd., Clifden, Connemara.

Entwistle & Stephens, Ltd., electric light shade makers in silk, lace, paper, linen & cardboard, Baldwin's Gardens, Gray's Inn-rd., London, E.C. (Telegrams: "Abatjour, London." Telephone No. 4965, Holborn.) Registered May 4, 1899. Capital: £25,000 in £1 shares.

Epps, L. G. L., A.M.I.E.E., 95, Upper Tulse Hill, London, S.W.

Epsom Urban District Council Electricity Works, Epsom, Surrey. (Teleph. 413, Epsom.) Engineer, A. C. Gilling.

Epstein, F., electrical engineer, Milford Works, Battersea, London, S.W. (Telegs.: "Elapratus, London." Teleph. No. 1702, Battersea.)

Equatorial Trading & Manufacturing Co., Ltd., insulating material manufacturers, 5 & 6, Great Winchester-st., London, E.C.; & at Loanda, W. Africa. (Telegs.: "Nobbirg, London." Teleph. No. 870, Central.)

Equipment & Engineering Co., electrical engineers & manufacturers, Northampton Park, Canonbury, London, N. (Telegs.: "Akee, London." Teleph. Dalston 944.)

Equipment Syndicate, Ltd., electrical apparatus mfrs., &c., Bank-bldgs., Exchange-st., Kidderminster.

Erimus Automatic Safety Guard Co., Ltd., Post Office-chbrs., Middlesbrough.

Erith Urban District Council Electricity Works & Tramways, Erith, Kent. (Teleph. Erith 36 & 66.) Electrical engineer & tramways manager, A. Coveney.

Erith's Engineering Co., Ltd., makers of grateless underfeed stokers, feed-water heaters, &c., 70, Gracechurch-st., London, E.C. (Telegs.: "Erithus, London." Teleph. No. 1834, Avenue.)

Erlanger, Baron E. B. d', 20, Bishopsgate-st. Within, London, E.C. (Telegrams: "Aeditua, London." Telephone No. 578, Avenue.) Director New General Traction Co., Ltd.; director Norwich Electric Tramways Co., Ltd.; chairman Coventry Electric Tramways Co.

Erskine, R. S., M.I.E.E., 10, Ovington-gdns., London, S.W.

Erskine-Murray, J., D.SC., F.R.S.E., M.I.E.E., consulting radio telegraphist, Oswaldestre House, Norfolk-st., London, W.C. (Telegs.: "Wavelength, London." Teleph. No. 6497, Central.)

Escaré & Denelle, French art metal workers, &c., 129, Wardour-st., Oxford-st., W. (Tel. Gerrard 2069.)

ESCHER, WYSS & CO., 109, Victoria-st., Westminster, S.W. (Telegs.: "Neumuehle, London." Teleph. Victoria 1454.) *See advt. under* TURBINE WATER WHEELS.

Esher, Rt. Hon. Viscount, G.C.B., &c., 2, Tilney-st., Mayfair, W. Director Central London Railway Co.

Esmarch, Cecil A., consulting engineer, 19, Wentworth-lane, Newcastle-on-Tyne.

Esmarch, Morris & Co., electrical engineers, Albert-rd., Middlesbrough.

Espie, James, electrical engineer, 70, Douglas-st., Glasgow. (P.O. Teleph. No. 4632.)

ESPIR, FERNAND, general importer of foreign electrical appliances: copper wire, white porcelain insulators, incandescent lamps, porous pots, glass cells, vulcanized fibre, &c.; sole agent for Tréfileries et Laminoirs du Hâvre (Anciens Établissements Lazare Weiller et Sté. Cooperative de Rugles réunis). Speciality: electrical copper wire & strip (*see* WIRE MANUFACTURERS—TELEPHONE); Société Anonyme des Anciennes Usines de Fuisseaux (highly vitrified telegraph insulators) (*see* PORCELAIN & CHINA FITTINGS MAKERS), 3, East India-ave., London, E.C. (Telegs.: "Espir, London." Teleph. Nos.: Nat., 1600, Avenue; & P.O., 4183, Central. A.B.C. & A1 Codes used.) *See also* CONTINENTAL DIVISION.

Esskildsen, Max K., A.I.E.E., engineer, Great Northern Telegraph Co., Ltd., 15, St. Helen's-pl., E.C.

Esslemont, A. S., general manager, County of Durham Electrical Power Supply & Distribution Cos., Royal Exchange-bldgs., Newcastle-on-Tyne.

Esson, C., electrical heating & sanitary engineer, &c., 102, Fetter-lane, London, E.C. (Telegrams: "Esson, London." Telephone No. 1064, Holborn.)

ESSON, W. B., M.I.C.E., M.I.E.E., consulting engineer & electrical expert, Bank-bldgs., Kingsway, London, W.C. (Telegs.: "Powerwork, London." Teleph. Holborn 2168.) Director West London & Provincial Electric Supply Co., Ltd.

Estler, Paul, M.I.E.E., Messrs. Siemens' Works, Woolwich, London, S.E.

Estler Bros., engineers, 3, Cross-lane, Eastcheap, E.C. (Telegs.: "Isolable, London." Teleph. No. 2476, London Wall.) Works: South Molton-rd., Victoria Docks, E.

Etchells, W. G., manufacturers' agent (general), 22, Manor Park, Redland, Bristol.

Etchells, J. C., & Co., Ltd., electrical lift makers, 15, Cannel-st., Ancoats, Manchester.

Etherington, John, M.I.M.E., S.E., N.E.I.M.M.E., M.I.N.A., consulting & inspecting engineer, 39A, King William-st., London, E.C. (Telegrams: "Etherington, London.")

Euan-Smith, Sir Chas., K.C.B., C.S.I., &c., 51, South-st., Mayfair, W. Chairman International Ethiopian Railway Trust & Construction Co., Ltd.; director Cape Electric Tramways, Ltd.; director Chilian Electric Tramway & Light Co., Ltd.; director Lisbon Electric Tramways, Ltd.; chairman Marconi International Marine Communication Co., Ltd.; director Marconi's Wireless Telegraph Co., Ltd.

Euler, Louis H., A.M.I.E.E., 1, Warwick-rd., Wanstead, N.E.

Eureka Conduits & Fittings Co., Queen-st., Walsall; Godliman House, Godliman-st., London, S.E.; Glasgow; Bradford; Liverpool; & Manchester.

Eurich, H. O., A.M.I.E.E., electrical engineer, 2, Park-rd., Rugby.

Europe & Azores Telegraph Co., Ltd., Electra House, Finsbury Pavement, London, E.C. (Telephone No. 1128, London Wall.) Registered Aug., 1893. Directors: The most Hon. the Marquess of Tweeddale, K.T. (chairman); the Hon. A. G. Brodrick; & Sir John Denison-Pender, K.C.M.G. Electrician-in-chief, Walter Judd; secretary, George R. Neilson. Nominal capital: £200,000 in £10 shares; 20,000 shares have been taken up, & are fully paid.

Eustace, John, A.M.I.E.E., engineer & manager Electric Supply Corp., Ltd., Chelmsford; & Elmhurst, London-rd., Chelmsford, Essex.

Eustice, J., B.SC., A.R.S.M., A.M.I.C.E., professor of engineering, Hartley University College, Southampton.

Evan-Thomas, E. L., director British Columbia Electric Railway Co., Ltd., 34, Nicholas-lane, Lombard-st., London, E.C.

Evans, A., director Mardy Electric Light Co., Ltd., Mardy, Glam.

Evans, C. J., A.M.I.E.E., 108, Castelnau, Barnes, S.W. (P.O. Telephone No. 128, Putney.)

Evans, D. H., High-st., Ogmore Vale. Director Ogmore Valley Electric Light & Power Supply Co., Ltd.

Evans, D. Llewellin, engineer & merchant, 120, Bute-st., Cardiff. (Telegs.: "Brattic, Cardiff." Nat. Teleph. No. 146.)

Evans, D. O., M.I.E.E., manager & engineer for North Wales, National Electric Construction Co. & Corporation Electricity Works, Carnarvon.

Evans, Ed. A., electric lighting & power transmission engineer, Willows-rd., Birmingham.

Evans, Edward C., electrician, 23, Wellington-st., Waterloo, Liverpool.

Evans, E. G., electrician, 189, Edward-st., Nuneaton. (Nat. Teleph. No. 111.)

Evans, Frederick E., A.I.E.E., c/o Miss Campbell, 36, Selborne-rd., Hove, Sussex.

Evans, F. J., M.I.E.E., electrical engineer, Barry Railway Co., Barry, Glamorgan.

Evans, G., chief assistant, U.D.C. Electricity Works, Pontypridd, Glam.

Evans, John, district superintendent Edison & Swan United Electric Light Co., Ltd., 134 Royal-ave., Belfast. (Telegrams: "Ediswan, Belfast." Telephone No. 649.)

Evans, L., West End, Gorseinon. Director Gorseinon Electric Light Co., Ltd.

Evans, Malcolm T., A.M.I.E.E., 51, Queen's-sq., Bristol.

Evans, Mortimer, M.I.C.E., F.G.S., F.R.A.S., M.I.E.E., Saville Club, Piccadilly, London, W.

Evans, S., A.I.E.E., 45, Princes-ave., Church End, Finchley, London, N.

Evans, Stephen, director Ton-yr-efail & Gilfach Goch Electric Light Co., Ltd., 48, High-st., Tonyrefail.

Evans, Thomas Cleminson, A.I.E.E., 125, Coppice-st., Oldham.

Evans, W., belting manufacturer, 24, High-st., Newport, Mon.

Evans, W., 48, High-st., Tonyrefail. Director Tonyrefail & Gilfach Goch Electric Light Co., Ltd.

Evans, Wm. Hellier, A.M.I.E.E., 106, Spencer-pl., Leeds.

Evans, Wm. Tuxford, A.M.I.E.E., consulting electrical engineer, 93, Hope-st., Glasgow. (Nat. Teleph. No. 248 Y. 5, Argyle.)

Evans Bros., Ltd., ironmongers, electrical engineers & contractors, Morriston, Glam. (Telegs.: "Ironmongers, Morriston.")

Evans, Edward, & Co., consulting engineers & chartered patent agents, Lonsdale-chbrs., 27, Chancery-lane, W.C. (Telegrams: "Effugium, London." Telephone No. 4916, Holborn); Birmingham; & Manchester.

Evans, E. M., & Son, electrical contractors, 18A, Fountain-st., Manchester. (Teleph. No. 4250.)

Evans, Joseph, & Sons, Wolverhampton, Ltd., pump manufacturers, Culwell Works, Wolverhampton.

Evans, Jos., & Son, Highfield Tool Works, Sheffield.

Evans, J. W., & Son, makers of stampings for electrical work, 54 & 55, Albion-st., Birmingham. (Telegs.: "Designer, Birmingham." Teleph. Central 4075.)

Evans & Son, electrical engineers, Swan-sq., Burslem.

Evans, T. Arthur, & Co., electrical & mechanical engineers, Heathfield-st., Swansea.

Eve, Alfred, A.I.E.E., 33, Cairo-rd., Hoe-st., Walthamstow.

Evered & Co., Ltd., electrolier manufacturers, &c., 27–35, Drury-lane, London, W.C. (Telegs.: "Evered, London." Teleph. Gerrard 7901, 2 & 3); & Surrey Works, Smethwick. (Telegs.: "Evereds, Birmingham.") Directors: W. G. Kent, Esq. (chairman); R. G. Evered, Esq. (managing); G. J. Evered, Esq. (managing); F. A. Wallroth, Esq.; J. D. Davenport, Esq.; S. Evered, Esq. Secretary, D. Bartlett. Registered Aug. 14, 1884. Nominal capital: £200,000. All subscribed & divided into 10,248 shares of £10 each, 9752 shares of £10 each, £7 paid, 5 per cent. debenture bonds £50,000. Dividends: 1905 & 1906, 5 per cent.; 1907 & 1908, *nil*.

Everest, A. R., M.Am.I.E.E., M.I.E.E., British Thomson-Houston Co., Rugby.

Everett, E. I., A.M.I.E.E., engineer & electrician (Everett, Edgcumbe & Co., Ltd.), Collindale Works, Hendon, London, N.W.

Everett, H. W., chief engineer, Clacton Urban District Council, Clacton-on-Sea.

Everett, Edgcumbe & Co., Ltd., electrical instrument makers, 117, Victoria-st., London, S.W. (Telegs.: "Everectus, London." Teleph. Nos.: 3020, Victoria; & 83, Westminster); & Collindale Works, Hendon, Middlesex. (Telegs.: "Evergendos, London." Teleph. P.O. Finchley 175 & 176.) *See* Measuring Instrument Mfrs.—Electrical.

Everitt, A. E., electrical engineer, 5, Free School-lane, Cambridge.

Everitt, H. W., A.M.I.E.E., Electricity Works, Clacton-on-Sea.

Everitt, M., electrical engineer, 5, Free School-lane, Cambridge.

Everitt, Allen, & Sons, Ltd., brass & copper tubing, rolled metal & wire manufacturers, Kingston Metal Works, Smethwick, nr. Birmingham. London office: 118, Cannon-st., E.C. (Telegrams: "Everitt, Birmingham;" "Sheathing, London." Telephone No. 29, Smethwick.)

EVERITT & CO., manganese merchants & carbon, 40, Chapel-st., Liverpool. (Telegs.: "Persistent, Liverpool." Teleph. No. 1134 (3 lines).) *See advt., under* Manganese Merchants.

Evershed, Sydney, M.I.E.E., Acton-lane Works, Chiswick, London, W. Director Evershed & Vignoles, Ltd.

EVERSHED & VIGNOLES, LTD., engineers, Acton-lane Works, Chiswick, London, W. (Telegrams: "Dorothea, London." Telephone No. 221, Hammersmith); & 110, Cannon-st., London, E.C. (Telegs.: "Purposeful, London." Teleph. No. 5430, Central.) Registered Feb. 5, 1895. Directors: H. M. Gregory, Esq.; S. Evershed, Esq.; E. B. Vignoles, Esq. (secretary); P. R. Cobb, Esq. Nominal capital: £30,000 in £10 shares. 3000 shares have been taken up. £30,000 has been called & paid. Debentures issued: £9600, part of £15,000.

Everson, C. R., general manager, Corporation Tramways, Plymouth. (Teleph. No. 518.)

Ewart, John W., A.I.E.E., Surrey House, Chiltern-rd., Wendover, Bucks.

Ewart & Son, Ltd., electrical engineers, 346–350, Euston-rd., London, N.W. (Telegrams: "Geyser, London." Telephone No. 751, King's Cross.)

Ewer, G. G., A.M.I.E.E., Balliol House, Toynbee Hall, London, E.

Ewing, Alex. J., A.M.I.E.E., 33, James-st., Cardiff. (Nat. Teleph. No. 1079.)

Ewing, J. G. A., National Telephone Co., Bristol.

Ewing, Prof. J. A., C.B., M.A., LL.D., F.R.S., M.I.C.E., M.I.E.E., Admiralty, London, S.W.; & Froghole, Edenbridge.

Ewing, J. L., & Co., electrical engineers & contractors, 156, St. Vincent-st., Glasgow. (Telegs.: "Exciter, Glasgow." Teleph. Nos.: 729, Argyle; & 1729, Corp.)

Exchange Telegraph Co., Ltd. Offices: 17 & 18, Cornhill, E.C. (Telegrams: "Davies, London." Telephone No. 1918, Avenue); & 64, Haymarket, London, S.W. (Telegrams: "Diocles, London." Telephone No. 3569, Gerrard.) Registered March 28, 1872. Nominal capital: £246,250, in 8125 "A" & 16,500 "B" shares, all of £10 each; the whole of the former & 16,200 of the latter class have been

taken up. There has been £9 called on each of 6000 "A" shares & £1 on each of the remaining 2125 "A" shares, these being credited with £8 paid. The total received is £56,023; £179,000 has been agreed to be considered as paid. Directors: Lieut.-Col. F. F. Sheppee, R.A. (chairman); Wilfred King, Esq. (managing director); Kenneth Anderson, Esq.; H. L. Hotchkiss, Esq.; G. Montagu, Esq.; & G. A. D. Goslett, Esq. Electrical engineer, Frederick Higgins; secretary, Geo. F. Hamilton. Dividends: 1906 & 1907, *nil;* 1907–08, 4 per cent.; 1908–09, 4½ per cent.

Exeter Corporation Electricity Works, Exeter. H. D. Munro, M.I.E.E., engineer. (Telephone Nos.: 194, Central Offices; 288, Power Station.)

Exmouth Electricity Works. The Electric Supply Corp., Ltd., proprietors.

Eyears, A. E., A.M.I.E.E., electrical engineer, 4, Linkenholt Mansions, Hammersmith, London, W.

Eynon, George L., A.M.I.E.E., electrical engineer, 3, Adelaide-st., Charing Cross, London, W.C. (Telegs.: "Speedenon, London." Teleph. No. 8967, Central.)

Eyquem's Patents, accumulator makers, 10, Dean-st., Oxford-st., W.

Eyre, Wm., & Nephew, iron & metal merchants & high conductivity copper wire manufacturers, 5, Tithebarn-st., Liverpool. (Telegs.: "Eyre, Liverpool." Teleph. No. 1476 (2 lines).)

Eyton & Co., lead merchants, Chester Wharf, Mann Island, Liverpool. (Telegrams: "Smelters, Liverpool." Telephone No. 5991.)

Fabbro & Co., electrical engineers & contractors, 158, Falcon-rd., Clapham Junction, London, S.W. (Telegs.: "Fabeln, London." Teleph. No. 576, Battersea); & at 41, St. John's-rd., Clapham Junction, London, S.W.

Fahn & McJunkin, consulting electrical engineers, 246A, Corporation-st., Birmingham.

Fairbanks, Morse & Co., Ltd., electric dynamo & motor makers, 87, Southwark-st., London, S.E.

Fairchild, H. E., electrical contractor, 4, Violet Hill, St. John's Wood, London, N.W. (Teleph. No. 323, P.O., Hampstead.)

Fairclough, K., chief of Test Department, Browett, Lindley & Co., Ltd., Patricroft, Manchester.

Fairhurst, W. V. F., electrical engineer & contractor, Darwen, Lancs.

Fairweather, C. W., consulting electrical engineer, Milburn House, Newcastle-on-Tyne. Engineer & general manager Northern Counties Electricity Supply Co., Ltd.; manager Northern District, Cleveland & Durham Electric Power, Ltd.

Fairweather, J. G., B.SC., consulting electrical engineer, College of Science & Technology, 53, Frederick-st., Edinburgh.

Falcke, Cecil D., electrical engineer, Stratford-on-Avon Electricity Co., Ltd., Stratford-on-Avon.

Falconar, O. L., A.M.I.E.E., electrical engineer, 7 & 9, Ridley-pl., Newcastle-on-Tyne.

Falconar, Cross & Co., electrical engineers, agents for Otis Elevator Co., Ltd., & Synchronome Co., 7 & 9, Ridley-pl., Newcastle-on-Tyne. (Telegs.: "Install, Newcastle-on-Tyne." Teleph. No. 203, Central.)

Falconer, J., M.P., 52, Castle-st., Edinburgh. (Telegs.: "Falconry, Edinburgh." Teleph. Central 47.) Chairman Mersey Railway Co.; director Cleveland & Durham County Electric Power, Ltd.

Falk, Stadelmann & Co., Ltd., manufacturing electrical engineers, 83, 85 & 87, Farringdon-rd., London, E.C. (Telegs.: "Lamps, London." Teleph. Holborn 2340 (10 lines)); & 74/8, Great Clyde-st., Glasgow. (Telegs.: "Trilux, Glasgow." Nat. Teleph. Royal 3888.)

Falkenstein, C. K., jun., A.M.I.E.E., electrical engineer, 4, Northstead-rd., Tulse Hill Park, London, S.W.

Falkirk Corporation Electricity Works, Falkirk, Scotland. (Telephone No. 230.) Engineer, J. McMillan.

Falkirk & District Tramways Co., Larbert-rd., Larbert, N.B. (Telegs.: "Trams, Falkirk." Teleph. No. 154, Falkirk.) Incorporated under Falkirk & District Tramways Order Confirmation Act, 1901. Nominal capital: £150,000 in shares of £10 each. An addition of £100,000 to the capital has been approved. Issued: £96,260. Directors: A. D. Mackenzie, Esq., J.P. (chairman); G. M. Brown, Esq.; A. W. Tait, Esq.; Robt. Hunter, Esq. Secretary, D. Hays.

Falkirk Electric Construction Syndicate, Ltd., Larbert-rd., Larbert. (Telegs.: "Trams, Falkirk." Teleph. Falkirk 154.) Registered Oct. 24, 1904. Nominal capital: £100,000 in shares of £100 each. Issued: £96,200. Directors: G. M. Brown, Esq. (chairman); Robt. Hunter, Esq.; A. W. Tait, Esq.; Geo. Balfour, Esq. Secretary, D. Hays.

Falkirk Iron Co., manufacturers of all kinds of castings, tubes & poles, insulators, joint-box castings, dynamo castings, &c., &c., Craven House, Kingsway, London, W.C.; 22–24, South Castle-st., Liverpool; 32–34, Bothwell-st., Glasgow; & 22, Picardy-pl., Edinburgh. Works: Falkirk, N.B. (Telegs.: "Castings," London, Liverpool, Glasgow, Edinburgh & Falkirk. Teleph. Nos.: Gerrard 9482, London; 4910, Glasgow; 5081, Liverpool.)

Falls, D., manager Giant's Causeway & Portrush Electric Tramways, Portrush, Antrim. (Telegs.: "Tramway, Portrush." Teleph. No. 18.)

Falmouth Electricity Works, Falmouth. Electric Supply Corp., Ltd., proprietors. Resident engineer, E. E. Smeeton.

Falshaw, Reginald, electrical engineer, Albert-chbrs., Albert-st., Harrogate, Yorks. (Telegrams: "Falshaw, Harrogate." Teleph. Nos.: 150; night service, 373.)

Fanshawe, Harry, electrician, Thoralby, Fortune Gate, Harlesden.

Faraday House Journal (organ of the students of the Electrical Standardizing, Testing & Training Institute), Faraday House, Southampton-row, London, W.C.

Faraday House Old Student's Association, Faraday House, Southampton-row, London, W.C.

Faraday Society, to promote the study of Electrochemistry, Electrometallurgy, Chemical Physics, Metallography & kindred subjects. President, Jas. Swinburne, F.R.S.; secretary, F. S. Spiers, 82, Victoria-st., London, S.W.

Faraday Society's Transactions (quarterly), 82, Victoria-st., Westminster, London, S.W. Editor, F. S. Spiers, B.SC., A.M.I.E.E.

Faraday & Son, manufacturers of electric light fittings, 2 & 3, Berners-street, London, W. (Telegrams: "Faraday, London." Telephone No. 3814, Gerrard.)

Fardon, E. S., A.M.I.E.E., electrical engineer & contractor, 2, Swan-st., Manchester.

Fareham Urban District Council Electricity Works, Fareham. (Telephone No. 46 X., Nat.) Engineer, A. Blake.

Farish, A. F., Worcester House, Walbrook, E.C. Director Adelaide Electric Supply Co., Ltd.; chairman North Melbourne Electric Tramways & Lighting Co., Ltd.

Farmer, Henry, A.M.I.E.E., 76, King's Hall-rd., Beckenham, Kent.

Farmer, Sir James, & Sons, Ltd., machinists, mechanical & electrical engineers, Adelphi Ironworks, Salford, Manchester. (Telegrams: "Agricola, Manchester." Telephone No. 1074.) This company was registered March 1, 1895, with a capital of £15,000 in £50 shares.

Farmiloe, George, & Sons, Ltd., electric bell fitters & contractors, 34, St. John-st., London, E.C. (Telegs.: "George Farmiloe, London." Teleph. No. 5063, Holborn.)

Farmiloe, T. & W., Ltd., zinc merchants, 19–23, Rochester-row, London, S.W. (Telegrams: "Farmiloe, London." Telephone Nos. 22, 673 & 5091, Westminster.)

Farncombe, I., electric lighting contractor, 84, London-rd., Brighton. (Municipal Telephone No. 186; & Nat., 838 X.)

Farnham & District Electricity Supply Co., Ltd., Lyenne, Fir Grove Hill, Farnham. Registered June 29, 1904. Nominal capital: £1000 in £1 shares. Issued: 307 shares, 300 of which are fully paid. Directors: G. F. Roumieu, Esq.; W. T. Pressland, Esq.; R. D. Kingham, Esq. Secretary, J. Bruce Collier.

Farnworth District Council Electricity Works, Farnworth, Lancs. Engineer, R. B. Leach, A.M.I.E.E., A.M.I.MECH.E.

Farr, J., electrical & mechanical engineer, Sherwood-st., Nottingham. (Telegs.: "Farr, Electrician, Nottingham." Teleph. No. 1313.)

Farrar, Douglas, M.SC., lecturer in electrical engineering, Hartley University College, Southampton.

Farrar, Sidney Howard, M.I.C.E., electrical engineer, 4, London Wall-bldgs., London, E.C. (Telegrams: "Civilement, London." Telephone No. 2599, London Wall.)

Farrell, A. B., resident engineer, Corporation Electricity Works, Belfast.

Farrell, R., LL.D., director Manx Electric Railway, Ltd., 78, Cornhill, London, E.C.

Farrell, H. O., & Co., electrical engineers, Sewerby Street Electric Works, Moss Side, Manchester. (Nat. Teleph. Rusholme 251.)

Farrer, M., A.M.I.E.E., resident engineer & manager, Twickenham & Teddington Electric Supply Co., Ltd., Electric Lighting Station, Twickenham.

Farrer, Right Hon. Lord, Abinger Hall, Dorking. Director Underground Electric Railways Co. of London, Ltd.; director Great Northern, Piccadilly & Brompton Railway Co.

Farringdon Engineering Co., engineers & electricians, 29, Red Lion-st., Clerkenwell, London, E.C. (Telegs.: "Egnaldom, London." Teleph. No. 2162, Holborn.)

Farrow, A. E., A.M.I.E.E., chief resident engineer, The Windsor Electrical Installation Co., Ltd., Peascod-st., Windsor (Telegrams: "Electric, Windsor." Teleph. No. 29A); & Slough & Datchet Electric Supply Co., Ltd., Chalvey, nr. Slough.

Farrow, Ernest J., A.M.I.E.E., 13, Norman-rd., Thornton Heath, Surrey.

Farwig, Johnson & Co., Ltd., zinc, copper & wire merchants, 7, East India-ave., London, E.C. (Telegrams: "Farwig Johnson, London." Telephone No. 360, Avenue.)

Fasola, J. J., A.M.I.E.E., Lahmeyer Electric Co., 109–111, New Oxford-st., W.C.

Faulkner, A. H., installation contractor, 8, Market-pl., Manchester.

Faunthorpe, C. L., A.M.I.E.E., 57, Granville-rd., Blackburn.

Faversham Corporation Electricity Works, Faversham, Kent. (Teleph. No. 8 X.) Engineer, Gordon Sommerville; electrician, G. L. Wood.

Fawcett, D. L., electrical engineer, 32, Sholebroke Mount, Leeds.

Fawcett, E. M., electrical engineer, 4, Sydney-ter., New-st., Paignton. (Telegs.: "E. M. Fawcett, Paignton." Nat. Teleph. No. 179.)

Fawcett, Ivan, A.M.I.E.E., Loxley & Co., Ltd., Cabinet-chbrs., Basinghall-st., Leeds.

Fawcett, Preston & Co., Ltd., mechanical engineers & boiler makers, 17, York-st., Liverpool. (Telegrams: "Fawcett, Liverpool." Telephone No. 116. A1 & A.B.C. Codes used.)

Fawcus, Geo. H., secretary & engineer, Altrincham Electric Supply, Ltd., Altrincham. (Teleph. No. 52.)

Fawssett, Evelyn, A.M.I.E.E., 25, Osborne-ter., Gosforth, Newcastle-on-Tyne. (Telegs.: "Supply, Newcastle-on-Tyne." Nat. Teleph. No. 2400.)

Fay, J. G., & Co., Ltd., electric light engineers, 89 & 90, High-st., Southampton (Telegrams: "Fay, Southampton." Telephone No. 10); & Northam, Southampton. (Telephone No. 9.)

Faye-Hansen, K. M., A.M.I.E.E., 102, Steven-st., Stretford, Manchester.

Fazakerley, J., electrical engineer, Victoria Station, Manchester.

Fearnhead, Alex., electric light & power engineer, 354, Caledonian-rd., London, N. (P.O. Teleph. No. 7674, Central.)

Fearnley, V., electrical engineer, c/o The Mint (Birmingham), Ltd., Birmingham.

Featherstonehaugh, C. E., director Collieries Electric Power Development Synd., Ltd., Dashwood House, New Broad-st., London, E.C.

Fecher, M. J., manufacturer & importer of electrical porcelain work, 1, Mallow-st., Old-st., London, E.C. (Telegs.: "Fecher, London." P.O. Central Teleph. No. 2278.)

Fedden, S. E., M.I.C.E., M.I.MECH.E., general manager & engineer, Corporation Electric Supply, Sheffield.

Feeny, V. F., chartered patent agent, 60, Queen Victoria-st., E.C. (Telegs.: "Victor Feeny, London.")

Feeny, V. I., consulting engineer & chartered patent agent, 60, Queen Victoria-st., London, E.C. (Telegrams: "Victor Feeny, London.")

Feetham, Mark, M.I.M.E., M.I.E.E., London Electric Supply Corp., Stowage Wharf, Deptford, S.E.

Feilden, T. J. V., A.I.E.E., Shawinigan, Rickmansworth-rd., Watford.

Feld Bros. & Co., Ltd., electrical engineers & suppliers, 25, Budge-row, London, E.C. (Telegs: "Acipenser, London." Teleph. London Wall 1697.)

Feldt, Gustavus, tinol, 50 & 51, Fore-st., E.C.

Felgate & Storey, electrical engineers & contractors, 2 & 4, Woodstock-rd., Oxford.

Felixstowe Pier Electric Railway, Felixstowe. Coast Development Corp., Ltd., proprietors. Engineer, E. A. Lambert.

Felixstowe Electricity Works, Felixstowe, Suffolk. Engineer & manager, N. Prentice. Urban District Council & Suffolk Electricity Supply Co., Ltd., joint proprietors.

Fell, A. L. C., M.I.E.E., M.I.MECH.E., chief officer London County Council Tramways, 62, Finsbury Pavement, E.C. (Teleph. Nos. 3321, 3322 & 3323, London Wall); & "Longwall," Common-rd., Walton-on-Thames.

Fell, Alfred W., electrical engineer, 44, Murray-rd., Rugby.

Fell & James, consulting engineers & chartered patent agents, 1, Queen Victoria-st., London, E.C. (Telegrams: "Lodestone, London." Telephone No. 317, Bank.)

Fella, E. A., A.M.I.E.E., 20, Hathaway-rd., West Croydon.

Fellheimer, J. M. & D., manufacturers' agents for all kinds of movements for electrical purposes, 26, City-rd., London, E.C.

Felling Electricity Works (Northern Counties Electricity Supply Co., Ltd.), Pelaw, Durham. Consulting engineer, C. W. Fairweather.

Fellingham, A. E., electrical engineer, 115, North-st., Brighton.

Fellowes, Henry, & Co., electric light & power engineers & contractors, 3, Grosvenor-bldgs., Westbourne, Bournemouth. (Teleph. No. 202.)

Fellows, S. J. & E., Ltd., iron discs, transformer & other stampings, Vulcan Works, Wolverhampton. (Telegrams: "Vulcan, Wolverhampton.")

Felsing, Conrad, jun. *See advt., page* 14.

FELTEN & GUILLEAUME LAHMEYERWERKE ACTIEN GESELLSCHAFT, Mülheim am Rhein, manufacturers of wire of all descriptions for electrical & telegraphic purposes—speciality: patent double bronze wire for telegraph & telephone purposes. For insulated wires & cables for electric light & transmission of power & for rail bonds, THE LAHMEYER ELECTRICAL CO., LTD., 109-111, New Oxford-st., London, W.

Feltham, John B., A.M.I.E.E., chief assistant engineer, Electricity Works, & "Wincott," Malvern-rd., Gloucester.

Feneley, G. H., mechanical & electrical engineer, Great Longstone, nr. Bakewell, Derbyshire. (Telegs.: "Feneley, Longstone, Bakewell.")

Fenemore, H., electrician, High-st., Eton.

Fennell, W., A.M.I.E.E., engineer & manager, Corporation Electricity Works, Wednesbury. (Teleph. 38.)

Fenner, N. J., & H. B. Alder & Co., Ltd., insulating paint & varnish manufacturers, 120, Fenchurch-st., London, E.C. (Telegrams: "Tropic, London." Telephone No. 1081, Avenue.)

Fentiman, C. A., M.A., teacher of electricity, Birmingham Technical School, 104, Gough-rd., Edgbaston, Birmingham.

Fenton, W., engineer, Burton-pl., Hanley.

Fenton, Horrocks & Co., Ltd., electrical & mechanical engineers, 1, Berkshire-st., Miles Platting, Manchester.

Fentum-Phillips, H., F.S.A., consulting electrical engineer, Parkfield, Guildford. (Telegs.: "Fentum-Phillips, Guildford." Teleph. Nos. 0182 & 92.)

Fenwick, J. B., corporation electrical engineer, East Retford, Notts.

Ferabin Lamp & Electrical Accessories, Ltd., 266, Mansion House-chbrs., 11, Queen Victoria-st., E.C.
Ferbeck Chimney Construction Co., 222, Finsbury Pavement House, London, E.C.
Ferguson, Chas. Joseph, electrician, 74, Chiswell-st., London, E.C.
Ferguson, F. J., Hillside, "Westbourne," Reading. Chairman Whitchurch & Pangbourne Electric Supply Co., Ltd.
Ferguson, James, M.I.E.E., electrical instrument maker & engineer, 61, Pollok-st., Pollokshaws, Glasgow. (Teleph. No. 33, Pollokshaws.)
Ferguson, John, A.I.E.E., chief engineer, Corporation Tramways, Glasgow.
Ferguson, J. H., director Whitchurch & Pangbourne Electric Supply Co., Ltd., King Edward-bldgs., Reading.
Ferguson, P. F. H., director Whitchurch & Pangbourne Electric Supply Co., Ltd., Whitechurch House, Preston, Brighton.
Ferguson, Russell Forrester, M.I.E.E., M.I.MECH.E., borough electrical engineer, Hastings. (Telegs.: "Electric, Hastings." Nat. Teleph. No. 46.)
Ferguson, T., A.I.E.E., c/o British Westinghouse Electric & Manufacturing Co., Ltd., Trafford Park, Manchester; & 1, The Mount, Altrincham.
Ferguson, Thos., installation contractor, 9, W. Maitland-st., Edinburgh.
Ferguson, W. J., engineer & works manager Redditch Urban District Council Electricity Works, Redditch. (Teleph. No. 53.)
Ferguson & Carver, electric light contractors, 28, Swan-st., Brechin.
Ferguson & Co., electrical engineers, 10, South Anne-st., Dublin. (Teleph. No. 380 X.)
Fergusson, Major-Gen. Sir Chas., of Kilkerran, Bart., M.V.O., D.S.O., 80, Cornwall-gdns., London, S.W. Director Portpatrick Electric Supply Co., Ltd.
Fernie, F., A.M.I.C.E., A.M.I.E.E., Corporation Electricity Works, Edinburgh.
Fernie, James, consulting engineer, 30, Brunswick-st., Liverpool. (Telegrams: "Frozen, Liverpool." Telephone No. 5767, Central.)
Ferranti, S. Z. de, M.I.E.E., electrical engineer, Grindleford, Sheffield. Director Ferranti Ltd.; director British Insulated & Helsby Cables, Ltd.
Ferranti Ltd., manufacturing electrical & general engineers, Hollinwood, nr. Manchester. (Telegrams: "Ferranti, Hollinwood." Nat. Telephone Nos. 31 & 48, Failsworth, Manchester.) Registered Feb. 27, 1905. Nominal capital: £130,000 in 60,000 preference, 60,000 ordinary & 10,000 deferred shares of £1 each, £100,000 first mortgage debentures, £30,000 second mortgage debentures & £20,000 prior lien debentures. Issued: all the ordinary, 53,374 preference shares & the deferred shares as fully paid, & £150,000 debentures. Directors: A. W. Tait, Esq. (chairman); A. B. Anderson, Esq. (managing); A. Whittaker, Esq.; J. M. Henderson, Esq.; S. Z. de Ferranti, Esq. Secretary, T. H. Morris.
Ferrie & Co., electricians, 193 & 195, Crow-rd., Partick, Glasgow. (Nat. Teleph. Hillhead 2079.)
Ferrier, S. K., A.M.I.E.E., c/o Siemens Bros. Dynamo Works, Ltd., Caxton House, Westminster, S.W.
Ferrier & Hillestrom, manufacturers' agents, 119A, Exchange-bldgs., Cardiff. (Telegs.: "Bracketing.")
Ferris, S., wiring contractor, 12, Wellington-st., Swindon.
Ferris & Co., Ltd., scientific apparatus makers, Union-st., Bristol. (Telegs.: "Ferris, Bristol." A.B.C. Code. Teleph. Nos. 2880 & 2881.)
Ferrofix Brazing Co., Dock House, Billiter-st., London, E.C.
Festing, Major-Gen. C. B., R.E., F.R.S., M.I.E.E., 56, Queen's Gate-ter., London, S.W.
Ffinch, B. T., C.I.E., M.I.E.E., 1, Vanbrugh Park-rd. West, Blackheath, S.E.
Fidge, J. W., A.M.I.E.E., "Tynmouth," Park View, Gelli, Pentre, Pontypridd.
Field, A. M. C., electrical engineer, Consett Iron Co., Ltd., Consett, co. Durham.
Field, F., resident tramway engineer, Corporation Tramways Dept., Blackpool.
Field, G. K., A.M.I.E.E., c/o Colonel R. E. Crompton, "Thriplands," Kensington Court, London, W.
Field, John E., jun., A.I.E.E., 13, Parkview-ave., Harold's Cross, co. Dublin.
Field, M. B., M.I.E.E., A.M.I.C.E., chief engineer, Ferranti Ltd., Hollinwood, nr. Manchester.
Field, J. C. & J., Ltd., wax manufacturers, 15, Upper-marsh, Lambeth, London, S.E. (Telegrams: "Ozokerit, London." Telephone No. 756, Hop.)
Field, Mallett & Co., Ltd., frames & covers, winches, 2, St. Dunstan's Hill, London, E.C. (Telegrams: "Mallett, London." Telephone No. 2158, Avenue.)
Field & Son, manufacturing electricians, Market-sq., Aylesbury.
Fielding, John Wm., A.I.E.E., 31, Birley-st., Blackpool.
Fielding, J. W., & Co., electrical engineers & contractors, 31, Birley-st., Blackpool. (Teleph. No. 28.)
Fielding & Platt, Ltd., gas & oil engine makers, Atlas Iron Works, Gloucester (Telegrams: "Atlas, Gloucester." Telephone No. 58); & 118, Queen Victoria-st., London, E.C. (Telegrams: "Ironbound, London." Telephone No. 8148, Bank.)
Fife Electric Power Co., Dunfermline. (Telegs.: "Unit, Dunfermline." Teleph. No. 187.) Nominal capital: £600,000 in £10 shares. Issued: £62,480, £60,744 called up. Directors: R. Russell, Esq. (chairman); R. E. Walker, Esq.; W. Robertson, Esq.; A. R. Young, Esq.; H. W. Hutchison, Esq.; A. R. Holland, Esq. Manager, J. S. Thomson; secretary, Alex. Young.

Fife Syndicate, Ltd., 37, Castle-st., Edinburgh. (Telegs.: "Legatum, Edinburgh.") Registered May 31, 1908. Nominal capital: £10,000 in £1 shares. Issued: 7071 shares. Directors: Geo. Balfour, Esq. (chairman); Wm. Shearer, Esq.; G. A. Nicolson, Esq. Secretary, Geo. Brunton.

Fife Tramway, Light & Power Co., Ltd. Registered July 3, 1909. Nominal capital: £200,000 in £1 shares.

Fifoot, S. C., electrical engineer, 37, St. Mary-st., Cardiff.

Figgis, A. F., Gorse Hill, Greystones. Director Greystones Electric Light & Power Co., Ltd.

Figueria, —, Funchal, Madeira. Director Madeira Electric Lighting Co., Ltd.

Filaments, Ltd., metal filament manufacturers, 6, Newcastle-st., London, E.C.

Fildes, Samuel, A.M.I.E.E., 6, Camping-lane, Woodseats, Sheffield.

Fildes & Barlow, electrical engineers, Howard-st., Stockport. (Nat. Teleph. No. 35 Y.)

Fileman, M., electrical engineer, 99, Queen's-rd., Brighton.

Films, Ltd., electrical & cinematograph specialists, 18 & 20, Manchester-st., Liverpool. (Telegs.: "Films, Liverpool." Teleph. No. 6782.)

Finchley Urban District Council Electricity Works. Engineer, E. Calvert, A.M.I.E.E.

Findlay, James, managing director The Rugby Lamp Co., Ltd., 92, Lower Hillmorton-rd., Rugby.

Findlay, W. H. d'A., M.S.A., 11, Prospect-pl., Burgess Hill. Chairman Burgess Hill & District Electric Supply Co., Ltd.

Finlay, Archibald Henry, A.I.E.E., A.C.G.I., "Willesden," Holywood, Co. Down, Ireland.

Finlay, John, & Co., Ltd., electric light engineers & contractors, 18, Renfield-st., & Overnewtown Works, Glasgow. (Teleph. Nos.: 1551, P.O.; & 1455, Nat.)

Finlay, Wm., & Co. (Incorporating John Dawson & Son), electrical engineers & contractors, 27, Frederick-st., Edinburgh. Works: West Silvermills-lane, Edinburgh. (Teleph. Nos.: 138, Office; & 2145, Works, Central.)

Finlayson, D., 48, Redcliffe-sq., W. Director Melbourne Electric Supply Co., Ltd.

Finn, Meyer, M.Sc., head of department of physics, mathematics & electrical engineering, Technical School, Southend-on-Sea.

Finnegan, Robt., tramway contractor, East Park, Northampton.

Finnis, S. F. W., A.M.I.E.E., 361, High-rd., Chiswick, London, W.

Finnis, T., general manager & secretary Direct United States Cable Co., 240, Winchester House, Old Broad-st., London, E.C.

Finsbury Technical College Old Students' Association. Electrical secretary, E. W. Moss, 20, Huddleston-rd., Tufnell Park, London, N.

Fire Resisting Corp., Ltd., electric wire casing manufacturers, Townmead-rd., Fulham, London, S.W. (Telegrams: "Antipyrine, London." Telephone No. 988, Kensington.)

Fireproof Celluloid Syndicate, Ltd., 82, Victoria-st., London, S.W. (Telegs.: "Swooper, London." Teleph. No. 292, Westminster.)

Firth, H., A.M.I.E.E., Spen Bank, Cleckheaton.

Firth, H. W., M.I.E.E., chief electrical engineer, Electrical Engineer's Office, Great Eastern Railway, Liverpool-st. Station, London, E.C. (Teleph. No. 2468, London Wall.)

Fish & Co., electrical & mechanical engineers, Park-rd., Wellingborough.

Fishenden, E. G., A.M.I.E.E., 175, Fentiman-rd., Vauxhall, London, S.W.

Fisher, Chas. V., electrical engineer, 11, High-st., Doncaster. (Teleph. No. 1 Y. 3.) Branch: 1, West-st., Mexborough.

Fisher, Daniel, manager & engineer, Dundee, Broughty Ferry & District Tramways Co., Ltd., Dundee. (Teleph. Monifieth 24.)

Fisher, Fred., A.M.I.E.E., electrician, c/o Eastern Telegraph Co., Electra House, Moorgate, London, E.C.

Fisher, G. B., director Dulverton Electric Lighting Co., Ltd., High-st., Dulverton.

Fisher, H. J., A.M.I.E.E., Lambton Collieries, Ltd., Philadelphia Works, Fencehouses.

Fisher, H. K. C., A.I.E.E., 10, Hillcrest-rd., South Woodford, Essex.

Fisher, J. Greevz, lubricator manufacturer, 78, Harrogate-rd., Leeds. (Telegrams: "Kingfisher, Chapel Allerton." Teleph. Chapeltown 55.)

Fisher, N., director Ingleton Electric Lighting & Power Co., Ltd., Greta Printing Works, Ingleton, Yorkshire.

Fisher, P., general manager of Corporation Tramways, Dundee. (Telephone No. 1340.)

Fisher, Percy Arthur, A.I.E.E., Ashbourne, Lewin-rd., Streatham, London, S.W.

Fisher, W. Clark, A.M.I.C.E., A.I.E.E., 24, Albany-rd., Ealing, W.

Fisher, Wm. Hayes, 13, Buckingham Palace-gdns., S.W. Director Westminster Electric Supply Corporation, Ltd.

Fisher & Ludlow, Ltd., metal stampers, 83–87, Rea-st., Birmingham. (Telegs.: "Tinmen, Birmingham." Teleph. No. 413.)

Fisher, S., & Co., manufacturers of malleable castings, Pelham Works, Sylvester-gdns., Sheffield. (Telegs.: "Malleable, Sheffield." Teleph. No. 1388A.)

Fishers, Ltd., engineers, St. Mirren Works, Macdowall-st., Paisley, N.B. (Telegs.: "Fisher, engineers, Paisley." Teleph. No. 244.)

Fitch, Bennett, M.I.C.E., Lauriston House, Grange-rd., Ealing. Director Central Elec. Supply Co., Ltd.; director St. James's & Pall Mall Electric Light Co., Ltd.

Fitch, F., electrician, Rosemary-rd., Clacton-on-Sea.

Fithian, A. W., A.M.I.E.E., electrical engineer, Tudor Accumulator Co., Standard-bldgs., City-sq., Leeds.

Fitt, Frank Herbert, A.M.I.E.E., "Roselea," Cromwell-rd., Beckenham.

Fitz, R., Morris & Co., electrical engineers, 8, Milk-st., Shrewsbury.

FitzGerald, F., director Coventry Electric Tramways Co.; director New General Traction Co., Ltd.; director Norwich Electric Tramways Co., 8, Crosby-sq., London, E.C.

FitzGerald, M., B.A., examiner in engineering, Royal University of Ireland, Dublin.

FitzGerald, M. F., electrical inspector, B.O.T., professor of engineering, Queen's College, Belfast.

Fitzgerald, Maurice, A.M.I.E.E., Direct United States Cable Co., Ballinskelligs, Co. Kerry.

FitzGerald, Sir G., K.C.M.G., 18, Cadogan-gdns., S.W. Director Chilian Elec. Tramway & Light Co., Ltd.

Fitzgerald, W. A., A.I.E.E., Engineering Division, H.M. Office of Works, Storey's Gate, Westminster, S.W.

Fitzhayne, F. A., electrical engineer, Corporation Tramways, Town Hall, Leith.

Fitzgibbon, H. M., director Greystones Electric Light & Power Co., Ltd., The Bungalow, Greystones.

Fitz-Herbert, Arthur H. F., A.M.I.E.E., 15, Victoria-st., London, S.W.

FitzHerbert, C. K., assistant engineer, County of London Electric Supply Co., Oak Wharf, City-rd., London, E.C.

Fitzmaurice, Maurice, C.M.G., chief engineer to the London County Council, Spring-gardens, London, S.W.

Fitzpatrick, H. D., patent agent, 100, Wellington-st., Glasgow. (Teleph. Argyle 711, Central 2110.)

Fitzsimons, Hiram, electrical engineer, 9, Stanley-st., Govan, Glasgow.

Fixare Lamp Co., Ltd., dealers in electric lamps & accessories, 49, Virginia-st., Glasgow.

Fladbury Electric Light & Power Co., Ltd., Fladbury, Worcestershire. Registered Oct. 25, 1899, with a capital of £2000 in £1 shares, of which 857 have been issued & fully paid. 5 per cent. debentures issued: £300. Directors: J. W. Wagstaffe, Esq. (chairman); L. H. Elkington, Esq.; G. T. Stephens, Esq. (secretary); A. L. Stephens, Esq.

Fladgate, W. F., 2, Craig's-ct., Charing Cross, S.W. Chairman Charing Cross, West End & City Electricity Supply Co., Ltd.; chairman Suppliers Construction Co., Ltd.; director London Electric Supply (Joint Committee), Ltd.

Flamwell, Thos., & Son, mechanical & electrical engineers, Worksop. (Telegrams: "Flamwell, Worksop." Telephone No. 1 Y. 4.)

Flannery, Sir J. Fortescue, Bart., M.I.C.E., 9, Fenchurch-st., E.C. Director Callender's Cable & Construction Co., Ltd.

Flannery, Baggallay & Johnson, consulting engineers, 9, Fenchurch-street, London, E.C. (Telegrams: "Drafting, London." Telephone No. 338, Avenue.)

Flather & Co., Ltd., electrical engineers, Park Electrical Works, Marshall-st., Holbeck, Leeds. (Telegrams: "Flather, Marshall-st., Leeds." Telephone No. 1829.)

Fleet, H. A., A.M.I.E.E., station superintendent, Yorkshire Electric Power Co., Thornhill.

Fleet Brass Co., electric light fittings makers, Birmingham.

Fleetwood, Chas. T., M.I.E.E., "Westerlee," Alexandra-grove, Woodside Park, North Finchley, London, N.

Fleetwood, H. O., A.I.E.E., Lighting Station, Head Post Office, Cardiff.

Fleetwood Urban District Council Electricity Works, Fleetwood. Resident engineer, O. Hansom, A.M.I.E.E., A.M.I.M.E.

Fleming, A. H., A.I.E.E., 91, Sidney-grove, Newcastle.

Fleming, A. P. M., A.M.I.E.E., c/o British Westinghouse Co., Trafford Park, Manchester.

Fleming, Edward G., A.I.E.E., The Towers, Bromley, Kent.

Fleming, H. S., director Fort William Electric Lighting Co., Ltd., Fort William.

Fleming, M. J., electrician, borough surveyor, Town Hall, Waterford.

Fleming, Prof. J. A., M.A., D.SC., M.I.E.E., F.R.S., professor of electrical engineering, University College, Gower-st., London, W.C.; & 212, Finchley-rd., Hampstead, London, N.W.

Fleming, R., 8, Crosby-sq., London, E.C. Director Central London Railway Co.

Fleming, A. B., & Co., Ltd., patent solidified oil, 15, Whitefriars-st., London, E.C. (Telegs.: "Fleming, London." Teleph. No. 115, Holborn. A.B.C. Code used.)

Fleming, Birkby & Goodall, Ltd., manufacturers of leather & other driving bands, West Grove Mill, Halifax. (Telegs.: "Fleming, Halifax." Nat. Teleph. Nos.: Halifax 48 & 49; Cleckheaton 103; Hull, 4071 Y.; Fleetwood, 186.) London office: 39, Lime-st., E.C. (Telegs.: "Jimcrow, London." Teleph. Avenue 2800; & Central 11280.) Registered Jan. 26, 1892. Directors: T. B. Birkby, Esq. (chairman); W. Healey, Esq.; W. E. Wright, Esq.; S. A. Wright, Esq.; A. T. Birkby, Esq.; J. H. Crossley, Esq. Joint secretaries, F. D. Oates & E. Walsh. Nominal capital: £50,000 in £10 ordinary shares, £50,000 in £10 preference shares, £30,000 in 4½ per cent. £100 debentures. All issued & fully paid. Dividends: 1907-08, cent. 6 peron preference, 10 per cent. on ordinary; 1908-09, 6 per cent. on preference & 9 per cent. on ordinary.

Fleming & Co., electric light & power contractors, 9, Lothian-st., Edinburgh.

Fletcher, Alfred S., A.I.E.E., Riversdale, Ashford, Bakewell.

Fletcher, Aubrey, A.M.I.E.E., City of London Electric Light Co., Ltd., 64, Bankside, S.E.

Fletcher, F. P., A.M.I.C.E., A.M.I.MECH.E., A.M.I.E.E., engineer, Admiralty Power Station, Chatham Dockyard, Kent.

Fletcher, Geo., Briar Gate House, Long Eaton. Director Harrington Electric Light Co., Ltd.

FLETCHER, G. E., A.M.I.C.E., M.I.E.E., consulting engineer (mechanical & electrical), 77, King-st., Manchester. (Nat. Teleph. No. 5670.)

Fletcher, J. W, A.M.I.C.E., M.I.E.E., Homestead, Cale Green, Stockport. (Teleph. No. 950.)

Fletcher, R. Howard, B.A., M.I.E.E., consulting electrical engineer, Essendene, Llanishen, Glam.; & Prudential-bldgs., Cardiff. (Teleph. No. 978, Nat.)

Fletcher, R. W. J., A.M.I.E.E., c/o D. A. Sutherland, 26, Victoria-st., London, S.W.

Fletcher, T., M.I.E.E., National Telephone Co., Ltd., Telephone House, Victoria Embankment, London, E.C.

Fletcher, Wm., J.P., A.I.E.E., M.I.M.E., Ovingham House, Beech Grove, Whickham, R.S.O., co. Durham. (Nat. Teleph. No. 2.)

Fletcher Bros., electrical manufacturers & agents, Ashford, Bakewell.

Fletcher Bros., electrical engineers, 13, High Friar-st., Newcastle-on-Tyne.

Fletcher, George, & Co., mechanical & hydraulic engineers, Masson & Atlas Works, Derby (Telegs.: "Amarilla, Derby." Teleph. No. 368); & 21, Mincing-lane, London, E.C. (Telegs.: "Amarilla, London." A.B.C., 4th & 5th edits., & A1 Codes. Teleph. No. 2813, Avenue.)

Fletcher & Phillipson, dealers in electrical supplies, 10, Lower Baggot-st., Dublin. (Teleph. No. 900.)

Fletcher, Sons & Udal, metal workers & manufacturers of enamelled fittings, 51–53, Edgbaston-st., Birmingham. (Telegs.: "Promptness, Birmingham." Nat. Teleph. Nos. 4182, 3 & 4.)

Flett, Geo., A.I.E.E., joint managing director Dick, Kerr & Co., Ltd., Abchurch-yard, Cannon-st., London, E.C. Director Hyderabad Electric Light & Traction Co., Ltd.

Flew, F. R., A.I.E.E., 52, Talgarth Mansions, facing Baron's Court Station, London, W.

Flexible Compound Co., 55, Chancery-lane, London, W.C. (Telegs.: "Syng, London." Teleph. Holborn 3. Western Union & A.B.C. 4th & 5th edit. Codes.)

Flint, W., electric bell fitter, High-st., Uckfield, Sussex. (Teleph. No. 8, P.O.)

Flint, Wm. J., manganese merchant, 79–81, Ethelburga House, 70 & 71, Bishopsgate-st. Within, London, E.C. (Telegrams: "Exogen, London." Telephone No. 891, London Wall.)

Flitton Engineering Co., electrical & ventilating engineers, 4, New Cross-rd., London, S.E. (Telegs.: "Fanwheels, London." Teleph. New Cross 76.)

Flockton, Tompkin & Co., Ltd., steel manufacturers, converters & refiners, Newhall Steel Works, Sheffield. (Telegrams: "Tompkin, Sheffield." A.B.C. Code. Telephone No. 480, Nat.)

Flood, G. S., A.M.I.E.E., 46, Harley-ter., Gosforth, Newcastle-on-Tyne.

Flower, J. W., A.M.I.E.E., Electrical Co., Ltd., 121–125, Charing Cross-rd., London, W.C. (Teleph Gerrard 4311.)

Flower, Spencer, A.I.E.E., Middle Hill, Broadway, Worcester.

Flower, S. A., director Stratford-on-Avon Electricity Co., Ltd., Stratford-on-Avon.

Foale, W. S., A.M.I.E.E., engineer & manager, Corporation Electricity Works, Gunwharf-rd., Portsmouth.

Foggo, J. T., electric light contractor, Halifax-rd., Dewsbury, Yorks. (Teleph. No. 15 X.)

Foggo, J., & Sons, electric lighting contractors, 37, St. Patrick-sq. (Teleph. No. 4527); & 7, South Back, Canongate, Edinburgh. (Teleph. No. 3476 X.)

Foinette, Rev. T. W., A.I.E.E., Wesley Manse, Hall-lane, New Wortley, Leeds.

Folkestone Electricity Supply Co., Ltd., Folkestone. (Teleph. Cheriton 4 (works & offices); & Folkestone 97 (Secretary).) Registered March 26, 1897. Nominal capital: £100,000 in 10,000 £5 ordinary shares & 10,000 5 per cent. cumulative preference shares of £5 each, & £100,000 4½ per cent. debentures. Issued: £50,000 ordinary shares, fully paid, & £50,000 preference, & £94,000 debentures, secured by trust deed. Directors: Alderman Geo. Spurgen, J.P. (chairman); Alderman S. Penfold, J.P.; C. J. Pursey, Esq., J.P.; F. E. Gripper, Esq.; W. B. Hopkins, Esq.; C. C. Wampach, Esq. Managing engineer, Thos. Hesketh, M.I.E.E., A.M.I.M.E., M.AM.I.E.E.; secretary, Frederic Hall. Dividends: 1902, 5 per cent.; 1903, 1904, 1905, 1906, 1907 & 1908, 5½ per cent.; first half of 1909, 4 per cent.

Folkestone, Sandgate & Hythe Tramways Co., Queen Anne's-chbrs., Westminster, London, S.W. (Telegs.: "Overhauled, London.") Nominal capital: £250,000 in ordinary shares. Borrowing powers: £83,330. Directors: L. B. Schlesinger, Esq. (chairman); W. Herbert Fowler, Esq.; J. T. Jervis, Esq.; B. Bernheim, Esq.; J. Carr Saunders, Esq. Secretary, L. D. H. Jacobs. Dividends: 1906, 1907 & first half of 1908, *nil*. *Construction not yet commenced.*

Follenfant, Chas., A.M.I.E.E., 13, St. Michael's-rd., Stockwell, London, S.W.

Foote, Henry, electrical engineer, 66, Victoria-st., London, S.W. (Telegrams: "Pedetentim, London." Teleph. No. 352, Westminster.) Director Lytham Electric Light & Power Co., Ltd.; director Newquay Electric Light & Power Co., Ltd.

Foote & Milne, Ltd., electrical engineers & contractors, 66, Victoria-st., London, S.W. (Telegrams: "Pedetentim, London." Telephone No. 352, Westminster.)

Foots Cray Electricity Supply Co., Ltd., Station-rd., Sidcup. (Teleph. Sidcup 178.) Registered Dec. 15, 1905. Nominal capital: £20,000 in £1 shares. Issued: £10,000; Debentures £2500. Directors: G. K. Nisbett, Esq.; D. Sinclair, Esq.; J. Taylor, Esq. Engineer & secretary, A. Wright.

Forbes, F., electrician, Great Northern Telegraph Co., Ltd., Aberdeen.

Forbes, F. E., electrical, mechanical & motor car engineer & contractor, 16, Chestnut-st., Southport.

Forbes, John, Windle-chbrs., St. Helens. Director West Cumberland Electric Tramways Co.

Forbes, Prof. G., M.A., F.R.S., M.I.C.E., M.I.E.E., consulting & electrical engineer, 11, Little Collins-st., Westminster, London. (Telegs.: "Tailrace, London.")

Forbes, Sir Chas., consulting engineer, 68, Holland Park, London, W. (Teleph. No. 2631, Western.)

Force, S. R., & Sons, electrical contractors, 15, Sidwell-st., Exeter. (Telegs.: "Force, Builders, Exeter." Teleph. No. 106.)

Ford, F. W., A.I.E.E., St. Keverne, Park Hill-rd., Wallington, Surrey.

Ford, Major P. B., chairman Pontypool Electric Light & Power Co., Ltd., Club-chbrs., Pontypool.

FORD & MARGRETT, plain or enamelled slate for electrical work, Camphill Slate Works, Birmingham. (Telegs.: "Mantel, Birmingham." Teleph. Victoria 75.) *See advt. under* SLATE ENAMELLERS.

Ford, Thos. W., & Co., engineers & agents, Palace-chbrs., 9, Bridge-st., Westminster, London, S.W.

Ford-Moore & Sutton, civil & electrical engineers, 90, Queen-st., Cheapside, London, E.C. (Teleph. 4192, Central.)

Forde, J. A., A.M.I.E.E., electrical engineer & manager Isle of Thanet Electric Tramways & Lighting Co., Ltd., St. Peter's, Broadstairs; & Margate.

Fordham, W. B., & Sons, Ltd., emery & emery cloth & glass paper manufacturers & general merchants, St. Pancras Works, 36–40, York-rd., & Railway-st., King's Cross, London, N. (Telegs.: "Fordhams, London." A.B.C. Code. Teleph. North 516 (2 lines).)

Foreign & Colonial Concessions, Ltd., 17, Victoria-st., London, S.W. (Telegs.: "Regolofel, London." Teleph. No. 3077, Vic.) Registered Sept. 30, 1905. Nominal capital: £5000 in £1 shares.

Foreign & Colonial Lighting, Ltd., 58, Finsbury Pavement, London, E.C. Registered July 29, 1908. Nominal capital: £30,000 in £1 shares.

Forest City Electric Co., manufacturers of commutator segments & rail bonds, Collier-st., Greengate, Salford. (Telegs.: "Rolldrop, Manchester." Teleph. Central 5414.)

Formby & Freshfield Electric Light Co., Ltd., 49, Dale-st., Liverpool. Registered Oct. 20, 1906. Nominal capital: £25,000 in £1 shares. Secretary, J. L. Titherley.

Forrest, Frank, A.M.I.E.E., sub-stations superintendent, Electricity Supply Department, Birmingham.

Forrest, J. H., electrical engineer, Metropolitan Amalgamated Railway Carriage & Wagon Co., Ltd., Lancaster.

Forrest, J. K., A.M.I.E.E., The Hydro, Bridge of Allan.

Forrest, L. R. W., director Orient Electric Power Synd., Ltd., Parliament-chbrs., Great Smith-st., London, S.W.

Forrest, Thos., & Sons, electrical engineers, 29, South Clerk-st., Edinburgh. (Tel. No. 4284 X, Central.)

Forrester, E., & Co., electrical contractors, 8 & 10, Moorfields, & 20, Pall Mall, Liverpool. (Teleph. Central 5588.)

Forshaw, A. C., Direct United States Cable Co., Ltd., 39, Mark-lane, London, E.C.

Forster, A. L., A.M.I.E.E., Chance Bros. & Co., Ltd., Smethwick, Birmingham.

Forster, C. M., A.M.I.E.E., Oakfield, Rigton-on-Tyne.

Forster, H. R. G., A.I.E.E., Electricity Works, Gillingham, Kent.

Forster & Gregory, Ltd., manufacturing chemists, Greyhound-lane, Streatham Common, London, S.W. (Telegrams: "Redantim, London.")

Forster & Sons, Ltd., glass tube makers, St. Helens.

Fort, J., creosote oil manufacturer, 5, St. Domingo Vale, Liverpool.

Fort William Electric Lighting Co., Ltd., Fort William, Inverness (Teleph. No. 10); & 33, Great George-st., Westminster (secretary, W. C. Weight). Registered Dec. 17, 1895. Nominal capital: £9000 in £5 shares, all issued, & £1750 6 per cent. first mortgage debentures, all issued. Directors: J. C. Hawkshaw, Esq. (chairman); D. Macniven, Esq.; N. B. Mackenzie, Esq.; D. MacLeish, Esq.; A. Shepherd, Esq.; E. Brocklehurst, Esq.; J. M. Dobson, Esq.; H. S. Fleming, Esq.; O. Hawkshaw, Esq. Consulting engineer, Wm. McWhirter, M.I.E.E.; electrical engineer, Irvine Reid; secretary, Thos. Allison. Dividends: 1906, 1907 & 1908, 2½ per cent.

Forth, F. C., A.R.C.Sc.I., principal Municipal Technical Institute, & director of Technical Instruction, Belfast.

Forwood, Sir W. B., J.P., Bromborough Hall, Bromborough, Cheshire. Chairman Liverpool Overhead Railway Co., Ltd.

Fossett, J. H., B.Sc., A.M.I.E.E., "Kilmory," Cadzow Drive, Cambuslang, Glasgow.

Foster, E. D., M.Sc., head of engineering department, Municipal Technical School, Brighton.

Foster, H. Fraser, consulting engineer, Epsom Urban District Council, Electricity Works, Epsom.

Foster, H. Llewellyn T., A.M.I.C.E., M.I.E.E., chief electrical engineer to the British Engine, Boiler & Electrical Insurance Co., Ltd., 12, King-st., Manchester; & St. Winnow, West Didsbury, Manchester.

Foster, James, electrical engineer-in-charge, City Meat Market, Birmingham.

Foster, Ll. Ll., A.M.I.E.E., Distributing Engineers' Dept., Charing Cross, West End & City Electricity Supply Co., Ltd., 85, Fenchurch-st., E.C.; & 98, Belmont-rd., Beckenham, Kent.

Foster, Prof. G. Carey, LL.D., M.I.E.E., Ladywalk, Riekmansworth, Herts.

Foster, R., A.M.I.E.E., borough electrical engineer, Corporation Electricity Works, Aston Manor, nr. Birmingham; & 14, Holly-lane, Erdington, Birmingham.

Foster, S. S., chief assistant engineer, Urban District Council Electricity Works, Hoylake.

Foster Arc Lamp & Engineering Co., Ltd., Worple Areade, Worple-rd., Wimbledon. (Telegs.: "Fosteraco, London." Teleph. No. 91, Nat.)

Foster Bros., Ltd., telegraph & telephone pole manufacturers, Lea Brook Tube Works, Wednesbury. (Telegrams: "Fosters, Wednesbury." Telephone No. 5.)

Foster, Edward, & Son, Ltd., electrical engineers, Central Brass Works, Halifax (Telegs.: "Foster, Halifax." Teleph. No. 99); & Aldermanbury Brass & Copper Works, Bradford. Registered Oct. 14, 1897. Nominal capital: £50,000 in £5 shares.

Foster-Curtis, Geo., & Co., electrical engineers & contractors, 6A, Wrotham-rd., Camden Town, N.W. (Teleph. No. 3191, P.O., Hampstead.)

Foster-Melliar, R. A., director Bude Electric Supply Co., Ltd., The Strand, Bude, Cornwall.

Foulds, H., F.C.I.S., A.I.E.E., secretary, Electrical Standardizing, Testing & Training Institution, Faraday House, Southampton-row, W.C. (Telegrams.: "Standardizing, London." Telephone No. 9999, Central.)

Foundries, Ltd., electrical & mechanical engineers, Waltham Cross, Herts. (Teleph. No. 87, Waltham Cross.)

Foundry & Engineering Works, makers of soft eastings for electricians, Plantaganet-rd., New Barnet. (Telegs.: "Foundry, New Barnet.")

Fournier, E. E., B.SC., M.R.I.A., electrician, 11, Sunbury-gdns., Rathgar, Dublin, Ireland.

Fourniss, C. W., A.M.I.E.E., 124, Hanley-rd., Tollington Park, London, N.

Fowle Bros., electric bell fitters, King-st., Gravesend. (Telephone No. 083.)

Fowler, A., electrician, Cleveland Trust, Ltd., Saltburn-by-the-Sea, Yorks.

Fowler, Ald. V., Huntriss Hall, Huntriss Row, Scarborough. Director Scarborough Tramways Co.

Fowler, C. C., A.M.I.E.E., deputy manager, Corporation Electricity Works, North-rd., Brighton.

Fowler, H., electrical engineer, William-st., Windsor. (Teleph. No. 320.)

Fowler, H., Bridge-st., Witney. Director Witney Electric Supply Co., Ltd.

Fowler, Walter Ernest, A.M.I.E.E., 11, Beckwith-rd., Herne Hill, London, S.E.

Fowler, W. H., J.P., Queen Anne's-chbrs., London, S.W. Director National Electric Construction Co., Ltd.; director Musselburgh & District Electric Light & Traction Co., Ltd.; director Mexborough & Rawmarsh Construction Synd., Ltd.; director Torquay Tramways Construction Synd., Ltd.; director Folkestone, Sandgate & Hythe Tramways Co.

Fowler, W. H., WH.SC., M.I.C.E., M.I.M.E., &c., consulting engineer, 53, New Bailey-st., Manchester. (Telegs.: "Scientific, Manchester." Teleph. No. 8628.)

Fowler, John, & Co. (Leeds), Ltd., mechanical engineers, 6, Lombard-st., London, E.C. (Telegrams: "Steamplow, London." Telephone Nos.: 290, Avenue, Nat.; & 8384, Central, P.O.) Works: Leeds. (Telegrams: "Fowler, Leeds." Telephone No. 513.)

FOWLER-WARING CABLES CO., LTD. *See* Western Electric Co.

Fownes Forge & Engineering Co., Ltd., electricians' forgings & mechanical engineers. Works: Tyne Dock, Newcastle; & Cardiff.

Fox, A. G., A.M.I.E.E., 15, Stread-rd., Sheffield.

Fox, B. D., chief electrical engineer, Sir Douglas Fox & Partners, 56, Moorgate-st., London, E.C. (Telegs.: "Traction, London." Teleph. Central 2901.)

Fox, Chas. G., electrician, Ernest F. Moy, Ltd., Greenland-pl., Camden Town, London, N.W.

Fox, Dundas, engineer, Penrith Electric Supply Co., Ltd., Penrith.

Fox, Duke, J.P., Marlbro' House, Dewsbury. Director Nottinghamshire & Derbyshire Tramways Development Co., Ltd.

Fox, E. J., A.M.I.E.E., electrical engineer, Grosvenor House, Clifton-rd., Rugby.

Fox, F. W., electrical engineer, 39, Bank-st., Ashford, Kent. (Teleph. No. 1 Y. 5.)

Fox, Francis, M.I.C.E., consulting engineer, 28, Victoria-st., Westminster, London, S.W. (Telegrams: "Traction, London." Telephone No. 10, Westminster.)

Fox, H., engineer, Roundhay & District Electric Light Co., Ltd., 34, Albion-st., Leeds.

Fox, H. S., A.M.I.E.E., G. J. Worssam & Son, Wenlock-rd., City-rd., London, N.

Fox, P., 12, Mayfield-ave., Shipley. Chairman Penrith Electric Supply Co., Ltd.

Fox, Sir Douglas, Past Pres. I.C.E., M.I.E.E., consulting engineer, 56, Moorgate-st., London, E.C. (Telegs.: "Traction, London." Teleph. No. 2901, Central.) Director Venezuela Telephone & Electrical Appliances Co., Ltd.; director Houghton-le-Spring & District Electric Lighting Co., Ltd.; director Durham Collieries Electric Power Co., Ltd.; director United Electric Tramway Co. of Caracas, Ltd.

Foxcroft, J., electrical engineer, Brabourne Lees, Surrey-rd., Bournemouth.

Foxcroft & Duncan, electrical & mechanical engineers, Phœnix Works, Mentmore-ter., London Fields, N.E. (Telegs.: "Foxship, London.")

Foyster, A. H., M.I.E.E., Corporation Electricity Works, Dewar-pl., Edinburgh.

Frain, J. S., electrical agent, 15, Queen-st., London, E.C.

Frain, W., A.I.E.E., representative of the Edison & Swan United Electric Light Co., Ltd., Castle-st., Dundee. (Telegs.: "Ediswan, Dundee." Teleph. No. 143.)

Frampton, F. E., chief assistant engineer, Urban Electric Supply Co., Ltd., Newbury, Berks.

Frampton & Paine, electrical engineers, 29, Old Queen-st., Westminster, S.W. (Telegs.: "Tryfram, London." Teleph. No. 866, Westminster.)

France, A., second station engineer, Kensington & Knightsbridge Electric Lighting Co.'s Station, Knightsbridge, London, S.W.

France, Alfred H., electrical manufacturers' agent, 17, Eldon-sq., Newcastle-on-Tyne. (Tel. Central 822.)

France, E., electric light, bells & telephones, Cannon-passage, Birmingham. (Teleph. No. 396.)

France, W. M., A.M.I.E.E., c/o National Telephone Co., Telephone House, Victoria Embankment, London, E.C.

Francis, F. H., A.M.I.E.E., chief electrical engineer, Oxford Electric Co., Ltd., 45, Broad-st., Oxford.

Francis, F. W., Engineer-in-Chief's Department, National Telephone Co., Victoria Embankment, London, E.C. (Teleph. No. 2001, Holborn.)

Francis, G. C., St. Tewdric, Mathem, Chepstow. Director Chepstow Electric Lighting & Power Co., Ltd.

Francis, G. E., A.I.E.E., Hastings Tramway Co., Silver Hill, St. Leonards-on-Sea.

Francis, O. F., M.I.E.E., borough electrical engineer & tramways manager, Kirkcaldy, N.B. (Teleph. Nos. 110 & 124.)

Francis, T. E., installation contractor, 64, Colston-st., Bristol.

Francis, Wm., wiring contractor, Guildhall-st., Folkestone.

Francis & Son, electric bell fitters & contractors, High Cross-st., St. Austell, Cornwall.

Francis, T., & Sons, electrical contractors & manufacturers, Hampden-st., Bolton, Lancs. (Teleph. No. 1168.)

Francis & Ward, waterproof telegraph street tents for repairers, 92, Thomas-st., Bristol. (Telegs.: "Sunproof, Bristol." Nat. Teleph. No. 2436 Y.)

Franco-British Electrical Co., Ltd., Compton House, 99A, Charing Cross-rd., London, W.C.

Franequi, E., 48, rue de Namur, Brussels. Director Shanghai Electric Construction Co., Ltd.

Frank, R. A., A.M.I.C.E., A.M.I.E.E., A.M.I.M.E., High Hall, Kirbymoorside, Yorks.

Frankenburg, I., & Sons, Ltd., makers of insulated cables & wires for electric lighting, power transmission, &c., Greengate Rubber & Cable Works, Salford, Manchester (Telegs.: "Sincolor, Manchester." Teleph. Manchester 7932–7934); & 1, Cripplegate-bldgs., Wood-st., London, E.C. (Teleph. Central 8168.)

Franklin, A. E., J.P., 29, Pembridge-gdns., W. Director Notting Hill Electric Lighting Co., Ltd.

Franklin, C. B., A.M.I.E.E., 31, Hollybank-ave., Sandford, Dublin.

Franklin, Geo., Imperial-chbrs., Norfolk-row, Sheffield. President National Telephone Co., Ltd.; director British Thomson-Houston Co., Ltd.; director Lanarkshire Tramways Co.

Franklin, Richard, Sutherland House, Chelmsford. Director Chesham Electric Light & Power Co., Ltd.; director Derbyshire & Nottinghamshire Electric Power Co.

Franks, A., manufacturing optician & electrician, 95 & 97, Deansgate, & 44, Market-st., Manchester; 60, Bradshawgate, Bolton; & 55, Lichfield-st., Wolverhampton.

Franks, W. Temple, comptroller-general of patents, designs & trade marks, Patent Office, 25, Southampton-bldgs., London, W.C. (Telegs.: "Patent Office, London.")

Fraser, A., electrician, Eastern Telegraph Co., Ltd., Electra House, Moorgate, London, E.C.

Fraser, Fred A., engineer, Electrical Contracts & Maintenance Co., Ltd., Sanctuary House, Westminster, London, S.W. (Teleph. Gerrard 757.)

Fraser, James, A.M.I.E.E., sectional engineer, Post Office Telegraphs, Sunderland.

Fraser, John A., A.M.I.E.E., 7, School-rd., Moseley, Birmingham.

Fraser, P. L. R., A.M.I.E.E., Train Lighting Department, Tudor Accumulator Co., Ltd., 119, Victoria-st., London, S.W.

Fraser, Sir Edward H., D.C.L., Wellington House, Nottingham. (Teleph. No. 833.) Director Derbyshire & Nottinghamshire Electric Power Co.

Fraser, W. T., A.M.I.E.E., South Wales E. P. D. Co., Royal-chbrs., Queen-st., Cardiff.

Fraser & Borthwick, installation contractors, 91 & 93, Waterloo-st., Glasgow. (Nat. Teleph. Nos.: 1093, Argyle; & 5452, Corp.)

Fraser & Chalmers, Ltd., manufacturing engineers, 3, London Wall-bldgs., London, E.C. (Telegrams: "Vanner, London." Telephone Nos.: 351, Central; & 1024 & 1025, London Wall.)

FRASER & FRASER, LTD., engineers & boiler makers. Only Address: Bromley-by-Bow, E. (Telegrams: "Pressure, London." Telephone No. 66, Eastern.)

Fraser, J., & Son, Ltd., boiler makers, Millwall Boiler Works, Wharf-rd., London, E. (Telegrams: "High-pressure, London." Telephone Nos. 3385 & 3386, Eastern. A.B.C. Code used.)

Frazer, T., A.M.I.C.E., electrical engineer, 114, Broadway, Plaistow, Essex.

Frazer, Norwich, Ltd., manufacturers of electric cable casings, &c., Palace Plain Joinery Works, Norwich. (Telegrams: "Frazers, Norwich." Telephone No. 231.)

Frederison, M., electrician, 8, Regent-st., London, W.

Freeland, W. J. F., A.M.I.E.E., c/o Crompton & Co., Ltd., Arc Works, Chelmsford.
Freeman, E. H., A.I.E.E., Tyler & Freeman, 20, New Bridge-st., London, E.C.
Freeman, J. G., A.M.I.E.E, electrical engineer, London Electric Supply Corp., 25A, Cockspur-st., S.W.
Freeman, O. F., "Stonehurst," Middleton Hall-rd., King's Norton. Director Stratford-on-Avon Electricity Co., Ltd.
Freeman, W. S., electrical engineer, Invicta Works, Otford, Kent.
Freeman & Co., electric light engineers & contractors, 21, Swallow-street, Piccadilly, London, W.
Freeman, G. H., & Co., electrical & mechanical engineers, Castle Works, Fisher-st., Birmingham.
Freeman Hines, Ltd., conduit makers for underground cables, 20, Victoria-st., S.W.
Freemantle, R. A., director Llandudno & District Electric Tramway Construction Co., Ltd., 13, St. Helen's-pl., London, E.C.
Fremantle, Hon. Sir Chas. W., K.C.B., 4, Lower Sloane-st., S.W. Director British Elec. Traction Co., Ltd.
French, A. H., A.M.I.E.E., 29, Alexandra Park-rd., Muswell Hill, London, N.
French, Archibald John, A.M.I.E.E., 10, Radford-rd., Lewisham Park, London, S.E.
French, J. L., & Co., electrical engineers, 36, Devonshire-rd., Bexhill.
Freudemacher, P. W., A.M.I.E.E., electrician, "St. Margarets," Bargery-rd., Catford, London, S.E.
Freund, E., A.M.I.E.E., 28, Abbey-rd., London, N.W.
Frew & Co., Ltd., hydraulic & electrical engineers & brass founders, 6 & 7, Mill-st., Perth. (Telegs.: "Frews, Perth." Teleph. No. 30.)
Fricker, Guy C., M.I.E.E., "Nevin," Avenue-rd., Southfields, London, S.W.
Fricker, R. G., 8, Old Jewry, E.C. Director Victoria Falls Power Co., Ltd.
Fricker & Miller, consulting engineers & electricians, 82, Victoria-st., S.W. (Teleph. Victoria 222.)
Friedberg, C. G., A.M.I.E.E., 17, Spencer Hill, Wimbledon, S.W.
Friederichs, H. F., M.I.C.E., borough electrical engineer, West Hartlepool.
Friedlaender, P. R., A.M.I.E.E., head of Electrical Engineering Department, West Ham Municipal Technical Institute, Romford-rd., West Ham, London, E. (Teleph. East 962.)
Friedland Manufacturing Co., Ltd., engineers & electricians, c/o Hatchell, Jones & Co., 47, Mark-lane, E.C.
Friend, J., electrical contractor, 6, Iron Bridge, Exeter.
Frinton-on-Sea & District Electric Light & Power Co., Ltd., St. Mary's-rd., Frinton-on-Sea. Registered July 1, 1901. Directors: W. R. Dockrell, Esq. (chairman); P. Collins, Esq. J.P.; W. Hayne, Esq., J.P. Engineer, W. Hockley; secretary, E. Clutterbuck. Nominal capital: £5000 in £1 shares, & £4500 in 6 per cent. £1 preference shares. Issued: 1376 shares of £1 each & 3460 preference shares. Mortgages & charges: £6100.
Fris, V., director Anglo-Argentine Tramways Co., Ltd., 62, Gresham House, London, E.C.
Frisby, W., A.M.I.E.E., chief assistant engineer, Corporation Electricity Works, Colchester.
Frith, Julius, M.SC., M.I.E.E., The Homestead, Victoria Park, Manchester. (Teleph. Rusholme 23.)
Frizell Bros. & Louis, electrical engineers & contractors, 79, Denmark Hill, S.E. (Teleph. Hop 2308.)
Frome Electricity Supply, Frome, Somerset. Engineer, F. H. Merritt. (Teleph. No. 26.)
Frost, C. A., chief assistant electrical engineer, Electricity Works, Bexhill.
Frost, W., installation contractor, 11, Lodge-rd., Aston, Birmingham.
Frost & Reed, manufacturers of mathematical instruments, 47, Queen's-rd., Clifton.
Frost & Tapper, electricians, 54, High-st., Deal. (Telegs.: "Frost, Deal." Teleph. No. 42.)
Fry, H., electrician, c/o J. Sunderland & Co., Halifax.
Fry, Raymond F., engineer, Greystones Electric Light & Power Co., Ltd., Greystones, co. Wicklow.
Fry, Sir Th., Bart., Woodburn, Darlington. (Telegrams: "Fry, Woodburn, Darlington." Telephone No. 38.) Vice-chairman Cleveland Trust, Ltd.
Fry, Miers & Co., importers & exporters of electrical & telegraph plant, 112, Cannon-st., London, E.C. (Teleph. Central 6880.)
Fryer, W. J., & Co., electrical contractors, Bravington-rd. Works, Paddington, London, W.
Fryers, Ltd., electric light fittings, 6, Henrietta-st., Cavendish-sq., W.
Fuerst Bros., chemical merchants, 17, Philpot-lane, London, E.C. (Telegs.: "Fuerst, London." Teleph. London Wall 4350–4353. A.B.C. Code used.)
Fuga, F., assistant engineer, Trafford Power & Light Supply (1902), Ltd., Trafford Park, Manchester.
Fulcher, H. W., A.M.I.E.E., "Melford," Avondale-ave., Woodside Park, N.
Fulford, Edwin, A.M.I.E.E., 7, Anson-rd., Tufnell Park, London, N.W.
Fulham Borough Council Electricity Works, Townmead-rd., Fulham, S.W. (Telephone No. 9, Kensington.) Engineer, A. J. Fuller, A.AM.I.E.E.
Fulham Pottery & Cheavin Filter Co., Ltd., The, makers of battery jars, porous & glass cells, insulators, Fulham, London, S.W. (Telegrams: "Stoneware, London.")
Fullarton, H. N., A.M.I.E.E., 57, Parliament Hill, Hampstead, London, N.W.
Fullarton, John, Thornwood, Kilmacolm. Director Kilmacolm Electric Lighting Co., Ltd.
Fuller, Arthur J., A.AM.I.E.E., borough electrical & consulting engineer, Borough Council Electricity Works, Townmead-rd., Fulham, S.W.
Fuller, Edwin E., A.M.I.E.E., A.M.AM.I.E.E., electrical engineer, Ed. Lloyd, Ltd., Daily Chronicle Paper Mills, Sittingbourne, Kent.

Fuller, G. C., electrical engineer, British Thomson-Houston Co., 83, Cannon-st., London, E.C.
Fuller, G. J. A., A.I.E.E., Woodland Works, Wick-lane, Old Ford-rd., Bow, E.
Fuller, George, M.I.E.E., electrical engineer, Woodland Works, Wick-lane, Old Ford-road, Bow, E.
Fuller, John C., M.I.E.E., Woodland Works, Wick-lane, Old Ford-road, London, E.
Fuller, John L., A.I.E.E., Fuller Electrical & Manufacturing Co., Norfolk House, Laurence Pountney Hill, London, E.C.
Fuller, Leonard, A.I.E.E., Woodland Works, Wick-lane, Old Ford-rd., Bow, E.
Fuller, Robert Fleetwood, A.I.E.E., Neston Park, Corsham, Wilts.
FULLER ELECTRICAL & MANUFACTURING CO., makers of dynamos, alternate current motors (single-, two- & three-phase), transformers, motors, switches, &c., Norfolk House, Laurence Pountney Hill, London, E.C. (Telegs.: "Fullmage, London." Teleph. No. 3186, London Wall.) *See advt., under* DYNAMOS.
Fuller, Horsey, Sons & Cassell, electrical & mechanical valuers, 11, Billiter-sq., London, E.C. (Telegs.: "Fuller, Horsey, London." Teleph. Nos.: 249, Avenue: & 9986, Central.)
Fuller, J. C., & Son, telegraph engineers, Woodland Works, Wick-lane, Old Ford-rd., Bow, London, E. (Telegs.: "Fuller, Wick Lane, Bow." Teleph. No. 500, Eastern.)
Fullerton, John, dealer in electrical supplies, Main-st., Larne, co. Antrim.
Fullerton, R. A., A.I.E.E., consulting engineer & electrician, 11, Westminster-gdns., Hillhead, Glasgow. (Telegs.: "Rhodique, Glasgow." Nat. Teleph. No. 1358, Argyle.)
Fullerton, Hodgart & Barclay, Ltd., engine makers for electrical purposes, Paisley. (Telegrams: "Vulcan, Paisley." Telephone No. 63. A.B.C. Code used.)
Fullerton, R. & J., manufacturers' representatives for electrical & engineering plant & accessories, 116, Hope-st., Glasgow. (Telegs.: "Rhodique, Glasgow." Teleph. No. 1358, Argyle.)
Fulton, David, electrical engineer to the Harbour Trustees, Swansea.
Fulton, R. N., A.M.I.E.E., 2, Wood-st., Rugby.
Fulton, T. Crichton, A.I.E.E., consulting electrical engineer, 44, West George-st., Glasgow. (P.O. Teleph. No. 01826.)
Furnace Appliances Co., 9, Bedford-row, London, W.C. (Telegs.: "Furnappic, London." Teleph. Holborn 2520; & Hop 141.)
Furneaux, A. L., electrical engineer & contractor, 11 & 12, Wind-st., Swansea. (Telegs.: "Switch, Swansea." Teleph. Central 410.)
Furness, Charles, M.I.M.E., M.I.E.E., borough electrical & tramway engineer, Blackpool. (Telegs.: "Electricity, Blackpool." Teleph. No. 67.)
Furness, Sir C., M.P., 23, Upper Brook-st., W. Director Metropolitan Railway Co.
Furniss, V. E., assistant engineer, Corporation Electricity Works, Great Grimsby.
Furniss, W. M., electrical engineer, Electric Construction Co., Ltd., Wolverhampton.
Furnival & Co., Ltd., makers of the "Express" gas engine, Reddish Ironworks, Stockport. (Telegrams: "Furnival, Reddish." Telephone No. 35, Heaton Moor.)
Furse, W. J., & Co., Ltd., electrical engineers & contractors, Traffic-st., Nottingham. (Telegs.: "Furse, Nottingham." Teleph. Nos. 2206 & 2207.)
Furze, J., superintendent Commercial Cable Co., Exchange-bldgs., Liverpool.
Fuse Box Co., 1, Boundary-rd., Notting Hill, London, W.
Fusion-Welded Metals, Ltd., 56, Victoria-st., London, S.W.
Fyfe, Alex. M., A.I.E.E., 145, Bath-st., Glasgow.
Fyfe, J. W., A.M.I.E.E., A.M.I.M.E., Metropolitan Asylums Board, Embankment, London, E.C.
Fyfe, Wilson & Co., manufacturers' agents & merchants, 145, Bath-st., Glasgow. (Telegs.: "Polyphase, Glasgow." Nat. Teleph. Douglas 568; & P.O. 2968.)
Fyfield, E., West End, Witney. Director Witney Electric Supply Co., Ltd.
Fynn, Valère A., M.I.E.E., electrical engineer, 18, Blessington-rd., Blackheath, S.E.

"G. B." (Griffiths Bedell) Surface Contact Co., electric tramway contractors. Offices: Hamilton House, Bishopsgate-st. Without, London, E.C. Works: Ilford, E. (Telegrams: "Opalite, London." Teleph. Nos. 2496 & 2497, London Wall.)
Gabb, J. P. A., Pyle Mount, Guildford. Director Guildford Electricity Supply Co., Ltd.
Gabriel Lamp Co., incandescent lamp manufacturers, 15, Victoria-st., London, S.W. (Telegs.: "Gabionage, London." Teleph. No. 5223, Westminster.)
Gabriel, T., & Son, creosote manufacturers, Thames-st., Rotherhithe, London, S.E. (Telegrams: "Gabrielson, London." Telephone No. 718, Hop.)
Gadd, Thomas, manufacturer of all kinds of bolts, rivets & nails, for electrical engineers, &c., Ross Rivet Works, Rowley Regis, nr. Birmingham. (Telegs.: "Thomas Gadd, Rowley Regis.")
Gadsby, C. H., WH.SCH., M.I.E.E., consulting engineer, 20, Victoria-st., Westminster, S.W. (Telegrams: "Gadsby, London." Teleph. No. 5704, Westminster.)
Gadsby, D. J., A.M.I.C.E., M.I.E.E., assistant engineer, Hove Electric Lighting Co., Ltd., Davigdor-rd., Hove.
Gadsby, F., electrical contractor, Loughborough.

Galalith & Co., insulating material manufacturers, 6, 7 & 8, Crutched Friars, London, E.C. (Telegs.: "Kranjang, London." Teleph. No. 7012, Central.)

Galbraith, Wm., electrical engineer, J. Finlay & Co., Ltd., 18, Renfield-st., Glasgow.

Gale, C. F., Fore-st., Topsham. Director Topsham Electricity Supply Co., Ltd.

Gale, C. J., Fore-st., Topsham. Director Topsham Electricity Supply Co., Ltd.

Gall, John R., M.I.E.E., National Telephone Co., Telephone House, Victoria Embankment, London, E.C. (Teleph. No. 2001, Holborn.)

Gallacher, E., electrical engineer, Roden-pl., Dundalk, Ireland.

Galliers, H. J., electrician, 32, St. James-st., Brighton (Teleph. Nos.: 1501, Nat.; & 151, Corp.); 172, Church-rd., Hove (Nat. Teleph. No. 791 X.); & 15, Market-st., Lewes.

Gallimore, W., & Sons, wire manufacturers in nickel silver, copper & brass, Arundel Works, Sheffield. (Telegs.: "Gallimore, Sheffield." Teleph. Nos. 1069 & 3761.)

Galloway, M. P., Ltd., makers of electric light fittings, lubricators, &c., 24, Shore, Leith. (Telegrams: "Galloway, Leith." Telephone No. 495.)

Galloways Ltd., gas engine, steam engine & boiler makers, Knott Mill Iron Works & Branch Works, Ardwick, Manchester. London office: 17, Philpot-lane, E.C. (Telegs.: "Galloway, Manchester;" "Rought, London." A.B.C., A1 & Eng. Telegraphic Codes. Teleph. Central 6312-4, Manchester.)

Galsworthy, Montague Herbert, A.M.I.E.E., director Galsworthy Ltd.; also Wandsworth Electrical Manufacturing Co., Ltd., 15 & 16, Newman-st., Oxford-st., London, W.

Galsworthy, S. S., A.M.I.E.E., director Galsworthy, Ltd.; also Wandsworth Electrical Manufacturing Co., Ltd., 15 & 16, Newman-st., Oxford-st., London, W.

GALSWORTHY LTD., formerly The London Electrical Fittings Co., Ltd., manufacturers of electric fittings of all kinds in brass & wrought iron, Roberts Works, Hampstead-rd., London, N.W. (Telegs.: "Filosofone, London." Teleph. No. 441, North.) Show-rooms: 15 & 16, Newman-st., Oxford-st., W. (Teleph. No. 6621, Gerrard,) *See* FITTINGS—ELECTRIC; & GENERAL SUPPLIERS OF ELECTRICAL REQUISITES.

Galt, Alex., D.SC., F.R.S.E., Keeper of the Technological Department, Royal Scottish Museum, Edinburgh. (Teleph. No. 4488.)

Galvano Chemical Co., Ltd., 21, Spring-gdns., Manchester.

Galway Electric Co., Ltd., Newtownsmyth, Galway. (Local Teleph. No. 36.) Registered Dec. 21, 1896. Nominal capital: £8000 in £1 shares, all of which are issued with 20*s.* per share paid. Directors: Prof. J. Perry, F.R.S. (chairman); Capt. S. Perry, R.G.A.; Miss A. M. Perry, M.A.; Miss J. H. Perry, B.A.; Miss M. Perry, B.A.; Mrs. A. M. Brown. Engineer & manager, Percy A. Spalding, A.M.I.C.E.; secretary, F. J. Moon. Dividends: 1907, 2½ per cent.

Gamble Institute Municipal Technical School, St. Helen's, Lancs. *See* SCHOOLS.

Gambrell, Tom E., A.I.E.E., "Grasmere," Allfarthing-lane, Wandsworth, S.W.

Gambrell Bros., manufacturers of electrical testing instruments, Durham House, 23, North Side, Clapham Common, London, S.W. (Telegs.: "Gambreum, London." Teleph. No. 1555, Battersea.)

Gameson, Thos., & Sons, Ltd., malleable iron founders, Britannia Foundry, Walsall. (Telegrams: "Malleable, Walsall." Telephone No. 20.)

Gant, L. W., mechanical & electrical engineer, 28, Brudenell-ave., Hyde Park, Leeds.

GARBE LAHMEYER & CO., LTD., c/o Union Electric Co., Ltd., Park-st., Southwark, London, S.E. (Telegs.: "Abeam, London.")

Garbutt, Alfred E., A.M.I.E.E., general manager New Gutta Percha Co., Ltd., Dashwood House, 9, New Broad-st., London, E.C. (Teleph. No. 2611, London Wall.)

Garbutt, Harry, cable representative, I. Frankenburg & Sons, Ltd., Salford, Manchester.

Garcke, Emile, M.I.E.E., director Electric & General Investment Co., Ltd.; a managing director British Electric Traction Co., Ltd., Electrical Federation Offices, Kingsway, London, W.C (Telegs.: "Garcke, London." Teleph. Holborn 2686 (6 lines)); member of Council British Electrical Federation, Ltd.; & director of several of the Federated Companies.

Gardiner, F. C., director Strathclyde Electricity Supply Co., Ltd., 53, Bothwell-st., Glasgow; director Clyde Valley Electric Power Co.

Gardiner & Co., electric bell fitters, 53, St. Vincent-st., Glasgow.

Gardiner, Sons & Co., Ltd., electrical agents, Nelson-st., Bristol. (Teleph. Nos. 278 & 762.)

Gardner, J., manager, Corporation Electric Tramways, Chester. (Telephone No. 166.)

Gardner, M. R., A.I.E.E., 1, Worsley-rd., Hampstead, London, N.W.

Gardner, T. A., electrical & scientific instrument maker, 53, St. Vincent-street, Glasgow.

Gardner, T. H., consulting engineer, Barton Hall Engine Works, Patricroft, Manchester. (Telegrams: "Theorem, Patricroft." Telephone No. 48, Eccles.)

Gardner, W., brass, bronze & aluminium founder, 104, South Lambeth-rd., S.E. (Teleph. Hop 1049.)

Gardner, E. A., & Sons, Ltd., engineers & founders, Brewer-st. Works, Maidstone.

Gardner, H., & Son, patent & design registration agents, 173, 174 & 175, Fleet-st., London, E.C. (Telegrams: "Fiduciarum, London." Telephone No. 1850, Holborn.)

Gardner, L., & Sons, Ltd., oil & gas engine makers, Barton Hall Engine Works, Patricroft, Manchester. (Telegrams: "Theorem, Patricroft." Nat. Telephone No. 48, Eccles.)

Gardner, R., & Co., electric light fittings makers, 66, Granville-st., Birmingham. (Telegrams: "Phipson, Birmingham." Telephone No. 784.)

Garland, J. S., electric light & bell fitter, 51–55, Bridge-st., Warrington. (Teleph. No. 79, Nat.)

Garnett, Chas., A.M.I.E.E., borough electrical engineer, Electricity Works, Darwen. (Teleph. No. 185.)

Garnett, T., A.I.E.E., 21–25, King-st., Manchester.

Garnett, T., & Co., installation contractors, 23, King-st. West, Manchester.

Garnham, J. B., copper & brass, 132, Upper Thames-st., London, E.C. (Telegs.: "Garnham, London." Teleph. No. 5726, Bank.)

Garnier & Co., enamellers, &c., 86, Farringdon-st., Ludgate Circus, London, E.C. (Telegrams: "Enduring, London." P.O. Telephone No. 547, Central.)

Garonne Valley Electric Supply Co., Ltd., 88, Bishopsgate-st. Within, London, E.C. Registered Nov. 4, 1908. Nominal capital: £22,500 in £1 shares. Secretary, L. Deby.

Garrard, Dr. C. C., M.I.E.E., A.AM.I.E.E., manager, Switch & Controller Department, General Electric Co., Ltd., Witton, nr. Birmingham.

Garrett Bros., manufacturing electricians & electrical engineers & contractors, High-st., Dunstable. (Telegs.: "Garrett, Dunstable.")

Garrett Bros., manufacturing electricians, 19, Cowper-st., Northampton. (Telegs.: "Garrett, Electrician, Northampton.")

Garrett, Hunt & Co., elec. engineers & contractors, 181, High-st., Lewisham, S.E. (Tel. Lee Green 755.)

Garrod, H. J., High-st., Newmarket. Director Newmarket Electric Light Co., Ltd.

Garroway, R. & T., manufacturing chemists, 58, Buchanan-st., Glasgow. (Telegrams: "Garroway, Glasgow." Telephone No. 608.)

Garside, E., engineer, Urban District Council Tramways, Hurst, Lancs.

Garside, F., electrical engineer, Urban District Council Electricity Works, Aldershot.

Garside, J. W., engineer, U.D.C. Electricity Works, Hebden Bridge, Yorks.

Garstang, H., electrical engineer, 69, Darwen-st., Blackburn. (Telegs.: "Garstang, Darwen-st., Blackburn." Teleph. No. 19 X.)

Garton, E., A.I.E.E., 13, Leybourne Park, Kew Gardens, London, S.W.

Garton & King, electric light engineers, 190, High-st., Exeter. (Telephone No. 104.)

Garty, Bone & Co., electrical engineers & specialists, Anderston Electrical Works, Bishop-ct., & Bishop-st., Anderston, Glasgow. (Teleph. Argyle 219.)

Garvey, G. B., A.M.I.E.E., electrical engineer, Carrigduve, Greystones, co. Wicklow, Ireland.

Gas & Oil Power, 3, Oxford-ct., Cannon-st., London, E.C.

Gas Power & By Products Co., Ltd., 38, Bath-st., Glasgow. (Telegs.: "Fresco, Glasgow." Teleph. Nos.: Nat. Royal 3656; P.O. 3659.)

Gaskell, H., Ermdale, Frodsham, Cheshire. Director Liverpool District Lighting Co., Ltd.

Gaskell, P., director South of England Development Co., Ltd., 3, King's-ter., Southsea.

Gaskell, S. A., electrical engineer, Wilcock-st., Wigan.

Gaskell, T. P., director South American Light & Power Co., 6, Lloyd's-ave., London, E.C.

Gaskell & Grocott, china for electric light fittings, Longport, Stoke-on-Trent. (Telegrams: "Insulator, Longport." Telephone No. 3088.)

Gaskins, F. W., A.M.I.E.E., National Telephone Co., Ltd., 160, Pilgrim-st., Newcastle-on-Tyne.

Gaspar, G. H. W., A.M.I.E.E., 67, Cambridge-gdns., North Kensington, London, W.

Gaster, Léon, A.M.I.E.E., consulting electrical engineer & technical adviser, 32, Victoria-st., Westminster, S.W. (Telegrams: "Gaster, London." Telephone No. 5215, Westminster.)

Gatehouse, J. W., F.I.C., electrical inspector under Board of Trade, 36, Broad-st., Bath.

Gatehouse, T. E., F.R.S.E., A.M.I.C.E., M.I.M.E., M.I.E.E., consulting engineer & electrician, *Electrical Review*, 4, Ludgate-hill, London, E.C.

Gateshead & District Tramways Co., Tramway Depôt, Sunderland-rd., Gateshead (Teleph. Gateshead 125 & 408); & Electrical Federation Offices, Kingsway, London, W.C. (Telegs.: "Tramway, London." Teleph. Holborn 2686 (6 lines).) Directors: C. R. Greene, Esq., J.P. (chairman); L. A. Atherley Jones, Esq., K.C., M.P.; H. S. Day, Esq.; C. S. B. Hilton, Esq. (deputy-chairman). Manager, W. Morrison; secretary, W. F. Cox. *The majority of the shares of this Co. have been purchased by the British Electric Traction Co., Ltd.*

Gath Electrical Engineering Co., electrical engineers & contractors, Horton-st., Halifax (Telegs.: "Gath, Electrician, Halifax." Teleph. No. 104, Y.); & Westgate, Elland.

Gatrill, A. F. M., A.M.I.E.E., "Unsworth," Filey-ave., Upper Clapton, London, N.

Gatti, Jno. M., 436, Strand, W.C. Managing director Charing Cross, West End & City Electricity Supply Co., Ltd.; director Suppliers Construction Co., Ltd.

Gatti, R., 60, St. Martin's-lane, London, W.C. Director Charing Cross, West End & City Electricity Supply Co., Ltd.; director Suppliers Construction Co., Ltd.

Gaumont, L., & Co., cinematograph specialists, electrical engineers, 22, 23, 25 & 27, Cecil-ct., Charing Cross-rd., London, W.C.

Gauntlett, Reginald Wilson, A.M.I.E.E., 15, Clifton Hill, St. John's Wood, N.W. (Teleph. Padd. 4442.)

Gauntlett, W. E., district manager National Telephone Co., Ltd., Mount-st., Swansea.

Gavey, Arthur, A.M.I.E.E., elec. & mechanical engr., c/o Sir J. Gavey, Fairlight, Hampton Wick, Middlesex.

Gavey, Sir John, C.B., M.I.C.E., PAST PRES.I.E.E., Fairlight, Hampton Wick, Middlesex. Consulting engineer to Post Office. Director United River Plate Telephone Co., Ltd.

Gay, Albert, M.I.E.E., consulting & resident electrical engineer to the Islington Borough Council, 50, Eden-grove, Holloway, N.; & 3, Waltersville-rd., London, N.

Gaze, H. P., A.M.I.C.E., A.M.I.E.E., res. engr., Central Electric Supply Co., Grove-rd., St. John's Wood, N.W.

Gear, John I., A.M.I.E.E., 47, Wheatfield-ter., Swansea.

Geare, H. W., A.M.I.E.E., c/o Electric Light Station, 27, The Quadrant, Richmond, Surrey.

Gearing, H. A., engineer, Brighton Marine Palace & Pier Co., Brighton.

Geary, Adams & Co., Ltd., electric light & power engineers, 25, Central Arcade, Wolverhampton.

Gedge & Co., polishes, lacquers, &c., 90 & 92, St. John-st., London, E.C. (Telegs.: "Lacquer, London." Teleph. Holborn 4716.)

Gedge & Feeny, chartered patent agents, 60, Queen Victoria-st., London, E.C. (Telegrams: "Victor Feeny, London." Telephone No. 8013, Bank.)

Gee, J. A., A.M.I.E.E., 29, Crofton-st., Moss Side, Manchester.

Gee, W. W. Haldane, B.SC., M.SC.TECH., A.M.I.E.E., professor pure & applied physics, School of Technology, Manchester; Oak Lea, Sale, Cheshire.

Gee, J. H., & Co., electrical engineers, 8, Bath-lane, Newcastle-on-Tyne.

Geen, Chas., Culver Lodge, Newton Abbot. Consulting engineer & director Lynton & Lynmouth Electric Light Co., Ltd.

Geen, Harry, A.M.I.C.E., A.I.E.E., electrical engineer, Avenue-rd., Torquay.

Geipel, Wm., M.I.E.E., 97, Shooter's Hill-rd., Blackheath, London, S.E.

GEIPEL, WM., & CO. (late Geipel & Lange), electrical & mechanical engineers, Vulcan Works, 72A, St. Thomas-st., London, S.E. (Telegs.: "Patella, London." Teleph. Nos. 594 & 595, Hop.) *See advt., page* 19.

Gell, John, M.I.E.E., 2, Queen's Wood-ave., Highgate, London, N.

Gell Telegraphic Appliances Syndicate, Ltd., 9 & 10, Pancras-lane, London, E.C. Registered Aug. 25, 1903.

Gem Dynamo Brush Co., Ltd., manufacturers of & dealers in brushes for dynamo-electric machines, 233, Park-lane, Aston, Birmingham. (Telephone No. 2533.)

Gemmel, T., A.I.E.E., Electric Generating Station, G. & S.W.R. Co., St. Enochs, Glasgow.

Gemmell, G. H., F.I.C., F.C.S., analytical & consulting chemist & assayer, Chemical Laboratory, 4, Lindsay-pl., Edinburgh. (Telegrams: "Readman, Edinburgh.")

General Asbestos Co., Ltd., 5, Lloyds-ave., London, E.C.

GENERAL ELECTRIC CO. LTD. (G. Byng, chairman), manufacturers of all kinds of electrical machinery & supplies. Reconstructed & registered Sept. 27, 1900. Nominal share capital: £800,000 in 40,000 ordinary & 40,000 5 per cent. preference shares of £10 each & £200,000 4 per cent. debentures. Issued: £360,530 ordinary shares & £250,000 preference shares, all fully paid, & all the debentures. Directors: G. Byng, Esq.; H. Hirst, Esq. (vice-chairman & managing); M. Railing, Esq.; H. Bevis, Esq.; E. G. Byng, Esq. Secretary, K. Alwood. Dividends: 1907 & 1908, 5 per cent. on ordinary.

	Telegrams.	*Telephone Nos.*
Head Offices: 67, 69 & 71, Queen Victoria-st., London, E.C.	Electricity, London.	3600, 10 lines, London Wall.
Works: Peel Works, Adelphi, Salford.	Sparkless, Manchester.	2186.
Witton, Birmingham.	Polyphase, Witton, Birmingham.	3182, Birmingham.
Ileene Works, Sherlock-st., Birmingham.	Fixture, Birmingham.	6404.
Union-st., Southwark, London.		
Incandescent Lamp Factory: Brook Green Works, Hammersmith, London, W.	Voltamento, London.	27, Hammersmith.
Steel Conduit Works: Witton, Birmingham.	Conduit Co., Witton, Birmingham.	
Branch Offices:		
Belfast: 13, Queen-st.		26.
Birmingham: 42, High-st.	Insulator, Birmingham.	6404.
Cardiff: Womanby-st.	Magneto, Cardiff.	1121.
Dublin: 16, St. Andrew-st.	Push, Dublin.	673.
Glasgow: 71, Waterloo-st.	Apparatus, Glasgow.	8 & 3909, P.O.; 1826/7, Argyle.
Manchester: Victoria Bridge.	Induction, Manchester.	1643 & 5060.
Newcastle-on-Tyne: Gallowgate House, 30, Gallowgate.	Switch, Newcastle-on-Tyne.	3075/6.

See advts., under CARBON MAKERS, SUPPLIES—ELECTRICAL & UTENSILS—HEATING & COOKING.

General Electric Co. of New York, U.S.A., 83, Cannon-st., London, E.C. (Cable address: "Hypsometer, London." Teleph. London Wall 132. A1, A.B.C., Lieber's, Western Union & Private Codes.)

General Electric de France, Ltd., 67, Queen Victoria-st., London, E.C. K. Alwood, secretary.

General Electric Sign & Engineering Co., Ltd. *In voluntary liquidation.* Liquidator, E. Hayes, 28, Basinghall-st., E.C.

General Electric Tramways Co., Ltd., Electrical Federation Offices, Kingsway, London, W.C. (Teleph. No. 2686, Holborn (6 lines)); & Hartlepool. (Nat. Teleph. No. 73, Hartlepool.) Registered Feb. 28, 1895. Capital: £50,000 in £1 shares, of which 18,500 have been allotted. The full amount has been called & paid. 4 per cent. mortgage debentures, £15,000. Directors: J. S. Raworth, Esq.; W. G. Bond, Esq.; G. J. Somerville, Esq. Sec., W. Fred Cox. Dividends: 1899–1908, 5 per cent.

General Metal Engraving Co., 46, Queen Victoria-st., London, E.C. (Telegs.: "Groping, London." Teleph. Central 13028.)

General Seating Co., Ltd., tramcar seat makers, Northampton Park, Canonbury, London, N. (Telegs.: "Cushioning, London." Teleph. Dalston 531.)

Generators, Ltd., manufacturing electrical engineers, 79, Corporation-st., Manchester. *In voluntary liquidation.* Liquidator, G. B. Murgatroyd, Duchy-chbrs., Clarence st., Manchester.

Geneva Tramways Co. (1906), Ltd., 286, Salisbury House, London Wall, London, E.C. *In voluntary liquidation.* Liquidators, Hon. A. Brand & J. Secar.

Gent, F. E., scientific, optical & general instrument maker, 96, Rosoman-street, London, E.C.

GENT & CO., LTD., wholesale manufacturing electricians, Faraday Works, Leicester; 3A, Upper Thames-st., London, E.C.; & 67, High Bridge, Newcastle-on-Tyne. (Telegs.: "Lodestone, Leicester;" "Knifedge, London;" & "Gents, Newcastle." Teleph. Nos.: Leicester 151; London, Bank 8135; & Newcastle 1135.) *See* CLOCKS & SYNCHRONIZATION—ELECTRIC & TELEPHONE APPARATUS MAKERS.

Gent & Hurley, contractors for electric lighting, bells & telephones, 24, Belvoir-st., Leicester. (Nat. Telephone No. 535.)

Geoffroy & Delore, electric cable makers (A. H. Hunt), 115–117, Cannon-st., London, E.C. (Telegrams: "Keyage, London." Telephone No. 8114, Bank.)

Geoghegan, S., The Grove, Killing, Co. Dublin. Chairman Dublin & Central Ireland Power Synd., Ltd.; director Marconi's Wireless Telegraph Co., Ltd.

George, A. E., electrical engineer & contractor, 21, High-st., Lymington.

George, R. W., director Dublin & Central Ireland Power Synd., Ltd., 36, College Green, Dublin.

George, S., electrical engineer, 1A, Sussex-rd., Hove.

George, Theo. J., electric fittings dealer, 119, Falcon-rd., London, S.W. (Telegs.: "Zinkenite, London." Teleph. No. 77, Battersea.)

Georgi, W. C. H. M., A.M.I.E.E., 25, Queen's-ter., Newcastle-on-Tyne.

Gerhardi, C. H. W., A.I.E.E., 9, Gladwell-rd., Stroud Green, London, N.

Gerhardt, Charles Frederick, mica merchant, 34, Seething-lane, London, E.C. (Telegs.: "Strychnine, London." Teleph. No. 1039, Central.)

Gerland, Dr. B. W., PH.D., analytical chemist, Plantation-st., Accrington.

Gerland, R. P., & Co., electrical engineers & electro-platers, Electric Works, Moscow Mill, Church, nr. Accrington. (Teleph. No. 169.)

Gerrard, Alexander, A.M.I.E.E., electrical engineer, 5, Leslie-st., Pollokshields, Glasgow.

Gerrard, F. J., A.M.I.E.E., electrician, c/o National Telephone Co., Ltd., Telephone House, Victoria Embankment, E.C.

Gerrard Cross & District Electrical Co., Station-rd., Gerrards Cross, & Beaconsfield, Bucks.

Gheury, M. E. J., A.I.E.E., 16, Balcaskie-rd., Eltham, Kent.

Ghrimes, Wm., electric bell fitter, High-st., Ringwood, Hants.

Giants' Causeway & Portrush Electric Tramway Co., Portrush. (Telegs.: "Tramway, Portrush." Teleph. No. 18.) Generating station: Walkmills, Bushmills, Co. Antrim. (Telegs.: "Trailway, Bushmills.") Date Company Acts, 1880 & 1885. Capital authorized: £25,000 in £10 ordinary shares, £25,000 in £10 preference shares & £25,000 debenture stock. Issued: £13,680 ordinary, £11,820 preference & £14,050 debenture stock, all fully paid. Directors: A. Traill, Esq., J.P., LL.D. (chairman); C. M'D. Stuart, Esq.; J. S. Moore, Esq.; W. A. Traill, Esq. (managing & engineer). Secretary, D. Falls.

Gibb, Sir Geo. S., Electric Railway House, Broadway, Westminster, S.W. Chairman Baker-st. & Waterloo Railway Co.; chairman Great Northern, Piccadilly & Brompton Railway Co., Ltd.; chairman Metropolitan District Railway; chairman North Eastern Railway; chairman Charing Cross, Euston & Hampstead Railway Co.; managing director Underground Electric Railways Co. of London, Ltd.

Gibb, James, & Co., Ltd., driving band makers (leather, cotton & hair), 99, Fenchurch-st., London, E.C. (Telegrams: "Tannergram, London." Telephone No. 4154, Avenue. A.B.C. Code used.)

Gibbard, Thos., & Sons, electrical engineers, 37, High-st., Wimbledon, London, S.W. (Telephone No. 31, P.O. Wimbledon.)

Gibbin, Wm., & Son, elec. light contractors, 21–24, Pickering-pl., London, W. (Tel. Paddington 3766.)

Gibbings, Alfred H., M.I.E.E., consulting engineer, 17, Gambier-ter., Liverpool.
Gibbings, W., M.I.E.E., Woodside, Halebank, Widnes.
Gibbins, G. M., A.M.I.E.E., 54, Park-st., Luton.
Gibbons, F. C., M.I.E.E., electrical engineer, managing director Browett, Lindley & Co., Ltd., Patricroft, Manchester. (Teleph. No. 108, Eccles.)
Gibbons, James, electrician, Haseley, near Tetsworth, Oxfordshire.
GIBBONS BROS., LTD., elevating & conveying plants, Dibdale Works, Dudley, Worcs. (Telegs.: "Gibbons, Lower Gornal." Tel. No. 10A); 142–3, Palace-chbrs., Westminster, S.W.; & 83, Trevelyan-bldgs., 52, Corporation-st., Manchester. *See advt. under* ELEVATING & CONVEYING MACHINERY.
Gibbs, G. J., A.M.I.E.E., consulting engineer, 7, Lune-st., Preston. (Nat. Teleph. No. 114.)
Gibbs, John, & Son, makers of electric ventilating fans & patent safety controlling switches, 72–78, Duke-st., Liverpool. (Telegs.: "Ventilation, Liverpool." Teleph. No. 2579, Royal.)
Gibson, A. H., A.I.E.E., 44, Bushwood-rd., Kew.
Gibson, B., 31, Warrington-cres., W. Director Crompton & Co., Ltd.
Gibson, George A., M.A., F.R.S.E., Glasgow & West of Scotland Technical College, Glasgow.
Gibson, G. H., A.M.I.E.E., electrical engineer, 246, Bath-st., Glasgow.
Gibson, G. Marsden, B.A., A.M.I.C.E., electrical engineer & managing director Mountain & Gibson, Ltd., Elton Fold Works, Bury, Lancs.
Gibson, J., LL.B., Burnbrae, Hexham. (Telegs.: "Jurist, Hexham." Teleph. No. 54 X, P.O.) Director Hexham & District Electric Supply Co., Ltd.
Gibson, J. P., Battle Hill, Hexham. Director Hexham & District Electric Supply Co., Ltd.
Gibson, John Wm., A.M.I.E.E., Davidson & Co., Egypt House, New Broad-st., London, E.C. (Telegs.: "Sirocco, London." Teleph. Wall 2246.)
Gibson, Mansfield, telephone engineer, electric bell fitter, electric light engineer, &c., 82, Pilgrim-st. & Market-lane, Newcastle-on-Tyne. (Nat. Teleph. No. 1087.)
Gibson, S. C., A.M.I.E.E., resident electrical engineer, Borough Electricity Works, Nuneaton. (Tel. 65.)
Gibson, T. G., J.P., Lesbury House, Lesbury, Northumberland. Director Newcastle-on-Tyne Electric Supply Co., Ltd.
Gibson, W. Everett, manager I.T.E. Electric Co. (1907), Ltd., 72, Finsbury Pavement, London, E.C. (Telegs.: "Useite, London." Teleph. No. 7479, Central.)
Gibson, Arthur L., & Co., steel rolling shutter makers, &c., Radnor Works, Strawberry Vale, Twickenham. (Telegs.: "Shannies, Twickenham." P.O. Teleph. Richmond 680.)
Giddens, J. S., assistant, U.D.C. Electricity Works, Sleaford.
Giddings & Dacre, Ltd., manufacturers of electric light fittings, Victoria Works, Chapel-st., Salford. (Telegrams: "Giddings, Manchester." Telephone No. 191.)
Gideon, Edgar T., A.I.E.E., electrical engineer, Atherstone, Sedlescombe-rd., St. Leonard's-on-Sea.
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Gifford, Hon. M. R., C.M.G., Brookby Hall, Grantham. Director British Columbia Elec. Rly. Co., Ltd.
GIFKINS, A. V., & CO., electrical, mechanical & hydraulic engineers, 68, Victoria-st., London, S.W. (Telegrams: "Availing, London." Telephone No. 612, Westminster.)
Gilbert, C. E. G., A.I.E.E., director Gilbert Arc Lamp Co., Ltd., Chingford, Essex.
Gilbert, John J., A.I.E.E., Crescent Wharf, Cambridge-st., Birmingham. (Telegs.: "Gilbert, Crescent, Birmingham." Teleph. Central 1578.)
Gilbert, Urban B., A.M.I.E.E., 24, Queen's Grove-rd., Chingford, Essex.
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Gilbert, A., & Co., makers of shades for electric lighting, 82, Turnmill-st., London, E.C. (Telegs.: "Nymphlike, London." Teleph. No. 2290, Holborn.)
GILBERT ARC LAMP CO., LTD., MANUFACTURERS OF FLAME & ENCLOSED ARC LAMPS & ACCESSORIES, CHINGFORD, ESSEX. (TELEGS.: "GILBERTS, CHINGFORD." TELEPH. CHINGFORD 59.)
Gilbert, W. K., & Co., manganese merchants, 6, Dowgate Hill, London, E.C. (Telegrams: "Gilbertia, London." Telephone No. 4570, Central.)
Gilbertson, W., & Co., Ltd., steel, tin plate & galvanized iron manufacturers, Pontardawe. (Telegrams: "Gilson, Pontardawe." Telephone No. 607.) London agents: Phillips & Hill, 122, Cannon-st., London, E.C. (Telegrams: "Punnett, London." Telephone No. 821, Bank.)
Gilchrist, J. G., director Tayside Electric & Gas Light Co., Ltd., Electric Station-bldgs., Wormit, Fife.
Gilkes' Engraving Works, switchboard labels in brass, ivorine, ebony, &c., to the trade, Reading, Berks. (Telegs.: "Gilkes, Reading.")
Gilkes, Gilbert, & Co., Ltd., turbine manufacturers, Canal Iron Works, Kendal. (Telegrams: "Gilkes, Kendal." Telephone No. 28.)
Gill, Alfred, electric bell manufacturer, 1, Arthur-st.-west; & 11, Crooked-lane, London, E.C.
Gill, Frank, M.I.E.E., engineer-in-chief, National Telephone Co., Ltd., Telephone House, Victoria Embankment, London, E.C. (Telegs.: "National Telephone, London." Teleph. No. 2001, Holborn.)
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Gill & Reigate, Ltd., electric light engineers, 73–85, Oxford-st., & 6 & 7, Dean-st., London, W. (Telegs.: "Requirable, London." Teleph. Nos. 4152 & 4153, Gerrard.)
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Gillespie & Co., engineers & merchants, Leadenhall-bldgs., E.C. (Telegs.: "Jamnut, London." Teleph. Avenue 1867.)
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Gillies, T., A.I.E.E., Elmleigh, Broughton-rd., Banbury.
Gillies & Hornidge, electrical & mechanical engineers & contractors, 6, Holborn Viaduct, London, E.C.; & Electric Light Works, Buckingham.
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Gilling, Arthur H., A.M.I.E.E., W. G. Bagnall, Ltd., Castle Engine Works, Stafford.
Gillingham Corporation Electricity Department. Works: Gillingham-rd., Gillingham, Kent. (Telegs.: "Electricity Works, Gillingham." Teleph. No. 22, Gillingham.) Borough electrical engineer, A. D. Chalmers, A.M.I.E.E., A.M.I.MECH.E.
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Gilmore & Co., electrical engineers, 25, Fountain-st., Belfast.
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Gimson & Co. (Leicester), Ltd., general & electrical engineers & boiler makers, Vulcan-st., Leicester. (Telegrams: "Gimson, Leicester." A.B.C. Code. Telephone Nos. 6 & 734, Nat.)
Girdlestone, J. O., M.I.E.E., Westminster Engineering Co., Ltd., Victoria-rd., Willesden Junction, London, N.W. (Telegs.: "Regency, London." Teleph. No. 90, Harlesden); & 37, Warwick-rd., Ealing, London, W.
Girdlestone & Co., electrical engineers, 16, Davies-st., Berkeley-sq., London, W. (Teleph. No. 2635, Gerrard.)
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Gladstone, Jas. W., European agent for the R. Thomas & Sons Co., East Liverpool, Ohio, 25, Victoria-st., London, S.W. (Teleph. Westminster 5694.)
Gladwin, E. H., ironmonger & electrical engineer, Witham-rd., Woodhall Spa, Lincs. (Telegs.: "Gladwin, Woodhall Spa." Teleph. No. 42, P.O.)
Glamorgan Spelter Co., Ltd., lead & silver smelters, Swansea Smelting Works, Llansamlet, R.S.O., Glamorganshire. (Telegrams: "Stannic Works, Llansamlet." Teleph. Nos.: 4, Nat.; & 5037, Morriston, Corp.)
Glanvill, J. C., light contractor, electric & general bell hanger, 13, Ruston-st., Birmingham.
Glasgow Alum & Ammonia Co., Ltd., manufacturing chemists, 401, West-st., Glasgow.
Glasgow Corporation Electricity Supply. Works: Port Dundas, Pollokshaws-rd., & Kelvinside. Office: 75, Waterloo-st., Glasgow. (Telegs.: "Ampere, Glasgow." Nat. Teleph. Nos. 936 & 1304, Argyle; P.O. Nos. 834, 835 & 844, Central.) Electrical engineer, W. W. Lackie.
Glasgow Corporation Tramways, 46, Bath-st., Glasgow. (Telegrams: "Trams, Glasgow." Telephone Nos.: Nat., 825, Royal (3 lines); & 213, 214 & 215, P.O.) General manager, Jas. Dalrymple; engineer, J. Ferguson, A.M.I.E.E.; electrical engineer, E. T. Goslin, A.M.I.E.E.
Glasgow Iron & Steel Co., Ltd., steel manufacturers, Wishaw, N.B. (Telegrams: "Ingot, Wishaw." Telephone No. 825, Argyle, Glasgow.)

Glasgow Local Section of the Institution of Electrical Engineers. E. George Tidd, M.I.E.E., president; J. E. Sayers, M.I.E.E., hon. sec., 190, West George-st., Glasgow. (Telegs.: "Schedule, Glasgow." Teleph. Argyle 471.)

Glasgow Patents Co., Ltd., makers of Edmiston Feed Filter, Wellington Works, Kinning-park, Glasgow. (Telegs.: "Voltaic, Glasgow." Teleph. No. 1979, South Glasgow.)

Glasgow Post Office Telephone Department, Castle-chbrs., 65, Renfield-st., Glasgow. (Telegs.: "Postal Telephones, Glasgow." Teleph. Central 6500.)

Glasgow Railway Engineering Co., railway & tramway material manufacturers, Govan, Glasgow. (Telegrams: "Expansion, Glasgow." Telephone No. 53, Govan.)

Glasgow Steel Roofing Co., 52, St. Enoch-sq., Glasgow.

Glasgow & West of Scotland Technical College, Glasgow. (Teleph. P.O. 1850; & Nat. 5315.)

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Glazier, W. H., director Railway Construction & General Development Co. (Tasmania), Ltd., 231–3, Dashwood House, E.C.

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Gleeson, C. & R., electricians, 45, Bell-st., Edgware-rd., London, N.W.

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Glegg, Alexander Lindsay, A.M.I.E.E., Craig Gowan, King's-rd., Clapham Park, S.W.

Glen, J. B., mains superintendent, Electricity Works, Tynemouth.

Glen-Bott, C. L., A.M.I.E.E., H.M.S. *Vernon*, Portsmouth.

Glenboig Union Fire Clay Co., Ltd., makers of street boxes for electric mains, 48, West Regent-st., Glasgow. (Telegs.: "Glenboig, Glasgow." Teleph. No. 1009.)

Glendenning, S. E., A.M.I.E.E., Thorpe Hamlet Cottage, Norwich.

Glendinning, Wm. M., electrical engineer, 19, Rathgar-rd., Brixton, S.W. (Teleph. Brixton 238.)

Glenfield & Kennedy, Ltd., iron founders & engineers, Kilmarnock. (Telegrams: "Glenfield, Kilmarnock." Telephone No. 28.)

Glenn, J. Barber, Moorgate Station-chbrs., London, E.C. Director London Street Tramways Co.; director Brisbane Tramways Co, Ltd.; director City of Carlisle Electric Tramways Co., Ltd.; managing director & secretary Provincial Tramways Co., Ltd.; director Great Grimsby Street Tramways Co.; managing director Hampshire Light Railways (Electric) Co., Ltd.

Glenn, John, consulting engineer, 11, Queen Victoria-st., London, E.C. (Telegs.: "Glenoid, London." Teleph. No. 7211, Central.)

Glenn, J. Fereday, engineer & manager, Portsdown & Horndean Light Railway, Cosham, Hants.; Gosport & Fareham Tramways, & Gosport & Alverstoke Electric Lighting Co., Ltd., Gosport, Hants. (Telegs.: "Glenn, Tramways, Gosport." Tel. Nos.: 3, Nat.; & 16, Municipal, Gosport.)

Globe Electric Co., Ltd., 11, Farringdon-ave., London, E.C. Works: Holloway, N. (Telegs.: "Santochimo, London." A.B.C. 5th edit. Code. Teleph. Central 4774.) Depôts at Cardiff, Manchester, Newcastle-on-Tyne, Glasgow, Dublin & all principal places abroad.

Globe Electrical Co., electrical engineers, 11, Farringdon-ave., London, E.C.

Globe Name Plate Co., Ltd., manufacturers of chemically engraved metal tablets, name plates, &c., 20, High Holborn, London, W.C. (Telegs.: "Glonaplat, London." Teleph. Holborn 5721.)

Globe Telegraph & Trust Co., Ltd., Electra House, Finsbury Pavement, London, E.C. Authorized capital: £5,000,000 in £10 shares (half being ordinary & half preference). Issued capital: £3,622,540 in 181,127 ordinary shares & 181,127 preference shares, both kinds being fully paid up. Directors: the Marquis of Tweeddale, K.T. (chairman); Sir John Wolfe Barry, K.C.B.; Sir Albert J. Leppoc Cappel, K.C.I.E.; Sir J. Denison-Pender, K.C.M.G.; Sir James Pender, Bart. Sidney Collett, secretary. Dividends: 1905–06, 6 per cent. on preference & 5½ per cent. on ordinary shares; 1906–07, 6 per cent. on preference & 5¾ per cent. on ordinary shares; 1907–08, 6 per cent. on preference & 5⅞ per cent. on ordinary shares; 1908–09, 6 per cent. on preference & 5¾ per cent. on ordinary shares.

Glossop Electric Tramways (Urban Electric Supply Co., Ltd., proprietors), Glossop. Manager, C. E. Knowles, A.M.I.C.E.

Glossop Electricity Works. Urban Electric Supply Co., Ltd., proprietors, Glossop, Derbyshire. (Telephone No. 34, Glossop.) Engineer, C. E. Knowles, A.M.I.C.E.

Gloucester Corporation Electricity Supply Works, Commercial-rd., Gloucester. (Telegs.: "Electricity Works, Gloucester." Teleph. No. 218.) Engineer, F. H. Corson, A.M.I.C.E.

Gloucester Corporation Light Railways, Gloucester. L. Johnston, A.M.I.E.E., A.M.I.MECH.E., general manager & engineer. (Teleph. No. 155.)

Gloucestershire Electric Power Co., 5, Rowcroft, Stroud, Glos. Nominal capital: £250,000 in shares, £83,333 loan. Issued: *nil*. Directors: J. H. Bellamy, Esq.; J. H. Borrer, Esq.; A. Grove, Esq.; W. J. P. Marling, Esq.; J. D. Robertson, Esq.; A. Thorne, Esq. Engineer, G. L. Addenbrooke; secretary, Jas. French, Stroud.

Gloucestershire Electric Power Syndicate, Ltd., 5, Rowcroft, Stroud, Gloucestershire. Registered March 22, 1902. Nominal capital: £7530 in 75 ordinary shares of £100 each & 600 deferred shares of 1s. each. Issued: £3121 4s. Issue on Feb. 22, 1905, of £850 debentures, part of series created same date to secure £1500. Directors: W. A. Buchanan, Esq.; J. H. Borrer, Esq.; A. Grove, Esq.; W. J. P. Marling, Esq.; J. D. Robertson, Esq.; F. Winterbotham, Esq. Engineer, G. L. Addenbrooke; secretary, J. French.

Gloucestershire Engineering Society. Secretary, E. W. A. Carter, 3, Palace-yard, Gloucester.

Glover, F. A., A.M.I.E.E., Vine-st., Clerkenwell-rd., E.C.

Glover, R., maker of small meter movements, Cronton, near Prescot, Lancashire.

Glover, E. F., & Co., electrical engineers, 16, South Castle-st., Liverpool. (Telegs.: "Contribute, Liverpool." Teleph. No. 498 Y., Bank.)

Glover, F. A., & Co., Ltd., electrical & mechanical engineers, Vine-st., Clerkenwell-rd., E.C. (Telegrams: "Apprompt, London." Telephone No. 11099, Central.)

GLOVER, W. T., & CO., LTD., Manchester, manufacturers of insulated wire & cable of all descriptions for telegraphic, telephonic, electric lighting & power purposes. Registered Feb. 16, 1898. Nominal capital: £214,850 in £1 shares (100,000 £5 per cent. cumulative preference & 114,850 ordinary) & £100,000 4½ per cent. first debenture stock & £80,000 5 per cent. second debenture stock, all of which have been issued & are fully paid up. Directors: A. L. Ormrod, Esq. (chairman); C. Cooper, Esq.; H. Edmunds, Esq.; G. B. Samuelson, Esq.; E. A. Claremont, Esq. (managing); Ll. B. Atkinson, Esq. Secretary, E. L. Baddeley.

	Telegrams.	*Telephone Nos.*
Head Office & Works: Trafford Park, Manchester.	Cables, Manchester.	Central 7200 (6 lines).
Branch Offices:		
London: Parliament Mansions, Orchard-st., S.W.	Phonoscope, London.	Westminster 191.
Glasgow: 196, St. Vincent-st.	Conductors, Glasgow.	Nat. Argyle 956.
Belfast: 43A, High-st.	Ardrey, Belfast.	1134.

Glyco Metal Co., Ltd., South Parade, Manchester.

Glyn, E. T., director Somerset & District Electric Power Co., Ltd., Broad Sanctuary-chbrs., S.W.

Glyn, T., chairman Western Electric Distributing Corporation, Ltd.

Glynn, H. Justice, A.I.E.E., 3, The Myrtles, Sidmouth, Devon.

Glynn, Lt.-Col. T. G. H., 186, Cromwell-rd., S.W. Director The Halifax & Bermudas Cable Co., Ltd.; director Direct West India Cable Co., Ltd.

Goad, Chas. E., jun., A.I.E.E., civil engineer, 53, New Broad-st., E.C. (Telegrams: "Revision, London.")

Goad, Wm., & Co., electric pump makers, 51, Bishopsgate-st. Within, London, E.C.

Goadsby & Co., paint & varnish manufacturers, 2, 4 & 6, Albert Bridge, Manchester. (Telegs.: "Prompt, Manchester." Teleph. No. 735.)

Godalming Electricity Works. Urban Electric Supply Co., Ltd., proprietors. (Telegrams: "Electricity, Godalming." Telephone No. 8, Godalming.) Engineer, R. S. Robertson.

Goddard, Sir D. F., M.P., J.P., chairman South African Light Association, Ltd., 90, Cannon-st., London, E.C.

Goddard, S. J., A.I.E.E., National Telephone Co., Ltd., Telephone House, Victoria Embankment, E.C.; & Old Heathbourne, Bushey Heath, Herts. (Teleph. No. 43, Bushey Heath.)

Goddard, Massey & Warner, Ltd., electrical engineers & contractors, Nottingham. (Telegrams: "Goddassey, Nottingham." Telephone No. 236.)

Godfray, H. C., 42, Finsbury-sq., E.C. Director Imperial Tramways Co., Ltd.

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Godfrey, J. T., & Co., engineers, Loughborough.

Godsland & Son, wiring contractors, 51, South-st., Exeter. (Teleph. No. 545.)

Gold & Silver Re-Plating Co., Ltd. (manager, W. Buck), electro-platers, 166, Queen's-rd., Bayswater, W. (Telegs.: "Buckolian, London." Teleph. No. 700, Western.)

Golding, H. J., A.M.I.E.E., 16, Algiers-rd., Ladywell, London, S.E.

Golding, R. A., A.M.I.E.E., Corporation Electricity Works, Ealing, London, W.

Golding, W., A.M.I.E.E., electrical engineer, G.P.O., Drogheda; & Ardmore Mell, Drogheda.

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Goldston, R. C., resident engr., Yorkshire (Woollen District) Elec. Tramways Ltd., Tramway Depôt, Frost Hill, Liversedge, Yorks. (Telegs.: "Tramways, Heckmondwike." Tel. No. 8, Heckmondwike.)

Goldsworthy, T., & Sons, emery & emery cloth & glass paper & cloth manufacturers, Britannia Emery Mills, Hulme, Manchester. (Telegrams: "Goldsworthy, Manchester." Telephone No. 993.)

Golledge, W. T., A.M.I.MECH.E., A.I.E.E., manager Tutbury Engineering Co, Ltd., Tutbury, Burton-on-Trent.

Gomersal Electricity Works, Gomersal. Electrical Distribution of Yorkshire, Ltd., proprietors. Engineer, Wm. B. Woodhouse; electricians, H. F. Rendall & V. Walker.

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Goodburn, G. C., electrical engineer, Western Electric Co., North Woolwich, London, E.
Goodchild, Walter C., M.I.E.E., M.I.MECH.E., Electrical Dept., Locomotive Works, Midland Railway, Derby.
Goode, Thos., & Co., electric light fittings, 19, South Audley-st., London, W. (Teleph. No. 44, Mayfair.)
Gooden, C. Wynn, chief assistant engineer, Electricity Works, Maidstone-rd., & 5, Orsett-rd., Grays, Essex. (Teleph. Tilbury 546.)
Goodfellow, H. W., electrical engineer, Wm. Cory & Son, Ltd., Rochester.
Gooding, H., & Son, electrical engineers, Stowmarket.
Gooding & Taylor, electrical engineers, 43, Upper Russell-st., Brighton.
Goodman, H., director Hemsworth Electricity Supply Co., Ltd., Crosshill, Hemsworth, nr. Wakefield.
Goodman, H. Greenway, electrical contractor, 123, Cornwall-rd., Notting Hill, London, W. (Teleph. No. 2371, Western.)
Goodman, Joseph, A.M.I.E.E., c/o Mrs. Jarvis, Horton House, Yiewsley R.S.O., Middlesex.
Goodman, P. H., director South of England Development Co., Ltd., 3, King's-ter., Southsea.
Goodman, Prof. J., A.M.I.C.E., M.I.M.E., consulting engineer, Yorkshire College, Leeds.
Goodman, S. S., M.I.E.E., Callender's Cable & Construction Co., Belvedere, & 34, Hardy-rd., Westcombe Park, London, S.E.
Goodman, C., & Co., composition makers for preventing incrustation in steam boilers, Balfour House, Finsbury Pavement, London, E.C. (Telegrams: "Dependable, London." A.B.C. Code used.)
Goodsall, Captain W., A.I.E.E., Chiltern, Tankerton, nr. Whitstable, Kent.
Goodson & Co., insulating material manufacturers, 13, Maze Pond, St. Thomas's-st., London Bridge, S.E.
Goodwin, F. H., A.I.E.E., electrical engineer, 7, Norbury-ave., Pendleton, Manchester.
Goodwin, Robert, electrical engineer, 58, Renfield-street, Glasgow.
Goodwin, G. S., & Co., consulting engineers, 19, James-st., Liverpool. (Telephone No. 1335, Central.)
Goodwin, H. G., & Son, pattern makers & turners, 16, Charles-st., Hatton-garden, London, E.C. (Telephone No. 4649, Holborn.)
Goodyer, T. B., A.I.E.E., tramways manager, Corporation Tramways, Croydon.
Goodyers, electric light shade makers, 174, Regent-st., London, W. (Telegs.: "Aesthetic, London." Teleph. No. 1906, Gerrard.)
Goolding, C. L., A.M.I.E.E., 17, Bow-lane, Squire's-lane, North Finchley, London, N.
Goolding, Edmund, A.M.I.E.E., 118, Arngask-rd., Catford, London, S.E.
GOOSSENS, E., POPE & CO., LTD., manufacturers of incandescent lamps, 5, Arthur-st., New Oxford-st., London, W.C. (Teleph. No. 3000, Gerrard); & 21, Manesty's-lane, Liverpool.
Gordon, A. H., A.M.I.E.E., Mather & Platt, Queen Anne's-chbrs., Westminster, S.W.
Gordon, C. W., manager Dublin United Tramways Co., 9, Upper Sackville-st., Dublin.
Gordon, F. W. Beauchamp, consulting electrical engineer, 4, Park-pl., St. James's, London, S.W.
Gordon, G. F. C., A.I.E.E., Ediscol, Whittlesford, Cambridge.
Gordon, J., director Western Telegraph Co., Ltd., Electra House, Finsbury Pavement, London, E.C.
Gordon, J., installation contractor, 12, Cathedral-st., Glasgow.
Gordon, Major Sir Wm. Evans, chairman The Para Electric Railways & Lighting Co., Ltd., 20, Birchin-lane E.C.
Gordon, Sir Home, Bart., 13, Ovington-sq., S.W.; & Ardeen Caragh, co. Kerry. Director Electric Supply Corporation, Ltd.; chairman Electrical Works & Development Co., Ltd.
Gordon College, Aberdeen. *See* SCHOOLS, CLASSIFIED SECTION.
GORDON, JAMES, & CO., water power engineers, 81 & 83, Knightrider-st., London, E.C. (Telegs.: "Gordolobo, London." P.O. Teleph. No. 1674, Central. A.B.C. & Lieber's Codes.)
Gordon-Smith, Arthur T., assistant engineer, Electricity Works, Hammersmith, London, W.
Gore, Wm., A.M.I.C.E., A.I.E.E., c/o Sir Alex Binnie, Son & Deacon, St, Stephen's House, London, S.W.
Gorham, J. M., M.I.C.E., M.I.E.E., director Drake & Gorham, Ltd., 66, Victoria-st., London, S.W.; director D.P. Battery Co., Ltd.; director Daimler Motor Co., Ltd.
Goring & Streatley Electric Light & Power Co., Ltd., Goring Mill, Goring-on-Thames, Oxford. Registered Jan. 22, 1909. Nominal capital: £3000 in £1 shares, of which 1500 are preference shares, & £3000 debentures.
Gorrill, J., German silver wire manufacturer, Sydney Works, Sydney-street, Sheffield.
Gorseinon Electric Light Co., Ltd., Gorseinon, Glamorgan. Registered Nov. 17, 1893. Nominal capital: £1000 in £1 shares. All the shares have been taken up, & are fully paid. Debentures, £800. Directors: Major D. Lewis; T. Lewis, Esq.; T. Jones, Esq.; D. Jones, Esq.; L. Evans, Esq.; P. Williams, Esq. Engineer, D. Powell; secretary, D. Jones.
Gorton, Henry, electrical engineer, 19, Grand Parade, Archway-rd., N. Works: Warlters-rd., Parkhurst-rd., Holloway, London, N.

Goslett, G. A. D., director Exchange Telegraph Co., Ltd., 17 & 18, Cornhill, London, E.C.
Goslin, E. T., A.M.I.E.E., electrical engineer, Corporation Tramways, Glasgow.
Gosling & Gatensbury, engineers, Victoria-rd., Hanley, Staffs.
Gosport & Alverstoke Electric Lighting Co., Ltd., Moorgate Station-chbrs., London, E.C.; & Gosport, Hants. (Telegs.: "Tramways, Gosport." Teleph. Nos.: Nat. 3; Corp. 16, Gosport.) Registered Nov. 28, 1904. Nominal capital: £5000 in £10 shares, all issued & fully paid. Directors: J. B. Glenn, Esq. (managing & secretary); A. Beattie, Esq.; S. Hern, Esq. Engineer, J. Fereday Glenn.
Gosport & Fareham Tramways, Gosport, Hants. (Telegs.: "Tramways, Gosport." Teleph. Nos.: Nat. 3; Corp. 16, Gosport.) Provincial Tramways Co., Ltd., props. Engineer & manager, J. Fereday Glenn.
Gössell, Otto (Aix-la-Chapelle Iron & Steel Co.), telegraph wire manufacturer, 110, Cannon-street, London, E.C. (Telegrams: "Gossotto, London." Telephone No. 761, Bank.)
Gossett, E. L., A.M.I.E.E., Ivy House, Watlington, Oxon.
Gossler, John von Berenberg, 52, Ferdinandstr., Hamburg. Director Indo-European Telegraph Co., Ltd.
Gothard, B. W., chief electrical engineer, Minehead Electric Supply Co., Ltd., Minehead, Somerset.
Gott, Arthur E., A.M.I.E.E., electrical engineer, 30, Cecil-rd., Gravelly Hill, Birmingham.
Gott, J., electrician, Commercial Cable Co., 55 & 56, Bishopsgate-st. Within, London, E.C.
Gott, John, M.I.E.E., 6, Lorna-road, Hove, Brighton.
Gott, Ralph Edgar, A.I.E.E., 18, The Exchange, Bradford.
Gotts, Frank, director Delagoa Bay Development Corp., Ltd., 3, Gracechurch-st., London, E.C.
Gottschalk, —, manager Corporation Electric Tramways, Northampton.
Goude & Son, electric bell fitters, Syer's-lane, Whittlesea, Cambs. (Telegs.: "Goude, Whittlesea.")
Goudge, W. F., & Co., general & electrical engineers, 363, Seven Sisters-rd., South Tottenham, London, N.
Gough, C., electrical engineer, Westgate-st., Gloucester.
Gough & Felgate, electric bell fitters, Uxbridge-st., Burton-on-Trent. (Teleph. No. 151.)
Gould, C., electrical engineer, First Garden City, Ltd., Letchworth.
Gould, H. C., electrical engineer, Erdswick Cottage, Topsham.
Gould, H. T., A.M.I.MECH.E., mechanical engineer, 17, Quay-st., Cardiff. (Telegs.: "Gasify, Cardiff." Teleph. No. 700.)
Goulding, E. A., M.P., director British Westinghouse Electric & Manufacturing Co., Ltd., Westinghouse-bldg., Norfolk-st., London, W.C.
Goulding, T. Waldemar, European general manager Western Union Telegraph Co., 33, Broad-st. House, London, E.C. (Telegs.: "Teletique, London." Teleph. Central 11444.) Director West India & Panama Telegraph Co., Ltd.
Goundry, J. E. J., electrical engineer, 31, High-st., Reigate. (Teleph. No. 3.)
Gouring, W. H., works manager, Kramos, Ltd., Bath.
Gourlay, Alex., electrical engineer & contractor, 35, George-st., Stranraer.
Govan Town Council Electricity Works, Govan. T. C. Parsons, M.I.E.E., engineer. (Teleph. Nos.: Nat., 10, Govan; P.O., 12, Govan.)
Gover, H. Charles, secretary to the Edison & Swan United Electric Light Co., Ltd., Ediswan-bldgs., Queen-st., London, E.C. (Teleph. No. 162, Bank (4 lines).)
Gowans, R., director Mexico Electric Tramways, Ltd., Threadneedle House, 31, Bishopsgate-st. Within, London, E.C.
Gower, Geo. F., A.M.I.E.E., Electrical Department, S. E. & C. Railway, Victoria Station, London, S.W. (Teleph. Westminster 5.)
Gowthorpe, E. L., & Son, engineers & merchants, Victoria-bldgs., London-rd., Nottingham. (Telegs.: "Gowthorpe, Nottingham." Teleph. No. 401.)
Gozzett, G. P., installation contractor, 108, North-rd., Southend-on-Sea.
Grace, C. B., A.M.I.E.E., Electrical Engineer's Office, H.M. Dockyard, Chatham.
Grace, F. H., electrical engineer, "West Shen," Thornbury, Glos.
Grace & Sutcliffe, electrical & automobile engineers, Cavendish-st., Keighley. (Tel. No. 34 Y., Keighley.)
Graff, Victor, A.I.E.E., Holbrook House, The Parade, Sandgate.
Grafton, Henry, consulting engineer, Wardrobe-chambers, London, E.C.
Grafton & Co., makers of steam & electric cranes, Vulcan Works, Bedford (Telegs.: "Grafton, Bedford"); & 120, Cannon-st., London, E.C. (Telegs.: "Graftonian, London.")
Graham, Alfred, A.I.E.E., Irongates, Dacres-rd., Forest Hill, London, S.E.
Graham, A. H. Irvine, A.M.I.C.E., A.M.I.E.E., Castle Crine, Six Mile Bridge, co. Clare, Ireland; & c/o Thermit, Ltd., 27, Martin's-lane, Cannon-st., E.C.
Graham, A. I., A.M.I.C.E., A.M.I.E.E., c/o Thermit, Ltd., 27, Martin's-lane, Cannon-st., London, E.C. (Telegs.: "Fulmen, London." Teleph. No. 3749, Central.)
Graham, C. H., electric light fittings manufacturer, 26, Foundry-st., Brighton.
Graham, Ernest V., A.I.E.E., Royal Arsenal, Woolwich; & 37, Wellington-rd., Old Charlton, S.E.
Graham, Frank, A.I.E.E., 12, Ladbroke-gardens, Notting Hill, London, W.
Graham, Gerard, A.M.I.E.E., 24, Marlborough Mansions, Cannon Hill, West Hampstead, London, W.

Graham, H. B., M.I.M.E., A.I.E.E., 9, Kenilworth-ct., Putney, London, S.W.

Graham, John, B.A., B.E., consulting engineer, lecturer in mathematics & applied mechanics, Finsbury Technical College, Leonard-st., Finsbury, London, E.C.

Graham, J. Parmley, electrical agent, 26, Cloth Market, Newcastle-on-Tyne. (Telegs.: "Order, Newcastle-on-Tyne." Teleph. No. 2383, Central.)

Graham, M., Netherby, Compton-rd., Ealing, London, W. Director Buenos Aires Port & City Tramways, Ltd.

Graham, Wm., electrician, 3, Wilson-st., Hillhead, Glasgow.

Graham, W. J., M.I.E.E., F.I.I., 78, Woodland-terrace, Charlton, London, S.E.

Graham, Alfred, & Co., electrical engineers & telephone contractors, St. Andrew's Works, Crofton Park-rd., London, S.E.; & 4, Great Winchester-st., E.C. (Telegs.: "Navalhada, London." Teleph. No. 952, Sydenham.)

Graham & Banks, Ltd., electrical engineers, 445, Oxford-st., London, W. (Telegrams: "Citronniers, London." Telephone No. 3667, Gerrard.)

Graham Bros., electrical engineers, Zetland-pl., Middlesbrough. (Telegs.: "Dynamic, Middlesbrough." Nat. Teleph. No. 315.)

Graham & Graham, electric light engineers & contractors, 2, Weymouth-st., London, W. (Telephone No. 364, Paddington.)

Graham, J. W. & R., electricians, metal polishers & lacquerers, Faraday Works, St. George's-sq., Huddersfield. (Teleph. No. 856.)

Graham & Morton, electric light engineers & contractors, King-st., Stirling. (Telegrams: "Morton, Stirling." Telephone No. 10.)

Graham, Morton & Co., makers of conveying plants, Hunslet, Leeds. (Telegs.: "Accouple, Leeds." Teleph. No. 1982, Leeds.)

Graham, Wm., & Sons, engineers, 3, Rochester-row, Westminster, S.W.

Grainge, J. R. W., A.M.I.E.E., resident electrical engineer, Great Western Railway, Generating Station, Park Royal, Willesden, N.W. (Teleph. Chiswick 393); & 30, Cumberland Park, Acton, W.

Grainger, T. J., A.I.E.E., sec. & joint assistant manager, Sunbeam Lamp Co., Ltd., Park-rd., Gateshead-on-Tyne (Telegs.: "Sunbeam, Gateshead." Teleph. No. 456); & 8, Ashgrove-ter., Gateshead.

Grangemouth Gas Co., Ltd., electric light, gas, & mechanical engineers & electricians, Grange-st., Grangemouth. (Teleph. No. 38.)

Granger, B. B., A.M.I.E.E., "Avonlea," Whitehaugh Drive, Paisley, Scotland.

Granger, W. A. (Forced Draught), Windsor-rd., Palmer's Green, N. (Telegs.: "Nozzles, London.")

Grangetown Electricity Works, Grangetown, Yorks. Cleveland & Durham County Electric Power Co., proprietors. Manager, A. B. Gridley.

Grant, A. E., A.M.I.E.E., 8, Pen-y-lam-pl., Roath Park, Cardiff. (Telegs.: "Vigilant, Cardiff." Nat. Teleph. No. 3783.)

Grant, Jas., director Llandrindod Wells Electric Light & Power Co., Ltd., 20, Old Bank-bldgs., Chester.

Grant, J. Macpherson, telephone contractor, Kingussie. (Telegs.: "Macpherson Grant, Insh.")

Grant, Selwyn, A.C.G.I., A.M.I.E.E., 31, Glenloch-rd., Hampstead, London, N.W.

Grant, W., A.M.I.E.E., demonstrator & assistant lecturer on electrical engineering, Municipal School of Technology, Manchester; & 47, Keppel-rd., Chorlton-cum-Hardy.

Grant, William, engineer & general manager, Burgh Electric Tramways Department, Ayr, N.B. (Telegrams: "Trams, Ayr." Telephone No. 123; & Works, No. 124.)

Grant & Blake, electrical engineers, 41, St. John's-rd., Clapham Junction; & 4, The Market, Putney, London, S.W. (Teleph. Battersea 1424.)

Grant, J. O., & Taylor, electrical engineers & contractors, 63, Queen Victoria-st., London, E.C. (Telephone No. 8144, Bank.)

Grantham Electricity Works. Urban Electric Supply Co., Ltd., proprietors. Resident engineer, J. E. Edmundson, A.M.I.E.E. (Telegs.: "Electricity Works, Grantham." Nat. Tel. No. 23, Grantham.)

Granville, William P., M.I.E.E., 214, Green-lanes, Finsbury Park, London, N.

Graphite Plumbago Crucible Co., Ltd., Heald-st., Tanner's Hill, Deptford, London, S.E. (Telegs.: "Welldoers, London." Teleph. Deptford 996.)

GRAPHITOIDE CO., carbon brush makers, 23, Fitzroy-sq., London, W. (Telegs.: "Zincate, London." Teleph. No. 8368, Gerrard.)

Grasse & Cannes Electric Tramways Syndicate, Ltd., c/o Lumley & Lumley, 37, Conduit-st., London, W. Registered May 22, 1908. Nominal capital: £2100 in 2000 "A" shares of £1 each & 2000 deferred "B" shares of 1s. each.

Grassington Electric Supply Co., Ltd., Ridley House, Grassington. Registered June 8, 1909. Nominal capital: £1000 in £1 shares. Engineer, M. Chas. Pullan, Bradford; secretary, Jno. A. Crowther.

Gratrix, Samuel, jun., & Bro., Ltd., manufacturers of electric fittings & accessories, Alport Works, Quay-st., Deansgate, Manchester. (Telegs.: "Lead, Manchester." Teleph. Central 7331.)

Gratze, Ltd., engineers & electricians, 44 & 46, Whitfield-st., Tottenham Court-rd., London, W.C. (Telegs.: "Gratzelim, London." Teleph. Gerrard 7337.)

Grave, Lancelot W. de, M.I.M.E., A.M.I.E.E., 9, Iron Gate, Derby.

Graves, James, M.I.E.E., electrician, superintendent Anglo-American Telegraph Co., Ltd., Valentia, Ireland.

Graves, T. W., A.M.I.E.E., 7, Birkbeck-rd., Mill Hill, London, N.W.

Graves, W. J., officer-in-charge, Eastern & South African Telegraph Co., 37, Holborn Viaduct, London, E.C.

Gravesend Corporation Electricity Works, Gravesend, Kent. (Nat. Teleph. No. 47.) C. F. McInnes, M.I.E.E., borough electrical engineer.

Gravesend & Northfleet Electric Tramways, Ltd., Electrical Federation Offices, Kingsway, W.C. (Telegs.: "Gravesend, c/o Tramway, London." Teleph. No. 2686, Holborn); & Tramway Depôt, Northfleet, Kent. (Teleph. No. 958. Gravesend.) Registered April 18, 1901. Authorized & subscribed capital: £40,000 6 per cent. cumulative preference shares of £1 each, £40,000 ordinary shares of £1 each & £40,000 debentures. Directors: W. G. Bond, Esq. (chairman); J. F. Albright, Esq. Secretary & manager, P. N. Gray. A trust deed, dated April 23, 1903, to secure £40,000 debenture stock (with power to make further issues up to half the nominal capital), has been registered. Dividends: 1902 & 1903, 3 per cent.; 1904–1907, *nil.*

Gray, Andrew, A.M.I.C.E., Marconi's Wireless Telegraph Co., Ltd., Watergate House, York-bldgs., Adelphi, London, W.C.

Gray, Andrew S., A.I.E.E., King & Co., Leith Electric Works, Leith, N.B.

Gray, C. E., engineer, Ross Electric Light & Power Co., Ltd., Ross, Herefordshire.

Gray, Harold, A.M.I.E.E., borough electrical & tramways engineer, Accrington, Lancs. (Telephone No. 2.)

Gray, Harry, consulting engineer, Dudgeon & Gray, 89, Aldgate, London, E.C. (Telegs.: "Dudgeon, London.")

Gray, H. C., A.M.I.E.E., Engineer-in-Chief's Office, National Telephone Co., Telephone House, Victoria Embankment, London, E.C.

Gray, James, 12, Wellfield-ave., Muswell Hill, N. Managing director Electric Construction Co., Ltd.; director Madras Electric Tramways (1904), Ltd.

Gray, Jas., B.SC., A.M.I.E.E., 99, St. George's-rd., Warwick-sq., London, S.W.

Gray, John, B.SC., A.M.I.E.E., electrical engineer, 83, Cannon-st., London, E.C.

Gray, J. Hunter, A.I.E.E., 5, Fig Tree Court, Temple, London, E.C.

Gray, Matthew Hamilton, F.G.S., A.R.S.M., M.I.M.M., telegraph engineer, Silvertown, London, E.

Gray, P. N., manager Gravesend & Northfleet Electric Tramways, Ltd., Tramway Depôt, Northfleet, Kent.

Gray, Prof. A., LL.D., F.R.S., professor of natural philosophy, The University, Glasgow.

Gray, Robert Kaye, M.I.E.E., M.I.C.E., 106, Cannon-st., London, E.C. Chairman Spanish National Submarine Telegraph Co., Ltd.; chairman South American Cable Co., Ltd.; director Cuba Submarine Telegraph Co., Ltd.; director West African Telegraph Co., Ltd.; managing director India Rubber, Gutta Percha & Telegraph Works Co., Ltd.

Gray, Tom L., electrical engineer, 18, Grainger-st. West, Newcastle-upon-Tyne.

Gray, William E., M.I.E.E., Silvertown, London, E.

Gray, Wm. E., accumulator maker, 53, Bayham-pl., Camden Town, London, N.W.

Gray, W. J., A.M.I.E.E., Telephone House, Victoria Embankment, London, E.C.

Gray, W. Turnbull, A.I.E.E., c/o P. Allman & Co., 16, John Dalton-st., Manchester.

Gray, James, & Co., electrical agents, 212, St. Vincent-st., Glasgow. (Telegs.: "Grandesco, Glasgow." Teleph. No. 2225, Argyle.)

Gray, James, & Son, smiths, electric bell fitters & electricians, 89, George-st., Edinburgh. (Telegrams: "Grates, Edinburgh." Telephone No. 2018.)

Gray, J. W., & Co., electric bell manufacturers, 5, Philpot-lane, E.C.; & 69, Commercial-st., London, E. (Telegs.: "Gendarme, London." Teleph. No. 12310, Central.)

Gray, J. W., & Son, electricians, lightning conductor manufacturers, 91, Leadenhall-st., London, E.C. (Telegs.: "Grandson, London." Teleph. No. 6453, Central.)

Gray & Palmer, electric lighting, bells, &c., 144, King-st., Great Yarmouth. (Telephone No. 67.)

Grays Thurrock Urban District Council Electricity Works, Grays, Essex. Engineer, E. D. Long.

Great Central Railway (Electrical Engineers' Department), Guide Bridge, nr. Manchester. C. W. Neele, electrical engineer.

Great Crosby Electricity Works. Liverpool District Lighting Co., Ltd., proprietors. Consulting & electrical engineer, W. Miles Horsfall, M.I.E.E.

Great Eastern Railway Co., Liverpool-st. Terminus, London, E.C. (Teleph. No. 2468, London Wall.) Engineer, H. W. Firth; secretary, W. H. Peppercorne.

Great Grimsby Corporation Electricity Works. (Teleph. No. 64, Grimsby.) Engineer, W. A. Vignoles, M.I.E.E.

Great Grimsby Street Tramways Co., Moorgate Station-chbrs., London, E.C.; & Cleethorpes. (Telegs.: "Blanco, Cleethorpes." Teleph. Cleethorpes 16.) Directors: A. Beattie, Esq., J.P., D.L. (chairman); S. Hern, Esq.; J. Barber Glenn, Esq. (managing & secretary). *All shares in this company are held by the Provincial Tramways Co., Ltd.*

Great Northern & City Railway Co., 3, Highbury-pl., London. (Telegs.: "Rapidness, London." Teleph. North 853.) Power House: Poole-st., New North-rd., N. (Teleph. Dalston 261.) Incorporated by Act of Parliament, June 28, 1892. Nominal capital: £2,010,000 in 78,000 4 per cent. preferred ordinary "A" shares of £10 each, 78,000 5 per cent. deferred ordinary "B" shares of £10 each & £450,000 in 4 per cent. preference stock; £670,000 in loans. Issued: 78,000 4 per cent. preferred ordinary "A" shares of £10 each & 78,000 5 per cent. deferred ordinary "B" shares of £10 each. £504,216 4 per cent. debenture stock. Directors: The Right Hon. the Earl of Lauderdale (chairman); Charles Steel, Esq. (deputy chairman); Sir H. C. Burdett, K.C.B., K.C.V.O.; C. G. Hyde, Esq., M.P.; The Right Hon. Lord Knollys, G.C.V.O., &c. Engineers, Sir Douglas Fox & Francis Fox; secretary, W. M. Ballingall; general manager & engineer, R. P. Brousson.

Great Northern, Piccadilly & Brompton Railway Co., Electric Railway-bldg., St. James's Park, Westminster, S.W. Nominal capital: £5,405,000 in 35,704 preference shares of £10 each, & 504,796 ordinary shares of £10 each, all issued. Debentures: £1,801,000. Issued or issuable: £1,575,956 in 4 per cent. perpetual debenture stock. Directors: Sir Geo. S. Gibb (chairman); Lord Farrer; Sir Lesley Probyn; Rt. Hon. Lord Geo. Hamilton; W. M. Acworth, Esq.; Sir Algernon West. General manager, A. H. Stanley; engineers, Jas. R. Chapman & A. R. Cooper; secretary, W. E. Mandelick.

Great Northern Railway Co. (Ireland), Amiens-st. Terminus, Dublin. (Telegs.: "Railroad, Dublin." Teleph. No. 171.) Directors: Fane Vernon, Esq. (chairman); Wm. P. Cairnes, Esq. (deputy); & others. Engr.-in-chief, W. H. Mills; elec. engr., A. W. Whieldon; secretary, T. Morrison.

Great Northern Telegraph Co., Ltd., The, of Denmark. Head office: 26, Kongens Nytorv, Copenhagen. London office (representative, F. C. C. Nielsen): 15 & 15A, St. Helen's-pl., Bishopsgate-st. Within, London, E.C. (Telegs.: "Nordiske, London.") Capital authorised: £2,000,000. Issued: £1,500,000 ordinary shares of £10 each, fully-paid. Directors: Commodore E. Suenson, D.R.N. (chairman); M. Melchior, Esq.; Col. V. E. Tychsen, D.R.E.; P. Vedel, Esq., D.C.L.; Baron Reedtz-Thott; Rear-Admiral F. C. C. Bardenfleth, D.R.N.; E. Bluhme, Esq. Engineer-in-chief, K. Gulstad; general managers, K. Suenson & P. Michelsen. Dividends: 1902, 12½ per cent.; 1903, 15 per cent.; 1904 & 1905, 24 per cent.; 1906 & 1907, 20 per cent.; 1908, 18 per cent.; & first half of 1909, 2½ per cent. (*interim.*)

Great Western Railway, Park Royal Generating Station, Willesden, N.W.

Greaves, E. N., A.M.I.E.E., Birmingham Electric Supply Dept., 14, Dale End, Birmingham.

Green, Arthur, A.M.I.E.E., 23, Victoria-rd., Alexandra Park, London, N.

Green, C. E., Oakfield, Forest Row, Sussex. Director Yale Electric Power Co., Ltd.

Green, F., 13, Fenchurch-ave., London, E.C. Director United River Plate Telephone Co., Ltd.; director Electrical Power Storage Co., Ltd.

Green, F. W., A.M.I.E.E., A.M.I.MECH.E., Electricity Works, Pier's-rd., Handsworth, Staffs.

Green, G. W., M.I.E.E., A.M.I.C.E., Crown Works, Feltham, Middlesex. (Telegs.: "Filicoid, Feltham." Lieber's Code. Teleph. No. 39.)

Green, Harry, A.M.I.E.E., National Telephone Co., Telephone House, Victoria Embankment, London, E.C.

Green, Harry H. R., A.M.I.E.E., assistant electrical engineer, Admiralty, Whitehall, London, S.W.

Green, J. S., A.I.E.E., borough engineer, Haslingden, Manchester.

Green, Robert, M.I.C.E., consulting engineer, Pritchard, Green & Co., 37, Waterloo-st., Birmingham. (Telegs.: "Pritchard, Birmingham." Teleph. No. 4450, Central.)

Green, W., mains superintendent, Corporation Electricity Department, Town Hall, Southport.

Green, W. J. S., electrician, optician & lime-light operator, 214, Birchfield-rd., Birmingham. (Teleph. No. 519, Northern.)

Green, W. Meall, director Collieries Electric Power Development Synd., Ltd.

Green, W. Penrose, Towerhurst, Roundhay, Leeds. Director Roundhay & District Electric Lighting Co., Ltd.

Green & Abbott, electricians, 473, Oxford-st., W. (Telegs.: "Skyblue, London." Tel. No. 4099, Gerrard.)

Green, A. Henderson, & Co., electric lighting contractors, 34, Ann-st., Glasgow. (Teleph. Argyle 2108.)

Green & Boulding, Ltd., injector & metallic packing makers, 28, New Bridge-st., London, E.C. (Telegrams: "Temperature, London." A.B.C. Code used. Telephone No. 12455, Central.)

Green, E., & Son, Ltd., fuel economiser makers, Wakefield, Manchester, London & Glasgow. (Telegs.: "Economiser." Teleph. Nos.: Wakefield, 43; Manchester, 1375.)

Green, Ralph, & Co., electrical apparatus makers, 142, Bute-st. Docks, Cardiff. (Telegrams: "Ralph Green, Cardiff." Telephone Nos. G.P.O. & Nat. 191.)

Green & Smith, electrical & mechanical engineers, Low Hall Mills, Holbeck-lane, Leeds.

Green & Son, electric lamps, Peascod-st., Windsor.

Green, Thos., & Son, Ltd., engineers, machinists, &c., Leeds. (Telegs.: "Smithfield, Leeds." Tel. 3580.)

Green, W., Son & Waite, makers of dynamo brushes, 134, Albany-rd., London, S.E. (Telegs.: "Deckle." Teleph. No. 13768, Central, P.O.)

Greenall, E. B., A.I.E.E., electrical engineer, 32, Cranmer-st., Nottingham; & T. Danks & Co., Thurland-st., Nottingham.

Greenberg & Sons, agents Deutsche Celluloid-Fabrik Leipzig, 8, Water-lane, Ludgate Hill, London, E.C. (Telegrams: "Greenberg, London." Telephone No. 5846, Bank.)

Greene, Cuthbert J., A.I.E.E., 16, Foxgrove-rd., Beckenham, Kent.

Greene, C. R., J.P., chairman Gateshead & District Tramways Co., Electrical Federation Offices, Kingsway, London, W.C.

Greene, F. A., A.M.I.E.E., consulting engineer, 3, Miles-lane, London, E.C. (Telegs.: "Fagreeneer, London." Teleph. London Wall 7683; & Central 15117.)

Greene, R. R., general manager, Wallasey Council Tramways, Liscard, Cheshire. (Telegrams: "Greene, Tramways, Liscard." Telephone No. 439, Liscard.)

Greener, A. E., 121, High-st., Wavertree, Liverpool. Lancashire representative, Electromotors, Ltd., Openshaw, Manchester.

Greener, Thos. Y., West Lodge, Crook, Durham. Director Bankfoot Power Co., Ltd.

Greener, W. B., A.I.E.E., Boyne Hill, Chapelthorpe, Wakefield.

Greenhill, J. E., electrician, Downs Park-road, Clapton, London, E.

Greenhill, J. H., electrical & mechanical engineer, 37, New King-st., Belfast. (Telegrams: "Vermont, Belfast." Telephone No. 419.)

Greenhill & Craig, electrical engineers & contractors, 33, 35 & 37, King-st., Belfast.

Greening, N., & Sons, Ltd., wire manufacturers & metal perforators, Warrington. (Telegrams: "Greenings, Warrington." Telephone No. 15.)

Greenock Corporation Electricity Works & Electric Tramways Supply. (Telegs.: "Energy, Greenock." Teleph. No. 330.) Burgh electrical engineer, J. A. Robertson, M.I.E.E.

Greenock & Glasgow Electro Co., electro-silver platers & bronzers, &c., 14, Charles-st., Greenock. (Teleph. No. 693.)

Greenock & Port Glasgow Tramways Co., Electrical Federation Offices, Kingsway, W.C. (Telegs.: "Greenock, c/o Tramway, London.") Incorporated 1887. Authorized capital: £185,000 in £10 shares, 70,000 being in 5 per cent. non-cumulative preference & 115,000 in ordinary shares, & the whole amount has been subscribed & called up. 4½ per cent. first mortgage debentures issued: £47,500. Directors: W. G. Bond, Esq. (chairman); C. S. B. Hilton, Esq.; D. J. Dunlop, Esq.; A. C. Miles, Esq.; H. S. Day, Esq. Secretary, W. F. Herring; manager, G. W. King. Dividends on ordinary shares: 1904, 4 per cent.; 1905–1907, 3 per cent.

Greenslade, C. E., instructor in electrical engineering, Municipal Technical Institute, Emmet-pl., Cork.

Greenstreet, H., electrician, 119, High-st., Mile Town, Sheerness.

Greenwell, B. E., director Manx Electric Railway Co., Ltd., 78, Cornhill, London, E.C.

Greenwich Photographic & Optical Stores, manufacturers of X-ray, electrical & scientific instruments, 23, Nelson-st., Greenwich, S.E.

Greenwood, Arthur, J.P., M.I.C.E., consulting engineer, Albion Works, Armley-rd., Leeds; chairman Greenwood & Batley, Ltd.; director Power & Traction Co., Ltd.; director Colne & Trawden Light Railways Co.

Greenwood, H., director Colne & Trawden Light Railways Co., Albion Works, Leeds.

Greenwood, J., 1, Marsden-st., Manchester. Director Blackpool & Fleetwood Electric Tramroad Co.; chairman Blackpool & Garstang Light Railway Co.

Greenwood, Thomas, engineer & engineers' tool maker, Waterside, Halifax. (Telegrams: "Tackle, Halifax." Telephone No. 354A.)

Greenwood, Tom, 1, Marsden-st., Manchester. Director The Blackpool & Fleetwood Electric Tramroad Co.

Greenwood, T. S., electrical engineer, 11, Lime Grove, Manchester.

GREENWOOD & BATLEY, LTD., steam turbine makers & electrical engineers, Albion Works, Leeds; 16, Great George-st., Westminster, S.W. (Telegrams: "Greenwood, Leeds;" & "Outflank, London." Telephone No. 270, Leeds.) Registered July 7, 1888. Directors: A. Greenwood, Esq. (chairman); Major-Gen. E. Micklem; Lieut.-Col. R. Vivian; H. Greenwood, Esq.; S. T. Batley, Esq.; A. G. Hopper, Esq. Electrical engineer, Harold Hill; secretary, Geo. Hagger. Nominal capital: £260,000 in ordinary shares, £140,000 preference, & £100,000 debentures. Issued: 18,052 ordinary, 11,066 preference shares, & all the debentures, as paid. £3 each share has been called on 1466 preference & £5 per share on 1252 ordinary, & £10 per share on the rest, & £274,616 has been paid. Preference shares Nos. 1 to 2666 & ordinary shares Nos. 1 to 4666 were issued as fully paid to the vendors. Dividends: 1906-07 & 1907-08, 7 per cent. on preference & 4 per cent. on ordinary; 1908-09, 7 per cent. on preference. *See advt., page 20.*

Greer, Wm. J., c/o H. S. King & Co., 45, Pall Mall, London, S.W. Chairman Peterborough Electric Traction Co., Ltd.; director Durham & District Electric Traction Co., Ltd.

Greeves, O. V., A.I.E.E., electrician, Portadown, Ireland.

Gregory, J. P., M.I.E.E., manager, Central Station Dept., British Thomson-Houston Co., Ltd., Rugby.

Gregory, M., A.M.I.E.E., c/o Lancashire Dynamo & Motor Co., Ltd., Trafford Park, Manchester.

Gregory, R. W., A.M.I.E.E., 57, Meldon-ter., Heaton, Newcastle-on-Tyne.

Gregory, V. H., A.I.E.E., designer & draughtsman, 59, Park-rd., Chiswick, London, W.

Gregory, W., & Son, wiring contractors, 28, Steep Hill, Lincoln.

Gregson & Gartside, electrical engineers, George-st., Ashton-under-Lyne.

Grenfell, C. A., 28, Throgmorton-st., E.C. Director Charing Cross, Euston & Hampstead Railway Co.; chairman Edgware & Hampstead Railway Co.

Grenfell, C. Seymour, Elibank, Taplow, Bucks. Director City & Brixton Railway Co.; director City & South London Railway Co.

Gresham & Craven, Ltd., engineers & makers of the "Gresham" injectors & ejectors, Craven Iron Works, Ordsall-lane, Manchester. (Telegs.: "Brake, Manchester." Tel. No. 613. A.B.C. Code.)

GREVENER, J. & H., Eldon-st. House, Eldon-st., London, E.C. (Telegs.: "Grevener, London." Teleph. Nos. 1842 & 12995, Central.)

Greville, Arthur W, A.I.E.E., 1, Hurst-rd., Bexley, Kent.

Grëwing, Henry, 4, Austin Friars, E.C. Director Telephone Co. of Egypt, Ltd.; director Oriental Telephone & Electric Co., Ltd.; chairman China & Japan Telephone Co., Ltd.

Grëwing, H. Johnstone, 26, Queen Anne's-gate, S.W. Director China & Japan Telephone Co., Ltd.; director Oriental Telephone & Electric Co., Ltd.; director Telephone Co. of Egypt, Ltd.

Grey & Marten, Ltd., lead tube makers, Southwark-bridge, London, S.E. (Telegrams: "Amalgam, London." Telephone No. 750, Hop.)

Greystones Electric Light & Power Co., Ltd., 5, Leinster-st., Dublin; & Greystones, co. Wicklow. Registered May 8, 1908. Nominal capital: £3500 in £1 shares. Directors: Dr. A. M. Archer (chairman); R. N. Tweedy, Esq.; H. V. Fitzgibbon, Esq.; A. L. Figgis, Esq.; C. L. Matheson, Esq., K.C.; F. Batchelor, Esq.; E. S. Dashwood, Esq. Engineer & secretary, R. F. Fry. *Works under construction.*

Grice, Grice & Son, Ltd., brass & copper tube manufacturers, Nile-st., Birmingham. (Telegs.: "Grice, Birmingham." Teleph. No. 102.)

Gridley, A. B., manager Cleveland & Durham County Electric Power Co. & Cleveland & Durham Electric Power, Ltd., Hinton's-bldgs., Middlesbrough. (Telegs.: "Unit, Middlesbrough." Teleph. No. 474, Nat.)

Gridley, H. J., A.I.E.E., electrical engineer, Hampton Wick, Kingston-on-Thames.

Grier, C. W. M., M.B., Polpier, Mevagissy. Chairman Mevagissy Electric Lighting Co., Ltd.

Griesbach, R. C., electrical engineer, Venner & Co., 6, Old Queen-st., Westminster, London, S.W.

Grieve, John, & Co., manufacturers of hand, steam, hydraulic & electric cranes, Motherwell. (Telegrams: "Grieve, Motherwell." Telephone No. 56.)

Griffin, C., & Co., Ltd., publishers of electrical & scientific works, Exeter-st., Strand, London, W.C.

Griffin Engineering Co., Ltd., gas & oil engine & suction gas generators makers, Kingston Iron Works, Oldfield Park, Bath. (Telegs.: "Motor, Bath.")

Griffin, John J., & Sons, Ltd., scientific apparatus & chemicals, Kingsway, London, W.C. (Telegs.: "Gramme, London." Teleph. No. 2621, Gerrard.)

Griffith, F. P., B.A., A.I.E.E., Gwynant, Temple-gdns., Rathmines, Dublin. Director Central Ireland Electric Power Co.; director Dublin & Central Ireland Power Syndicate, Ltd.

Griffith, M., 8, Seymour-pl., Park-lane, W. Director Metropolitan District Railway.

Griffith, S., electrical & mechanical engineer, Railway Foundry & Engineering Works, Reading (Teleph. No. 258); & London.

Griffith, S. B., A.M.I.E.E., electrical engineer, 8, John-st., Adelphi, London, W.C. (Teleph. No. 6364, Central.)

Griffith, W. G., B.SC., A.M.I.E.E., lecturer in electrical engineering, Queen's College, Galway.

Griffith, W., & Sons, makers of railway & tramway springs, Napier Steel Works, Sheffield (Telegrams: "Griffith, Sheffield." Telephone No. 846); & 9, Bridge-st., London, S.W.

Griffiths, E., director Munster Electric Lighting Co., Ltd., 26, North John-st., Liverpool.

Griffiths, G. M., Nantymoel. Director Ogmore Valley Electric Light & Power Supply Co., Ltd.

Griffiths, G. N., installation contractor, Weston-grove, Heaton Chapel, Manchester.

Griffiths, Harry D., electric bell fitter & contractor, Griffithstown, Monmouth.

Griffiths, Thos., director South Wales Electrical Power Distribution Co., Royal-chbrs., Queen-st., Cardiff.

GRIFFITHS BROS. & CO., paints, enamels, lacquers, & varnishes, Mack's-rd., Bermondsey, London, S.E. (Telegs.: "Aquol, London." Teleph. No. 807, Hop.) Inventors & sole makers of "ANTI-SULPHURIC" ENAMEL, "Armacell" & "Ohmaline" insulating varnish, "SHAYDOLITE," "Insulderm" & "Pakyderm" for coils, "DRIOROL" quick-drying finishing coat (dries over greasy surfaces), FLEXIBLE SHELLAC INSULATING VARNISH, & other specialities for the electrical trade. *See advt., page* 18.

Griffiths & Browett, Ltd., makers of enamelled plates & reflectors, Bradford-st., Birmingham. (Teleph. No. 632.)

Griffiths, Isaac, & Sons, steel conduits, Imperial Tube Works, Wednesbury.

Griffiths, Knight & Co., makers of paint for insulating purposes, 114, Ford-st., Vauxhall-rd., Liverpool. (Telegrams: "Varnish, Liverpool." Telephone No. 2033.)

Grigg, Robert, A.I.E.E., electrical engineer, 19, Avondale-ave., Woodside Park, London, N.

Grimes, Cyril, A.M.I.E.E., 6, Princes-ave., Talbot-rd., Old Trafford, Manchester.

Grimley, W. R. N., A.I.E.E., A.M.I.M.E., Regent House, Regent-st., London, W.

Grimsdale, Wm. H., A.I.E.E., Preece & Cardew, 8, Queen Anne's Gate, London, S.W.; & Brantwood, Strafford-rd., Twickenham.

Grimsdick, E. P., A.M.I.E.E., British Thomson-Houston Co., 115, Colmore-row, Birmingham.

Grimshaw, C. O., M.I.C.E., M.I.E.E., electrical engineer, Westminster Electric Supply Corporation, Ltd., Eccleston-pl., London, S.W. (Teleph. No. 886, Westminster.)

Grimshaw, J. Walter, M.I.E.E., 22, Clifton-gdns., Folkestone.

Grimshaw & Baxter, dealers in tools for electricians, 29–37, Goswell-rd., London, E.C. (Telegrams: "Grimbax, London." Telephone No. 485, Holborn.)

Grimsley, F. C., electrician, Dorothea Works, Belgrave-rd., Leicester.

Grimsley & Co., electrical engineers, St. George's Engineering Works, Queen-st., Leicester. (Teleph. No. 79.)

Grimwade Ltd., earthenware manufacturers, Stoke-rd., Hanley, Staffs.

Grindlay, Ross & Co., installation contractors, 278, St. Vincent-st., Glasgow.

Grindley & Co., Ltd., manufacturers of rosin oil, pitch & bitumen for insulating, Upper North-st., Poplar, London, E. (Telegs.: "Resinous, London." Teleph. No. 58, East.); & at Rawcliffe Bridge, Yorkshire.

Grindrod, J. K., electrical & mechanical engineer, contractor & consultant, Oulder Hill, Rochdale.

Grinsted, D., Lynton House, Bromley. (Teleph. No. 388.) Director Bromley (Kent) Electric Light & Power Co., Ltd.; & Chislehurst Electric Supply Co., Ltd.

Grinyer, W. C., A.M.I.E.E., Science-bldgs., Tunbridge Schools.

Gripper, F. E., M.I.E.E., electrician, Broad Sanctuary-chbrs., London, S.W. Manager Edmundson's Electricity Corporation, Ltd.; director Salisbury Electric Light & Supply Co., Ltd.; director Folkestone Electricity Supply Co., Ltd.; chairman Bromley (Kent) Electric Light & Power Co., Ltd.; chairman Alderley & Wilmslow Electric Supply, Ltd.; director Winchester Electric Light & Power Co., Ltd.; director Wycombe (Borough) Electric Light & Power Co., Ltd.; director Newmarket Electric Lighting Co., Ltd.; chairman Isle of Wight Electric Light & Power Co., Ltd.; chairman North of Scotland Electric Light & Power Co., Ltd.; director Urban Electric Supply Co., Ltd.; director Melton Mowbray Electric Light Co., Ltd.; director Lymington Electric Light & Power Co., Ltd.; director Ilfracombe Electric Light & Power Co., Ltd.; director Lancashire Electric Power Co.; director Scarborough Tramways Co.; chairman St. Helen's Electric Lighting Co., Ltd.; director Ramsgate & District Electric Supply Co., Ltd.; chairman Chislehurst Electric Supply Co., Ltd.; director Camborne Electricity Supply Co., Ltd.; director Lancashire Power Construction Co., Ltd.; director Twickenham & Teddington Electric Supply Co., Ltd.; chairman Guernsey Electric Light & Power Co., Ltd.

Gritton, Chas. E., representative of the Goheen Manufacturing Co., makers of metal preservative compositions (U.S.A.), 33, King-st., London, W.C.

Grocers' Engineering Co., makers of electric elevators, &c., Cole-st., Swan-st., London, S.E. (Telegs.: "Metrical, London." Teleph. Hop 4000.)

Grogan, F. S., A.M.I.E.E., A.M.I.C.E., c/o Berry Construction Co., Ltd., Charing Cross House, London, W.C.; & "Dunmore," Foxley-lane, Purley, Surrey.

Groombridge & South, electro-magnetic motor manufacturers, 40, New Bond-street, London, W.

Groome, A., electrical engineer, Commercial-st., Newport, Mon.

Groome, H., assistant electrical engineer, Electricity Works, Ryde, I.W.

Groos & Graf, electrical accessories makers, 59–61, Hatton Garden, London, E.C.

Grossmith & Co. (W. H. Smith, A.M.I.E.E.), electrical engineers, Southsea & Portsea.

Grosvenor, H., tin & lead foil manufacturer, 6, Golden-lane, London, E.C. (Telegs.: "Tinfolia, London." Teleph. No. 926, Central.)

Grosvenor Electrical Co., 16, Eccleston-st., London, S.W.

Grotrian, H. B., director Urban Electric Supply Co., Ltd., Broad Sanctuary-chbrs., Westminster, S.W. Director Camborne Electricity Supply Co., Ltd.; director Twickenham & Teddington Electric Supply Co., Ltd.

Grove, Archibald, J.P., M.P., Pollard's Park, Chalfont St. Giles, Bucks. Director Gloucestershire Electric Power Co.; director Gloucestershire Electric Power Syndicate, Ltd.

Grove, E. P., chief engineer, Central London Railway, Shepherd's Bush, London, W. (Telephone No. 196, Hammersmith.)

Grove Slate Co., slate for electrical purposes, Grove Works, Bury New-rd., Manchester.

Grover, A., Cecil-ct., Charing Cross, W.C. Director Hindhead & District Electric Light Co., Ltd.

Grover, John, Hindhead, Surrey. Chairman Hindhead & District Electric Light Co., Ltd.

Grover & Co., Ltd., mechanical engineers, St. Peter-st., Wharf-rd., London, N. (Telegrams: "Adopted, London." Telephone No. 617, King's Cross.)

Groves, J. R., manager Worcester Electric Traction Co., Worcester. (Telegs.: "Tramways, Worcester." Teleph. No. 81, Worcester.)

Groves, J. W., superintending engineer, Postal Telegraphs, Manchester.

Groves, W. E., A.M.I.E.E., 26, Stanmore-rd., Edgbaston, Birmingham.

Groves & Co., electrical contractors & manufacturers, 96, Churchfield-rd., Acton, London, W. (Telephone No. 106, Chiswick); & at Archer-st. Works, Piccadilly Circus, W. (Telephone No. 2796, Central.)

Groves, Richard, & Sons, Ltd., saw & file manufacturers, Beehive Works, Sheffield.

Grubb, A., electric light contractor, 129, Streatham High-rd., London, S.W. (Teleph. Streatham 678.)

Grubb, Robert Walter, M.A., A.M.I.E.E., assistant electrical engineer, Corporation, Swindon, Wilts.

Grubb, W., electric bell fitter & contractor, 83, Blackstock-road, Finsbury-park, London, N.

Grunbaum, L. N., & Son, ozokerite for insulating, 84, Leadenhall-st., London, E.C. (Telegrams: "Ozonometer, London.")

Grundy & Coombs, electrical engineers, 7, The Parade, East Molesey.

Gudgson, E. H., & Co., electrical engineers, Station Parade, Exmouth; & 18, Fore-st., Totnes.

Guernsey Electric Light & Power Co., Ltd., Les Amballes, St. Peter's Port, Guernsey. Registered July 20, 1907. Nominal capital: £100,000 in 50,000 ordinary shares of £1 each & 50,000 5 per cent. non-cumulative preference shares of £1 each, & £75,000 authorized debentures, interest at 4½ per cent., secured by deed. Issued: 50,000 ordinary & 34,600 preference shares & £50,000 debentures. Directors: F. E. Gripper, Esq. (chairman); J. Bishop, Esq.; V. G. Carey, Esq.; J. C. Wigham, Esq. Engineer & secretary, C. Lakin-Smith, A.M.I.E.E.

Guernsey Railway Co., Ltd., Hongue-à-la-Perre, Guernsey. Registered Sept. 22, 1888. Nominal capital: £18,670 in ordinary shares of £1 each, £9330 in 5 per cent. preference shares of £5 each, £12,000 3 per cent. debentures & £2000 loan. 15,822 ordinary shares, all the preference shares & debentures have been issued & are fully paid. Directors: G. F. Peek, Esq. (chairman); J. B. Collings, Esq.; W. D. Murdoch, Esq.; A. C. Quick, Esq.; T. Stedman, Esq. Electrical engineer & manager, A. G. Bird, A.M.I.E.E.; secretary, J. de Mouilpied. Dividends: Feb., 1903, Feb., 1904, Feb., 1905, Feb., 1906, Feb., 1907, & Feb., 1908, 5 per cent. on preference & 5 per cent. on ordinary.

Guernsey (States of) Telephone Department, St. Peter Port, Guernsey. (Telegs.: "States Telephones, Guernsey." Teleph. No. 33.) Robert McLean, engineer & manager.

Guest, John, & Sons, malleable iron castings, Wolverhampton-rd., Walsall. (Telegs.: "Guests, Ironfounders, Walsall." Teleph. No. 292.)

Guest, Keen & Nettlefolds, Ltd., engineers & makers of steel rails, bolts & nuts, &c., London Works, nr. Birmingham; & at West Bromwich; Newport, Mon.; Dowlais; & Cardiff.

Guest & Son, electrical engineers, North-lane, Headingley, Leeds.

GUILBERT-MARTIN, manufacturer of glass & crystal tubes, rods, enamels, &c., 9, Edmund-pl., London, E.C. (Telegrams: "Photophore, London." Telephone No. 2799, Central.)

Guildford Electricity Supply Co., Ltd., Onslow-st., Guildford. (Telegs.: "Electric Supply, Guildford." Teleph. Guildford 169.) Registered June 30, 1892. Nominal capital: £30,000 in 6000 £5 ordinary shares & £25,000 in £1 cumulative preference shares, & £25,000 in 5 per cent. debentures. 2802 ordinary & 13,676 preference shares have been taken up; the full amount has been called & paid. Debentures issued: £25,000. Directors: H. P. Smallpeice, Esq. (chairman); E. E. Pullman, Esq.; J. A. C. Younger, Esq.; J. P. A. Gabb, Esq. Engineer & manager, H. L. Alderton; secretary, R. Harold Piper, L.A.A. Dividends on ordinary shares: 1906, 4 per cent.; 1907 & 1908, 5 per cent.; & first half of 1909 (*interim*), at the rate of 6 per cent. per annum.

Gullette, J. W., technical manager General Electric Co., Ltd., Peel Works, Manchester.

Gümpel, C. Godfrey, A.I.E.E., 3, Elm-rd., Beckenham, Kent.

Gunbie & Rees, electric light specialists, 7, Finsbury-sq., London, E.C.

Gunn, G. A., electric lighting contractor, 159, Falcon-rd., Clapham Junction, London, S.W. (Teleph. No. 860, Battersea.)

Gunn, Thomas, Ltd., electric lighting engineers & ironmongers, 34, Fore-st., London, E.C.

Gunning, H. F., director Anglo-Argentine Tramways Co., Ltd., 62, Gresham House, Old Broad-st., E.C. Director The United Electric Tramways of Montevideo, Ltd.

Gunns, Ernest William, electric light & power contractor, 37, Oxford-st., Lowestoft.

Guns, W. G., A.M.I.E.E., 39, Jesmond-rd., Newcastle-on-Tyne.

Gunther, C. E., director Direct U.S. Cable Co., Ltd., 4, Lloyd's-ave., E.C.

Günther, W., & Sons, turbine makers, Central Works, Oldham. (Telegrams: "Gunthers, Oldham." Telephone No. 317.)

Gunton, H. C., A.M.I.E.E., 20, Sheffield-ter., Kensington, London, W.

Gunyon, J. E., North Cray, Kent. Director Caracas Electric Tramways Co., Ltd.

Gunyon, S. E., chartered patent agent, 115, Cannon-st., London, E.C. (Teleph. No. 1519, Central.)

Gunz, N., manufacturers' agent, 46, Queen Victoria-st., London, E.C. (Telegs.: "Groping, London." Teleph. Central 13028.)

Gurdon, Sir William B., P.C., C.B., K.C.M.G., M.P., A.I.E.E., Assington, Colchester.

Gurl, G. Jacob, electric bell fitter, 54, Mitcham-rd., Croydon.

Gurney, E. C., Homeleigh, Aylestone Hill, Hereford. (Teleph. No. 12.) Director Ross Electric Light & Power Co., Ltd.

Guthrie Bros. & Ogilvy, electrical engineers, Prudential-bldgs., Mosley-st., Newcastle-on-Tyne.

Guthrie, J. B., & Son, wrought iron tube makers, 96–98, Leadenhall-st., London, E.C. (Telegrams: "Busiris, London." Telephone No. 1432, Avenue.)

Gutta-Percha Company, patentees, gutta-percha manufacturers, Wharf-road, City-road, London, N. (Telegrams: "Guttapercha, London." Telephone No. 791.)

Guttmann, Oscar, consulting engineer & chemical adviser, 60, Mark-lane, London, E.C. (Telegs. "Grantable, London." Teleph. No. 6309, Avenue.)

Guy, Arthur F., A.I.E.E., Engineering Department, G.P.O., Manchester.

Guy, G., electrical engineer, 29, Orchard-st., London, W.

Guy & Co., cabinet work, 38 & 40, Bridlesmith Gate, Nottingham. (Teleph. No. 1072.)

Gwinn, A. H., & Co., electrical engineers & wiring contractors, 26, Romford-rd., Stratford, London, E.

Gwyer, J. H., local manager, National Telephone Co., Ltd., Telephone-bldgs., Southampton. (Teleph. No. 309.)

Gwyn, A. E. W., Ltd., engineers & agents for Messrs. Joseph Booth & Bros., 75A, Queen Victoria-st., London, E.C. (Telegrams: "Asunder, London." Telephone No. 4999, Central.)

Gwynnes, Ltd., engineers' special high speed engines, dynamos, pumps, &c., 81, Cannon-st., London, E.C. (Telegrams: "Gwynne, London." Telephone No. 544, Bank.)

H. P. Syndicate, Ltd., electric light & power contractors, 701, Salisbury House, London Wall, E.C.

Haacke, A., & Co., asbestos manufacturers, Kieselguhr-wharf, Homerton, London, N.E. (Telegrams: "Haacke, London." Telephone No. 19, Stratford.)

Hacking, W. B., electric light engineer, 95, Gloucester-rd., London, S.W.

Hackney Borough Council Electricity Works, Millfields-rd., Clapton, N.E. (Teleph. Nos.: 126, Dalston; Engineers' private, 408, Dalston.) Engineer, L. L. Robinson, A.M.I.C.E., M.I.E.E., M.I.M.E.; assistant engineer, J. R. J. Bowden, A.M.I.E.E.

Hackney Technical Institute, Dalston-lane, London, N.E. *See* SCHOOLS.

Haddan, Herbert, & Co., patents agents, 31 & 32, Bedford-st., Strand, London, W.C. (Telegs.: "Erbt, London.")

Haddock, G. B., 5, Gambier-ter., Liverpool. Director Bogota Telephone Co., Ltd.

Haddow, Wm. Martin, M.I.E.E., 9, Bank-st., Hillhead, Glasgow.

Haddow & Co., electrical engineers, 107, Douglas-st., Glasgow. (Telegs.: "Haddow, Glasgow." Teleph. Nos.: 878, Argyle, Nat.; & 1499, P.O.)

Haden, G. N., & Sons, engineers, Trowbridge, Wilts.; & at London, Manchester & Birmingham. (Telegrams: "Haden, Trowbridge." Telephone No. 2, Trowbridge.)

Hadfield, J. W., A.M.I.E.E., borough electrical engineer, Electricity Works, Barnstaple, North Devon.

Hadfield, Sir Robert A., F.R.S., M.I.E.E., 28, Hertford-st., Mayfair, London, W. (Teleph. Gerrard 2400.)

Hadfield's Steel Foundry Co., Ltd., sole makers of Hadfield's patent "Resista" wire & strip for resistance coils, East Hecla Works, Sheffield (Telegrams: "Hadfield, Sheffield." Telephone Nos.: East Hecla, 750, 2628 & 2638); & Norfolk House, Laurence Pountney Hill, London, E.C. (Telegrams: "Requisition, London.")

Hadley, A. E., A.I.E.E., Electrical Co., Ltd., 121–125, Charing Cross-rd., London, W.C. (Telegs.: "Armstaub, London." Teleph. No. 4312, Gerrard.) Director Rosario Electric Co., Ltd.; director The Victoria Falls Power Co., Ltd.

Haeberlin, F., manganese & iron ores, 5, Whittington-ave., London, E.C. (Telegrams: "Haeberlin, London." Telephone No. 104, Avenue.)

Hagen Accumulator Works, 39, Snow Hill, London, E.C.

Hager, C. W., A.I.E.E., Messrs. Siemens Bros. & Co., Ltd., Woolwich, London, S.E.

Haggie, Robert Hood, M.I.E.E., M.I.MECH.E., A.M.I.C.E., electrical engineer, 49, Queen Victoria-st., London, E.C.; & Tyne Holme, Wealdstone, Middlesex.

Haggie Bros., Ltd., lightning conductor manufacturers, Gateshead-on-Tyne. (Telegs.: "Haggie, Gateshead." Teleph. Nos. 3067 & 3068.)

Haggie, R. Hood, & Son, Ltd., wire rope manufacturers, & makers of flexible cords for arc lamp suspension, Cathedral-bldgs., Newcastle-on-Tyne; 35, Lime-st., London, E.C.; Victoria Pier, Hull; Grimsby; 29, Clive-st., North Shields; Burt-st. Docks, Cardiff; & 93, Hope-st., Glasgow. (Telegrams: "Haggie," Newcastle-on-Tyne, London, Hull, Grimsby, North Shields, Cardiff, Glasgow. Telephone Nos.: Head Office, Nat. 1027; P.O. 107, Newcastle; 987, Avenue, London; 211, Hull; 8328, North Shields; 87, Cardiff.)

Haigh, E., electrical inspector, British Engine, Boiler & Electrical Insurance Co., Ltd., 12, King-st., Manchester.

Haigh, F. A., A.I.E.E., Norfolk House, Clifton-rd., Rugby.

Haigh, W. C., director Hemsworth Electricity Supply Co., Ltd., Crosshill, Hemsworth, near Wakefield, Yorks.

Haigh, W. B., & Co., Ltd., electrical & general engineers, Globe Iron Works, Oldham. (Telegrams: "Haigh, Oldham." Telephone No. 146.)

Hain, Wm. J., chairman Paignton Electric Light & Power Co., Ltd., Paignton.

Haine & Co., electricians, 13, Connaught-st., London, W. (Telephone No. 398, Paddington.)

Haines & Co., manufacturers of belting, lubricants, &c., 33, Minories, London, E.C. (Telegs.: "Senhai London." Teleph. No. 1052, Avenue.)

Hainsworth, C. H., A.M.I.E.E., 44, Edgedale-rd., Sheffield.
Hakoumoff, Alfred R., A.I.E.E., 19, Chatsworth-gdns., Acton Hill, London, W.
Hale, Harold, A.M.I.M.E., chief engineer, Savoy Hotel, Ltd., London. (Teleph. No. 4343, Gerrard.)
Hale, P. E., engineer-in-charge, Electricity Works, Southport.
Hale & Son, electrical & general engineers, 179½, Tottenham-court-rd., London, W.
Haler, P. J., B.SC., A.I.E.E., The Rosary, Low-st., Chingford.
Hales, G. E., electrical engineer & contractor, Wyvern, Leicester. (Nat. Teleph. No. 666.)
Hales, Frank S., & Co., engineers & merchants, 28, Minories, London, E.C.
Halesowen Lighting & Traction Co., Ltd. Registered Sept. 29, 1909, by Pemberton, Cope, Gray & Co., 5, New Court, Lincoln's Inn, W.C. Nominal capital: £10,000 in £1 shares.
Haley, A. C., 8, Exchange-st., Bolton; The National Telephone Co., Ltd., Bolton. (Telegrams: "National Telephone, Bolton." Telephone No. 2.)
Haley, S., & Son, Ltd., wire drawers, Pyenot Hall Mills, Cleckheaton, Yorkshire. (Telegrams: "Haley, Cleckheaton." Telephone No. 35.)
Halford, F. W., A.M.I.E.E., 209, High-st., West Bromwich.
Halford, Julian, electrical engineer, 12, Bloomfield-rd., London, W.
Halford, Thomas Ernest, patent agent, 82, Mark-lane, London, E.C.
Halifax & Bermudas Cable Co., Ltd., 33, Old Broad-st., London, E.C. (Telephone No. 2914, Central.) Registered May 22, 1889. Directors: T. Skinner, Esq. (chairman); Lt.-Col. T. G. H. Glynn; Geo. G. Ward, Esq.; F. Ward, Esq. General manager, Joseph Rippon; secretary, O. Rochs. Nominal capital: £60,000 in ordinary shares of £5 & £10,000 4½ per cent. first mortgage debentures. Issued: all the ordinary shares fully paid & £120,000 debentures, less £110,000 redeemed. Dividends since 1898: 5 per cent. Interest on debentures 4½ per cent. per annum has been paid since issue.
Halifax Corporation Electricity & Tramways Department, Halifax. W. M. Rogerson, M.I.E.E., electrical engineer. (Teleph. No. 36, Halifax.)
Halifax Municipal Technical College, Halifax. *See* SCHOOLS, CLASSIFIED SECTION.
Hall, C. E., clutch manufacturer, 58, Foster's-bldgs., High-st., & Standard Iron Works, Sheffield.
Hall, C. J., M.I.E.E., consulting electrical engineer, 4, Woodland Park-rd., Headingley, Leeds.
Hall, E. A., electrical engineer & wiring contractor, Old Market-pl., Great Grimsby. (Nat. Teleph. No. 530.)
Hall, F. T., A.M.I.E.E., 61, Uttoxeter New-rd., Derby.
Hall, H. C., director Cinque Ports Light Railway, Ltd., 165, Queen Victoria-st, London, E.C.
Hall, H. Cuthbert, M.I.E.E., 23, Albemarle-st., London, W.
Hall, Herbert E., A.M.I.E.E., High-st., Tonbridge.
Hall, J., A.M.I.E.E., demonstrator in mechanical engineering, Armstrong College, Newcastle-on-Tyne.
Hall, Joseph, M.I.C.E., M.I.MECH.E., civil engineer, Cheltenham.
Hall, J. P., M.I.E.E., electrical engineer, Gorsebank, Oldham. (Telegrams: "Hall, Gorsebank, Oldham." Telephone No. 300A.)
Hall, Percy B., A.M.I.E.E., electrical engineer, 5, Chapel Walks, Cross-st., Manchester.
Hall, R. E., Greenside, Hampton Court. Director Hooghly River Electric Power Co., Ltd.
Hall, Roland C., A.M.I.E.E., A.M.I.C.E., electrical engineer, 89, Parchmore-rd., Thornton Heath.
Hall, Sydney E., A.M.I.E.E., 77, Station-rd., Bedford.
Hall, T., A.M.I.E.E., assistant electrical engineer, Corporation Electric Station, Burton-on-Trent.
Hall, Wilfred, A.M.I.C.E., consulting electrical engineer, Milburn House, Newcastle-on-Tyne.
Hall, W., A.M.I.C.E., 9, Priors-ter., Tynemouth. Managing director Hexham & District Electric Supply Co., Ltd.
Hall, Beddall & Co., electric light contractors, Pitfield Wharf, Commercial-rd., Lambeth, S.E., & 31, Bread-st., E.C., London. (Telephone No. 598, Hop.)
Hall & Co., electric bell & telephone fitters, Dale-rd., Matlock. (Telegs.: "Hall, Matlock Bridge." Nat. Teleph. No. 47, Matlock.)
Hall & Hall, lubricating oil manufacturers, 47, Leadenhall-st., London, E.C. (Telegs.: "Turps, London." Teleph. Avenue 6366.)
Hall, H. E., & Co., electric light & power contractors, 90, High-st., Tonbridge.
Hall, J., & Co., manufacturers of electric light fittings, 71, Queen-st., London, E.C. (Pinchbeck Bros., agents). (Telegrams: "Pincheries, London." Telephone No. 988, Bank.)
Hall, J. P., & Co., Ltd., electrical & general engineers, Blackriding Iron Works, Werneth, Oldham. (Telegs.: "Dynamo, Oldham." Teleph. No. 300, Nat. (2 lines). A.B.C., 4th & 5th Editions, A1 & Engineering Codes, 2nd Edition, used.)
Hall, J. P., & Sons, Ltd., mechanical engineers & pump makers, London-rd., Peterborough. (Telegs.: "Hall, Engineers, Peterborough." Teleph. No. 0159.)
Hall & Matthews, electrical & mechanical engineers, 46 & 80, West-st., Sheffield. (Teleph. Central 2981.)
Hall Signal Co., electric signal makers, Queen Anne's-chbrs., Tothill-st., London, S.W. (Telegs.: "Halsiggala, London." Teleph. Westminster 5935.)

Hall-street Metal Rolling Co., Ltd., german silver & wire manufacturers, Hall-st. Works & Western-rd. Mills, Birmingham. (Telegs.: "Bisseker, Birmingham." Teleph. Nos. 2208 & 2222, Central.)

Hall, T. Bernard, & Jones, consulting electrical engineers, 115 & 117, Colmore-row, Birmingham. (Telegs.: "Tamar, Birmingham." Teleph. No. 436.)

Hall & Webb, electricians, Midland Arcade-chbrs., 8, New-st., Birmingham.

Hallam, G., & Co., cast steel wire manufacturers & drawers, Havelock Steel & Wire Mills, Walkley-bank, nr. Sheffield.

Hallett & Fry, antimony refiners, 202, Rotherhithe-st., London, S.E. (Telegs.: "Antetype, London." Teleph. No. 1851, Hop.)

Halliday, James, 57½, Old Broad-st., London, E.C. Director The Rangoon Electric Tramway & Supply Co., Ltd.

Halliwell, Arthur, electric light contractor, Bolton-st., Bury.

Hallmark & Gill, Ltd., electrical & mechanical engineers, contractors, &c., Church-st. & Temple-st., Blackpool.

Halls, Arthur, lathe & tool maker, Tool Works, Great Yarmouth.

Halpin's Patent Thermal Storage, Ltd., 17, Victoria-st., London, S.W. (Telegs.: "Halpin, London." Teleph. No. 880, Victoria.) Druitt Halpin, managing director.

Halsey, J. T., installation contractor, 103, High-st., Southend-on-Sea.

Ham, C., electric bell fitter, 212, Church-rd., Hove, Sussex. (Teleph. Nos.: 659 X., Nat.; & 1313 X. 1, P.O.)

Ham, Baker & Co., Ltd., engineers, makers of roads & pavement covers, Langley Green, Birmingham; & 13, Grosvenor-rd., London, S.W. (Telegs.: "Penstock, London." Teleph. Victoria 96.)

Hamblet's Blue Brick Co., Ltd., conduit & culvert manufacturers, Piercy Works, West Bromwich, Staffs.; & 20, Victoria-st., Westminster, S.W. (Telegrams: "Hamblet, West Bromwich." Telephone No. 41.)

Hamblett, W. H., superintendent Corporation Lighting & Cleansing Department, Wilburn-st., Salford.

Hamby, K., electrical inspector, British Engine, Boiler & Electrical Insurance Co., Ltd., 12, King-st., Manchester.

Hame, John W., A.I.E.E., city electrical engineer, York.

Hamer, J., & Co., manufacturing electrical engineers, Broad-st., Halifax.

Hamilton, Andrew, A.M.I.E.E., 1, Holyroad Quadrant, Glasgow.

Hamilton, C. K., electrical engineer, Trafford Villa, Wilberforce-rd., Southsea, Hants.

Hamilton, Claud, consulting electrical engineer, 247, St. Vincent-st., Glasgow.

Hamilton, David Allan, A.M.I.E.E., 73, New Fillebrook-rd., Leytonstone, N.E.

Hamilton, F. T., A.I.E.E., c/o G. D. Hamilton, 23, Wormwood-st., E.C.

Hamilton, J. B., general manager, Corporation Tramways, Leeds.

Hamilton, Lieut.-Col. J. F. C., Spencer Lodge, Ryde. Director Isle of Wight Electric Light & Power Co., Ltd.; director St. Helen's Electric Lighting Co., Ltd.

Hamilton, Patrick, B.SC., A.M.I.C.E., M.I.E.E., electrical & mechanical engineer, 87, Victoria-st., Westminster, S.W. (Teleph. No. 3020, Victoria.)

Hamilton, Right Hon. Lord Geo., P.C., M.P., 17, Montagu-st., Portman-sq., W. Director Metropolitan District Railway Co.; director Underground Electric Railways of London, Ltd.; director Great Northern, Piccadilly & Brompton Railway Co.; director Charing Cross, Euston & Hampstead Railway Co.

Hamilton, Wm. Geo., A.M.I.E.E., Bath House, London-rd., Twickenham.

Hamilton Bros., electrical & mechanical engineers, 19, Waterloo-st., Glasgow. (Telegs.: "Starter, Glasgow." Teleph. No. 1636, Argyle.)

Hamilton, Claud, Ltd., electric light, motor car, & power engineers & contractors, 247, St. Vincent-st., Glasgow (Telegs.: "Opal, Glasgow." Teleph. Nos.: Nat. 120, Argyle; P.O. 120); & at Aberdeen. Registered Oct. 13, 1898. Capital: £50,000 in 30,000 ordinary & 20,000 preference £1 shares, & £11,175 debentures, all issued & fully paid. Directors: Alex. J. Fergusson, Esq., C.A. (chairman); Claud Hamilton, Esq. (managing); H. Wilson Bagot, Esq. (assistant managing). Secretary, F. H. Bisset. Dividends: 1905–06, 1906–07, 1907–08, 7½ per cent. free of tax; 1908–09, 6 per cent. less tax.

Hamilton, Claud (Aberdeen), Ltd., electrical engineers & contractors, 254A, Union-st., Aberdeen. (Telegs.: "Power, Aberdeen." Teleph. Nos. 582 & 880.) Registered Nov. 5, 1900. Nominal capital: £10,000 in ordinary & preference £1 shares, all issued fully paid. Directors: Claud Hamilton, Esq. (chairman); A. J. Fergusson, Esq.; J. Younger Collie, Esq. Secretary, Geo. M. Smith.

Hamilton & Co., installation contractors, 230, Berkley-st., Glasgow.

Hamilton Corporation Electricity Works (*leased to* Edmundson's Electricity Corporation, Ltd.), Hamilton, Scotland. Engineer, T. M. Colson, A.M.I.E.E.

Hamilton, J., & Son, electrical engineers, Guildford-st., Chertsey.

Hamilton, J. B., & Co., engineers & gear cutters, Unica Works, Southey-rd., South Tottenham, N. (Telegs.: "Verdampfer, London." Teleph. No. 1656, Tottenham.)

Hamkens, Alfred L., A.M.I.E.E., British L.M. Ericsson Manufacturing Co., Ltd., Byron House, 82–85, Fleet-st., London, E.C.

Hammar & Co., dynamos, motors & steel castings for electrical purposes, 25, Victoria-st., London, S.W. (Telegs.: "Hammaretcy, London." Teleph. Gerrard 3346.)

Hammersley-Heenan, John, A.M.I.E.E., 4, Chapel Walks, Manchester.

Hammersley-Heenan, R. H., M.I.C.E., M.I.E.E., 56, Victoria-st., London, S.W.

Hammersmith Borough Council Electricity Works, 85, Fulham Palace-rd., Hammersmith, London, W. (Teleph. Hammersmith 107.) G. Gilbert Bell, chief engineer & manager.

Hammersmith, City & North-East London Railway, Ltd., 17, Philpot-lane, London, E.C. Registered April 28, 1903. Nominal capital: £30,000 in £1 shares. Issued: 12,022 shares fully paid. Directors: A. F. Hills, Esq.; D. Urquhart, Esq.; C. J. Wills, Esq.; H. H. Bartlett, Esq. Secretary, J. Worsfold.

Hammick, W. M., The Close, Salisbury. Chairman Salisbury Electric Light & Supply Co., Ltd.

Hammill, John, director West Cumberland Electric Tramways Co., Bank-chbrs., St. Helen's, Lancs.

Hammond, C. P., M.I.E.E., "Trefusis," Ditton-rd., Surbiton, Surrey.

Hammond, Robert, M.I.C.E., M.I.E.E., M.I.M.E., consulting electrical engineer, 64, Victoria-st., Westminster, S.W. (Telegrams: "Hammond, London." Telephone No. 394, Victoria.)

Hammond, R. C., Captain R.E., A.M.I.E.E., Ordnance Barracks, Limerick.

Hammond, R. W., A.M.I.C.E., M.I.E.E., consulting electrical engineer, 64, Victoria-st., London, S.W. (Telegs.: "Hammond, London." Teleph. No. 394, Victoria.) Director Malaga Electricity Co., Ltd.

Hammond & Hussey, Ltd., electric bell fitters, &c., 23 & 25, High-st., Croydon. (Telegs.: "Hammond, Croydon." Teleph. Nos. 487 & 28, Croydon.)

Hammond, Robert, & Son, consulting electrical engineers, 64, Victoria-st., Westminster, London, S.W. (Telegrams: "Hammond, London." Telephone No. 394, Victoria.)

Hammond, Turner & Sons, Ltd., manufacturers of varied forms in cheap insulating material, Birmingham. (Telegs.: "Lion, Birmingham.")

Hampshire, J. H., chief assistant engineer, Slough & Datchet Electrical Supply Co., Ltd., Slough.

Hampshire, P. M., A.R.C.S. (Lond.), A.I.E.E., lecturer in electrical & mechanical engineering, Municipal Technical School, Blackburn, Lancs.

Hampshire Light Railways (Electric) Co., Ltd., Moorgate Station-chbrs., London, E.C. Registered May 17, 1897, to promote & own the Portsdown & Horndean Light Railway at Cosham. Capital outlay provided by the Provincial Tramways Co., Ltd. (*q.v.*). Directors: A. Beattie, Esq., J.P. (chairman); S. Hern, Esq.; J. B. Glenn, Esq. (managing & secretary). Engineer, John Glenn.

Hampson, Sir Robt. A., J.P., Brown Howe, Ulverston. Director Lancashire Power Construction Co., Ltd.

Hampstead Corporation Electricity Works, Lithos-rd., Hampstead, London, N.W. (P.O. Teleph. No. 2911, Hampstead.) G. H. Cottam, M.I.E.E., chief engineer. Chief assistants, E. Sayer, A.M.I.E.E., & J. Leadbeater, A.M.I.E.E.

Hampton, Alfred S., A.I.E.E., Caledonian Railway, Telegraph Superintendent's Office, 25, Killermont-st., Glasgow. (Teleph. No. 808, Roy.)

Hampton, Edwin, electrical, heating & ventilating engineer, Abergavenny. (Telegrams: "Hampton, Abergavenny.")

Hampton & Sons, Ltd., electric light engineers, Pall Mall, Trafalgar-sq., London, S.W. (Telegs.: "Hamitic, London." A.B.C. Code used. Teleph. No. 30, Gerrard (5 lines).)

Hampton Wick Engineering Co., electrical & mechanical engineers, 23, High-st., Hampton Wick.

Hamspohn, J., director Anglo-Argentine Tramways Co., Ltd., 62, Gresham House, Old Broad-st., London, E.C.

Hanbury, A., Bordighera, Italy. Director Woodhouse & Baillie Riviera Electricity Co., Ltd.

Hanbury, Lionel H., director Crompton & Co., Ltd., 25, Mark-lane, London, E.C.

Hanchett, G., Barratt & Co., electrical engineers, Lower Gold-st., Croft-st., Pendleton, Manchester. (Nat. Teleph. No. 147.)

Hancock, William, electric bell fitter, 22, Stratford-road, London, W.

Hancock & Rixon, electricians, 52, Gt. Marlborough-street, London, W.

Handcock, E. C., A.M.I.E.E., 91, Wellington-st., Glasgow.

Handcock, H. W., A.M.I.C.E., M.I.E.E., consulting engineer, Westminster-chbrs., 1, Victoria-st., Westminster, London, S.W. (Telegs.: "Rheophore, London." Teleph. No. 231, Vic.)

Handcock & Dykes, consulting engineers, Westminster-chbrs., 1, Victoria-st., Westminster, London, S.W. (Telegrams: "Rheophore, London." Telephone No. 231, Victoria.)

Handford, Sam, M.I.E.E. (Crews & Handford), Clarence-chbrs., 4, Piccadilly, Manchester. (Tel. City 4565.)

Handley, B., A.M.I.E.E., Corporation Electricity Works, Gunwharf-rd., Portsmouth.

Handley, G. D., Palmerston-rd., Southsea. Chairman National Provincial Electricity Corporation, Ltd.; director Ashford & District Electric Supply Co., Ltd.

Handley & Shanks, electrical engineers, 40, Great Charles-st., Birmingham. (Telegs.: "Illumine, Birmingham." Teleph. No. 3093.)

HANDS, ALBERT C., manufacturer & supplier of electrical & gas fittings, art metal work, switchboards dynamos & motors (alternating & continuous), arc lamps, machinery, bells & telephones, Snow Hill, London, E.C. (Telegs.: "Thraldom, London." Teleph. No. 1033, Holborn.) Fittings Factory: Birmingham.

Hands, John, & Sons, Ltd., makers of power presses, &c., Cardigan Works, Belmont-row, Birmingham. (Telegs.: "Machinery, Birmingham." Teleph. No. 411.)

Handsworth Urban District Council Electricity Works, Handsworth, Staffs. (Teleph. No. 39.) Engineer, F. A. Nixon.

Handyside, C. B., A.M.I.E.E., c/o J. H. Holmes & Co., Examiner-bldgs., Manchester.

Handyside, Andrew, & Co., Ltd., engineers & ironfounders, Britannia Iron Works, Derby (Telegrams: "Handyside, Derby"); 104, Queen Victoria-st., London, E.C. (Telegrams: "Handyside, London." Telephone No. 969, Bank.)

Hankow Light & Power Co., Ltd., 32, Great St. Helen's, London, E.C. Registered Jan. 27, 1906. Nominal capital: £20,100 in 2000 ordinary shares of £10 each & 2000 deferred shares of 1*s.* each & £10,000 debentures. Issued: 1682 ordinary shares fully paid & the deferred shares as paid. First mortgage, dated April 3, 1908, securing £4405 15*s.* 9*d.*, second mortgage, dated Dec. 18, 1908, to secure £1000. Directors: G. G. Tucker, Esq.; E. R. Day, Esq.; H. Barber, Esq.; A. W. Thompson, Esq. Secretary, B. R. Hester Baker.

Hanks, F. T., A.M.I.E.E., electrical agent, 1, Higham-pl. (Telegs.: "Frequency, Newcastle-on-Tyne." Teleph. No. 3069, Central); & "Inglewood," Benton, Newcastle-on-Tyne.

Hanley Corporation Electricity Supply, Park-rd., Hanley. (Telegs.: "Yeaman, Hanley." Teleph. No. 136.) Chairman of E. L. Committee, Alderman Coates. Borough electrical engineer, C. H. Yeaman; deputy engineer, W. Adams.

Hann, C. S., A.M.I.E.E., Electricity Station, Edwards-lane, Stoke Newington, London, N.

Hann, S., borough electrical engineer, Edwards-lane, Stoke Newington, N.

Hanna, J. W., electrical engineer, 14, Peel-pl., Kensington, London, W.

Hanna, Wm., A.M.I.E.E., c/o W. Drury-Lowe, Denby Colliery, Denby, nr. Derby.

Hanna, Donald & Wilson, turbine manufacturers, Abbey Works. Offices: 23, New Sneddon-st., Paisley, N.B. (Telegrams: "Donald, Paisley." Telephone No. 72.)

Hanna & Son, electrical engineers, 107, Church-st., Kensington, London, W. (Tel. No. 3137, Wester.)

Hannams, electric wires & cables, Peninsular House, Monument-st., London, E.C. (Telegs.: "Calcicar, London." Teleph. Avenue 1884.)

Hanning, T., A.M.I.C.E., consulting electrical engineer, Northern Assurance-bldgs., 2, Collingwood-st., Newcastle-on-Tyne. (Nat. Teleph. No. 1436.)

Hanningtons, Ltd., electric light engineers, 171 & 172, North-st., Brighton. (Telegs.: "Hanningtons, Brighton." Teleph. Nos.: 4926, Nat.; & 1710, Corp.)

Hannocks, John, & Co., installation contractors, Elm-rd., Leigh, Westcliff-on-Sea.

Hanover Rubber Co., hard & soft rubber manufacturers, 29 & 31, Old-st., London, E.C. (Telegs.: "Hartgummi, London." Teleph. London Wall 7773.)

Hansard, Arnold G., B.A., M.I.E.E., consulting electrical engineer, Parliament Mansions, Victoria-st., Westminster, S.W. (Telegs.: "Hansardize, London." Teleph. No. 60, P.O., Victoria.)

Hansell, F. L., & Co., makers of steel tramcar wheels & axles, Hansell Canal Steel Works, Sheffield. (Telegrams: "Ansel, Sheffield." Telephone No. 1801.)

Hansen, P. M., Auckland, N.Z. Local director Auckland Electric Tramways Co., Ltd.

Hansom, Oswin G. E., A.M.I.E.E., A.M.I.M.E., consulting electrical & mechanical engineer, Old Bank-chbrs., Albert-sq., Fleetwood (Telegs.: "Dynamo, Fleetwood." Teleph. No. 3 Y.); & engineer & manager, Fleetwood Electric Light & Power Co., Fleetwood.

Hanson, C. J. Whistler, A.I.E.E., electrical engineer, managing director Precision Engineering Co., Ltd., 143, 145 & 147, Rosebery-ave., London, E.C. (Telegs.: "Precengio, London." Teleph. Central 12382.)

Hanson, J., electrician, 25, Castle-st., Southport.

Hanson, Brown & Co., manufacturing electrical engineers, New Exchange-bldgs., Queens-sq. & Dock-st., Middlesbrough. (Telegs.: "Lion, Middlesbrough." Teleph. No. 491.)

Hanson, G. H., & Son, electrical engineers, 17, Bloomsbury-st., Birmingham.

Haran, N. G., & Sons, electrical engineers, 99 & 100, Causeyside-st., Paisley. (Teleph. No. 665.)

Harben, Alfred, telegraph engineer, 101, Charlton-rd., Blackheath, S.E.

Harbottle, A. C., director Topsham Electricity Supply Co., Ltd., Topsham, Devon.

Harburg & Vienna Indiarubber Co. (of Great Britain), Ltd., 9–14, Tower-chbrs., Finsbury Pavement, London, E.C. (Telegs.: "Sunward, London." Teleph. No. 2735, Central.)

Harburn, Arthur, Ltd., manufacturing electrical engineers, 70, Newgate-st., Bishop Auckland.

Harcourts, Ltd., manufacturers & patentees of electric pushes, &c., Atlas Works, 223, Moseley-st., Birmingham. (Telegrams: "Premier, Birmingham." Telephone No. 1360.)

Hardaker, W., electrographer, 13, Gray's Inn-rd., London, W.C. (Telegrams: "Electrograph, London.")

Hardcastle, Edward, M.I.E.E., Wm. Fulton & Sons, Ltd., Glenfield Works, Paisley, N.B.

Hardcastle, W. H., maker of battery jars & insulators, 172, Alexandra-rd., Sheffield.

Harden, G. F. St. C., A.M.I.E.E., A.M.I.M.E., electrical & mechanical engineer, Sandwell, Radlett, Herts.

Harden, Thomas, electrical engineer, 62, Hurlingham-rd., London, S.W.

Harding, Frank C., A.I.E.E., The Lindens, Torquay.

Harding, Harry A., assistant engineer, U. D. C. Electricity Works, Acton, W.

Harding, Jno., Mansion House, Stone. Director North-Western Electricity & Power Gas Syndicate.
Harding, P. H., A.M.I.E.E., Oreston, Granville-rd., Sidcup.
Harding, S. J., electrical engineer, 75, Cedars-rd., Beckenham, Kent. (Teleph. No. 596, Bromley.)
Harding Bros., electrical engineers, 48, Commercial-st., Hereford.
Harding, George, & Sons, Ltd., wire workers, 25-51, Long-lane, Borough, London, S.E. (Telegs.: "Tin Works, London." Teleph. Nos.: 689, Hop; & 9750, Central.)
Harding, Richardson, Rhodes & Co., Ltd., speed indicator & engine counter makers, Tower Works, Leeds. (Telegrams: "Porcupine, Leeds." Telephone No. 533.)
Harding, T. L., & Sons, wiring contractors, Market-st., Torquay. (Teleph. No. 166 (2 lines).)
Hardingham, G. G. M., M.I.M.E., A.M.I.C.E., F.C.I.P.A., consulting engineer & chartered patent agent, Clun House, Surrey-st., London, W.C. (Telegs.: "Hardingham, London." Teleph. Central 3373.)
Hardman, Josiah, manufacturing chemist, Milton, Staffordshire.
Hardman, Powell & Co., artistic fittings manufacturers, King Edward's-road, Birmingham. (Telegrams: "Hardman, Birmingham." A.B.C. Code used.)
Hards, Leo A., A.I.E.E., engineer, Urban Electric Supply Co., Ltd., Camborne & Redruth, Cornwall.
Hardstone, S. A., telephone engineer, National Telephone Co., Victoria Embankment, London, E.C.
Hardware Trade Journal, Ltd., with which is incorporated *Ironmongery* (weekly, 3*d.*; ann. sub., 5*s.*, post free), Christopher-st., Finsbury-sq., London, E.C. (Telegs.: "Hardwaria, London." Teleph. No. 1070, London Wall.)
Hardwick, Geo. H., A.M.I.E.E., electrical engineer, 101, Bath-st., Rugby.
Hardy, J. H., A.M.I.E.E., Culver-st., Halifax.
Hardy, J. T., A.I.E.E., electrical engineer, Abbey Walk, Coronation-rd., Halifax, Yorkshire.
Hardy, Ralph, A.M.I.E.E., 15, Cleveland-rd., Lowestoft.
Hardy, W. Eversley, M.I.E.E., general manager & engineer, Bath Electric Tramways, Ltd., Walcot-st., Bath; & York Villa, Kensington, Bath.
Hardy, Wm. G., chief assistant engineer, County of London Electric Supply Co., City-rd., E.C.
Hardy & Padmore, Ltd., ironfounders & lamp pillar manufacturers, Blockhouse, Worcester.
Hardy Patent Pick Co., Ltd., engineering & general tool makers & dealers, 22, Queen Victoria-st., London, E.C. (Teleph. No. 194, Bank); & Heeley, Sheffield. (Telegs.: "Hardypick, Sheffield." Teleph. No. 157.)
Hare & Co., wood & process engravers, Holborn-pl., High Holborn, W.C. (Telegs.: "Photogravure, London." Teleph. No. 13366, Central.)
HARE, H., & CO., slate & marble merchants, manufacturers of enamelled Slate & Marble Switch & Fuse Board backs, &c., Kingston Enamelled Slate & Marble Works, Park-rd., Hull. *See advt.*, SLATE TURNERS.
Harfield, J. A., electrician, &c., 13, Abingdon-rd., London, W. (Teleph. No. 1208, Western.)
Harfield & Co., mechanical engineers, Arundel House, Victoria Embankment, London, W.C. (Telegs.: "Harfield, London." Teleph. Gerrard 9324.)
Harford, Geo. Jas., A.M.I.E.E., electrical engineer, 92, Liverpool-rd., Birkdale, Southport.
Harford & Bristol Brass Co., copper & brass merchants, Golden Heart Wharf, Dowgate, London, E.C. (Telegs.: "Redrutin, London." Teleph. No. 790, Bank.)
Harford & Co., electrical engineers & contractors, 47, Tithebarn-st., Liverpool. (Telephone No. 6730.)
Hargreaves, J. N., & Co., manufacturers' agents, 56, Royal Exchange-chbrs., Boar-lane, Leeds. (Teleph. No. 4395.)
Harland, W. S., A.I.E.E., 4, West Villas, Stockton.
Harland Bowden & Co. *See* Bowden, G. Harland, & Co.
Harley, Dr. Vaughan, professor of pathological chemistry, University College, London, W.C. (Teleph. No. 663, King's Cross); & 25, Harley-st., London, W. (Teleph. No. 2613, Gerrard.)
Harling, W. H., mathematical instrument maker, 47, Finsbury-pavement, London, E.C. (Telegrams: "Clinograph, London." Telephone No. 8858, London Wall.)
Harmer, C., & Son, electricians, 11, Lingfield-rd., Wimbledon.
Harper, E. M., A.M.I.E.E., electrical engineer, 133, Brixton Hill, London, S.W.
Harper, Hy., electric light fittings makers, Howard Works, Witton-rd., Aston.
Harper & Bros., publishers of electrical & scientific works, 45, Albemarle-st., London, W.
Harper Electric Co., The, specialists in electric advertising signs, 25, Southwark Bridge-rd., London, S.E. (Telegs.: "Luxectric, London." Teleph. No. 2255, Hop.)
Harper Electric Piano Co., Ltd., electric piano makers, 258 & 260, Holloway-rd., London, N. (Telegs.: "Pertaining, London." Teleph. North 1636); & 83, New Oxford-st., W.C. (Teleph. Gerrard 4397.)
Harper, John, & Co., Ltd., Albion Works, Willenhall. (Telegs.: "Harpers, Willenhall." Teleph. No. 12, Darlaston.)
Harpers Ltd., makers of shafting, gearing, belt & rope pulleys, Craiginches, Aberdeen. (Telegrams: "Harpers, Aberdeen." Telephone No. 549.)
Harpham, E. Stanley, A.M.I.E.E., 26, Collingwood-st., Blackfriars-rd., London, S.E. (Telegs.: "Chaseley, London." Teleph. Hop 2012); & Netherdene, Eversleigh-rd., Finchley, London, N. (P.O. Teleph. Finchley 172.)

Harpin, J. H., A.M.I.E.E., 47, Temple-row, Birmingham.

Harpin, John H., & Co., installation contractors, 47, Temple-row, Birmingham.

Harpur, R. C., A.M.I.E.E., electrical engineer, Corporation Electricity Supply, Dover.

Harpur, W., M.I.C.E., city engineer, Cardiff.

Harpur, Fredk. A., & Son, general electrical engineers, Ballinasloe, Ireland.

Harquin Pendant Co., electric light fittings makers, 136 & 138, Kentish Town-rd., London, N.W. (Teleph. No. 2002, North.)

Harrap, G. T., A.M.I.C.E., M.I.M.E., M.I.MAR.E., consulting engineer, c/o Harrap, Hewett & Duffield, 5, Budge-row, Cannon-st., London, E.C. (Telegs.: "Sprocket, London." Teleph. No. 5467, Bank.)

Harrap, Hewett & Duffield, consulting electrical engineers & architects, 5, Budge-row, Cannon-st., London, E.C. (Telegrams: "Sprocket, London." Telephone No. 5467, Bank.)

Harrap, T., & Son, electrical & hot water engineers, Cardigan-rd., Leeds. (Telephone No. 1423.)

Harraway Bros., electrical engineers, 45, King's-rd., Sloane-sq., London, S.W.

Harries, W. J., copper merchant, 85, Gracechurch-st., London, E.C. (Telegrams: "Telephus, London." Telephone No. 105, Avenue.)

Harrington, Jas., electrical engineer, 155, Sumatra-rd., W. Hampstead, N.W.; & Hill & Harrington, 41, Berners-st., London, W. (Teleph. No. 593, Gerrard.)

Harrington Electric Light Co., Ltd., Long Eaton, Derbyshire. Registered May 18, 1895. Nominal capital: £5000 in £1 shares. £3900 has been taken up. £1 per share has been called & paid. Directors: Thos. Pegg, Esq. (chairman); Geo. Fletcher, Esq.; J. C. Maslin, Esq.; E. Dalby, Esq. Electrical engineer & secretary, Wm. B. Smith. Dividends: 1904, 8 per cent.; 1905, 9 per cent.; 1906, 15 per cent.; 1907, 17½ per cent.

Harris, A. F., A.M.I.E.E., director Nalder Bros. & Thompson, Ltd., 34, Queen-st., Cheapside, London, E.C.; & Roselle, Lansdown-rd., Sidcup.

Harris, A. R., A.M.I.E.E., 256, Nantwich-rd., Crewe, Cheshire.

Harris, Dr. F. Rutherfoord, Llangibby Castle, Usk, Mon. Director Cape Electric Tramways, Ltd.

Harris, F. Leverton, 81, Gracechurch-st., E.C. Director Metropolitan Electric Supply Co., Ltd.

Harris, F. W., metal merchant, buyer of copper wire, brass turnings & scrap from electrical fittings, 132, Hurst-st., Birmingham. (Telegs.: "Harris, Birmingham." Teleph. Midland 38.)

Harris, H. B., A.M.I.E.E., A.M.I.MECH.E., mechanical & electrical engineer, Council Tramways, Croydon. (Teleph. No. 406.)

Harris, H. Graham, M.I.E.E., M.I.C.E., M.I.M.E., 11, Great George-st., London, S.W. (Telegs.: "Welbram, London." Teleph. No. 60, Westminster.)

Harris, H. M., electrical engineer, 24, Castellain-rd., Maida Vale, London, W.

Harris, James B., wiring contractor, Osborne-rd., Newcastle-on-Tyne. (Teleph. Nos. 30 & 31, Jesmond.)

Harris, J. F., Canduna, Strandtown, Belfast. Director Bessbrook & Newry Tramway Co.

Harris, John, mechanical & electrical engineer, Langstone-rd., Peverell, Plymouth.

Harris, J. W., A.M.I.E.E., Laburnums, Bilston, Staffs.

Harris, R. J., electrical engineer, Hurst House, Woodford-green, Woodford.

Harris, The Rt. Hon. Lord, G.C.S.I., G.C.I.E., Belmont, Faversham. Vice-president National Telephone Co., Ltd.

Harris, T., director Ingleton Electric Lighting & Power Co., Ltd., Ingleton.

Harris, V. D., M.D., Woodrouffe, Milford-on-Sea, Hants. Director Milford-on-Sea Electric Supply Co., Ltd.

Harris, W., electrical engineer & contractor, 46, Longbrook-st., Exeter.

Harris, Wilfrid M., A.M.I.E.E., 10, Cliff-ter, Kendal.

HARRIS, A. E., & CO., die sinkers, press tool makers, stampings from copper, brass, zinc, G.S. & aluminium, to sketch or sample, for patentees & electricians, 95, Camden-st., Birmingham. *See advt.* STAMPERS & PIERCERS.

Harris, A., & Sons, Ltd., electric light contractors, 152, Bristol-st., Birmingham.

Harris & Harris, manufacturing electricians, 79, Turner's-rd., Burdett-rd., Bow, London, E.

Harris Institute & Victoria Technical School, Preston. *See* SCHOOLS—CLASSIFIED SECTION.

HARRIS, J. F. & G., mahogany & general timber merchants & moulding manufacturers, 58Q, Wilson-st., Finsbury, E.C.; 107–109, Snow's Fields, Newcomen-st., Borough, S.E.; Victoria Wharf, Palmers-rd., Green-st., Bethnal Green, London, E. (Telegrams: "Fandecors, London." Telephone No. 1168, London Wall); & Roding Joinery Works, Ilford. *See* WOOD CASINGS & CLEATS.

Harris, Lee & Co., Ltd., electrical engineers, 55, Berners-st., London, W. (Telegs.: "Clarinette, London." P.O. Teleph. No. 10014, Central. Lieber's & A.B.C., 5th edit., Codes.) Head office: Trust-bldgs., Fox-st., Johannesburg (Box 700).

Harris & Lyle, electrical engineers, Barnstaple.

Harris & Mills, patent agents, 23, Southampton-bldgs., London, W.C. (Telegs.: "Privilege, London.")

Harris Patent Feed Water Filter, Ltd., Bank-chbrs., 24, Grainger-st. West, Newcastle-on-Tyne (Telegs.: "Windtight, Newcastle." Teleph. No. 3220, Central); & 82, Victoria-st., London, S.W. (Telegs.: "Windtight, London." Teleph. No. 876, Westminster.)

Harris, Philip, & Co., Ltd., scientific instruments, manufacturing chemists, &c., 144 & 146, Edmund-st., Birmingham (Telegs.: "Science, Birmingham." Teleph. No. 10); & 182, Brunswick-st., Dublin. (Telegs.: "Science, Dublin." Teleph. No. 1307.)

Harris & Son, installation contractors, Market Parade, Gloucester.

Harris & Sons, electric novelties makers, 4, Blue Boar-ct., Market-pl., Manchester. (Teleph. City 2557.)

Harrison, A. E., A.M.I.E.E., 78, Hazelbourne-rd., Balham Hill, S.W.

Harrison, A. J., A.M.I.E.E., electrical engineer, 25, Margaret-st., Hull.

Harrison, E. W. L., A.M.I.E.E., assistant electrical engineer, British Engine, Boiler & Electrical Insurance Co., Ltd., 12, King-st., Manchester, & 53, Plymouth Grove West, Manchester.

Harrison, Francis, A.M.I.E.E., 142, Dukes-ave., Muswell Hill, London, N.

Harrison, Francis O., A.M.I.E.E., Arvon, Ollerbarrow-rd., Hale, Cheshire. (Teleph. No. 287, Altrincham.)

Harrison, Fred, electrical engineer, Lyric-chambers, Whitcomb-st., London, W.C. (Telegs.: "Kathode, London." Teleph. No. 426, Gerrard.)

Harrison, Geo. (D. Young & Co.), patent & trade mark registration agent, 11 & 12, Southampton-bldgs., London, W.C. (Telegrams: "Junkring, London." Telephone No. 893, Holborn.)

Harrison, H., electrical engineer, Dublin & Lucan Electric Railway Co., Dublin.

Harrison, H. H., A.I.E.E., 42, Wolseley-gdns., Chiswick, London, W.

Harrison, Haydn T., M.I.E.E., elec. engr., 11, Victoria-st., London, S.W. (Tel. No. 690, Westminster.)

Harrison, J., casing manufacturer. Offices: 24, 25 & 26, Charlotte-st., Old-st., London, E.C. (Telephone No. 711, London Wall.)

Harrison, Sir R., General, G.C.B., C.M.G., M.I.E.E., Ashton Manor, Dunsford, nr. Exeter.

Harrison, W., A.I.E.E., 17, Clifton-rd., Darlington.

Harrison, W. L., electric lighting contractor, 30 & 31, George-st., Hull. (Telegs.: "Plumber, Hull." Teleph. Nos. 201, Nat. & Corp.)

Harrison & Co., mechanical & electrical engineers, Ure Bank Engine Works, Ripon, Yorks. (Telegs.: "Traction, Ripon.")

Harrison, George, & Sons, zinc & copper merchants, 182, Drury-lane, London, W.C. (Teleph. No. 7659, Gerrard.)

Harrison, R. W., & Co., manufacturers of Garter, asbestos, soapstone, cotton, hemp, mineral, antifriction & all other kinds of packings. Warehouses & offices, Mill-lane; & Works, St. Peter-st., Blackburn. (Telegrams: "Rubber, Blackburn." Telephone No. 34.)

Harrison, W. P. L., & Co., electrical engineers, &c., Beaumond Cross, Newark.

Harriss, G. M., M.I.C.E.I., engineer & manager, Electricity Works, Carlow, Ireland.

Harrod's, Ltd., electrical engineers & contractors, 87–105, Brompton-rd., London, S.W.; & Barnes, S.W. (Telegs.: "Everything, London." Teleph. Kensington 3300 (60 lines), & Western 1.)

Harrogate Corporation Electricity Works, Ripon-rd., Harrogate. Geo. Wilkinson, M.I.E.E., M.I.M.E., engineer. Office: 33, Swan-rd. (Teleph. Nos.: 146, Works; 130, Office.)

Harrogate Technical School, Harrogate. *See* SCHOOLS.

Harrold, A. W., A.M.I.E.E., 148, Hither Green-lane, Lewisham, London, S.E.

Harrold, Chas., & Co., platinum dealers & refiners, 2 & 3, St. Paul's-sq., Birmingham. (Telegrams: "Aurum, Birmingham." Telephone No. 2149.)

Harrop, Wilfred M., A.M.I.E.E., superintendent, Engineer's House, West Riding County Asylum, Wakefield.

Harrow & Co., electric bell fitters, 13 & 14, Portland-street, Soho, London, W.

Harrow Electric Light & Power Co., Ltd., West-st., Harrow. (P.O. Teleph. Harrow 255.) Registered July 5, 1895. Nominal capital: £33,335 in £5 ordinary shares, £16,665 in £5 preference shares, £15,000 debentures & £1325 mortgages, all issued & fully paid. Directors: J. N. Stuart, Esq. (chairman); F. S. Winkley, Esq.; G. W. Spencer Hawes, Esq.; G. Townsend Warner, Esq.; E. M. Butler, Esq.; E. Rowley Hill, Esq. Electrical engineer, J. A. Bernard Horsley, A.M.I.E.E.; secretary, Wm. H. Bishop. Dividends: 1905, 1906, 1907 & 1908, 5 per cent.

Harrower, Peter, exporter of electrical & telegraphic plant, &c., 134, Bath-st., Glasgow (Telegrams: "Harrower, Glasgow." Nat. Telephone No. 645, Douglas); & 48, Lime-st., London, E.C.

Hart, F. G., M.I.E.E., electrical engineer, Station-rd., Epping, Essex.

Hart, F. W., chemical appliance & apparatus maker, 168, Stoke Newington-rd., London, N.

Hart, A., & Co., electrical engineers, Bonnington, Edinburgh.

HART ACCUMULATOR CO., LTD., secondary battery manufacturers, 35, Marshgate-lane, Stratford, London, E. (Telegs.: "Hartmossel, London." Teleph. Nos. 1306 & 1307, East. A.B.C., 5th Edition, Code.) Manchester office & show-rooms: Temple-chbrs., 33, Brazennose-st. (Telegs.: "Hartmossel, Manchester." Teleph. No. 5116); & Birmingham office & show-rooms: Princes-chbrs., 6, Corporation-st. (Telegs.: "Hartmossel, Birmingham." Teleph. No. 5995, Central.) Registered Dec. 23, 1898. Capital: £60,000 in 40,000 ordinary £1 shares, issued & fully paid, & 20,000 £1 6 per cent. cumulative preference shares, 7059 issued & fully paid. Mortgage, dated July 15, 1909, to secure £4500 & 4 per cent. interest. Directors: G. W. Kidd, Esq. (chairman); S. W. Hart, Esq.; L. W. Spratt, Esq.; E. J. Clark, Esq.; Geo. Hay, Esq. Engineer & manager, E. J. Clark; secretary, J. H. Poulton. Dividends: 1903, 1904, 1905 & 1906, 12½ per cent.; 1907, 10 per cent.; 1908, 5 per cent. *See advt.*, ACCUMULATORS—MAKERS OF.

HART MANUFACTURING CO., THE, Diamond "H" Switches & Sachs non-arcing fuses, Belgravia-chbrs., 72, Victoria-st., London, S.W. (Telegs. & Cables: "Hartmanco, London." Teleph. Victoria 1931.) Wm. Crichton, European manager. Registered in New Jersey on Oct. 27, 1896. Capital stock: $50,000.

Hart, Son, Peard & Co., Ltd., manufacturers of electric light fittings, 138/140, Charing Cross-rd., London, W.C.; & Grosvenor Works, Birmingham. (Telegs.: "Diurnation, London;" "Grosvenor, Birmingham." Teleph. Nos.: 5316, Gerrard, London; 574, Birmingham.)

Hart & Sons, electric light & power engineers & bell fitters, 13 & 14, Gun-st., Reading.

Hartford, Samuel, A.I.E.E., secretary Liverpool Electric Cable Co., Ltd., 292, Vauxhall-rd., Liverpool. (Telegrams: "Concentric, Liverpool." Telephone No. 6563.)

Hartlepool Electric Tramways Co., Ltd., Electrical Federation Offices, Kingsway, London, W.C.; & West Hartlepool. (Telegs.: "Tramways, West Hartlepool." Teleph. Hartlepool 73.) Registered Oct. 15, 1896. Nominal capital: £100,000 in £10 ordinary shares & £50,000 4½ per cent. debentures. All the ordinary shares have been taken up. Directors: G. J. Somerville, Esq. (chairman); C. S. B. Hilton, Esq.; W. G. Bond, Esq.; W. Morrison, Esq. Secretary, W. Frederick Cox; manager & engineer, G. Cardwell. Dividends: 1907 & 1908, *nil.*

Hartlepool Electricity Works (Northern Counties Electricity Supply Co., Ltd.), Hartlepool. Consulting engineers, C. S. Vesey Brown & C. W. Fairweather.

Hartley, H., resident engineer, South Staffordshire Tramway (Lessee) Co., Ltd., Tramways Depôt, Darlaston.

Hartley, J. E., Gibbet-lane, Halifax. Chairman Madeira Electric Lighting Co., Ltd.

Hartley, W. N., D.SC., F.R.S., F.I.C., professor of chemistry, Royal College of Science, Stephens-green, Dublin.

Hartley, J. E., & Son, dynamo makers, 13, St. Paul's-sq., Birmingham. (Telegs.: "Pyroxilin, Birmingham." Teleph. No. 2259.)

Hartley & Sugden, Ltd., engineers & boiler makers, Gibbet-st., Halifax. (Telegrams: "Boilers, Halifax." Nat. Telephone No. 38.)

Hartley University College, Southampton. *See* SCHOOLS, CLASSIFIED SECTION.

Hartmann, F. H., A.M.I.E.E., electrical engineer, 22, Theberton-st., Islington, London, N.

Hartmann, Frederick Wm., A.M.I.E.E., Southwark Works, Deverell-st., London, S.E.

HARTMANN & BRAUN, LTD., c/o Union Electric Co., Ltd., Park-st., Southwark, London, S.E. (Telegs.: "Abeam, London.")

Hartnell, H., A.M.I.E.E., 1st class staff engineer, General Post Office, London, E.C. (Teleph. No. 1002.)

Hartnell, H. W., A.M.I.E.E., Corporation Electricity Department, Cheltenham.

Hartnell Wilson, M.I.E.E., Volt Works, Leeds.

Hartnell, Wilson, & Co., Ltd., electrical engineers, Volt Works, Kirkstall-rd., Leeds, Yorks. (Telegrams: "Hartnell, Leeds." Telephone No. 282.)

Harvey, E. A., electrical engineer, 26, Burton-st., Nottingham. (Teleph. No. 198 X. 4.)

Harvey, E. W., consulting engineer, c/o Mr. Frederick Siemens, 10, Queen Anne's Gate, London, S.W.

Harvey, H. B., M.I.E.E., engineer & manager, Kent Electric Power Co., Frindsbury Power House, Strood, Kent. (Teleph. Chatham 357.)

Harvey, H. N., director & secretary Kingswood Electric Supply Co., Ltd., All Saints' House, The Exchange, Bristol.

Harvey, Lionel E., A.M.I.E.E., manager, Corporation Tramways, South Shields.

Harvey & Co., Ltd., engineers, 183, Gresham House, Old Broad-st., London, E.C. (Telegrams: "Truran, London"); & Hayle, Cornwall.

Harvey & Peak, electrical instrument makers, 56, Charing Cross-rd., London, W.C.

Harvie, W., & Co., Ltd., electric light engineers & contractors, 24, McAlpine-st., Glasgow. (Telegrams: "Bromide, Glasgow." Telephone No. 945.)

Harwich Electric Lighting & Tramways Co., Ltd. Registered July 27, 1900. Nominal capital: £50,000 in £1 shares, of which 7 shares have been taken up, but nothing paid thereon. Directors: P. N. Avery, Esq.; H. Coverdale, Esq.; C. E. Heyl-Dia, Esq. Engineer, C. L. Turner; secretary, W. Simpson.

Harwood, J., Woodside Mills, Bolton. Director Trafford Power & Light Supply (1902), Ltd.

Harwood, W., electrical engineer, Crown-st., Hebden Bridge.

Haseler, Chas., & Son, manufacturers of electrical fittings, 94, Bridge-st. West, Birmingham.

Haseltine, Lake & Co., patent, design & trade mark registration agents, 7 & 8, Southampton-bldgs., London, W.C. (Telegrams: "Scopo, London." Telephone No. 4762, Central.)

Haskell, J. S., 9, Fenchurch-ave., London, E.C. Director Shanghai Electric Construction Co., Ltd.

Haskew, Fredk., consulting engineer, High-st., Stourbridge. (Telegrams: "Haskew, Engineer.")

Haslam, A. P., M.I.E.E., "Coniston," 72, Cloncurry-st., Fulham, London, S.W.

Haslam, Sidney B., A.M.I.MECH.E., A.M.I.E.E., Western Mail-chbrs., Cardiff.

Haslam, Wm. Vernon, A.M.I.E.E., Dunstan Villa, Sheepbridge, Chesterfield.

Haslam Foundry & Engineering Co., Ltd., 176, Salisbury House, London, E.C. (Telegs.: "Ponfex, London." Teleph. Nos.: 862, London Wall; & 5198, Central.)

Haslam, Furze & Co., electrical engineers, St. Helen's-st., Derby. (Teleph. No. 685 X.)

Haslam & Schontheil, Ltd., electrical & mechanical engineers, Western Mail-chbrs., Cardiff. (Telegs.: "Thor, Cardiff." Teleph. Nos.: 678, Nat.; & 606, P.O., Cardiff.)

Haslingden Corporation Electric Tramways, Haslingden. (Teleph. No. 16.)

Hassard, Lieut.-Colonel H. S., A.I.E.E., Hoddesdon, Herts.

Haste Pump Co., Ltd., Crown-ct., Old Broad-st., E.C. Works: Manchester.

Hastie, J., & Co., Ltd., engineers, Nicholson-st., Greenock. (Telegs.: "Hastie, Greenock." Teleph. Nos. 866–867.)

Hastings Corporation Electricity Works. Russell F. Ferguson, M.I.E.E., M.I.MECH.E., borough electrical engineer. (Telegrams: "Electric, Hastings." Nat. Telephone No. 46.)

Hastings & District Electric Tramways Co., Ltd., 1, Queen Victoria-st., London, E.C. Registered Nov. 9, 1904. Nominal capital: £500,000 in £5 shares, of which 50,000 are 6 per cent. cumulative preference shares. Loan: £250,000. Issued: 28,235 ordinary shares & 40,000 preference shares, & £236,450 4½ per cent. debentures. A trust deed, dated Nov. 20, 1904, to secure £250,000 debenture stock, has been registered. Directors: E. C. Morgan, Esq.; G. Kitchin, Esq.; J. C. Williamson, Esq. Engineer & manager, T. B. Holliday; secretary, W. R. Elston.

Hatch, F., assistant general manager Potteries Electric Traction Co., Ltd., Stoke-on-Trent, Staffs.

Hatch, George, Ltd., machinery tools & engineers' stores, Crown-bldgs., 20 & 21, Queenhithe, London, E.C. (Telegs.: "George Hatch, London." Teleph. Bank 5096 & 5097.)

Hatcher, J. O., Comm. R.N., A.I.E.E., Liverpool Salvage Association, A19–20, Exchange-bldgs., Liverpool.

Hatcher, E., & Co., electric light contractors, 65, Charles-st., Cardiff.

Hathorn, Davey & Co., Ltd., mechanical engineers, pumping machinery, Sun Foundry, Leeds. (Telegs.: "Hathorn, Leeds." Teleph. No. 524. A.B.C. Code used.)

Hatt, J. J., M.I.E.E., 410, London-rd. South, Lowestoft.

Hattemore, M., & Co., wire agents & factors, 265, Bethnal Green-rd., London, E.

Hattersley & Davidson, Ltd., electrical contractors, Norfolk-st., Sheffield. (Telegs.: "Gearing, Sheffield." Teleph. No. 486.)

Hatton, E., general manager, Corporation Electric Tramways, Newcastle-on-Tyne. (Telegs.: "Traction, Newcastle-upon-Tyne." Teleph. Nos.: 913 & 914, Nat.; & 241, P.O.)

Hatton, R. J., M.I.E.E., electrical engineer, Llanberis Lodge, Carnarvon-rd., Stratford, London, E.

Hatton & Co., manufacturers of electric light fittings, 18, Bury-st., New Oxford-st., London, W.C.

Haughton's Patent Metallic Packing Co., Ltd., high-pressure electric light engine packing, 6, Lombard-ct., London, E.C. (Telegs.: "Haughnot, London." Teleph. No. 5605, Avenue.)

Havell, Dr. C. G., Felixstowe, Suffolk. Director Suffolk Electricity Supply Co., Ltd.

Havelock, J. H., A.M.I.E.E., 21, Elms-rd., Heaton Moor, Stockport.

Havord & Co., electrical engineers, 2, Wrotham-rd., Gravesend.

Haward, Fred N., A.M.I.E.E., 18, Second-ave., Acton Park, London, W.

Haward, S. E., & Co., Ltd., electric lighting contractors, Goods Station-rd., Tunbridge Wells. (Telegs.: "Haward, Tunbridge Wells." Nat. Teleph. No. 45.)

Hawes, F. B. O., A.M.I.C.E., A.I.E.E., managing director Langdon-Davies Motor Co., Ltd., Southwark Works, Deverell-st., London, S.E. (Telegs.: "Damophon, London." Teleph. No. 4277, Hop. (2 lines).)

Hawes, G. W. Spencer, M.I.E.E., consulting electrical engineer, May & Hawes, Caxton House, Westminster, S.W. (Telegs.: "Dynostatic, London." Teleph. No. 3112, Victoria.) Director Harrow Electric Light & Power Co., Ltd.

Hawes, J. W. H., A.M.I.E.E., electrical engineer, c/o Safety Light, Ltd., 117, Middlesex-st., London, E.

Hawick Electricity Works. Urban Electric Supply Co., Ltd., proprietors. Resident engineer, A. N. Rye, A.M.I.E.E. (Telegs.: "Urban Co., Hawick." Teleph. Hawick 407.)

Hawke, G., & Son, electric bell fitters, St. Austell.

Hawker, H., electrical engineer, 37, Gloucester-rd., Brighton. (Teleph. Nos.: 1262, Corp.; & 384, Nat.)

Hawkes, Clifford, electrical engineer, 10, Castle-sq., Brighton. (P.O. Teleph. No. 217.)

HAWKES, O. C., LTD., electric stove makers, sole patentees of the X.L. Patent Induced Draught System, artists in wood, metal & glass for electrical purposes, fittings manufacturers, also patentees & manufacturers of electric signs & illuminated letters, 69 & 70, Aldersgate-st., London, E.C.; & Globe Works, Bromsgrove-st., Birmingham. (Telegs.: "Overmantel, London;" "Hawkes, Birmingham." Teleph. Nos.: 7889, Central, London; 509, Birmingham.)

Hawkes & Sons, electric wiring contractors, 7, High-st., Reading.

Hawkes & Walton, electrical engineers, 10, Castle-sq., Brighton. (Telegs.: "Clifford Hawkes, Brighton." Teleph. No. 217, P.O.)

Hawkings, Walter, A.M.I.E.E., 4, The Avenue, Bedford Park, London, W.

Hawkins, A. A., manager Electric Tramways, Wrexham.

Hawkins, A. S., A.M.I.E.E., resident engineer, Newquay Electric Light & Power Co., Newquay.

Hawkins, A. W., installation contractor, 23, Hill Rise, Richmond, Surrey.

Hawkins, C. C., M.A., M.I.E.E., electrical engineer, 44, Westbere-rd., Cricklewood, N.W.

Hawkins, Frank J., A.I.E.E., "Llanberis," 5, Castello-ave., Putney, S.W. (Teleph. Putney 1084.)

Hawkins, Henry, A.M.I.E.E., Stanfield House, Strand-rd., Sandymount, Dublin.

Hawkins, Herbert John, A.M.I.E.E., assistant electrical engineer, Electricity Works, Frederick-rd., Salford, Manchester. (Teleph. No. 6201–2.)

Hawkins, T., M.I.E.E., electrical engineer, 51, Whitcomb-st., London, W.C. (Telegs.: "Kathode, London." Teleph. Gerrard 426.)

Hawkins, W. B., chairman Brazilian Street Railway Co., Ltd., 134, Palmerston Ho., Bishopsgate-st., E.C.

Hawkins, Alex., & Sons, electrical engineers & contractors, 125–128, London-rd., London, S.E. (Telegs.: "Alexander Hawkins, London." Teleph. Hop. 1202.)

Hawkins Bros., electricians, &c., 2, Cavendish-ct., London, E.C. (Teleph. No. 1692, Central.)

HAWKINS BROS. & CO., LTD., wire & cable manufacturers, Hatfield-st.; & Basterfield-st., Golden-lane, London, E.C. (Telegs.: "Feudatory, London." Teleph. No. 9178, London Wall.) *See advt. under* CABLES—ELEC. LIGHT.

Hawkins & Co., Ltd., manufacturers of screws, rivets, &c., 33A, Cheapside, Birmingham. (Telegrams: "Screws, Birmingham.")

Hawkins, T. P., & Son, wire weavers & electric staple manufacturers, 27, Dale End, Birmingham. (Telegrams: "Hawkeye, Birmingham.")

Hawkshaw, J. C., director Fort William Electric Lighting Co., Ltd., Fort William, Inverness.

Hawkshaw, O., director Fort William Electric Lighting Co., Ltd., Fort William.

Hawksley, Wild & Co., Ltd., engineers, makers of boilers & feed-water heaters, &c., Savile-st., Sheffield. (Telegs.: "Hawksley, Sheffield." Teleph. No. 327.)

Hawksworth, Eyre & Co., Ltd., lamp & candelabra manufacturers, Rockingham-st., Sheffield: & Atlantic House, 46A, Holborn Viaduct, London, E.C. (Telegs.: "Electrology, London;" & "Electrology, Sheffield." Teleph. Nos.: 1391, Sheffield; & 479, Holborn, London.)

Hawley, E., director Commercial Cable Co., 23, Royal Exchange, E.C.

Hawley, R., electrical engineer, Pope's Grove, Twickenham, Middlesex.

Hawnt, Montague, & Co., insulating material manufacturers, 136–142, Clerkenwell-rd., London, E.C. (Telegrams: "Hawnt, London." Nat. Telephone No. 1728, Holborn.)

Haworth, H. F., PH.D., M.SC., B.ENG., A.M.I.E.E., 93, Hamlet-gdns., Ravenscourt Park, Hammersmith, W.

Haworth, Jas. W., A.M.I.E.E., Birkaire House, Chorley.

Haws, H. Tyndale, A.M.I.E.E., 29, Gladstone-rd., Croydon.

Hawtayne, W. C. C., M.I.E.E., consulting engineer, 9, Queen-st.-pl., London, E.C.

Hawtayne & Zeden, consulting engineers, 9, Queen-st.-pl., London, E.C. (Telegrams: "Hawtayne, London." Telephone No. 5288, Bank.)

Hawthorn, James George, consulting engineer, 41, East India Dock-road, London, E.

Hawthorn Fire Detector Co., Ltd., makers of electric fire alarms, &c., 11, Queen Victoria-st., London, E.C.

Hawthorns & Co., engrs., Leith Engine Works, Leith. (Telegs.: "Hawthorns, Leith." Tel. No. 431.)

Hay, Lord John, G.C.B., Admiral of the Fleet, Fulmer-pl., Fulmer, Slough. Director Metropolitan Electric Supply Co., Ltd.; director Uxbridge & District Electric Supply Co., Ltd.

Hay, J. A., A.M.I.E.E., c/o Dick, Kerr & Co., Abchurch-yard, Cannon-st., London, E.C.

Haybridge Iron Company, Ltd., iron wire manufacturers, Wellington, Salop. (Telegrams: "Haybridge, Hadley." Telephone No. 18.)

Haycraft & Son, Ltd., electricians, electric light engineers, Broadway, Deptford, London, S.E. (Teleph. No. 266, Deptford); Lewisham High-rd., London, S.E. (Teleph. No. 507, Deptford); & Blackheath Village, London, S.E. (Teleph. No. 111, Lee Green.)

Hayes, Edward, M.I.C.E., electric light engineer & steam engine maker, 9, Bridge-st., Westminster, S.W. (Teleph. No. 1762, Victoria); & Stony Stratford, Bucks. (Telegs.: "Hayes, Stony Stratford.")

Hayes, F., assistant engineer, Corporation Electricity Works, Prince Rock, Plymouth.

Hayes, John, A.M.I.C.E., M.I.MECH.E., consulting & electrical engineer, valuer of plant, machinery, &c., 12, Market-st., Carnarvon. (Telegs.: "Hayes, Carnarvon." Teleph. No. 51.)

Hayes, M., electrical engineer, 13, Johnson-rd., Southall, Middlesex.

Hayes & Finch, Ltd., electric light fittings makers, Vernon-st., Dale-st., Liverpool. (Telegs.: "Beeswax, Liverpool." Teleph. No. 6255, Central.)

Hayle Gas Co., Ltd., electric light contractors, Hayle, Cornwall.

Hayman, R. W., A.M.I.E.E., assistant works manager, Simplex Conduits, Ltd., Garrison-lane, Birmingham.

Hayne, R. H., A.M.I.E.E., electrical engineer, 37, Bromley Common, Kent.

Hayne, W., J.P., 3, Connaught-ave., Frinton-on-Sea. Director Frinton-on-Sea & District Electric Light & Power Co., Ltd.

Haynes, F., electric light engineer, 20, North-st., Ashby-de-la-Zouch.

Haynes, F. T. J., M.I.E.E., Taunton.

Haynes, J. T., A.M.I.E.E., electrical engineer, 60, Martin's-lane, London, W.C.

Haynes Bros., Ltd., electrical engineers, Gabriel's Hill, Maidstone.

Hays, D., general manager & engineer, Falkirk & District Tramways Co., Ltd., Larbert-rd., Larbert, N.B.

Hayward, Eric M., A.M.I.E.E., Electricity Works, Peterborough.

Hayward, F., local engineer, National Telephone Co., Richmond, Surrey. (Teleph. No. 101.)

Hayward Bros. & Eckstein, Ltd., ventilating engineers, 187–193, Union-st., Borough, London, S.E. (Telegrams: "Hayward Bros., London.") A.B.C. Code used.

Hayward & Son, wiring contractors, 4, Walcot-st., Bath.

Hayward-Tyler & Co., Ltd., engineers, 99, Queen Victoria-st., London, E.C. (Telegrams: "Tylerox, London." Telephone Nos. 192 & 199, Bank.)

Hayward's Heath Electric Supply Co., Ltd., Channel-st., Blackfriars, London, S.E. Registered June 29, 1904. Nominal capital: £1000 in £1 shares, of which seven have been taken up. Directors: F. W. Reynolds, Esq.; F. E. Savory, Esq. Secretary, H. B. Renwick.

Haywood, W. G., & Co., electrical engineers, 56, High-st., W.C. (Telegs.: "Rheostatus, London." Teleph. Central 6287.)

Hazell, H. C., A.M.I.E.E., 5, Commercial-rd., Liverpool.

Hazzledine, H. T., A.I.E.E., electrical engineer & contractor, South Sherwood-st., Nottingham. (Teleph. No. 1480.)

Head, A. F. H., electrical engineer (Mountain & Gibson, Ltd.), Elton Fold Works, Bury, Lancs.

Head, C. A., D.L., J.P., C.C., Hartburn Hall, Stockton-on-Tees. (Teleph. No. 5, Hartburn.) Chairman Cleveland Trust, Ltd.

Head, Sir R., Bart., director North-West London Railway Co., 12, New-ct., Lincoln's Inn, W.C.

Head, Wm. J., A.M.I.E.E., India Rubber, G. P. & Telcg. Works Co., 59, Westgate-rd., Newcastle-on-Tyne.

Head, F. D. & H., & Head & Thurlow, electric lighting contractors, 166, High-st., Notting Hill Gate, W. (Teleph. Western 456); 4, Norfolk-rd., Westbourne Grove, W. (Teleph. Western 540); 198, Belsize-rd., Kilburn, N.W. (Teleph. Hampstead 1054); & 65, New Cavendish-st., W. (Teleph. Paddington 2021.)

Head, Jeremiah, & Son, consulting engineers, 47, Victoria-st., Westminster, S.W. (Telegrams: "Principium, London." Telephone No. 237, Westminster. A.B.C. Code used.)

Head, Wrightson & Co., Ltd., general engineers, contractors in structural ironwork, Thornaby-on-Tees, Yorkshire; Stockton-on-Tees, Durham; & 5, Victoria-st., London, S.W. (Telegrams: "Teesdale, Stockton;" & "London." Tel. Nos.: 22 & 74, Thornaby; 270, Westminster; P.O. 15, Stockton.)

Headingley Motor & Engineering Co., Ltd., electrical engineers, 18, St. Michael's-lane, Headingley, Leeds.

Headley, F. H., electrical engineer, 65, Stirling-rd., Birmingham.

Headley, J. H., London representative, Electromotors, Ltd., 49, Queen Victoria-st., London, E.C. (Telegs.: "Orders, London." Teleph. No. 3525, London Wall.)

Headley & Edwards, Ltd., electric bell fitters, Corn Exchange-st., Cambridge. (Telegrams: "Vanes, Cambridge." Telephone No. 22.)

Headworth, H. Hugh, electrical sundriesman, 79, Upper North-st., Poplar, London, E.

Healey, T., superintendent Western Union Telegraph Co., 8, Rumford-st., Liverpool.

Healing, L. J., & Co., Ltd., importers of electrical machinery, 84, Fenchurch-st., London, E.C.

Healy, L. T., A.M.I.E.E., Royal Insurance Co., Ltd., 28, Lombard-st., London, E.C.

Hean, W. E., A.M.I.E.E., 229, Slade-rd., Gravelly Hill, Birmingham.

Heaney & Co., electrical engineers, 327, Borough-rd., Birkenhead. (Teleph. No. 135 X.)

Heap, A. C., M.I.E.E., Waverley Mills, St. Simon-st., Salford.

Heap, S., electrical engineer, 47, Regent-st., Lancaster.

Heap, Chas., & Co., electric bell fitters & dealers, 14 & 15, Leicester-st., London, W.C.

HEAP & IOHNSON, electrical supplies, 28, Hatton Garden, London, E.C. (Telegs.: "Unisonally, London." Cables: "Yanel, London." P.O. Tel. Central 6602.) *See advt. under* CARBON BRUSHES.

Heap, William, & Co., Ltd., engineers' tool-makers, Oldham-rd., Ashton-under-Lyne. (Telegs.: "W. Heap, Ashton-under-Lyne." Nat. Teleph. No. 233.)

Heaps, Arnold & Heaps, zinc merchants, Leeds Old Lead Works, Leeds. (Telegs.: "Heaps, Leeds." Teleph. No. 9.)

Heard, P., station superintendent, Corporation Electricity Works, Chester.

Hearder, W., PH.D., F.L.S., F.S.A., medical electrician & electrical engineer, 195, Union-st., Plymouth.

Hearson, T. A., chartered patent agent, 22, Southampton-bldgs., Chancery-lane, London, W.C. (Telegrams: "Rotnevni, London." Telephone No. 133, Holborn.)

Heath, C. R., A.M.I.E.E., electrical engineer, 4, St. Luke's-rd., Bath.

Heath, G., director Hooghley River Electric Power Co., Ltd.

Heath, J. F., M.I.E.E., M.I.MECH.E., chief assistant electrical engineer, Metropolitan Railway Co., Power Station, Neasden, Middlesex.

Heath, J. S., A.M.I.E.E., Rock Lea, Abbey-rd., Barrow-in-Furness.

Heath, R. S., D.SC., professor of mathematics, The University, Birmingham.

Heath, Robt., Biddulph Grange, Congleton. Director North-Western Electricity & Power Gas Synd., Ltd.; director North-Western Electricity & Power Gas Co.; director Loch Leven Water & Electric Power Co.

Heath, William, electrical engineer, 21, Bride-lane, Fleet-st., London, E.C. (Teleph. No. 214, Central.)

Heath, W. H., elec. engr., c/o Electrical Power Engineering Co., Mary-st., St. Paul's, Birmingham.

Heath & Co., Ltd., makers of scientific, optical & general instruments, Crayford, Kent; & 2, Tower Royal, Cannon-st., London, E.C. (Telegrams: "Heath, Crayford;" & "Polaris, London." Telephone Nos.: 15, Dartford; & 287, Bank.)

Heath, T. W., & Son, electricians, 154 & 154A, Cromwell-rd., S.W.; & Pembroke Works, Pembroke-sq., Kensington, London, W. (Telephone No. 1639, Kensington.)

Heath, W. G., & Co., electrical engineers, Frankfort-st., Plymouth. (Telegs.: "Heath, Engineers, Plymouth." Teleph. No. 682.)

Heather, E. W., A.M.I.E.E., 38, Swallowfield-rd., Charlton, London, S.E.

Heather, W. O., assistant engineer, Electricity Works, Cathall-rd., Leytonstone, London, E.

Heathman, J. H., & Co., patent ladders, trestles, towers, scaffolds & steps, Parsons Green, S.W. (Teleph. Putney 150.) Local depôts at 37, Endell-st., W.C., & 7, Pentonville-rd., N. Also makers of fire-escapes & extinguishing appliances, hydrants, pumps, hose & fittings.

Heaton, C., electrician, 39, Princeville-st., Legrams-lane, Bradford, Yorks.

Heaton, J., director Anglo-Argentine Tramways Co., Ltd., 62, Gresham House, E.C. (Teleph. Central 10551.) Chairman City of Buenos Ayres Tramways Co. (1904), Ltd.

Heaton, Prof. W. H., M.A., M.I.E.E., professor of physics & mechanics, University College, Nottingham.

Heaton, Wm. H., M.I.M.E., M.I.E.E., British Westinghouse Electric & Manufacturing Co., Ltd., Westinghouse-bldg., Norfolk-st., London, W.C.

Heaton & Dugard, brass & copper wire manufacturers, Shadwell-street Mills, Birmingham. (Telegrams: "Heagard, Birmingham." Telephone No. 39.)

Heaton-Ellis, Major C., Wyddiall Hall, Buntingford, Herts. Chairman Dumbarton Burgh & County Tramways Co., Ltd.

Heaver, Northcote & Co., electrical engineers, 43, King's-rd., Camden Town, N.W.

Heaviside, A. W., I.S.O., M.I.E.E., 12, Tring-ave., Ealing Common, London, W.

Heaviside, B. B., A.M.I.E.E., 31, Culmington-rd., Ealing.

Heaviside, Oliver, F.R.S., Hon. M.I.E.E., Homefield, Lower Warberry, Torquay.

Heaviside, T. B., A.I.E.E., 3, Frith-rd., Leytonstone, Essex.

Hebbert, Ernest G., electrician, Aysgarth, Calverley Park-gardens, Tunbridge Wells.

Hebburn Electricity Works (Northern Counties Electricity Supply Co., Ltd.), Hebburn, Durham. General manager, C. W. Fairweather.

Hebden Bridge U.D.C. Electricity Works, Hebden Bridge, Yorks. Engineer, J. W. Garside.

Heberden, W. B., assistant engineer, Corporation Electricity Works, Stockton-on-Tees.

Heberlein Co., Ltd., mechanical & elec. engineers, Suffolk House, Laurence Pountney Hill, London, E.C.

HECKFORD, ARTHUR E., Birmingham Metal Works, Birmingham. Hecnum, Nickel & German Silver, Resistance tape wires, &c., Rolled metals. *See advt. under* RESISTANCE WIRES.

Heckmondwike Urban District Council Electricity Works, Heckmondwike, Yorks. Engineer, G. H. Carter, A.I.E.E.; assistant, H. C. Carter.

Hedderley, C. H., electrical engineer, 16, Heaton-rd., Newcastle-on-Tyne.

Hedgcock, A. J., A.M.I.E.E., W. T. Henley & Co., Blomfield-st., London Wall, E.C.

Hedges, J., electrical engineer, P. R. Jackson & Co., Salford Rolling Mills, Manchester.

Hedges, Killingworth, M.I.E.E., M.I.C.E., consulting electrical engineer, 1, Emery Hill-st., London, S.W.

Hedleys, Ltd., mechanical & electrical engineers, Forward Works, Bell-st., West Bromwich, Staffs. (Telegrams: "Forward, Westbromwich." Telephone No. 113, West Bromwich.)

Heenan, Hammersley, director Marconi's Wireless Telegraph Co., Ltd., Watergate House, Adelphi, W.C.

Heenan, W. E. J., M.I.E.E., borough electrical engineer, Electricity Works, Bermondsey, S.E.

Heenan & Froude, Ltd., mechanical engineers, Newton Heath Iron Works, Manchester (Teleph. Nos. 966 & 6260); 4, Chapel-walks, Manchester (Teleph. No. 964); Worcester Engineering Works, Worcester (Teleph. No. 21) (Telegs.: "Spherical, Newton Heath;" "Heenan, Manchester;" "Heenan, Worcester"); & 56, Victoria-st., London, S.W. (Telegs.: "Heenafro, London." Teleph. No. 687.)

Heeps, Willard & Co., Ltd., electrical engineers, 48, London Wall, London, E.C. (Teleph. Wall 1032.)

Hefford, C. N., A.M.I.E.E., Thorner Lodge, Thorner, Leeds.

Heilborn, A., manager of the Cable & Wire & Insulating Material Departments, Electrical Co., Ltd., 162, Shaftesbury-ave., W.C.

Heineman, D., director Anglo-Argentine Tramways Co., Ltd., 62, Gresham House, Old Broad-st., E.C.

Heinemann, E., 29 & 30, Kanionerstr., Berlin. Director Chilian Electric Tramway & Light Co., Ltd., 1, London Wall-bldgs., London, E.C.

Hele-Shaw, Prof. H. S., LL.D., F.R.S., M.I.C.E., 64, Victoria-st., Westminster, S.W.

Helleken, G., Ltd., machine tool makers, 133, Upper Thames-st., London, E.C. (Telegs.: "Helleken, London." Teleph. London Wall 7628.)

"Hellewell" Rubber Co., indiarubber manufacturers, 15–19, Corporation-street, Manchester.

Hellier, Wm., electric light contractor, 48, East-st., Baker-st., London, W.

Helliwell & Co., Ltd., patent "Perfection" glazing, Brighouse, Yorks. (Telegrams: "Helliwell, Brighouse." Telephone No. 73, Brighouse.)

Hellon, F. B., & Co., electrical engineers, 57, Moorfields, Liverpool.

Hellyar, W. A. S., 28, Finsbury Pavement, London, E.C. Director Chichester Electric Light & Power Co., Ltd.

Hellyar & Sons, manufacturing electricians, 196, King-st., Hammersmith, London, W. (Teleph. 1044.)

Helme, D., borough electrical engineer & tramways manager, Corporation, Nelson, Lancs. (Teleph. No. 115, Nelson.)

Helptophone Co., Ltd., mfrs. of electric & telephone accessories, 53, New Broad-st., London, E.C.

Hemingway, Chas. A., electrical engineer & contractor, 10, Eton-st., Richmond, Surrey. (Teleph. No. 28, Richmond.)

Hemingway & Pritt, electrical engineers, 39, Victoria-st., London, S.W. (Teleph. Westminster 361.)

Hemsworth Electricity Supply Co., Ltd., Crosshill, Hemsworth, nr. Wakefield. Registered Oct. 7, 1903. Nominal capital: £6000 in £1 shares. Issued: £441. Directors: Jno. Burgin, Esq.; H. Goodman, Esq.; J. Gomersall, Esq.; Wm. C. Haigh, Esq.; Geo. Hodgson, Esq.; J. L. Marshall, Esq.; R. J. Nicholson, Esq. (managing). Secretary, R. Townend.

Henderson, A., electrical inspector, British Engine, Boiler & Electrical Insurance Co., Ltd., 12, King-st., Manchester.

Henderson, Chas. Alex., A.M.I.E.E., 116, Dora-rd., Wimbledon.

Henderson, Dr. James Blacklock, D.SC., M.I.E.E., professor of applied mechanics, Royal Naval College, Greenwich. (Telegs.: "College, Greenwich." Teleph. No. 24, Deptford.)

Henderson, G. E., 16, Framlington-pl., Newcastle-on-Tyne. Director Tyneside Tramways & Tramroad Co.

Henderson, Geo. M., A.M.I.E.E., 2, Clermont-ter., Preston Park, Brighton.

Henderson, H., A.M.I.E.E., Killowen-st., Low Fell, Newcastle.

Henderson, J. F., B.SC., A.I.E.E., South-st., Scotstoun, Glasgow.

Henderson, John, D.SC., F.R.S.E., A.M.I.E.E., head of Physics & Electrotechnical Departments, Borough Polytechnic Institute, S.E.

Henderson, J. H., electrician, 46B, Lancaster-ave., Fennel-st., Manchester.

Henderson, J. M., M.P., F.C.A., 2, Moorgate-st.-bldgs., E.C. (Teleph. No. 748, Central.) Director Ferranti Ltd.; director South Lancashire Tramways Co.; director Lancashire Light Railways Co., Ltd.; director South Lancashire Electric Supply Co., Ltd.; director New St. Helen's & District Tramways Co., Ltd.; director Lancashire United Tramways, Ltd.; director South London Electric Supply Corp., Ltd.

Henderson, T. P., installation contractor, 84, Grove-st., Edinburgh. (Teleph. No. 1440, Central.)

Henderson, W., A.I.E.E., 63, Broxash-rd., Clapham Common, London, S.W.

Henderson & Bonham, wiring contractors, Cuthbert-st., South Shields.

Henderson Bros., electrical engineers, 29, Barnton-st., Stirling. (Teleph. No. 216.)

Henderson, John M., & Co., electric cranes, hoisting & transporting machinery makers, King-st. Engineering Works, Aberdeen. (Telegs.: "Cranes, Aberdeen." Teleph. No. 162.)

Henderson, Thos., & Co., engineers & makers of mechanical stokers & furnaces, 8, Trueman-st., Liverpool.

Hendon Electric Supply Co., Ltd., Salisbury House, London Wall, E.C.; & Electricity Works, Hendon. Registered June 27, 1907. Nominal capital: £50,000 in £5 shares & £25,000 debentures, secured by trust deed, dated July 30, 1907. Directors: C. F. Tufnell, Esq. (chairman); Col. Hy. Wood, C.B.; K. A. Scott Moncrieff, Esq. (managing). Engineer, B. G. Drummond; secretary, W. Abbott.

Hendry, James, laminated leather belting manufacturer, Laminated Leather Works, Main-st., Bridgeton, Glasgow (Telegs.: "Laminated, Glasgow." Teleph. Nos.: 2659, Nat.; & 614 Y., Corp.); & 7, Bishopsgate-st. Without, E.C. (Telegs.: "Cheveral, London." Teleph. No. 4635, P.O. Central.)

Hendry, W. W., manager, Hendry & Co., The Bungalow, Toll-st., Windmillhill, Motherwell, N.B. (Teleph. No. 69A.)

Hendry Bros., speed indicator & gauge makers, 28–32, Robertson-st., Glasgow. (Telegrams: "Billet, Glasgow." Telephone No. 940.)

Hendry & Co., electrical & contracting engineers, Clyde Electrical Works, Motherwell, N.B. (Telegs.: "Dynamo, Motherwell." Teleph. No. 69.)

Henley's (South Africa) Telegraph Works Co., Ltd., electric cable manufacturers, 14, Blomfield-st., London, E.C.

HENLEY'S, W. T., TELEGRAPH WORKS CO., LIMITED, electrical engineers & contractors, manufacturers of every description of electrical wires & cables, for lighting, power, telegraphy & telephony in aerial, subterranean & submarine types. Also makers of mechanical indiarubber goods. Offices: Blomfield-st., London, E.C. (Telegrams: "Henley's Works, London." Telephone Nos.: Nat. 4940, London Wall (3 lines); G.P.O. 3596, Central.) Works: North Woolwich & Gravesend. The issued capital is ordinary shares of £5, £200,000; 4½ per cent. cumulative preference shares of £5 each, £200,000; the full amount has been called, & the whole received; 4½ per cent. debenture stock, £150,000 (part of a total authorised issue of £300,000, secured by trust deed, dated Nov. 24, 1905). Directors: Sydney Gedge, Esq. (chairman); F. Newton, Esq.; the Rt. Hon. the Earl of Galloway; Sir Alfred C. Lyall, K.C.B.; B. T. Ffinch, Esq., C.I.E.; G. Sutton, Esq. (managing). A. E. Salmon, secretary. Dividends: 1903, 1904, 1905, 1906, 1907 & 1908, 15 per cent.; & first half of 1909, at the rate of 10 per cent. per annum. *See advt., page* 22.

Henney, Geo. F., manufacturer & designer of electric light fittings, 142B, Fulham-rd., London, S.W.

Henrici, Captain E. O., R.E., A.M.I.C.E., A.M.I.E.E., c/o Cox & Co., 16, Charing Cross, London, S.W.

Henriques, David, A.I.E.E., 28, Great Russell-st., London, W.C.

Henry, J., belt rope pulley maker, Manor-road Foundry, Leeds. (Telephone No. 556.)

Henry, John, electrical engineer, Dunleer, County Louth, Ireland.

Henry, J. S., Ltd., wooden electric fitting manufacturers, 287–291, Old-st., London, E.C.; & 1, New Burlington-st., Regent-st., W. (Telegs.: "Meuble, London." Teleph. Central 3314; Bank 35; & Gerrard 7067.) Factory: 2, Great Barlow-st., W. (Teleph. Paddington 3585.)

Heppenstal, F., A.M.I.E.E., 99, Elliscombe-rd., Charlton, Kent.

Hepton, W., & Son, brass founders & coppersmiths, Hunslet-lane, Leeds. (Telegrams: "Hepton, Brassfounders, Leeds." Telephone No. 529.)

Hepworth Manufacturing Co., Ltd., electricians, 15 & 17, Cecil-ct., Charing Cross-rd., London, W.C. (Telegs.: "Heptoic, London." Teleph. Gerrard 2451.)

Hepworth-Collins, W., A.M.I.C.E., A.M.I.M.E., A.M.I.E.E., F.C.S., F.G.S., &c., commercial & sales manager, The Edison & Swan United Electric Light Co., Ltd. Head office: Ediswan-bldgs., Queen-st., E.C.

Herbert, T. E., A.M.I.E.E., engineer, G.P.O., Sheffield.

Herbert, Alfred, Ltd., manufacturers of special machine tools for electrical engineers, Butts, Coventry. (Telegs.: "Lathe, Coventry." Teleph. No. 526.)

Herbert & Co., electrical & automobile engineers, 22, St. Mary's Butts, Reading.

Herbert, Edward G., Ltd., engineers' tool makers, Rosamond-st. East, Manchester. (Telegs.: "Tested, Manchester." Teleph. No. 9202.)

Herbert & Moult, electricians, Parker-st. & Derbyshire-lane, Hucknall Torkard, Notts.

Herd, W. M., & Co., electrical engineers, 3, Redcross-st., Liverpool, W.

Hereford Corporation Electricity Works. (Teleph. No. 62.) W. T. Kerr, city electrical engineer.

Heriot-Watt College, Edinburgh. *See* SCHOOLS, CLASSIFIED SECTION.

Heritage, F. C., A.I.E.E., Pinehurst, Pirbright-rd., Southfields, London, S.W.

Hermes, L., & Co., electrical engineers, 205, High-st., Acton, W. (Teleph. No. 1110, Ealing.)

Hern, S., St. Mary-st., Cardiff. (Telegs.: "Property, Cardiff." Nat. Teleph. No. 582.) Director Great Grimsby Street Tramways Co.; director Hampshire Light Railway (Electric) Co., Ltd.; director Provincial Tramways Co., Ltd.; director Gosport & Alverstoke Electric Lighting Co., Ltd.

Herne Bay Pier Electric Railway. Engineer, H. C. Dufton. (Telephone No. 22, Herne Bay.)

Heron, T., engineer, Cleveland & Durham Electric Power, Ltd., Hinton's-bldgs., Middlesbrough.

Herriot, W. S., elec. engr., Ravenswood, 1, Anfield-rd., Partick, Glasgow. (Teleph. No. 1188, Partick.)

Herron, G. F., A.M.I.E.E., Elmstead, Byfleet, Woking.

Hertford Electricity Works (North Metropolitan Electrical Power Distribution Co., Ltd.), Hertford. (Telegs.: "Electricity Works, Hertford.") Managing engineer, J. M. Bowman.

Hervé, L., terminal & screw maker, 90, Clerkenwell-rd., London, E.C. (Telegs.: "Interchangeable, London." P.O. Teleph. No. 6583, Central.)

Hesketh, E., A.M.I.E.E., resident engineer, Alderley & Wilmslow Electric Supply, Ltd., Alderley Edge.

Hesketh, T., M.I.E.E., A.M.I.M.E., M.AM.I.E.E., managing engineer, Folkestone Electricity Supply Co., Electricity Works, Folkestone. (Teleph. No. 4, Cheriton.)

Hessberg Bros., agents for Colonial Rubber (Société Anonyme), 102, Fenchurch-st., London, E.C. (Telegrams: "Pulkha, London." P.O. Telephone No. 9159, Central.)

Hesse, Frederick E., general manager & secretary Eastern Extension Australia & China Telegraph Co., Electra House, Finsbury Pavement, London, E.C.

Heston & Isleworth Urban District Council Electricity Works, Bridge-rd., Hounslow, Middlesex. (P.O. Teleph. No. 83, Richmond.) Engineer & manager, P. E. Rycroft, A.M.I.E.E.

Heswall District Power Co., Ltd., Heswall, Cheshire. Registered Jan. 28, 1908. Nominal capital: £30,000 in £1 shares.

Heswall Electric Light Co., Ltd., Heswall, Cheshire. Registered Jan. 1, 1898. Capital: £1500 in £1 shares, 1225 of which have been taken up & paid for in full. Directors: T. Brocklebank, Esq.; L. Dobie, Esq.; C. MacIver, Esq.; R. Brancker, Esq.

Hetherington, J., A.M.I.C.E., manager Beck Flame Lamp, Ltd., Hayes, Middlesex.

Hetherington Bros., electricians, &c., Penrith, Cumberland.

Hetherington, J., & Sons, engineers, Ancoats, Manchester. (Telegs.: "Heth, Manchester." Teleph. Nos. 661 & 1783.)

Heward, S. Barclay, 96, Ashley-gdns., London, S.W. Director City & Brixton Railway Co.; director City & South London Railway Co.

Hewetson, Milner & Thexton, Ltd., electric light engineers & contractors, 209–212, Tottenham Court-rd., London, W. (Telegrams: "Thexton, London." Telephone No. 5009, Gerrard.)

Hewett, A. E., electrical engineer, Mautby Hill, Osborne-rd., Preston, Brighton.

Hewett, John, B.A., M.I.E.E., electrical engineer, c/o Harrap, Hewett & Duffield, 2 & 5, Budge-row, Cannon-st., London, E.C. (Telegrams: "Sprocket, London." Telephone No. 5467, Bank.)

Hewitson, J. R., A.M.I.E.E., c/o Siemens Bros. & Co., Ltd., Caxton House, London, S.W.

Hewitt, E., director N. Wales & Dis. Light Rly. & Elec. Power Synd., Ltd., 33, Brazennose-st., Manchester.

Hewitt, Francis Wm., M.SC., A.M.I.E.E., assistant editor of *The Electrician*, 1, 2 & 3, Salisbury-ct., Fleet-st., London, E.C. (Teleph. Holborn 949.)

Hewitt, J. M., consulting electrical & mechanical engineer, Tower-chbrs., Brown-st., Manchester. (Telegs.: "Helix, Manchester." Tel. 4160.) Director N. Wales & Dis. Light Rly. & Elec. Power Synd., Ltd.

Hewitt & Rhodes, consulting electrical & mechanical engineers, Tower-chbrs., Brown-st., Manchester. (Telegrams: "Helix, Manchester." Telephone No. 4160.)

Hewlett, E. F. J. Holcombe, M.I.E.E., M.AM.I.E.E., borough electrical engineer, Corporation Electricity Works, Mansfield. (Teleph. No. 91, Nat.)

Hewlett, H., A.I.E.E., 16, Stansfield-rd., Brixton, London, S.W.

Hews, J., electrical engineer, High-st., Maidenhead.

Hewson & Co., carbide manufacturers, Askeaton, Co. Limerick. (Telegs.: "Carbide, Askeaton.")

Hexham & District Electric Supply Co., Ltd., Market-pl., Hexham. (Telegs.: "Electric Supply, Hexham." P.O. Teleph. Nos.: Office, 78 X.; Works, 78.) Registered March 10, 1905. Nominal capital: £30,000 in £5 shares & £5000 debentures. Issued: 1457 shares, fully paid, & £2450 debentures. Directors: J. E. Tully, Esq. (chairman); J. W. Robinson, Esq.; J. Gibson, Esq., LL.B.; J. P. Gibson, Esq.; W. Hall, Esq. (managing). Electrical engineer, G. O. Laing; secretary, Dixon Scott.

Hexter & Humpherson, cable conduits makers (Archer's patent), Newton Abbot. (Telegs.: "Potteries, Newton Abbot.")

Hey, J., electrical inspector, British Engine, Boiler & Electrical Insurance Co., Ltd., 12, King-st., Manchester.

Hey, John, A.M.I.E.E., 4, Burchett-ter., Leeds.

Hey, M., galvanic battery maker (M. Secck, agent), 6, Henrietta-st., Covent Garden, London, W.C.

Heydemann, Chas., agent for Rhenische Rubber Factory, Franz Clouth, 67, Aldersgate-st., London, E.C. (Telegs.: "Teraconic, London.")

Heyes, H., wiring contractor, Cedar-st., Blackpool. (Teleph. No. 385.)

Heyes & Co., electrical engineers, Water-Heyes Electrical Works, Wigan. (Teleph. No. 146.)

Heyland, H. K., Glenock, Sutton. Chairman Delagoa Bay Development Corp., Ltd.; managing director City of Santos Improvements Co., Ltd.; director Manaos Improvements Co., Ltd.

Heymann, H., director Edgware & Hampstead Railway Co., Electric Railway House, Broadway, Westminster, S.W.

Heys, W. E., M.I.E.E., 51, Deansgate Arcade, Manchester.

Heys-Jones, G., A.I.E.E., 21, Beverley-rd., Barnes, S.W.

Heysham, Morecambe & Lancaster Railway. Midland Railway Co., proprietors. Engineer-in-chief, W. B. Worthington; loco. superintendent & chief mechanical & electrical engineer, R. M. Deeley.

Heywood, H. W., A.M.I.E.E., electrical engineer, 37A, Fountain-st., Manchester.

Heywood, Joseph H., F.C.S., A.I.E.E., 231, Drake-st., Rochdale, Lancs.

Heywood, T. M., electrician, Mount Stuart-sq., Cardiff.

Heywood Corporation Electricity Works. (Nat. Telephone No. 47.) Engineer, J. Stott.

Heywood, S. H., & Co., Ltd., electric light & power engineers, crane makers, &c., 37A, Fountain-st., Manchester. (Telegs.: "Heywood, electrician, Manchester." Teleph. No. 2518.) Works: Reddish, nr. Manchester.

Hibberd, C. F. M., A.I.E.E., c/o Crowell & Sons, Edinburgh.

Hibberdine, W., A.I.E.E., traffic accountant Eastern & Associated Telegraph Cos., Ltd., Electra House, Finsbury Pavement, London, E.C.

Hibbert, G., ivory, &c., nameplates, 69, Arundel-st., Sheffield.

Hibbert, Walter, A.M.I.E.E., F.I.C., 144, Walm-lane, Cricklewood, N.W.; & teacher in electricity, Polytechnic Institution, 309 & 311, Regent-st., London, W.

Hibbins, W. G., A.M.I.E.E., 65, Carter Knowle-rd., Sheffield.

Hick, Hargreaves & Co., Ltd., steam engine & boiler makers, Soho Iron Works, Bolton, Lancashire. (Telegrams: "Hick, Bolton." Telephone No. 16.)

Hickie, Borman & Woods, Ltd., copper wire agents, 36, Lime-st., London, E.C. (Telegs.: "Hickie, London." Teleph. Central 3783.)

Hickley, H. N., managing director Newtons, Ltd., Taunton.

Hickling, A., Botolph House, Eastcheap, E.C. Director Canada Electric Traction Co., Ltd.

Hickman, Mitchell, A.M.I.E.E., 17, Red Post Hill, Herne Hill, S.E.

Hickman, Alfred, Ltd., rolled pole steel bars, &c. (R. Jenkins, agent), 88, Bishopsgate-st. Within, London, E.C. (Telegs.: "Permeable, London." Teleph. No. 8205, Central.)

Hicks, D., Fancy Stores, Gwaun-Cae Gurwen, Carmarthenshire. Director Brynamman & District Electric Supply Co., Ltd.

Hicks, Geo., electrical engineer, St. Faith's Cottage, Enfield, Middlesex.

Hicks, J. J., maker of scientific & electrical instruments, 8, 9 & 10, Hatton Garden, London, E.C. (Telegs.: "Lenticular, London." Teleph. No. 6042, Central.)

Hicks, William Mitchinson, SC.D., F.R.S., professor of physics, University, Sheffield.

Hicks & Co., engineers, South Quay, St. Sampson's, Guernsey. (Telephone No. 1041.)

Hide, W. J., A.M.I.E.E., consulting electrical engineer, 42, Produce Exchange-bldgs., 8, Victoria-st., Liverpool. (Telegs.: "Armature, Liverpool." Teleph. No. 7975.)

Higginbotham, Geo. Emerton, A.M.I.E.E., c/o J. H. Holmes & Co., Portland-rd., Newcastle-on-Tyne.

Higginbotham, Gerald, A.I.E.E., "Ivyholme," Macclesfield.

Higginbotham, W. A., A.M.I.E.E., 27, Great Brunswick-st., Dublin.

Higginbottom & Mannock, Ltd., makers of electric cranes & hoists, Crown Ironworks, West Gorton, Manchester. (Telegrams: "Crown, Gortonbrook." Telephone No. 1577.)

Higgins, A., A.M.I.E.E., 111, King Henry's-rd., Primrose Hill, London, N.W.

Higgins, Chas. H., A.M.I.E.E., 21, Pemberton-gdns., Upper Holloway, London, N.

Higgins, Frederick H. W., M.I.E.E., Exchange Telegraph Co., 17, Cornhill, London, E.C. (Teleph. Nos.: 1918, Avenue; & 10002, Bartholomew.)

Higgins, G. W., & Co., electric light contractors, 34, Connaught-st., London, W.

Higgins & Griffiths, electrical & general engineers, 4, Albany-st., Regent's Park, London, N.W. (Telegs.: "Unreckoned, London." Teleph. No. 130, Mayfair, P.O.)

Higgs, A. W., A.M.I.E.E., 61, Wellmeadow-rd., Lewisham, S.E.

Higgs, F. & H. F., electric bell fitters, Surrey Works, Cobham, Surrey. (P.O. Teleph. No. 11, Cobham.)

High Barnet Electricity Works (North Metropolitan Electrical Power Distribution Co., Ltd.), High Barnet, Herts. (Telegs.: "Electricity Works, Barnet." Teleph. No. 33, Barnet.) Resident engineer, H. B. Sale, A.M.I.E.E.

High Speed Braiding Machine Co., Ltd., 7, Norfolk-st., Manchester (Telegrams: "Crusoe, Manchester." Telephone No. 579, Central); & Standard Machine Works, Dame Agnes-st., Nottingham. (Telegs.: "Crusoe, Nottingham." Teleph. No. 2012.)

Higham, J. S., M.P., Birkdale, Southport. Chairman Electric Light, Power & Hiring Co., Ltd.

Highfield, J. S., M.I.C.E., M.I.E.E., chief engr., Metropolitan Elec. Supply Co., Ltd., 16, Stratford-pl., Oxford-st., London, W. (Telegs.: "Kilowatt, London." Tel. Paddington 5001 (3 lines); Gerrard 3711.)

Highfield Foundry Co., electrical engineers, Wellingborough.

Highton, E. G., A.I.E.E., Eagle Foundry, Graham-st., City-rd., London, E.C. (Telegrams: "Smeltery, London." Telephone No. 87, King's Cross.)

Higlett, F. E., electrical engineer, Onslow-st., Guildford; & 3, Dorset-bldgs., Salisbury-sq., London, E.C.

Higlett, G. A., F.C.I.S., director & secretary Nairobi Electric Power & Lighting Co., Ltd., 11, Queen Victoria-st., London, E.C.

Hignett, G., & Co., electrical engineers, 13, Boyces-st., Brighton.

Hikeley, J., assistant engineer, Electric Supply Co., Ltd., Newcastle-on-Tyne.

Hildersley, J., & Son, wood turners, 33, Berwick-st., Soho, W. Works: 15, Wardour Mews, W.; & 16, Charles-st., Hatton Garden, London, E.C.

Hildick & Hildick, iron tube makers, Walsall Tube Works, Pleck-road, Walsall. (Telegrams: "Hildick, Walsall." Telephone No. 14.)

Hilger, Adam, Ltd., electrical & scientific instrument makers, 75A, Camden-rd., London, N.W. (Telegs.: "Sphericity, London." Teleph. No. 1687, North.)

Hill, A., electrical engineer, 9, Reginald-rd., Bexhill-on-Sea.

Hill, A. E., assistant manager, Electrical Dept., Turners & Manville, Ltd., 5, Lloyds-ave., London, E.C.

Hill, Alf., A.M.I.E.E., electrical engineer, 7, Hoveden-rd., Cricklewood; & Hill & Harrington, 41, Berners-st., London, W.

Hill, Alfred W., A.M.I.E.E., engineer & works manager, Maxim Electrical Co., Ltd., Ravenswood House, Shernhall-st., Walthamstow.

Hill, Claude W., M.I.E.E., 9, Queen Anne's Gate, Westminster, London, S.W. (Telegs.: "Hillocking, London." P.O. Teleph. No. 3411, Victoria.)

Hill, Chas. W., A.M.I.E.E., general manager, Corporation Tramways, & "Wayside," Ormonde-rd., Branksome Park, Bournemouth.

Hill, Dr. W. R., Grove House, Lymington. Director Lymington Electric Light & Power Co., Ltd.

Hill, E., elec. bell & telephone contractor, Reliance Works, Steelhouse-lane, Birmingham. (Tel. No. 1098.)

Hill, Edmund L., A.M.I.E.E., M.I.MECH.E., Siemens Bros. Dynamo Works, 196, Deansgate, Manchester. Director Witney Electric Supply Co., Ltd., Witney, Oxon.

Hill, E. R., A.M.I.E.E., engineer & manager, Reading Electric Supply Co., Ltd., Reading. (Teleph. Nos.: 140, Office; & 142, Works.) Director Harrow Electric Light & Power Co., Ltd.

Hill, Frank A., A.I.E.E., L.C.C. Electrical Branch, Hungerford House, Victoria Embankment; & 16, The Crescent, Wimbledon Park, London, S.W.

Hill, H., A.M.I.E.E., electrical engineer, Greenwood & Batley, Ltd., Albion Works, Armley-rd., Leeds (Telegs.: "Greenwood, Leeds." Tel. No. 270); & Sylvadale, Moorfield-rd., Ben Rhydding, Yorks.

Hill, H. H., engineer, Rothesay Tramways Co., Ltd., Rothesay, Scotland.

Hill, J. G., electrician & mechanical engineer, Trevarrick, St. Austell.

Hill, Joseph Tripp, A.I.E.E., 2, Belle Vue, Staines-rd., Hounslow.

Hill, J. W., J.P., Clanaboy, Lucan. Director Dublin & Lucan Electric Railway Co.

Hill, Lieut. G. A. H., A.I.E.E., 22, Cadogan-pl., London, S.W.

Hill, M. J. M., M.A., D.SC., F.R.S., Astor professor of pure mathematics, University College, Gower-st., W.C.

Hill, T., engineer & manager, St. Austell & District Electric Light & Power Co., Ltd., St. Austell, Cornwall.

Hill & Co., electric light contractors, 42, Broadway, Crouch End, London, N. (Telegrams: "Hill Company, Crouch End.")

Hill, F. A., & Co., asbestos & steam packings, ebonite & fibre, sheet rod & tube, 108, Bishopsgate-st. Within, London, E.C. (Telegs.: "Blasting, London." Teleph. London Wall 9905.)

Hill, Geo., & Co., electrical & mechanical engineers, Trafford Electric Works, Cornbrook, Manchester. (Telegs.: "Commutator, Manchester." Teleph. No. 2920.)

Hill & Harrington, electrical engineers & manufacturers, 41, Berners-st., W. (Teleph. Gerrard 593.)

Hill of Howth Tramroad. *See* Great Northern Railway Co. (Ireland).

Hill, James, & Sons, electric light contractors & electrical engineers, 108, 110 & 112, Bolton-st., Bury, Lancs.

Hill & May, electricians, Fairfax-rd., Hornsey, London, N. (Teleph. No. 1688, Tottenham.)

Hill Publishing Co., Ltd., publishers of technical & scientific books, 6, Bouverie-st., Fleet-st., London, E.C. (Telegs.: "Backlash, London." Teleph. No. 5158, Holborn.)

Hill, R. M., & Sons, wiring contractors, Castle-st., Carlisle.

Hill, Upton & Co., electrical engineers, 22, George-st., Oxford.

HILL-JONES, THOS., manufacturer of carbons & chemicals, contractor to H.M. Government, Invicta Mills, Bow Common-lane, London, E. (Telegs.: "Medikaster, London." Teleph. East 3633.)

Hill Trevor, Hon. G. C., 15, Sloane-gdns., S.W. Director Church Stretton Electric Supply Co., Ltd.

Hiller, E. G., chief engineer & general manager, National Boiler & General Insurance Co., Ltd., 22, St. Ann's-sq., Manchester.

Hillier, F., & Co., Ltd., electrical plant manufacturers, 25, Brewer-st., Regent-st., London, W.

Hillman, W. C., engineer, Ludlow Electric Light Co., Ltd., 14, Corve-st., Ludlow, Salop.

Hills, A. F., director Hammersmith, City & North-East London Railway, Ltd., 17, Philpot-lane, London, E.C.

Hills, F. Barritt, A.I.E.E., manager & engineer, North of Scotland Electric Light & Power Co., Ltd., Montrose & Brechin, N.B. (Teleph. Nos.: 41, Montrose; & 9, Brechin.)

Hills, F. C., & Co., carbonate & liquor ammonia manufacturers, Chemical Works, Deptford, S.E. (Telegrams: "Azote, London.")

Hillyard, F. A., installation contractor, 79, Princes-st., Ipswich.

Hilton, C. S. B., 41, Roland-gdns, S.W. Director Middleton Electric Traction Co., Ltd.; managing director British Electric Traction Co., Ltd.; director Brush Electrical Engineering Co., Ltd.; director Devonport & District Tramways Co.; director City of Birmingham Tramways Co., Ltd.; director Auckland Electric Tramways Co., Ltd.; director Greenock & Port Glasgow Tramways Co.; chairman Birmingham & Midland Tramways, Ltd.; director Bombay Electric Supply & Tramways Co., Ltd.; director South Staffordshire Tramways Co.; director Rothesay Tramway Co.; director Airdrie & Coatbridge Tramways Co.; deputy chairman Gateshead & District Tramways Co.; director Hartlepool Electric Tramways Co., Ltd.; director Jarrow & District Electric Traction Co., Ltd.; director Kidderminster & District Electric Lighting & Traction Co., Ltd.; director Kidderminster & Stourport Electric Tramway Co.; director Worcester Electric Traction Co., Ltd.; director Shropshire, Worcestershire & Staffordshire Electric Power Co.; chairman Southport Tramways Co.

Hinchcliffe, Green & Co., electrical contractors, Aire-st., Leeds.

Hinckes, R. T., director Electric Supply Corp., Ltd., Salisbury House, London Wall, E.C.

Hind Bros., electrical agents, 20, York-st., Belfast.

Hind & Son, electric light & power engrs., Little Brown-st., Stockton-on-Tees. (Nat. Teleph. No. 0286.)

Hindhead & District Electric Light Co., Ltd., Hindhead, Surrey. Registered Nov. 7, 1902. Nominal capital: £30,000 in £1 shares, £15,000 issued & fully paid, & £10,000 debentures. Directors: J. Grover, Esq. (chairman); Wm. C. Marshall, Esq., M.A.; A. Grover, Esq.; A. Cherry, Esq. (secretary). Engineer, T. Reader, A.M.I.E.E. Dividends: 1905, 2½ per cent.; 1906, 4 per cent.; 1907 & 1908, 5 per cent.

Hindle, T., maker of electric casings, Accrington Saw Mills, Accrington. (Telephone No. 146.)

Hindle, Robert, & Co., Ltd., manufacturers & dealers in electric supplies, Sabden, Lancs.

Hindley, E. S., & Sons, makers of steam engines, steam boilers, dynamos, motors, sawing machinery, pumps, &c., 11, Queen Victoria-st., E.C. (Telegrams: "Steamport, London." Telephone No. 856, Bank.) Works: Bourton, Dorset. (Telegrams: "Hindley, Bourton, Dorset.")

Hindlip, Rt. Hon. Lord, 33, Hill-st., London, W. Director East Africa & Uganda Corp., Ltd.

Hingley, L. & S., & Sons, glass shade manufacturers, 19, Charterhouse-st., London, E.C.; & Glass Works, Wordsley, Staffs. (Telegrams: "Hingleys, Wordsley.")

Hinks, Jas., & Son, Ltd., electric light fittings, Great Hampton-st., Birmingham.

Hinshelwood, Thos., & Co., oil refiners & paint & varnish manufacturers, Glenpark-st., Glasgow. (Telegs.: "Taxin, Glasgow." Nat. Teleph. No. 886; No. Y 363, P.O.)

Hinson & Co., Ltd., fitters of electric & pneumatic bells, telephones & electric light, 69, 71, & 73, Argyll-st.; & Hinson-st., Birkenhead. (Telegrams: "Hinson, Birkenhead." Telephone Nos. 38 & 502.)

Hinton & Co., manufacturers of colouring for incandescent lamps, 38, Bedford-st., Strand, London, W.C. (Telegrams: "Sensitize, London.")

Hiorns, H. A., electrician, 6, Cockspur-st. West, Pall Mall, Liverpool.

Hippisley, Col. R. L., C.B., R.E., M.I.E.E., 33, Dover-st., Westminster, S.W.

Hird, Francis, B.A., M.I.E.E., 1, Ingleside-grove, Blackheath.

Hird, M., electric traction engineer, G. B. Surface Contact Co., 107, Hamilton House, Bishopsgate-st. Without, London, E.C.

Hird, W. B., B.A., M.I.E.E., Saudon, Prospect-ave., Cambuslang, N.B. (Nat. Teleph. No. 205 Y. 9.)

Hirsch, Dr. P., electrical engineer, Veritys, Ltd., Aston, Birmingham.

Hirst, Harry, A.M.I.E.E., 21, The Paddock, Chatham.

Hirst, H., electrical engineer, A. Hirst & Son, Ltd., Crescent Works, Victoria-rd., Dewsbury. (Teleph. No. 269.)

Hirst, Hugo, M.I.E.E., vice-chairman & managing director General Electric Co., Ltd., 71, Queen Victoria-st., London, E.C.

Hirst, P. Norman, electrical & automobile engineer, St. John's Garage, Wade-lane, Leeds. (Telegs.: "St. John's Garage, Leeds." Teleph. No. 1659.)

Hirst, A., & Son, Ltd., electrical engineers, Crescent Works, Dewsbury. (Telegs.: "Hirst, electrician, Dewsbury." Teleph. Nos. 269 & 269A.)

Hirst, C., & Sons, Ltd., steel wire manufacturers, Exchange Mill, Cleckheaton, Yorkshire. (Telegs.: "Charles Hirst, Cleckheaton." Teleph. No. 33.)

Hiscock, Thos., electrical engineer & contractor, 181, High-st., Hounslow. (Telegs.: "Hiscock, Hounslow." Teleph. No. 1, P.O.)

Hislop, Lawrence M., electrician, 117, High-st., Portobello, Edinburgh. (Teleph. No. 195.)

Hislop, R. G., electric bell fitter, 7 & 9, Pitt-st., Edinburgh.

Hoad, H. G., electrical engineer, London County Council, Hungerford House, Victoria Embankment, London, W.C.

Hoadley, E. E., M.I.E.E., boro' electrical engineer, Maidstone. (Local Telephone No. 41.)

Hoare, Arthur, M.I.E.E., J. Birch & Co., Ltd., 3, London Wall-bldgs., London, E.C.

Hoare, H. A., director Hove Electric Lighting Co., Ltd., Salisbury House, London Wall, London, E.C.

Hoare, H. E., director Canada Electric Traction Co., Ltd., 13, St. Helen's-pl., London, E.C.

Hobart, Henry M., M.I.C.E., M.I.E.E., consulting engineer, Oswaldestre House, Norfolk-st., Strand, London, W.C. (Telegs.: "Quadrature, London." A.B.C., 5th edit., Code. Teleph. No. 6497, Central.)

Hobart Electric Tramway Co., Ltd., 358, Mansion House-chambers, 11, Queen Victoria-st., London, E.C. (Telegs.: "Segama, London." Teleph. No. 977, Bank.) Registered March 4, 1892. Nominal capital: £105,000 in £1 ordinary shares, & £61,425 debentures, secured by trust deed, dated Feb. 1, 1906. Issued capital: 45,130 shares of £1 each; £41,425 first & £20,000 second debentures in multiples of £5 each, fully paid. Directors: J. G. Bellamy, Esq.; David Barclay, Esq.; A. Mattei, Esq., LL.D. Electrical engineer (Hobart), A. C. Parker; secretary, F. J. Warner. Dividends: 5 per cent. per annum on debentures; 5 per cent. on shares paid July, 1907.

Hobdell, Way & Co., Ltd., asbestos manufacturers, oil refiners, hard flexible fibre, &c., 63, Crutched Friars, London, E.C. (Telegs.: "Hobnails, London." Teleph. Nos.: 5931, Avenue; & 11609, Central.)

Hobson, C. B., A.M.I.E.E, 40, Amersham-rd., New Cross, S.E.

Hobson, R., J.P., D.L., The Marfords, Bromborough, Cheshire. Deputy chairman Liverpool Overhead Railway Co., Ltd.

Hobson, S. C., Wycliffe House, Melton Mowbray. Director Melton Mowbray Electric Light Co., Ltd.

Hobson, H. M., Ltd., makers of ignition specialities, 29, Vauxhall Bridge-rd., London, S.W. (Telegs.: "Assemblage, London." Teleph. Westminster 670.)

Hocking, E. L., A.I.E.E., electrical engineer, 12, Birchington-rd., Crouch End, London, N.

Hockley, N. J., A.I.E.E., A.M.I.M.E., electrical engineer, British Engine, Boiler & Electrical Insurance Co., Ltd., 12, King-st., Manchester.

Hockley, W., A.M.I.E.E., resident engineer, Frinton-on-Sea & District Electric Light & Power Co., Ltd., Frinton-on-Sea.

Hodd, R., & Son, electro-plate manufacturers & manufacturing silversmiths, Minerva Works, 31, Hatton Garden, London, E.C. (Telegrams: "Candelabra, London." Telephone No. 8241, Central.)

Hodge, G., wiring contractor, Hill-st., Blackpool.

Hodge, H. P., electrical contractor, Lower-st., Kettering.

Hodge, R., A.M.I.E.E., electrical engineer, British Westinghouse Electric & Manufacturing Co., Ltd., High Bridge, Newcastle-on-Tyne. (Telegs.: "Multiphase, Newcastle." Teleph. No. 568.)

Hodges, Cecil, electrical engineer, Gresham Lodge, Watford, Herts.

Hodges, Herbert Douglas, A.I.E.E., 5, Childebert-rd., Balham, S.W.

HODGES, CECIL, & CO., switchboard & instrument makers, Balfour House, Finsbury Pavement, E.C. (Telegs.: "Ammeter, London." Teleph. No. 7025, London Wall.)

Hodgkin, C. E., elec. engr., c/o Pulsometer Engineering Co., Ltd., Nine Elms Ironworks, Reading, Berks.

Hodgkin, J. E., M.I.E.E., Shelleys, Darlington. (Teleph. No. 205.)

Hodgkinson, P., electrical engineer, Devonshire-rd., Bexhill-on-Sea.

Hodgkinson, James (Salford), Ltd., makers of mechanical stokers, Ford Lane Works, Pendleton (Telegs.: "Incendo, Manchester." Nat. Teleph. Central 9146); & Queen Anne's-chbrs., Broadway, Westminster, London, S.W. (Teleph. Westminster 643.)

Hodgson, A. J., M.I.E.E., works manager Crompton & Co., Ltd., Arc Works, Chelmsford.

Hodgson, Edwin, electrical engineer, Northgate Mill, Cleckheaton. (Teleph. No. 117.)
Hodgson, Geo., director Hemsworth Electricity Supply Co., Ltd., Crosshill, Hemsworth, nr. Wakefield.
Hodgson, R. D., installation contractor, Albert-rd., Middlesbrough.
Hodgson, Samuel, A.M.I.E.E., High Level Electrical Works, Halifax.
Hodgson, W. G., A.I.E.E., 7 & 8, Bread-st., London, E.C.
Hodgson, W. T., A.M.I.E.E., 201, Brixton Hill, London, S.W. (Telephone No. 614, Brixton.)
Hodgson, Frederick, & Co., electrical engineers, 24, Queen Victoria-st., London, E.C. (Telegs.: "Magnetical, London." Teleph. No. 319, Bank); & 17, Belsize Park-ter., Hampstead, N.W. (Teleph. No. 1021.)
Hodkinson, Robt., dealer in electrical supplies, 19, South John-st., Liverpool. (Teleph. No. 4398, Bank.)
Hoeltzer, C., telegraph engineer, Craignethan Lodge, St. John's-rd., Blackheath, S.E.
Hoey, M. M. McC., A.M.I.E.E., "Alasdair," Langside-rd., Newlands, Glasgow.
Hof, Charles & Co., manganese merchants, 52, Leadenhall-st., London, E.C. (Telegrams: "Flyboats, London." A.B.C. Code used. Telephone No. 2883, Avenue.)
Höfler, Ltd., makers of electric light fittings, 26A, Soho-sq., London, W. (Telegrams: "Erdkreis, London." Telephone No. 2294, Gerrard.)
Hogan & Wardrop, merchants & mfrs. of electrical supplies, Gloucester Mansions, Cambridge Circus, Charing Cross-rd., London, W.C. (Telegs.: "Tribord, London." Teleph. No. 4053, Gerrard.)
Hogarth, Lionel B., A.M.I.E.E., Electricity & Destructor Works, Bermondsey, London, S.E.
Hogarth, R. W., consulting electrical engineer, Buchan & Partners, Parliament-chbrs., Great Smith-st., Westminster, London, S.W. Chairman Orient Electric Power Synd., Ltd.
Hogg, H. R., director Sunderland District Electric Tramways, Ltd., 13, St. Helen's-pl., London, E.C.; director Canadian Electric Traction Co., Ltd.; director North Wales Power & Traction Co., Ltd.
Hogg, J. W., A.M.I.E.E., Glen House, Hebburn, Co. Durham.
Holbrook & Son, machine tool makers, 44, Martin-st., Stratford, London, E. (Teleph. No. 351, Stratford.)
Holbrow, C. A., engineer, c/o C. A. Parsons & Co, Milburn House, Newcastle-on-Tyne.
Holcroft, Thomas, arc light pillar & tram pole maker, Bilston Foundry, Bilston, Staffs.
Holcroft, Thomas, & Sons, Ltd., manufacturers of castings for electrical & general engineers, Ettingshall Foundry, Wolverhampton. (Telegrams: "Holcroft, Wolverhampton." Telephone No. 157.)
Holden, A. Wm., teacher of physics & electrical engineering, Harris Institute, Preston.
Holden, Frank, M.I.E.E., electrical engineer, 83, Cannon-st., London, E.C.
Holden, F. G., B.A., A.M.I.C.E., M.I.E.E., resident engineer, Scarborough Electric Supply Co., Ltd., Scarborough. (Teleph. No. 252, Nat.)
Holden, H. C. L., Col., R.A., F.R.S., M.I.E.E., Royal Arsenal, Woolwich (Teleph. Woolwich 88); & Gifford House, Blackheath, Kent. (Teleph. Lee Green 305.)
Holden, Sydney Holmwood, M.I.E.E., Chamberlain & Hookham, Ltd., Birmingham.
Holden, T., electrical engineer, 135, Belvoir-st., Princes-ave., Hull. (Nat. Teleph. No. 4553.)
Holden & Brooke, Ltd., engineers, Sirius Works, 47, Heywood-st., West Gorton, Manchester, S.E. (Telegs.: "Influx, Manchester." Teleph. No. 3663. A.B.C., 4th & 5th Editions, Engineering & Lieber's Codes); 110, Cannon-st., London, E.C. (Telegs.: "Expulsor, London." Teleph. No. 5768, Central); & 62, Robertson-st., Glasgow. (Telegs.: "Vortex, Glasgow." P.O. Teleph. No. 3704.)
Holderness & Harding, electrical engineers, Goswell-lane, Windsor.
Holdsworth, J. G., assistant superintending engineer, Post Office Telegraphs, Manchester.
Holford, G. W., general manager, Corporation Tramways, Salford.
Holford & Co., electricians, &c., 86, Church-rd., Hove. (Teleph. No. 2077 X.)
Holgate & Redwin, electric lighting contractors, 1, Malden-ter., High-st., Hampton Wick.
Holiday, R., A.I.E.E., electrician, Ackton Hall Colliery, Featherstone, nr. Pontefract, Yorks.
Holland, A. R., 56, Temple-chbrs., Temple-ave., London, E.C. Chairman Llanelly & District Electric Lighting & Traction Co., Ltd.; chairman Mansfield & District Tramways, Ltd.; chairman Scottish Central Electric Power Co., Ltd.; director Fife Electric Power Co.; chairman Nottinghamshire & Derbyshire Tramways Development Co., Ltd.; chairman Derbyshire & Nottinghamshire Electric Power Co.; director Lothians Electric Power Co.
Holland, C., The Grange, Wimbledon. Director Indo-European Telegraph Co., Ltd.
Holland, C. E., electrician, 4, Redington-road, Hampstead, London, N.W.
Holland, H. N., A.M.I.E.E., res. engr., Treforest Electrical Consumers Co., Ltd., Treforest, nr. Pontypridd.
Holland, Hon. S. G., Kneesworth Hall, Royston, Herts. Director Underground Electric Railways Co. of London, Ltd.; director London United Tramways, Ltd.
Holland, G., & Sons, electricians, Broomfield Works, Broomfield-pl., & 183, Uxbridge-rd., Ealing, W. (Teleph. No. Ealing, 756, P.O.)
Holland & Holland, electric carriage builders, 479 & 483, Oxford-st., London, W. (Telegrams: "Dragoman, London." Telephone No. 4474, Gerrard.)
Holland House Electrical Co., Ltd., makers of electric fittings, 121A, St. Vincent-st., Glasgow. (Telegs.: "Electrical, Glasgow." Teleph. Nos.: 920, Nat.; 2190, Corp.)
Holley, H., electrician, 26, Telford-rd., Notting Hill, London, W.
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Holliday, T., electrical engineer, 208, Heaton-rd., Newcastle-on-Tyne.

Holliday, T. B., A.M.I.E.E., electrical engineer & general manager, Hastings & District Tramways Co., Hastings. (Telegs.: "Tramways, Hastings." Teleph. No. 90.)

Hollingsworth, E. M., A.M.I.M.E., A.M.I.E.E., chief electrical engineer, Corporation Electricity Works, St. Helen's, Lancs. (Nat. Teleph. No. 212.)

Hollingsworth, H. C., A.M.I.C.E., resident electrical engr., G. W. Rly., Fishguard Harbour, Pembrokeshire.

Hollington, A. J., A.M.I.E.E, Morgan Crucible Co., Ltd., Battersea Works, London, S.W.

Hollis Bros. & Co., timber importers & slate merchants, Leicester; & Hedon-rd., Hull. (Telegrams: "Baltic, Leicester." Nat. Telephone No. 148. Zebra & A.B.C. Codes used.)

Holloway, F. E., insulated wire manufacturer (cotton covered), 35, Summerfield-crescent, Birmingham.

Holloway, H., director Leicestershire & Warwickshire Electric Power Synd., Ltd., 56, Temple-chbrs., E.C.

Holloway Bros., electrical engineers & contractors, Victoria Wharf, Belvedere-rd., Westminster Bridge, London, S.E. (Telegrams: "Antefixa, London." Nat. Telephone No. 1153, Hop); & 38, South Audley-st., Grosvenor-sq., W. (Telephone No. 2832, Gerrard.)

Holloway Electric Supply Co., Ltd. Works: 5 & 6, Bovay-st., Holloway-rd., N.

Holman, C. W., elec. inspector, British Engine, Boiler & Elec. Ince. Co., Ltd., 12, King-st., Manchester.

Holman, R. H., Benfleet Hall, Sutton, Surrey. Director Minehead Electric Supply Co., Ltd.

Holman, T. J., Exedene, Topsham. Director Topsham Electricity Supply Co., Ltd.

Holman & Co., electrical contractors, 132, Commercial-rd., Newport, Mon.

Holman Flame Lamp Co., 101, St. Vincent-st., Glasgow.

Holman, James & Co., Ltd., electrical engineers, 92, Queen-st., Maidenhead. (Teleph. No. 0150.)

Holman, Michell & Co., lead merchants, Cornwall Lead Works, St. Helen's. (Telegrams: "Cornwall, St. Helen's." Telephone No. 15.)

Holme, A. H., 1, Crosshall-st., Liverpool. Chairman Liverpool District Lighting Co., Ltd.; director Snowdon Mountain Tramroads & Hotels Co., Ltd.

Holme, T., A.M.I.E.E., manager, Corporation Telephones, Hull.

Holmes, A. Bromley, M.ENG. (Liverpool), M.I.C.E., M.I.E.E., consulting electrical engineer, 36, Prince's-ave., Liverpool. (Telegs.: "Holmes, c/o Dynamo, Liverpool." Teleph. No. 6699.)

Holmes, C. R., res. engr., London United Tramways, 74, High-rd., Chiswick, W. (Teleph. Chiswick 329.)

Holmes, F. J., A.M.I.E.E., electrical engineer, 2, St. Thomas'-rd., South Hackney, London, N.E.

Holmes, G. H. B., assistant engineer, Electricity Works, York.

Holmes, H., 5, Cromarty-rd., Hornsey-rd., N. Director West India & Panama Telegraph Co., Ltd.

Holmes, J. H., M.I.C.E., M.I.E.E., electrical engineer, Wellburn, Jesmond-rd., Newcastle-on-Tyne.

Holmes, Leonard W., M.I.E.E., Parliament Mansions, Victoria-st., S.W.

Holmes, Philip, A.I.E.E., Abbotsford, Uxbridge-rd., Surbiton, Surrey.

Holmes, R. J. M., A.M.I.E.E., M.I.MECH.E., rolling stock superintendent, Corporation Tramways, Newcastle-on-Tyne. (Teleph. No. 1511, Central.)

Holmes, W., A.M.I.E.E., chief assistant engineer, Electricity Works, Barking, Essex.

Holmes & Cooper, electrical engineers, 160, The Grove, Wandsworth, S.W. (Teleph. No. 1527, Battersea); & 50, East-st., Horsham.

HOLMES, J. H., & CO., electric light & power engineers.

	Telegrams.	*Telephone Nos.*
Newcastle-on-Tyne: Portland-rd. (Head Office & Works).	Holmes, Newcastle-on-Tyne.	809 & 810, Nat.; X 278, P.O.
London: 17, Soho-sq., W.	Vermilionette, London.	Gerrard 1228 (4 lines).
Manchester: Examiner-bldgs.	Compound, Manchester.	25, Central.
Glasgow: 19, Waterloo-st.	Efficiency, Glasgow.	4984, Corp.; 984, Nat.

See MOTOR MFRS.

Holmes, J. R., & Co., telegraph, telephone, torpedo & electric light engineers, "Baltic," 50, Wellington-st., Glasgow; & 7 & 8, Idol-lane, Eastcheap, London, E.C. (Telegs.: "Holmes Lights, London." Teleph. No. 8267, Central.)

Holmes, W. C., & Co., electric light engineers, Turnbridge, Huddersfield. (Telegrams: "Holmes, Huddersfield." Telephone No. 113.)

Holmquist, C. M., maker of electric light baths & electro-medical apparatus, 52, Regent-st., London, W. (Teleph. No. 9278, Central.)

Holness, R. C, A.M.I.E.E., 3, St. Martin's-rd., Stockwell, S.W.

Holophane Glass Co., globe & shade makers, 12, Carteret-st., Westminster, London, S.W. (Telegs.: "Holophane, London." Teleph. Victoria 2491.)

Holroyd, James, electrical engineer, National Telephone Co., Ltd., Devonshire-st., Carlisle.

Holroyd, J., & Co., Ltd., engineers' machine tool makers, Perseverance Works, Milnrow, nr. Rochdale. (Telegs.: "Knit, Milnrow." Teleph. No. 484, Rochdale.)

Holroyde, J. N. C., A.M.I.E.E., c/o British Westinghouse Elec. & Mfg. Co., Ltd., Trafford Park, Manchester.

Holsworthy Electric Supply Co., Ltd., Holsworthy. Engineer, W. H. Miller.

Holt, Frank B., M.I.E.E., "East View," Dairy House-rd., Derby.

Holt, H., agent, Rhodes Motors, Ltd., 102, Charing Cross-rd., London, W.C.

Holt, H. H., engineer of way & works, Central London Railway Co., Shepherd's Bush, London, W.

Holt School of Science, Birkenhead. *See* SCHOOLS, CLASSIFIED SECTION.

Holt & Willetts, electric lifts & accessories, Lion Works, Cradley Heath. (Telegs.: "Holt-Willetts, Cradley Heath." Teleph. No. 12.)

Holtzapffel & Co., mathematical instrument makers, 53, Haymarket, London, S.W. (Teleph. No. 6636, Gerrard.)

Holyhead Urban District Council Electricity Works, Holyhead, Anglesey. Resident engr., P. Williams.

Home, J. Hayward, A.M.I.E.E., resident engineer, Urban Electric Supply Co., Ltd., Electricity Works, Berwick-on-Tweed (Teleph. No. 44); & "Bellevue," Castle-ter., Berwick-on-Tweed.

Home Counties Electricity Supply Co., Ltd., London, E.C. Registered June 27, 1906. Nominal capital: £1000 in £1 shares.

HOME OFFICE. For officials, *see* GOVERNMENT OFFICIALS—CLASSIFIED SECTION.

Home & Rowland, electrical engineers, Troughton-rd., Charlton, S.E. (Teleph. No. 350, Woolwich.)

Homewood, G. E., electrical engineer, 51, Beaconsfield-rd., Brighton. (Teleph. No. 186 X. 2.)

Hong-Kong Electric Co., Ltd. (Livingston, Halton & Co., Ltd., agents), 5, Whittington-ave., Leadenhall-st., London, E.C.

Honley Urban District Council Electricity Works, Honley, Yorks. (Nat. Telephone No. 0182, Honley.) Resident manager, Harry Marsden.

Hood, G. J., electrical engineer & contractor, Arcade, Dewsbury. (Telephone No. 189, Central.)

Hood, Jas. A., Midfield, Lasswade, Midlothian. Chairman Scottish Central Electric Power Co., Ltd.; chairman Lothians Electric Power Co.

Hood, W. W., A.I.E.E., 5, Pembroke-ter., Cardiff.

Hood, W. W., director South Wales Electrical Power Distribution Co., Royal-chbrs., Queen-st., Cardiff.

Hooghley River Electric Power Co., Ltd. Registered Nov. 18, 1907. Nominal capital: £100,000 in £1 shares. Directors: A. J. Boughton, Esq.; J. M. T. Horne, Esq.; H. C. Stewart, Esq.; F. A. H. Walker, Esq.; G. Heath, Esq.; R. E. Hall, Esq.; R. J. Nichols, Esq.

Hooghwinkel, John G., M.I.E.E., M.I.M.E., consulting electrical engineer, mining & traction, 24, Martin's-lane, Cannon-st., London, E.C. (Telegs.: "Engenheiro, London." Teleph. City 2933.)

Hooghwinkel & Thursfield, consulting electrical & mechanical engineers, 20, Park-row, Leeds. (Telegs.: "Consultant, Leeds." Teleph. Central 3936.)

Hook, G. W., superintending engineer, South Midland District, Postal Telegraphs, Birmingham.

Hook, R. Myles, Engineer-in-Chief's Department, G.P.O., London, E.C.

Hooker, F. Stacey, elec. engr., 52, Baron's Court-rd., West Kensington, W. (Teleph. Hammersmith 44.)

Hooker, G., electrician, High-st., Sittingbourne.

Hooker, W. H., director Nairobi Electric Power & Lighting Co., Ltd., 11, Queen Victoria-st., E.C.

Hookham, Geo., J.P., 4, New Bartholomew-st., Birmingham. Director Chamberlain & Hookham, Ltd.; & director Midland Electric Light & Power Co., Ltd.

Hookham, H. J., & Sons, tinplate, iron, brass & copper workers, 174 & 175, Charles Henry-st., Birmingham. (Telegs.: "Tinplate, Birmingham." Teleph. No. 1175.)

Hooley, J., chief assistant engineer, Corporation Electricity Works, Crewe.

Hooper, G., electrical engineer, Whimple-st., Plymouth.

Hooper, J. B., 31, Cambridge-rd., Hove. Director of some of the Associated Cos. of the British Electric Traction Co., Ltd.

Hooper, J. F., director South of England Development Co., Ltd., 3, King's-ter., Southsea.

Hooper, J. F. W., A.I.E.E., Deneleigh, Babington-rd., Streatham, London, S.W.

Hooper, J. P., M.I.E.E., telegraph engineer & managing director Hooper's Telegraph & Indiarubber Works, Ltd., 31, Lombard-st., London, E.C.

Hooper, P. N, A.M.I.C.E., M.I.E.E., 69, Poppleton-rd., Leytonstone, N.E.

HOOPER, H., & CO., ELECTRICAL ENGINEERS, MANUFACTURERS & CONTRACTORS, 181, HIGH-ST., LEWISHAM, LONDON, S.E. (TELEPH. NO. 755, LEE GREEN.)

Hooper's Telegraph & Indiarubber Works, Ltd., telegraph wire, cables, &c., 31, Lombard-st., London, E.C. (Telegrams: "Linear, London." Telephone No. 1169, Avenue); & Millwall Docks, E. (Telephone No. 84, Eastern.) Registered April 16, 1894. Directors: J. P. Hooper, Esq., M.I.E.E. (managing); J. F. W. Hooper, Esq., A.I.E.E.; W. A. C. Hooper, Esq. Secretary, A. Maclachlan; electrician, H. Ohlson. Nominal capital: £40,000 in ordinary shares of £10 each & £10,000 in £10 preference shares. Issued: 1500 ordinary & 1000 preference shares, all fully paid, making £25,000. Dividends: 1905, 1906 & 1907, 5 per cent. on preference & 15 per cent. on ordinary; 1908, 5 per cent. on preference & 5 per cent. on ordinary; 1909, 5 per cent. on preference & 6 per cent. on ordinary.

Hooton, W. M., electric lighting contractor, Southgate, Sleaford.

Hope, Vernon, A.I.E.E., electrical engineer, c/o Parmiter, Hope & Sugden, Hulme Electrical Works, Manchester. (Telegs.: "Terminal, Manchester." Teleph. No. 1902.)

Hope, Alex., Jun., & Co., Ltd., manufacturing chemists, Anchor Chemical Works, Provanmill, Glasgow. (Telegs.: "Alexope, Glasgow." Teleph. No. 1382.)

HOPE-JONES, F., M.I.E.E., Synchronome Co., 32 & 34, Clerkenwell-rd., London, E.C. (Teleph. No. 4643, Holborn.)

Hopewell, S. M., A.M.I.E.E., 43, Windsor-rd., Forest Gate, E.

Hopkins, E. A., 8, Crosby-sq., London, E.C. Managing director New General Traction Co., Ltd.; director Douglas Southern Electric Tramways; director Coventry Electric Tramways Co.; director Norwich Electric Tramways Co.

Hopkins, E. C., A.M.I.E.E., 32, Kestral-ave., Herne Hill, London, S.E.

Hopkins, H. Hanbury, electrical engineer, Rhodes Motors, Ltd., 31, Mauldeth-rd. West, Withington, Manchester.

Hopkins, Walter B., M.I.C.E., M.I.E.E., Norfolk House, Norfolk-st., W.C. Director Folkestone Electricity Supply Co., Ltd.

Hopkins, W. Hustler, Blackwell Hall, Darlington. Director Cleveland Trust, Ltd.

Hopkins, G., & Sons (Clerkenwell), Ltd., electrical engineers, 148, 150, 152 & 154, St. John-st., London, E.C. (Telegs.: "Seamanlike, London." Teleph. Holborn 1093 & 14339 Central.)

Hopkinson, Austin, M.I.M.E., A.M.I.MECH.E., M.I.E.E., 86, Cross-st., Manchester (Telegs.: "Praetor, Manchester." Teleph. No. 6049); & Delta Works, Guide Bridge. (Telegs.: "Praetor, Hooleyhill." Teleph. No. 153, Ashton-under-Lyne.)

Hopkinson, Charles, M.I.C.E., M.I.M.E., consulting electrical engineer, 29, Princess-st., Manchester. (Telegrams: "Arcograph, Manchester." Telephone No. 4199.)

Hopkinson, Dr. Edw., M.A., M.I.C.E., Member of Council of Institution of Mechanical Engineers & of Institution of Electrical Engineers, director Mather & Platt, Ltd., Salford Iron Works, Manchester; director Chloride Electrical Storage Co., Ltd.

Hopkinson, G. H., director Kensington & Knightsbridge Elec. Lighting Co., Ltd., 148, Brompton-rd., London, S.W.

Hopkinson, Prof. B., M.A., M.I.C.E., M.I.E.E., Engineering Laboratory, Cambridge. (Teleph. No. 268.)

Hopkinson Engine Co., makers of oil & gas engines, Huddersfield. (Telegs.: "Accuracy, Huddersfield." Teleph. No. 905.)

Hopkinson, J., & Co., Ltd., makers of patent safety boiler mountings & valves, Britannia Works, Huddersfield (Telegs.: "Hopkinson, Huddersfield." Teleph. Nos. 1269 & 1270); & 165, Queen Victoria-st., London, E.C. (Teleph. Bank 5672.)

Hopper, A. G., Albion Works, Leeds. Director The Colne & Trawden Light Railways Co.

Hopper, T., assistant engineer, Rhondda Tramways Supply Co., Ltd., Porth, South Wales.

Hopps, Bernard, electrical engineer, 83, Hillmorton-rd., Rugby.

Hopps, James, mechanical & electrical engineer, Englefield-green, Surrey.

Hopps, Alfred, & Sons, Ltd., oil merchants & manufacturers, African-chbrs., 19, Old Hall-st., Liverpool. (Telegs.: "Hopps, Liverpool." Teleph. No. 1730. A.B.C., 4th edit., Code.)

Hopton, J. H., A.I.E E., 107, Ribble-rd., Blackpool.

Hopwood, Arthur, A.M.I.E.E., School of Science & Technology, & "Bramhall," Victoria-rd., Tunstall, Staffs.

Hordern, L. H., manager Westminster Electric Supply Corporation, Eccleston-pl., London, S.W.; & joint manager Central Electric Supply Corporation, Ltd.

orley, G., A.M.I.E.E., Westminster Electric Supply Corp., 11, Millbank-st., Westminster, London, S.W. (Teleph. No. 3026, Gerrard.)

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Hornby, B. S., A.M.I.E.E., chief assistant engineer, Corporation Electricity Works, Spa-rd., Bolton. (Teleph. No. 269.)

Horne, F. J., director & secretary Bombay Hydro Electric Synd., Ltd., 210-16, Gresham House, London, E.C.

Horne, J. M. T., director Hooghley River Electric Power Co., Ltd.

Hornsby, Richard, & Sons, Ltd., oil & gas engine & suction plant, Spittlegate Iron Works, Grantham; & 75B, Queen Victoria-st., London, E.C. (Telegs.: "Hornsbys, Grantham;" "Hornsbys, London." Tel. Nos.: 69, London Wall; 1, Grantham. A.B.C., A1, Engineering, W.U., Lieber's & Private Codes.)

Hornsey Borough Council Electricity Works, Hornsey, London, N. Chief engineer, N. Staniland, M.I.E.E.

Horsfall, F., electrical engineer, Southgate, Elland. (Teleph. No. 6 X.)

Horsfall, W., resident electrical engineer, Council Offices, Ebbw Vale. (Telegs.: "Horsfall, Ebbw Vale." P.O. Teleph. No. 36.)

Horsfall, W. M., M.I.E.E., engineer, Liverpool District Lighting Co., Ltd., 16, Tithebarn-st., Liverpool. (Teleph. Nos.: 267, Waterloo; & 6733, Central.)

Horsfall Destructor Co., Ltd., engineers, Lord-st. Works, Whitehall-rd., Leeds; & 110, Cannon-st., London, E.C. (Telegs.: "Destructor," Leeds or London. Teleph. Nos.: 2006, Central, Leeds; P.O. 8517, Bank, London. A.B.C., 5th Edition, & Lieber's Codes used.) Registered May 11, 1899. Nominal capital: £100,000 in £1 shares. Issued: 75,163 shares, fully paid. Directors: Arthur Greenwood, Esq., J.P., M.I.C.E. (chairman); G. Watson, Esq., A.M.I.C.E., M.I.M.E. (managing); Sir John Isaac Thornycroft, F.R.S., M.I.C.E., M.I.M.E.; A. P. James, Esq.; Lieut.-Col. Morgan Lindsay, R.E. General manager & secretary, F. L. Watson, Esq., A.M.I.C.E., M.I.M.E. Dividends: 1903, 2½ per cent.; 1904, 2½ per cent.; 1905 & 1906, *nil.*

Horsfield, A. H., A.M.I.E.E., Clyde Valley Electric Power Co., Ltd., 53, Bothwell-st., Glasgow.

Horsfield, Robert L., general manager, Corporation Tramways, Walsall. (Telephone No. 264.)

Horsham Urban District Council Electricity Works, Horsham, Sussex. (Nat. Teleph. Horsham 6.) Engineer, J. B. Morgan.

Horsley, J. A. B., A.M.I.E.E., engineer, Harrow Electric Light & Power Co., Ltd., West-st., Harrow.

Horsnaill, Wm. Owen, A.M.I.E.E., A.M.I.MECH.E., Old Post Office, Ipswich.

Horton & Ritchie, electrical supplies dealers, 102, Brandon-st., Motherwell, N.B. (Teleph. No. 33.)

Horton & Son, Ltd., mechanical & electrical engineers, New Alma Works, Station-street, Darlaston. (Telegrams: "Horton, Darlaston.")

Hosgood, Newell, A.M.I.E.E., chief assistant engineer, Pembroke (Dublin) Electricity Works, Dublin. (Teleph. No. 1289.)

Hosgood, O. S., superintendent Corporation Electricity Works, Roath Brook, Cardiff.

Hosker, Dr. J. A., Kirkleatham, Christchurch-rd., Bournemouth. Vice-chairman Bournemouth & Poole Electricity Supply Co., Ltd.; director Swanage Electricity Supply Co., Ltd.

Hosking, R. G., A.M.I.E.E., c/o British Thomson-Houston Co., Rugby.

Hosking & Callan, consulting engineers & factors, 1, Thomas-st., Liverpool. (Telegs.: "Maquina, Liverpool." Teleph. No. 4511, Bank.)

Hoskins, F. C., & Co., electric light contractors, 4, Tufton-st., Westminster, London, S.W. (Teleph. No. 929, Victoria.)

Hotchkiss, H. L., New York. Director Exchange Telegraph Co., Ltd.

Houblon, J. N. A., A.I.E.E., Crompton & Co., Ltd., Salisbury House, London, E.C.

Houchin, R., lathe & tool maker, 13, Bridport-pl., New North-rd., London, N.

Hough, C. R., electrical engineer (Electric & Ordnance Accessories Co., Ltd. (V. S. & M. Ltd.), Birmingham), 23, Woodland-park, Newport, Mon. (Teleph. No. 135, Maindee, Nat.)

Hough, J. E., Ltd., general engineers & electric fittings, 62, Glengall-rd., Peckham, London, S.E.

Houghton, E. J., M.I.E.E., 23, Woodstock-rd., Croydon.

Houghton, R. H., B.SC., A.M.I.C.E., A.I.E.E., 23, Woodstock-rd., Croydon.

Houghton, W. H., installation superintendent, Municipal Electricity Works, Huddersfield.

Houghton-le-Spring & District Electric Lighting Co., Ltd., Basildon House, Moorgate-st., London, E.C. Registered March 2, 1905. Nominal capital: £20,000 in £1 shares. Issued: £15,008. Directors: A. W. Tait, Esq. (chairman); Sir Douglas Fox; T. O. Callender, Esq.; L. D. Cuncliffe, Esq.; H. van B. Collet, Esq. Secretary, S. W. Hemmin.

Houghton-le-Spring Tramways, Houghton-le-Spring. (Telegs.: "Trams, Shiney Row." Teleph. No. 21, Houghton.) Sunderland District Tramways, Ltd., props. Engineer & manager, G. Stratton.

Houlder, W., Son & Co., manufacturers of pure acids, Southall, Middlesex. (Telegs.: "Houlder, Southall." Nat. Teleph. No. 1017, Southall.)

Hoult, W., B.SC., A.M.I.E.E., A.M.I.MECH.E., Siemens Bros. Dynamo Works, Ltd., 196, Deansgate, Manchester.

Hounsell Bros., wiring contractors, 22 & 24, High-st., Sheerness.

Hounsell, J., & Son, electric bell fitters, 3, Southover-st., Brighton. (Teleph. Nos.: P.O. 1148; & Nat. 6998.)

Hounsfield, Francis C., A.M.I.E.E., c/o Peek, Frean & Co., Ltd., Drummond-rd., London, S.E.

Hounslow, A. E., electrical engineer, 12, Albany-st., Regent's Park, N.W. (Teleph. North 2311.)

House, A. W., electrical contractor, 4A, Stonegate, York. (Nat. Teleph. No. 34 Y. 4.)

Household Supply & Atmospheric Churn Co., Ltd., electric light fittings manufacturers, 119, New Bond-st., London, W. (Telegrams: "Quadrivial, London.")

Houston, John, electrical engineer, 30, Earl-st., Scotstoun, nr. Glasgow.

Houstoun, Wallace C., 37, Cross-st., Manchester. Director North-Western Electricity & Power Gas Syndicate, Ltd.; director North-Western Electricity & Power Gas Co.

Hove (Aldrington) Electricity Supply Works, Town Hall, Hove. Borough engineer, H. H. Scott.

Hove Electric Lighting Co., Ltd., Electric Supply Co., Salisbury House, London Wall, London, E.C.; & Davigdor-rd., Hove, Brighton. (Telegs.: "Electricity Works, Hove." Teleph. Nos.: 2599, Nat.; 1599, Corp.) Registered Aug. 4, 1892. Nominal capital: £100,000 in 15,000 ordinary shares of £5 each, fully paid; 5000 5 per cent. cumulative preference shares of £5 each, fully paid. Debentures: £7300 of 4½ per cent. debentures, issued at £103, fully paid, & £37,300 of 4 per cent. debenture stock, fully paid. C. B. Smith, M.I.E.E., resident engineer; Crompton & Co., electrical engineers. Directors: C. F. Tufnell, Esq. (chairman); Colonel H. Wood, C.B. (vice-chairman); F. R. Reeves, Esq. (managing & secretary); H. A. Hoare, Esq. Dividends: 1901, 8 per cent.; 1902, 1903 & 1904, 8½ per cent.; 1905, 9 per cent.; 1906, 9 per cent.; 1907 & 1908, 8½ per cent.

Hove & Worthing Electric Tramways, Ltd., Electrical Federation Offices, Kingsway, W.C. (Telegs.: "Hove, c/o Tramway, London." Teleph. Holborn 2686 (9 lines).) Registered March 4, 1904. Nominal capital: £100,000 in £5 shares & £50,000 debentures. Issued: £45 in shares, fully paid.

How, G. A., Electrical Engineer's Department, Great Western Railway, 66, Porchester-rd., London, W.

How, Horace D. B., electrical engineer, Alpha Works, Taffswell, Cardiff.

Howard, A. H., M.I.E.E., electrical engineer, Parliament Mansions, Victoria-st., London, S.W. (Telegs.: "Howardist, London." Teleph. Westminster 5366.)

Howard, A. J., A.M.I.E.E., 23, Park-pl., Merthyr Tydfil.

Howard, F. Geere, A.M.I.C.E., electrical engineer, 63, Berners-st., London, W. (Telegrams: "Diagometer, London." Telephone No. 6791, Central.)

Howard, G. A., wiring contractor, 24, Silver-st., Lincoln. (Telegs.: "G. A. Howard, Lincoln." Teleph. No. 3 X. 2.)

Howard, H. L., A.M.I.E.E., A.M.I.MECH.E., chief engineer & general manager Electricity & Tramways Department, Barking. (Telegs.: "Electricity Works, Barking." Teleph. No. 156.)

Howard, Selby B., assistant engineer, Urban Electric Supply Co., Ltd., Weybridge, Surrey.

Howard, T. R., electrical engineer, The Hollies, Hallowell-rd., Northwood, Middlesex.

Howard, W., electrical engineer & wiring contractor, 174, Blackfriars-rd., London, S.E.

HOWARD ASPHALT TROUGHING CO., LTD., manufacturers of underground electric mains, Trafford Park, Manchester. (Telegs.: "Ductile, Manchester.") Registered Jan. 26, 1901. Nominal capital: £19,000 in £1 ordinary shares & £1000 deferred shares. E. A. Claremont, Esq., managing director.

Howard & Co., structural & general engineers, art metal workers, &c., 106, Leadenhall-st., London, E.C. Works: Mile End, E. (Telephone No. 5791, Avenue.)

Howard, J. & F., oil engine makers, Britannia Iron Works, Bedford. (Telegrams: "Howard, Bedford." Telephone No. 4.)

Howards & Sons, Ltd., manufacturing chemists, 74, Stratford High-st., London, E. (Telegs.: "Quinology, London." Teleph. East 815 & 816; & Stratford 205); & Uphall Works, Ilford, Essex.

Howcroft, A., chief assistant, Corporation Electricity Works, Kendal, Yorks.

Howden, Jas., & Co., high-speed engines, steam turbines, &c., Scotland-st., Glasgow. (Telegrams: "Howden, Glasgow." Telephone Nos.: 1795 & 2045, Nat.; & X. 195, Corp.)

Howe, G. W. O., M.SC., WHIT. SCH., A.M.I.E.E., assistant professor of electrical engineering, Central Technical College, South Kensington, S.W.; & 14, Bernard-gdns., Wimbledon, S.W.

Howe, W., district manager National Telephone Co., Ltd., Telephone-bldgs., Southampton.

Howe Electrical Engineering Co., Ltd., electrical engineers, 16, Redcross-st., Liverpool. Works: 14A, Moor-st., Liverpool (Telegs.: "Switch, Liverpool." Teleph. Bank 4381); & 24, Preston New-rd., Blackburn. (Teleph. No. 553.)

Howell, A., chief assistant electrical engineer, Borough of Hornsey Electricity Works, Hornsey.

Howell, E. J., A.I.E.E., 174, Corporation-st., Birmingham; & 10, Sycamore-rd., Bournville, Worcs. (Teleph. Central 6753.)

Howell, J. H., J.P., Pembroke-rd., Clifton. Director Bristol Tramways & Carriage Co., Ltd.

Howell, L., wiring contractor, 10, Victoria-rd., Swindon.

Howell, T. B., A.M.I.E.E., A.M.I.M.E., 26, Albert-rd., Whalley Range, Manchester.

Howell, W. W., representative in England of the Compagnie Française des Câbles Télégraphiques, 24, Royal Exchange; 2, Mincing-lane; 5, New Bridge-st.; Baltic Mercantile & Shipping Exchange, London, E.C.; 24, Hop Exchange, S.E.; & 136, Victoria-st., S.W.

Howell & Co., Ltd., iron & steel tube manufacturers, Wincobank, Sheffield (Telegs.: "Howell, Sheffield." Teleph. No. 48); & 18, Queen Victoria-st., E.C. (Zeitz & Co., London agents.)

Howes, Wm., A.M.I.E.E., 79, Speldhurst-rd., Bedford Park, Chiswick, London, W.

Howes, S., Co., turbine & water motor makers, 64, Mark-lane, London, E.C. (Telegs.: "Barbeau, London." Teleph. No. 1924, Avenue.)

Howett, E., manufacturing medical electrician, Welby-st., Grantham.

Howgrave-Graham, R. P., A.M.I.E.E., Finsbury Technical College, Leonard-st., E.C.

Howie, Harold A., A.M.I.E.E., deputy manager & chief assistant electrical engineer, Commercial-st., Sheffield.

Howitt, Felix J., A.M.I.E.E., 8, South-st., Bushbury, Wolverhampton.

Howitt, John, & Sons, electricians & engineers, St. Mark's Works, & 36, Stodman-st., Newark.

Howl, Edmund, A.I.E.E., electrical engineer, The Quarries, nr. Dudley.

Howlett, H. N., A.I.E.E., director Davis Electrical Co., Ltd., 17, Moor-st., Cambridge Circus, W.

Howorth, James, & Co., Ltd., humidifying, heating & ventilating engineers, Victoria Works, Farnworth, nr. Bolton or Manchester. (Telegs.: "Ventilator, Farnworth, Bolton." Teleph. No. 59.)

Hoylake & West Kirby Urban District Council Electricity Works, Hoylake, Cheshire. (Telephone No. 203, Hoylake.) Engineer, C. J. Turner, A.M.I.E.E.

Hubbard, H. M., director Mexico Electric Tramways, Ltd., Threadneedle House, 31, Bishopsgate-st. Within, E.C.

Hubbards, Ltd., electrical engineers, 5, Junction-rd., Eastbourne. (Teleph. No. 690.)

Hubber & Son, electrical engineers & contractors, 85 & 86, South-st., Exeter. (Teleph. No. 149.)

Hubbuck, T., & Son, Ltd., composition makers for preventing incrustation in steam boilers, 24, Lime-st., E.C. (Telephone No. 4152, Avenue); & Hubbuck's-wharf, 44 to 48, Broad-st., Ratcliff, E. (Telegrams: "Hubbuck, London.")

Hübsch, A. E., & Co., battery makers, 18, Charing Cross-rd., London, W.C.

Hucklebridge & Son, hydraulic engineers & electric bell fitters, 1, Bridge-st., Exeter.

Huddersfield Corporation Electric Tramways. General manager & engineer, R. H. Wilkinson. (Nat. Teleph. Huddersfield 398 & 698.)

Huddersfield Corporation Electricity Supply. Works: St. Andrew's-rd. Chairman, Alderman A. Chatterton; borough electrical engineer, A. B. Mountain, M.I.E.E. (Telephone No. 261.)

Huddersfield Technical College, Huddersfield. (Nat. Teleph. No. 360.) *See* SCHOOLS, CLASSIFIED SECTION.

Huddleston, J. Snow, electrical engineer, c/o Siemens Bros. & Co., Ltd., Caxton House, Westminster, London, S.W.

Huddleston, Percy, A.I.E.E., 72, Finsbury Pavement, London, E.C.

HUDDLESTON, PERCY, & CO., Electrical & Mechanical Auctioneers & Valuers, 72, Finsbury Pavement, London, E.C. (Telegs.: "Sultanship, London." Teleph. Nos.: 585, London Wall; & 620, Chiswick); & 16, Albany-rd., Bedford.

Hudson, Arthur P., A.M.I.E.E., assistant engineer, Charing Cross, West End & City Electricity Supply Co., Ltd., 85, Fenchurch-st., London, E.C.; & "Samoa," Gordon-rd., Carshalton, Surrey.

Hudson, H., electrical engineer, Callender's Cable & Construction Co., Ltd., Hamilton House, Victoria Embankment, London, E.C.

Hudson, H. L., electrical engineer, 25, High-st., Yeadon, nr. Leeds.

Hudson, R., Westwood, Leeds. Director Yorkshire Electric Power Co.

Hudson, Robert, A.M.I.E.E., 171, Uttoxeter New-rd., Derby.

Hudson, R. C. D., Cheswardine, Market Drayton. Chairman Market Drayton Electric Light & Power Co., Ltd.

Hudson & Bowring, Ltd., tramway life-guards & accessories, Temple-chbrs., 33, Brazennose-st., Manchester. (Telegs.: "Meacots, Manchester.")

Hudson Economiser Co. (1907), Ltd., feed water heaters, 2, Bishopsgate-st. Without, London, E.C.

Hudson, Edmunds & Co., Ltd., brass, copper & aluminium tube & metal manufacturers, Sheepcote-st., Birmingham. (Telegs.: "Metallicus, Birmingham." Teleph. Midland 80.)

Hudson, John, & Co.'s Successors, manganesite manufacturers, 4, Victoria Warehouses, Mansell-st., London, E. (Telegs.: "Adamantos, London." Teleph. No. 1020, Avenue.)

Hudson & Son, electrical instrument makers, Stockwell-st., Greenwich, S.E. (Telephone No. 1419, Deptford.)

Hudsons Bay & Pacific Railway Development Co., Ltd., 56, Moorgate-st., London, E.C. Registered April 7, 1909. Nominal capital: £150,000 in £1 shares.

Hudswell, Percy S., A.M.I.E.E., 62, Victoria-rd., Bedford.

Hudswell, Clarke & Co., Ltd., sole makers of Rodgers' pulleys (registered), Railway Foundry, Leeds. (Telegs.: "Loco, Leeds." Teleph. No. 3540.)

Huggett & Worthington, Ltd., electrical engineers, 85, Bridge-st., Warrington.

Huggins, Ed., electrical engineer, 55, City-rd., Cardiff. (Teleph. Roath 5 X. 2.)

Hughes, Arnold S., A.I.E.E., Carron Co., Carron, Stirlingshire.

Hughes, Bertram J., electrician, 26, Patten-st., Birkenhead.

Hughes, E., consulting electrical engineer, 5, Parsonage, Manchester.

Hughes, Edgar, M.I.E.E., 35, Belfield-rd., Didsbury, Manchester.

Hughes, G., engineer, Liverpool, Southport & Crossens Electric Railway (L. & Y. Rly.), Horwich, Lancs.

Hughes, G. A., A.I.E.E., Addiscombe House, Havelock-rd., Croydon.

Hughes, John, F.C.S., analytical chemist, 79, Mark-lane, London, E.C.

Hughes, R. J., M.I.E.E., superintendent, Commercial Cable Co., Waterville, Co. Kerry.

Hughes, T. Vaughan, consulting electrical engineer, metallurgist & analyst, 130, Edmund-st., Birmingham. (Telegs.: "Prober, Birmingham." Teleph. No. 220, Central.)

Hughes, W. G. Crawford, F.G.S., A.M.INST.C.E., electrical engineer, 2A, Ryder-st., St. James's, London, S.W. (Telegs.: "Conversant, London." Teleph. No. 7609, Gerrard.)

Hughes, W. M., electrical engineer, New-rd., Kidderminster.

Hughes, W. Walter, A.M.I.E.E., sales manager, Plant Dept., British Westinghouse & Manufacturing Co., Ltd., Trafford Park, Manchester. (Telegs.: "Westinghouse, Manchester." Telephone Central 7101.)

Hughes Butterfield Bros., "Bantam" Accumulator & Coil Works, Albert-rd., Stechford, Birmingham. (Telegs.: "Butterfield, Stechford." Teleph. No. 498.)

Hughes, Fawcett & Co., iron founders & machine tool makers, Hebden Bridge. (Telegrams: "Hughes-Fawcett, Hebden Bridge." Telephone No. 17, Nat.)

Hughes, H., & Son, Ltd., mathematical instrument makers, 59, Fenchurch-st., London, E.C. (Telegrams: "Azimuth, London." P.O. Telephone No. 555, Central.)

Hughes, John & Joseph, metal merchants, Albion Metal Works, Woodcock-st., Birmingham. (Telegrams: "Bronze, Birmingham." Telephone No. 118.)

HUGHES LABEL CO., LTD., THE, makers of ivory, ivorine, bone & brass labels for all purposes, 34, Great Titchfield-st., W. (Telegrams: "Nivose, London." Telephone No. 2732, Gerrard.)

Hughes & Lancaster, electrical engineers, 47, Victoria-st., Westminster, London, S.W. (Telegrams: "Voidance, London." Telephone No. 3372, Westminster.)

Hughes, R. T., & Co., electric lighting contractors, 37, Sheen-lane, Mortlake.

Hughes, Son, & Thornton, patent agents, 38, Chancery-lane, London, W.C.

HUGHES & STIRLING, ENGINEERS & REFUSE DESTRUCTOR PLANT MAKERS, Bootle, Liverpool; & 7, Arundel-st., London, W.C. (Telegs.: "Hugeling, London." Teleph. No. 7285, Gerrard.)

Hughes, William, Ltd., wire drawers, Drury-lane, London, W.C.

Hughes, W. C., & Co., electrical apparatus for projection & stage, Brewster House, Mortimer-rd., Kingsland, London, N. (Telegs.: "Pamphengos, London." Teleph. Dalston 1122.)

Hughes & Whiteley, electrical engineers, 2, Bk. Clement-st., Llandudno. (Teleph. No. 119.)

Hulett, D., & Co., Ltd., electrical engineers, contractors, & manufacturers, 55 & 56, High Holborn, London, W.C. (Telegrams: "Hulett, London." Telephone No. 4864, Holborn.) Registered 1889. Secretary, Joseph Huskisson; electrical engineer, J. W. Polley, A.M.I.E.E.

Hull, F. W., 34, Old Broad-st., London, E.C. Director Electric Welding Co., Ltd.

Hull, Wm. George, electrical & mechanical engineer, Pangbourne, Reading, Berks.

Hull City Electric Light & Power Works, Sculcoates-lane, Hull. (Corp. Teleph. Nos. 197 & 1100.) Electrical engineer, H. Bell, M.I.E.E.

Hull Corporation Tramways. (Corp. Teleph. No. 443.) Engineer, J. Wilkinson, M.I.E.E, M.I.M.E.

Hull Municipal Technical School, Hull.

Hulme, G. Ratcliffe, Electrical Federation Offices, Kingsway, London, W.C.

Hulme & Son, electricians, 8 & 9, Sadler Gate, Derby. (Teleph. No. 694 X. 1.)

Hulse, R. P., electrical engineer, British Westinghouse Electric & Mfg. Co., Winchester House, Victoria-sq., Birmingham.

Human, Henry, A.M.I.E.E., Guardian Assurance Co., 11, Lombard-st., London, E.C.

Humber Electrical Engineering Co., electrical engineers & contractors, 68, Brook-st., Hull. (Nat. Teleph. No. 958.)

Humboldt Engineering Works Co., Dixon House, Lloyd's-ave., London, E.C.

Hume, C. E., resident engineer & manager, Electricity Works, Ramsgate & District Electric Supply Co., Ltd., Whitehall, Ramsgate. (Teleph. No. 51.)

Hume, G. H., M.I.E.E., 3, Brick-ct., Temple, London, E.C.

Hume, W., manufacturer of scientific instruments, 1, Lothian-st., Edinburgh. (Telegrams: "Hume, Edinburgh.")

Humphery, S. W., A.M.I.E.E., 65, London-rd. South, Lowestoft.

Humphrey, Herbert A., M.I.E.E., M.I.M.E., M.I.C.E., consulting engineer, 38, Victoria-st., Westminster, London, S.W. (Telegs.: "Gazonner, London." Teleph. Victoria 360.) Director Belfast & North-East Ireland Electricity & Power Gas Co.

Humphreys, E. Noel, director North Wales Power & Traction Co., Ltd., Old Bank-bldgs., Chester.

Humphreys, H. J., Lieut. R.G.A., United Service Club, Pall Mall, London, S.W.

Humphreys, Thomas, A.M.I.E.E., 158, Whitworth-rd., Rochdale, Lancs.

Humphreys, Hugh, Co., electricians & contractors, North Parade, Aberystwith.

Humphreys, J. H., & Sons, manufacturers of electric drills, grinders & motors, Horsedge Electric Works, Oldham. (Teleph. No. 76 Y.)

Humphreys, William, & Co., merchants & agents, Chatham-bldgs., Hope-st., Piccadilly, Manchester. (Telegrams: "Avant, Manchester.")

Humphries, E., engineer, Blockley Electric Supply Co., Blockley, Worcs.

Hunns & Co., electrical engineers, Stopford-road, Plaistow, London, E.

Hunsiker, M., director Traction & Power Securities Co., Ltd., 2, Norfolk-st., W.C.

Hunslet Electrical Pottery Co., Ltd., Balm Road Mills, Hunslet, Leeds.

HUNT, A. H., electrical engineer & supplier for wholesale & export, 115–117, Cannon-st., London, E.C. (Telegs.: "Keyage London." Teleph. No. 8114, Bank. Lieber's & A.B.C., 4th Edition, Codes.) *See advt. under* CABLE MANUFACTURERS.

Hunt, F. D., electrician, 32, Deacon-st., Walworth, London, S.E.

Hunt, Frederic Osmond, A.M.I.E.E., consulting electrical engineer, Union-bldgs., St. John-st., Newcastle-on-Tyne. (Telegs: "Fount, Newcastle-on-Tyne." Teleph. Central 2511.)

Hunt, Herbert F., B.SC., A.M.I.E.E., electrical engineer, Pembroke Dockyard; & 2, Melville-ave, Pembroke Dock.

Hunt, John A. Harry, maker of electric light fittings, 233, Bradford-st., Birmingham. (Teleph. Midland 1941.)

Hunt, Louis J., A.M.I.C.E., M.I.E.E., chief electrical engineer, Sandycroft Foundry Co., Chester.

Hunt, T. C., A.I.E.E., electrical engineer, Baldock-st., Ware, Herts.

Hunt, Edmund, & Co., chartered patent agents, 121, West George-st., Glasgow. (Telegrams: "Hunt, Glasgow." Nat. Telephone No. 713, Royal.)

Hunt & Mitton, lubricators, oil gauge, brass finishers & founders, 13–19, Oozells-st. North, Birmingham. (Telegs.: "Mitton, Birmingham." Teleph. No. 394.)

Hunt, R., & Co., Ltd., pulley makers, Atlas Works, Earls Colne, Essex. (Telegrams: "Hunt, Earls Colne." P.O. Telephone No. 2.)

HUNTALITE LTD., manufacturers of the "Huntalite" patent candle lamp, 23, Newman-st., Oxford-st., London, W. (Telegs.: "Huntalite, London." Teleph. No. 7505A, Gerrard.)

Hunter, C. C., manager of the Electrical Department, Maple & Co., Ltd., 141–149, Tottenham Court-rd., London, W. (Telegs.: "Maple, London." Teleph. No. 7000, Gerrard.)

Hunter, C. E., electrical engineer & manager Ediswan Works, Ponder's End, London, N. (Telegs.: "Ediswan, Ponder's End." Teleph. Enfield 33; & Dalston 28.)

Hunter, C. P., electrical engineer, Tarvin Hall, nr. Chester. (Telegs.: "Hunter, Tarvin.")

Hunter, David, electrical engineer, Lanark.

Hunter, E. B., A.M.I.E.E., Phœnix Assurance Co., 19, Lombard-st., E.C.

Hunter, F. R., resident engineer, Southwold Electricity Supply Station, Southwold.

Hunter, G. B., Wallsend-on-Tyne. Director Newcastle-on-Tyne Electric Supply Co., Ltd.

Hunter, J., director New St. Helen's & District Tramways Co., Ltd., Atherton, Lancs.; chairman Munster Electric Lighting Co., Ltd.

Hunter, John M., A.M.I.E.E., Pentre Bychan, Kilmalcolm, Renfrewshire.

Hunter, R., director Falkirk & District Tramways Co.; director Falkirk Electric Construction Synd., Ltd., Larbert-rd., Larbert, N.B.

Hunter, Summers, South Preston Lodge, North Shields. (Telegs.: "Hunter, North Shields." P.O. Teleph. No. 15.) Director Tyneside Tramways & Tramroads Co.

Hunter, W., electrician, 21, Charles-st., West Hartlepool.

Hunter, W., electrician-in-charge, Overhead Railway, Liverpool.

Hunter, W. D., M.I.E.E., managing director & engineer, Newcastle & District Electric Lighting Co., Ltd., 38, Grainger-st.-west, Newcastle-on-Tyne.

Hunter & Co., electrical & mechanical engineers, Lanier Works, Lewisham, London, S.E. (Telegs.: "Hunters, Lewisham, London.")

Hunter, E. H., & Co., exporters of electrical machinery, 1, St. Mary Axe, London, E.C. (Telegs.: "Opals, London." Teleph. Avenue 429.)

Hunter & Goudie, electrical engineers, Causeyside-st., Paisley.

Hunter & Jack, electric light & power engineers, 101, St. Vincent-st., Glasgow. (Telephone No. 614.)

Hunter, John, & Co., electrical engineers, 11, Paradise-st., Liverpool. (Telegs.: "Inductance, Liverpool." Teleph. No. 3177, Royal.)

Hunter & Swan, Ltd., electrical & mechanical engineers, 31, Queen-st., Cardiff. (Telegs.: "Hydrostatic, Cardiff." P.O. & Nat. Teleph. Cardiff 1011.)

Hunter-Brown, Philip, A.M.I.E.E., electrical engineer, Brush Electrical Engineering Co., Ltd., Falcon Works, Loughborough; & Charnwood, Barrow-on-Soar, Leicestershire.

Huntley, D., A.M.I.E.E., electrical engineer, 70, Loveday-rd., West Ealing, London, W.

Huntley, R., Ltd., ferro-manganese merchants, 34 & 36, Mowbray-st., Sheffield. (Telegrams: "Huntley, Sheffield." Telephone No. 343.)

Hunton, Wm., A.I.E.E., St. Cuthberts, Bath.

Hurlet & Campsie Alum Co., manufacturing chemists, 115, Wellington-st., Glasgow. (Telegrams: "Campsie, Glasgow.")

Hurry Bros., electric light & power contractors, 6, Sugarhouse-lane, Greenock.

Hurst, B., Burbage Grove, Hinckley. Chairman Leicestershire & Warwickshire Electric Power Syndicate, Ltd., 5, Great George-st., S.W.

Hurst, T. H., A.M.I.E.E., 31, Skerton-rd., Old Trafford, Manchester.

Hurst, A., & Co., importers of ebonite & glassware for electrical purposes, 53, Leadenhall-st., London, E.C. (Telegrams: "Vivifico, London." Telephone No. 2673, Avenue.)

Hurst, Nelson & Co., Ltd., builders of railway carriages, wagons, electric cars & every other description of railway & tramway rolling stock. Motor omnibus & other road vehicle bodies. Pressed steel work of all kinds, including underframes & bogies; makers of wheels & axles, railway plant, forgings, smith work, iron & brass castings. Registered office & chief works: The Glasgow Rolling Stock & Plant Works, Motherwell. London office: 14, Leadenhall-st., E.C. Manchester office: Northern Assurance-bldgs., Albert-sq. Glasgow office: 40, West Nile-st.; Chatsworth Wagon Works, nr. Chesterfield; & at Bridgend Wagon Works, Bridgend, Glam. (Telegs.: "Nelson, Motherwell;" "Lintel, London;" "Corridor, Manchester;" "Nelson, Glasgow;" "Nelsons, Chesterfield;" "Nelsons, Bridgend." London Teleph. Avenue 5549.)

Hurworth, T., electrician, Leeds Industrial Co-operative Society, Leeds.

Husbands & Sons, theodolites, levels & scientific instrument makers, 8, St. Augustine's-parade, Bristol. (Telegrams: "Husbands, Opticians, Bristol.")

Huskisson, W. Marshall, A.M.I.E.E., 45, Cambridge-gardens, Notting Hill, London, W.

Hussey, Major W. C., R.E., A.I.E.E., H.M. Office of Works, Storey's Gate, London, S.W.

Hussey, T., & Sons, electric light contractors, 110, Craven Park-rd., Harlesden, London, N.W. (Teleph. No. 125, Harlesden.)

Hutcheson, Andrew, electrical engineer, 211, West Campbell-st., Glasgow.

Hutcheson, J., electrical engineer & contractor, 211, West Campbell-st., Glasgow.

Hutchin, George, electrical engineer, Hope-buildings, 39A, South Castle-street, Liverpool.

Hutchins, C. D'Oyley, electrical, civil & general engineer, Wood Hall, Kingston-rd., Staines, Middlesex.

Hutchins, F., & Co., Ltd., electrical engineers, Crescent Works, Manor Park-rd., Harlesden, London, N.W. (Telegs.: "Hutchical, London." Teleph. Harlesden 133.)

Hutchinson, A. P., A.I.E.E., 58, Doughty-st., London, W.C.

Hutchinson, C., electrical engineer, 15, Kingsley-ave., West Ealing, London, W.

Hutchinson, G. T., director South Wales Electrical Power Distribution Co., Royal-chbrs., Queen-st., Cardiff; director Treforest Electrical Consumers Co., Ltd.

Hutchinson, J. A., M.D., Northallerton. Director Northallerton Electric Light & Power Co., Ltd.

Hutchinson, J. W., director South Wales Electrical Power Distribution Co., Royal-chbrs., Queen-st., Cardiff.

Hutchinson, Maj.-Gen. C. S., C.B., 14, Kidbrook Park-rd., Blackheath. Director Baker-st. & Waterloo Electric Railway.

Hutchinson, R. W., B.SC., A.M.I.E.E., 43, Wellesley-ave., Newland, Hull.

Hutchinson, Sir S. H. C., M.I.C.E., M.I.E.E., 22, Edith-rd., West Kensington, London, W.

Hutchinson, T. J., Aden House, Manchester-rd., Bury. (Nat. Teleph. No. 316.) Chairman Douglas Southern Electric Tramways, Ltd.

Hutchinson, W. E., electric light engineer & contractor, 5, Batoum-gdns., London, W.

Hutchinson, W. L., A.I.E.E., 4, Vanbrugh Park, Blackheath.

Hutchison, H. W., Kirkcaldy. Director Fife Electric Power Co., Ltd.

Hutton, F. H., M.A., electrician, Vicar's-ct., Lincoln.

Hutton, James, engineer, 98, King's-rd., Camden-rd., London, N.W.

Hutton, John Ernest, A.I.E.E., manager Wolseley Tool & Motor Car Co., Ltd., York-st., London, S.W.

Hutton Bros., electrical engineers, Commercial-rd., Swindon. (Telegs.: "Hutton Bros., Swindon." Teleph. No. 73.)

Hutton Bros., electrical engineers, St. Aldate-st., Gloucester.

Hyde, A. W., installation contractor, 73, Pasture-st., Great Grimsby. (Telegs.: "Hyde, Electrician, Grimsby." Teleph. No. 5 X.)

Hyde, Albert W., district manager, National Telephone Co., Ltd., Stockton-on-Tees.

Hyde, C. G., M.P., 75, Gloucester-ter., Hyde Park, London, W. Director Great Northern & City Rly. Co.

Hyde, H., electrical engineer, 48, Spring Bank, Hull. (Nat. Telephone No. 487.)

Hyde, J., manufacturing chemist, High-street, Wednesfield.

Hyde, J. B., A.I.E.E., Bloxham, Banbury, Oxon.

Hyde, John Derby, A.I.E.E., Bloxham, Banbury, Oxon.

Hyde Technical School, Hyde. *See* SCHOOLS.

Hyde-Beadle Power System, Ltd., mechanical & electrical engineers, Palace-chbrs., Westminster, S.W.

Hyderabad Electric Light & Traction Co., Ltd., Worcester House, Walbrook, London, E.C. Registered April 13, 1904. Nominal capital: £10,000 in £1 shares. Issued: £27. Directors: J. Kerr, Esq.; G. Flett, Esq. Secretary, W. R. Elston.

Hydro-Electrical Gear Co., Ltd., lift makers, 11, Pancras-lane, London, E.C.

Hyndman, H. H. F., B.SC., A.M.I.E.E., electrical engineer, 5, Warwick-rd., London, S.W.

Hythe Electricity Works (Folkestone Electricity Supply Co., Ltd.), Hythe, Kent. Managing engineer, T. Hesketh, M.I.E.E., A.M.I.M.E., M.A.I.E.E.; resident engineer, A. C. Wampach.

I. T. C., Ltd. (Inter-Communicating Telephone Co.), private telephone contractors, 64, Leadenhall-st., London, E.C.

I. T. E. ELECTRIC CO. (1907), LTD., 72, Finsbury Pavement, London, E.C. (Telegs.: "Useite, London." Teleph. No. 7479, Central.)

Iago, Frank, F.C.I.S. (sec.), Westminster Electric Supply Corp., Ltd., Eccleston-pl., Belgravia, London, S.W.

Ibbetson, W. W. S., B.SC., A.M.I.E.E., lecturer in electrical engineering, L.C.C. School of Engineering, Poplar, E., 25, Hatherley-gdns., East Ham, E.

Ibbotson Brothers & Co., Ltd., steel manufacturers, &c., 7, Victoria-st., London, S.W. (Telegrams: "Ibbotson, London"); & Globe Steel Works, Sheffield.

Ickelheimer, M., agent for M. Fleischmann, Vienna, 36A, Aldersgate-st., London, E.C.

Iddon Bros., Ltd., makers of electric wire & cable covering machines, Brookfield Iron Works, Leyland, nr. Preston.

Ide, T. & W., glass works, Glasshouse Fields, Ratcliff, London, E.; & at Birmingham. (Telegrams: "Twide, London." Telephone No. 5133, Eastern.)

Ilford Urban District Council Electricity Works, Ilford. Engineer, A. H. Shaw, M.I.E.E., A.M.I.M.E. (Teleph. Ilford 32.)

Ilfracombe Electric Light & Power Co., Ltd., Broad Sanctuary-chbrs., Westminster, S.W.; & Ilfracombe, Devon. (Teleph. No. 43.) Registered Sept. 16, 1901. Nominal capital: £15,000 in £5 shares. Issued: 67 shares. The full amount has been called & £335 has been received. Directors: F. E. Gripper, Esq.; J. C. Wigham, Esq.; W. T. Pressland, Esq. Engineer & manager, H. J. Stewart, A.M.I.E.E.; secretary, C. H. Jones.

Ilkeston Corporation Electricity Works & Electric Tramways.

Ilkeston Electricity Works (Derbyshire & Nottinghamshire Electric Power Co.), Ilkeston, Derbyshire. (Telegs.: "Power, Ilkeston." Teleph. No. 38, Ilkeston.) Engineer & manager, A. E. Loos; resident engineer-in-charge, R. D. Spurr.

Illingworth, Edgar Darnell, A.M.I.E.E., 4, Roxburgh-ter., Whitley Bay, nr. Newcastle-on-Tyne. (Telegs.: "Royces, Whitley Bay." Nat. Teleph. No. 49.)

Illingworth, Ingham & Co., Ltd., wood casing & cleats for wires, City Saw Mills, Leeds (Telegs.: "Timber, Leeds." Teleph. Nos. 70, 71 & 72); Albert-st., Goole; 61, Whitworth-st. West, Manchester (Telegs.: "Flooring, Manchester"); & Trafford Park, Manchester. (Telegs.: "Plinth, Manchester.")

Illingworth, T. H. & W. R., cotton driving band manufacturers, Ridgehill-lane, Stalybridge.

Illuminating Engineer (monthly; ann. sub., 10*s.* 6*d.*). Editorial office: 32, Victoria-st., London, S.W. (Teleph. No. 5215, Westminster.) Publishing office: 13, Breams-bldgs., London, E.C. (Teleph. No. 2120, Central.)

Illuminating Engineering Society. President, Prof. S. P. Thompson, D.SC., F.R.S.; hon. secretary, L. Gaster, 32, Victoria-st., London, S.W.

Illustrated Official Journal (*patents*) (weekly, 6*d.*; by post, 8*d.*; ann. sub., 35*s.*), Patent Office, Sale Branch, 25, Southampton-bldgs., Chancery-lane, London, W.C.

Imbery, A., electrician, 34, St. Albans-ave., Halifax.

Imeson, Finch & Co., Ltd., electrical manufacturers & tramway engineers, Bridge Works, Stockton-on-Tees. (Telegs.: "Efficiency, Stockton." Teleph. No. 409.)

Immisch Launch & Boat Co., Ltd., Platt's Eyot, Hampton-on-Thames (Telegs.: "Immisch, Hampton." Teleph. No. 17, Molesey); & Electrical Federation Offices, Kingsway, London, W.C.

Imperial Brake Block Co. (of Great Britain & Ireland), Ltd., 15, Cross-st., Manchester.

Imperial College of Science & Technology, South Kensington, London, S.W. (Telegs.: "Scientist." Teleph. Western 164.) Rector, Dr. Henry T. Bovey, F.R.S.; secretary, Alexander Gow, M.A., B.SC.

Imperial Enamel Co., Ltd., makers of cones & reflectors for electric light, Watery-lane, Birmingham. (Telegs.: "Impervious, Birmingham." Teleph. Victoria 122.)

Imperial Lamp Works (Brimsdown), Ltd., Imperial Works, Brimsdown, Middlesex.

Imperial Lighting Co., 157, Blackfriars-rd., London, S.E. (Teleph. Central 3161.)

Imperial Steam Users' Association, Anchor Works, Malt-st., Old Kent-rd., London, S.E. (Telegrams: "Vaporoso, London." Telephone No. 2433, Hop.)

Imperial Tramways Co., Ltd., Clare Street House, Bristol. (Telegrams: "White, Bristol." Telephone Nos.: Nat., 74; P.O., 2.) Registered Sept. 29, 1898. Capital authorized: £200,000 in ordinary shares of £10 each, £200,000 in 6 per cent. cumulative preference shares of £10 each & £300,000 debenture stock. Capital issued: 20,000 £10 ordinary shares & 20,000 £10 preference shares; total, £400,000. There is an issue of £300,000 4½ per cent. first mortgage debenture stock secured by trust deed & redeemable Jan. 1, 1920, at 110 per cent. Directors: Sir Geo. White, Bart. (chairman); Hugh C. Godfray, Esq.; Samuel White, Esq., J.P.; Sir Clifton Robinson, J.P. (managing). Secretary, W. G. Verdon Smith. The company owns the undertaking of the Middlesbrough, Stockton & Thornaby Electric Tramways; the whole amount of the ordinary stock of the Corris Railway Co.; & a large interest in the London United Tramways, Ltd., who own an extensive system of electric tramways in the western suburbs of London. Dividends: 1903, 1904, 1905, 1906 & 1907, 9 per cent.; 1908, 6 per cent.

Imperial Tube Co., Birmingham.

Improved Electric Traction, Ltd., motor car manufacturers, 14–16, Cockspur-st., London, S.W.

Improved Plug Co., wall plug manufacturers, 75, Edmund-st., Birmingham. (Telegs.: "Magnet, Birmingham." Teleph. Central 1405.)

Ince, Francis, A.I.E.E., 69, Belsize Park, Hampstead, N.W.

Incorporated Association of Electric Power Cos., 35, Parliament-st., Westminster, London, S.W. (Teleph. No. 2110, Victoria.) A. de Turckheim, secretary.

Incorporated Association of Municipal & County Engineers. President, E. Purnell Hooley; secretary, Thomas Cole, 11, Victoria-st., S.W. (Telegs.: "Bisecting, London." Teleph. Westminster 5083.)

Incorporated Municipal Electrical Association. President, W. W. Lackie; treasurer, J. E. Edgcome; secretary, C. McArthur Butler, Staple Inn-bldgs. S., Holborn, W.C.

Indestructible Cable Co., mfrs. of wires & cables, 47, 49 & 51, Park-st., Southwark, London, S.E.

INDIA OFFICE. For officials, *see* GOVERNMENT OFFICIALS—CLASSIFIED SECTION.

INDIA RUBBER, GUTTA PERCHA & TELEGRAPH WORKS CO., LTD. Office: 106, Cannon-st., London, E.C. (Telegs.: "Silvergray, London." Teleph. Bank 745 & 746.) A. P. Crouch, Esq., secretary. Directors: Major Leonard Darwin (chairman); Robert Kaye Gray, Esq., M.I.C.E. (engineer-in-chief & managing); J. Y. Buchanan, Esq., F.R.S.; Lt.-Col. A. Weston Jarvis, C.M.G.; Chas. H. Moore, Esq. Nominal capital: £812,000. Issued: £500,000 in fully paid ordinary shares of £10, £125,000 in 5 per cent. cumulative preference shares of £10, fully paid, & 4 per cent. first mortgage debentures £400,000 secured by trust deed, dated March 27, 1906. Dividends: 1904, 5 per cent.; 1905, 1906 & 1907, 10 per cent. *See advt. outside back cover.*

Indian & Colonial Development Co., Ltd., Worcester House, Walbrook, London, E.C.

Indian & Eastern Engineer (monthly; ann. sub., 20*s.*), 50, Fenchurch-st., London, E.C. (Telegs.: "Gasify, London." Teleph. No. 6164, Central.)

Indian Electric Supply & Traction Co., Ltd., Orient House, New Broad-st., London, E.C. Registered April 11, 1905. Nominal capital: £600,000 in £5 shares. A charge, dated May 4, 1905, to secure the amount to be expended on or in relation to the company's Cawnpore undertaking (being supplemental to a deed of April 20, 1905, covering £125,000 debenture stock), has been registered. Issued: 1007 shares & £125,000 6 per cent. construction debenture stock. Directors: J. G. B. Stone, Esq. (chairman); A. P. Simpson, Esq.; D. Cruickshank, Esq.; W. H. Cheetham, Esq. Secretaries, Kilburn, Brown & Co.

Indo-European Telegraph Co., Ltd., 18, Old Broad-st., 6 & 8, Lime-st.-sq., & 10 & 11, Mincing-lane, London, E.C. (Telegs.: "Indo, London." Teleph. No. 1721, London Wall.) Registered April 8, 1868. Nominal capital: £450,000 in ordinary shares of £25 each; 17,000 have been taken up & £425,000 paid. Directors: J. H. Tritton, Esq. (chairman); Sir Wm. R. Brooke, K.C.I.E.; L. Delbrück, Esq., Berlin; John von Berenberg Gossler, Esq., Hamburg; C. Holland, Esq.; Rt. Hon. Sir Francis Mowatt, G.C.B.; Geo. Plate, Esq., Bremen; T. W. Stratford-Andrews, Esq. (managing director). John I. Bethell, secretary. Dividends: £2 12*s.* 6*d.* paid May, 1907; 1907, *interim*, 12*s.* 6*d.* paid Nov., 1907; £2 12*s.* 6*d.* paid May, 1908; 1908, *interim*, 12*s.* 6*d.* paid Nov., 1908; £2 12*s.* 6*d.* paid May, 1909; 1909, *interim*, 12*s.* 6*d.* paid Nov., 1909.

Industrial Motor Review (monthly, 2*d.*), 27–33, Charing Cross-rd., London, W.C.

Industrial Railways Co., Ltd., 147, Cannon-st., E.C.

Ineson, Arthur, A.M.I.E.E., Caledonia Mount, Batley.

Ingersoll-Rand Co., makers of blasting batteries, 165, Queen Victoria-st., London, E.C. (Telegs.: "Ingersoll, London." Lieber's Code used. Teleph. No. 5275, Wall.)

Ingham, W. P., engineer & manufacturer of the "Ingham" gas producer, Royal Exchange, Middlesborough. (Teleph. No. 269.)

Ingleby, J. C. B., A.M.I.E.E., A.I.E.E., Ingleby & Co., Elland-rd., Leeds.

Ingleby & Co., electrical engineers, Elland-rd., Leeds. (Telegs.: "Technical, Leeds." Teleph. No. 378.)

Ingleton Electric Lighting & Power Co., Ltd., Ingleton, Yorks. Registered Feb. 22, 1899. Capital: £4000 in £1 shares, 3171 of which have been taken up & paid for in full. £400 debentures, created Jan. 27, & dated April 4, 1905, subject to prior debentures for £3200, have been filed. Directors: G. H. Padgett, Esq. (chairman); R. Atkinson, Esq.; W. Atkinson, Esq.; C. Bentham, Esq.; J. Barker, Esq.; J. H. Cragg, Esq.; N. Fisher, Esq.; T. Harris, Esq.; W. Mackay, Esq.; J. C. Walker, Esq.; J. Brookes, Esq. (managing & secretary). Engineer, D. Tattersall.

Inglis, Hugh, A.M.I.M.E., motor cars, electrical & mechanical engineer, managing director Omnium Wholesale Supply Co., Pinner, Middlesex. (Telegs.: "Inglis, Eastcote.")

Inglis, J. M., installation contractor, 19, Queensferry-st., Edinburgh. (Teleph. No. 2043.)

Ingoldby, T. E., B.A. (Cantab), A.M.I.E.E., A.M.I.C.E., c/o Siemens Bros. Dynamo Works, Stafford.

Ingram, A., electrical engineer, 36, Cranhurst-rd., Willesden Green, London, N.W.

Ingram, Alfred, A.M.I.E.E., Queen Anne's-chbrs., Westminster, London, S.W. (Telegs.: "Ingramillo." Teleph. No. 505, Victoria.)

Ingram, E. Ll., M.I.E.E., chief engineer, Bournemouth & Poole Electricity Supply Co., Ltd., Verulam House, Yelverton-rd., Bournemouth. (Telegs.: "Electric, Bournemouth." Teleph. Nos.: 1399 & 257, Bournemouth; 13, Christchurch; & 2 X., Poole.)

Ingram, Alfred, & Co., electric railway materials, Queen Anne's-chbrs., Westminster, London, S.W.

Ingram & Co., Ltd., electric organ builders, The Organ Works, Hereford; London & Liverpool.

Ingram & Kemp, Ltd., electric light fittings manufacturers, 209, Newtown-row, Birmingham. (Telegs.: "Gaslight, Birmingham." Teleph. No. 471.)

Ings, Walter, electrical engineer, "Northleigh," Willcott-rd., Acton Hill, London, W.

Innes, Albert, A.I.E.E., 21, Talbot-rd., Street-lane, Roundhay, Leeds.

Innes, C. H., M.A., professor of applied mathematics, Rutherford College, Newcastle-on-Tyne.

Innes, W., assistant borough electrical engineer, Poplar, London, E.

Inniss & Riddle, electrical & mechanical engineers, City-chbrs., New-st., Birmingham. (Telegs.: "Powerful, Birmingham." Teleph. No. 2425, Central.)

Institute of Chemical Technology & Analytical Laboratory (A. Norman Tate & Co.), Hackin's Hey, Dale-st., Liverpool. (Telegs.: "Norman Tate, Liverpool." Nat. Teleph. No. 235, Central.)

Institution of Civil Engineers, The (J. H. T. Tudsbery, D.SC., secretary), Great George-st., Westminster, London, S.W. (Telegs.: "Institution, London." Teleph. No. 51, Westminster.)

Institution of Civil Engineers of Ireland (W. E. Lilly, M.A., M.E., D.SC., T.C.D., hon. sec.), 35, Dawson-st., Dublin.

Institution of Electrical Engineers. Library & offices of the Institution: 92, Victoria-st., Westminster, London, S.W. (Telegs.: "Voltampere, London." Teleph. Westminster 153; & Victoria 911.) Council—President: Dr. G. Kapp. Past-Presidents: Sir W. H. Preece, K.C.B., F.R.S., 1880 & 1893; Prof. G. C. Foster, LL.D., D.SC., F.R.S., 1881; Prof. W. Grylls Adams, F.R.S., 1884; C. E. Spagnoletti, 1885; Sir W. Crookes, F.R.S., 1891; Alex. Siemens, 1894 & 1904–1905; Col. R. E. Crompton, C.B., 1895 & 1908; Sir Henry Mance, LL.D., C.I.E., 1897; Sir Joseph W. Swan, D.SC., F.R.S., 1898–1899; Prof. Silvanus P. Thompson, D.SC., F.R.S., 1899–1900; Prof. John Perry, LL.D., D.SC., F.R.S.,

1900–1901; James Swinburne, F.R.S., 1902–1903; Robert Kaye Gray, 1903–1904; Sir John Gavey, C.B., 1905–1906; Dr. R. T. Glazebrook, F.R.S., 1906–1907; W. M. Mordey, 1907–1908. Vice-Presidents: Sir H. H. Cunyghame, K.C.B.; W. Duddell, F.R.S.; S. Evershed; Col. H. C. L. Holden, R.A., F.R.S. Members: W. W. Cook; G. K. B. Elphinstone; Dr. E. Hopkinson; J. W. Jacomb-Hood; W. Judd; T. Mather, F.R.S.; W. M. Morrison; Major W. A. J. O'Meara, C.M.G.; W. H. Patchell; J. H. Rider; W. Rutherford; J. F. C. Snell; G. Stoney; A. H. Walton; C. H. Wordingham. Associate Members: E. Russell Clarke; H. Human; J. E. Taylor. Chairmen of Local Sections: Prof. H. Bohle (Cape Town); W. Brown, B.SC. (Dublin); R. K. Morcom (Birmingham); E. G. Tidd (Glasgow); W. M. Rogerson (Leeds); S. J. Watson (Manchester); Prof. H. Stroud, D.SC. (Newcastle). Officers—Hon. Auditors: H. Alabaster & Sidney Sharp. Honorary Treasurer: Robert Hammond. Honorary Solicitors: Messrs. Bristows, Cooke & Carpmael, 1, Copthall-bldgs., E.C. Trustees: Prof. G. C. Foster, LL.D., D.SC., F.R.S.; Sir W. H. Preece, K.C.B., F.R.S.; James Swinburne, F.R.S. Secretary, P. F. Rowell; chief clerk, R. Tree. Local Hon. Secretaries & Treasurers: M. G. Simpson, Indian Government Telegraphs, Calcutta, India; Arthur Jackson, British Embassy, Madrid, Spain; G. Semenza, via Tommaso Grossi 2, Milan, Italy; A. E. R. Collette, Heemskerekstraat. 30, The Hague, Holland; J. Banneux, Belgian State Telegraph Dept., Brussels, Belgium; J. L. W. V. Jensen, P.M.S., Frederiksberg allé 68, Copenhagen, Denmark; Dr. Ichisuke Fujioka, M.E., DR.E., 24, Higashimachi, Azabu, Tokio, Japan; Xavier Gosselin, 170, boul. Magenta, Paris, France; W. J. Hancock, Government electrical engineer, Perth, Western Australia; H. Kingsford, engineer to the Mexican & Central & South American Telegraphs, Lima, Peru; A. von Bosehan, 1, Kantgasse 3, Vienna; J. K. Logan, superintendent of electric lines, Wellington, New Zealand; Ernest Danvers, 475, B. Mitres, Buenos Ayres, Argentina; Arnold von Siemens, Askanischer Platz 3, Berlin, S.W. 46, Germany; C. A. Unbehaun, Telegraph Dept., Adelaide, South Australia; G. G. Ward, vice-president & general manager Commercial Cable Co., 1, Broadway, New York, U.S. of America; J. H. Davies, P.O. Box 1386, Johannesburg, Transvaal; J. Denham, Electricians' Office, Cape Government Railways, Cape Town, The Cape, Natal & Rhodesia; J. H. Hammar, 6, Vasagatan, Stockholm, Sweden; J. Y. Nelson, Telegraph Department, G.P.O., Sydney, N.S.W.; Jas. Oldham, manager River Plate Telegraph Co., Monte Video; L. S. F. Grant, P.O. Box 2500, Montreal, Canada; E. G. C. Barton, Brisbane, Queensland; John Hesketh, Postmaster-General's Dept., Spring-st., Melbourne, Victoria.

Institution of Engineers & Shipbuilders in Scotland, Elmbank-eres., Glasgow.

Institution of Heating & Ventilating Engineers, 99, Fonthill-rd., Finsbury Park, London, N. (Telegrams: "Instoventi, London.") Secretary, Arthur Taylor.

INSTITUTION OF MECHANICAL ENGINEERS (Edgar Worthington, secretary), Storey's Gate, St. James's Park, Westminster, S.W. (Telegrams: "Meeh, London." Teleph. No. 264, Westminster.)

Institution of Mining Electrical Engineers. Offices: Bank-chbrs., London-rd., Derby. President, Wm. Maurice, F.G.S., M.I.E.E.; general secretaries, Messrs. Saunders.

Institution of Mining Engineers (J. B. Simpson, president), 39, Victoria-st., Westminster, London, S.W.

Institution of Mining & Metallurgy (C. McDermid, sec.), Salisbury House, London, E.C. (Telephone No. 236, London Wall.)

Institution of Municipal Engineers, 39, Victoria-st., London, S.W.

Insulating Syndicate, Ltd., 63, Crutched Friars, London, E.C. (Telegrams: "Hobnails, London." Telephone No. 5931, Avenue.)

International Construction & Finance Synd., Ltd., Caxton House, Tothill-st., S.W.

International Dowsing Electric Heating & Appliances Co., Ltd., 24, Budge-row, London, E.C.

INTERNATIONAL ELECTRIC CO. (H. Oppenheimer, manager), telephone manufacturers & electrical engineers. Offices & works: 111–115, Salusbury-rd., Kilburn, London, N.W. (Telegs.: "Genest, London." Teleph. Paddington 488; & P.O. Willesden 477.) *See advt., page* 19.

International Electric Railways & Water Power Syndicate, Ltd., 8, Victoria-st., London, S.W. Registered Oct. 21, 1905. Nominal capital: £120,000 in £20 shares. Issued: 2000 ordinary shares as paid & 483 preference shares, £12 10*s.* called. Directors: H. H. Sinclair Scott, Esq.; F. D. Johnson, Esq.; J. H. Borrer, Esq. (secretary); W. Kennedy, Esq.; R. Ward, Esq.; M. Cuenod, Esq.

International Electric Transport & Enterprise Co. of Alsace-Lorraine, Ltd., 3, East India-ave., London, E.C.

International Electrical Engineering Co., manufacturers of electric lighting, traction & power transmission plant, Clun House, Surrey-st., Strand, W.C. (Telegs.: "Clunch, London." Teleph. No. 3227, Gerrard.)

International Electrotechnical Commission, 28, Victoria-st., S.W. C. Le Maistre, A.M.I.C.E., gen. secretary.

International Ethiopian Railway Trust & Construction Co., Ltd., 34, Clements-lane, London, E.C. Registered June 27, 1901. Nominal capital: £500,000 in £1 ordinary shares, £167,000 debentures, 70 per cent. redeemed, £50,100 outstanding. Issued: £308,507 ordinary shares, 500 5*s.* paid & balance fully paid. Directors: Sir Chas. Euan-Smith, K.C.B., C.S.I., &c.; A. L. Ochs, Esq.; Lord Chesterfield; R. Baudouy, Esq.; A. H. W. Laye, Esq.; Captain Stracey Clitherow. Secretary, Thomas Day.

International Filaments, Ltd., metal filament lamp manufacturers, 9/10, Pancras-lane, London, E.C. (Telegs.: "Upgrow, London." Teleph. London Wall 6792.)

International Lighting Association, Ltd., 8, Hill-st., Edinburgh. (Telegrams: "Pattullo, Edinburgh." Telephone No. 2179.)

International Oil Co., lubricant manufacturers, 120, Fenchurch-st., London, E.C. (Telegrams: "Tropic, London." Telephone No. 1081, Avenue.)

International Okonite Co. *See* Okonite Co., Ltd.

International Rubber Co., 144, Commercial-st., Newport, Mon.

International Time Recording Co., 151–155, City-rd., London, E.C. (Telegs.: "Timefactos, London." Teleph. No. 2365, London Wall.)

International Trade Exhibitions, Ltd., Broad-st. House, London, E.C. A. J. Benjamin, managing director. (Telegrams: "Promenade, London." Telephone No. 547, London Wall.)

International Works Construction Co., Ltd. Registered April 30, 1907. Nominal capital: £200,000 in £1 shares.

Inventors' Engineering Co, model makers, 153, Pentonville-rd., London, N. (Telegs.: "Modelling, London.")

Inverness Electricity Works, Scotland. North of Scotland Electric Light & Power Co., Ltd., proprietors. Engineer & manager, E. J. Williams. (Telegs.: "Electricity Works, Inverness." Teleph. No. 111.)

Invincible Manufacturing Co., turbine water-wheel makers, 64, Mark-lane, London, E.C. (Telegs.: "Invinxerit, London." Teleph. No. 1359, Central.)

Ionides, Alexander G., B.A., M.I.E.E., 116, Chancery-lane, London, W.C.; & 68, Laurel-rd., Leicester.

Ionides, P. D., M.I.E.E., consulting engineer, 14, St. Vincent-pl., Glasgow. (Telegs.: "Electrify, Glasgow." Teleph. Royal 1500.)

Ipswich Corporation Electricity Supply & Tramways. (Telegs.: "Ayton, Tramways, Ipswich." Nat. Teleph. No. 354, Ipswich.) Chief engineer & manager, F. Ayton, A.M.I.E.E.

Ireland, T., chief telegraph superintendent & engineer, Great Northern Railway Co., Retford.

Irish Electrical Agency, Ltd., Sanctuary House, Tothill-st., Westminster, London, S.W.

Irish Engineering & Industrial Review (monthly, 1*d.*), 15, Talbot-pl., Dublin.

Iron & Coal Trades' Review, The (weekly, 6*d.*, £1 per ann.), an illustrated journal for the coal, iron & allied trades, 165, Strand, W.C. (Telegs.: "Zacatecas, London." Teleph. Gerrard 6611 (2 lines).)

Iron & Copper Enamelling Co., enamelled shades, reflectors & plates, 61, Farringdon-rd., E.C. (Teleph. No. 1393, Holborn.)

Iron & Steel Fencing & Buildings Co., manufacturers of iron poles, &c., Baltic-chbrs., 50, Wellington-st., Glasgow. (Telegs.: "Orr, Glasgow." Teleph. No. 381, Argyle.)

Iron & Steel Institute, 28, Victoria-st., Westminster, London, S.W. (Telegrams: "Irosamente, London." Telephone No. 853, Victoria.)

Iron & Steel Trades Journal, Colliery Engineer & Metallurgical Review (weekly, price 6*d.*; 20*s.* per ann. if paid in advance), 44, Fleet-st., London, E.C. (Telegs.: "Cerebellum, London." Teleph. Nos.: 2534, Holborn; & 1110, Sydenham.)

Ironmonger, Universal Engineer & Metal Trades Advertiser (*weekly*; price 10*s.* per ann.), 42, Cannon-st., London, E.C. (Telegrams: "Ironmonger, London." Telephone No. 852, Bank.)

Ironmonger's Chronicle & the Hardwareman (monthly; 5*s.* per ann.), 119, Finsbury Pavement, London, E.C.

Ironside, W. D., C.E., director Aberdeen Electrical Engineering Co., Ltd., 17, Belmont-st., Aberdeen.

Irvine, Fearnside, M.I.E.E., A.M.I.C.E., consulting engineer, 1, London Wall-bldgs., London, E.C. (Telegs.: "Torquendo, London." Teleph. No. 9237, Central.)

Irvine, H. A., A.M.I.E.E., 142, Argyle-rd., Ealing, W.

Irvine, H. W. K., A.I.E.E., 49, Castelnau, Barnes, S.W.

Irvine Chemical Co., Ltd., manufacturing chemists, 204, St. Vincent-st., Glasgow. (Telegrams: "Alkali, Glasgow." Teleph. No. 201, Argyle.)

Irving, G., & Co., Ltd., electrical engineers, 12, Canal-st., Nottingham. (Teleph. No. 62.)

Irwell & Eastern Rubber Co., Ltd., manufacturers of mechanical & other rubber goods & balata belting, Mill-st., Ordsal-lane, Salford (Telegs.: "Para, Manchester." Teleph. No. 7923 (3 lines)); 4, Lloyd's-ave., Fenchurch-st., London, E.C. (Telegs.: "Colsell, London." P.O. Teleph. Central 2077); 58, Queen-st., Hull (Telegs.: "Belting, Hull." Teleph. No. 644); & 25, Hope-st., Glasgow. (Telegs.: "Tinto, Glasgow." Teleph. Royal 1325.)

Irwin, John T., A.M.I.E.E., lecturer on dynamo machinery design, Central Technical College, Exhibition-rd., London, S.W.; & 27, Ennismore-ave., Chiswick, W.

Isaac, Chas., A.I.E.E., Somerton, Slough, Bucks.

Isca Foundry Co., railway plant & general engineers, Newport, Mon. (Nat. Teleph. No. 170); & 16 & 17, Devonshire-sq., Bishopsgate-st., London, E.C. (Telegs.: "Isca, Newport, Mon.;" & "Isca, London.")

Isenthal & Co., electric heating & cooking, &c., 85, Mortimer-st., London, W. (Telegs.: "Isenthal, London." Teleph. No. 4829, Gerrard.)

ISHERWOOD, W. H., & CO., manufacturing electrical & mechanical engineers, Carlton Mills, Leeds. (Telegs.: "Isherwood, Carlton Mills, Leeds." Teleph. No. 2670.)

Isle of Thanet Electric Tramways & Lighting Co., Ltd., Moorgate Station-chbrs., London, E.C.; & St. Peters, Kent. (Telegs.: "Tramways, St. Peters, Kent." Teleph. Nos.: 39, Broadstairs; & 28, Margate.) Registered Nov. 3, 1896. Directors: Lord Arthur Butler (chairman); H. Brown, Esq.;

W. M. Murphy, Esq., J.P.; A. R. Monks, Esq. Engineer, J. A. Forde; secretary, J. Barber Glenn. Nominal capital: £300,000 in 30,000 £5 ordinary shares & 30,000 £5 5 per cent. preference shares & £300,000 debenture stock. All the ordinary & preference are issued & fully paid & £150,000 debenture stock. Trust deed, dated July 6, 1904 (supplemental to two trust deeds, dated Jan. 18 & Aug. 5, 1902, each securing £50,000 debenture stock), has been registered. Dividends on ordinary shares, *nil*.

Isle of Wight Electric Light & Power Co., Ltd. Head office: Electricity Works, Ventnor. (Teleph. No. 43, Ventnor.) Bonchurch; Sandown; Shanklin; Cowes; Newport; & Ryde. Registered Aug. 21, 1897. Nominal capital: £100,000 in 20,000 ordinary shares of £5 each, £50,000 in 10,000 5 per cent. cumulative preference shares of £5 each & £100,000 4½ per cent. debenture stock. All issued & fully paid. An acknowledgment of indebtedness, dated Oct. 28, 1907, creating a further £25,000 debenture stock (making with £75,000 already created, a total of £100,000 debenture stock, & being supplemental to a trust deed of Oct. 21, 1903, covering £50,000, & an acknowledgment of indebtedness, dated July 25, 1905, covering £25,000 of such stock), has been registered. Directors: F. E. Gripper, Esq. (chairman); J. C. Wigham, Esq.; W. T. Pressland, Esq.; Captain R. M. Alexander; Lieut.-Colonel J. F. C. Hamilton. Engineer & manager, A. E. Mayes; secretary, H. E. Corner. Dividends: 1905, *nil*; 1906, 1½ per cent.

Isler, C., & Co., artesian well engineers, Artesian Works, Bear-lane (Telegrams: "Isler, London"); & Edward-st., London, S.E. (Telephone No. 4849, Hop.)

Islington Borough Council Electricity Supply. Chairman, H. B. Vorley; electrical engineer, Albert Gay, M.I.E.E., Eden Grove, Holloway, N. (Teleph. North 115.)

Ison, White & Bedford, auctioneers to the metal trade, 40 & 41, Upper Thames-st., E.C. (Telegrams: "Eisen, London." Telephone No. 5619, Bank.)

Isted, F. W., electrical engineer, 3, Claremont-rd., South Lowestoft.

Ivens, T. E., A.M.I.C.E., "Hillside," Hanger-lane, Ealing. Director Madras Electric Supply Corp., Ltd.; director Madras Electric Tramways (1904), Ltd.

Ivey, Wm., tramway traffic & traction Parliamentary specialist, 46, Earlham-grove, Forest Gate, Essex. (Teleph. Stratford 423.)

Ivimy, Alfred C., Leeds Electric Lighting Department, Whitehall-rd., Leeds.

Ivison, Edgar J., Engineer-in-Chief's Office, G.P.O., London, E.C.

Ivor-Moore, T., A.I.E.E., A.M.I.C.E., F.S.I., War Office, 80, Pall Mall, London, S.W.

Izant, Alfred, practical electrician, 8, Herbrand-st., Russell-sq., London, W.C. (Teleph. Central 1559.)

J. L. Manufacturing Co., Ltd., electrical & mechanical engineers, Johnson-st., Southall, Middlesex. (Telegs.: "Jel, Southall." Telph. Southall 12.)

Jack, John Watson, A.M.I.E.E., electric lighting specialist, 37, Queensferry-st., Edinburgh. (Tel. 1774.)

Jack, W., LL.D., D.SC., professor of mathematics, The University, Glasgow.

Jack, Alex., & Co., electric crane builders, Whitegates Engineering Works, Motherwell, N.B. (Telegs.: "Cranes, Motherwell." Teleph. Motherwell 150.)

Jackaman, C. J., Highfield, Slough, Bucks. Director Slough & Datchet Electric Supply Co., Ltd.

Jackman, Jas., A.I.E.E., 69, Sandgate-rd., Folkestone.

Jackman & Marchant, electrical engineers & contractors, 69, Sandgate-rd., Folkestone. (Teleph. No. 157.)

Jacks, William, & Co., iron & steel merchants, 5, East India-ave., London, E.C. (Telegs.: "Alkalize, London." Teleph. No. 299, Avenue.)

Jackson, Alfred Edward, M.I.E.E., c/o Kincaid, Waller, Manville & Dawson, St. Stephen's House, Victoria Embankment, London, S.W.

Jackson, C. D'A., chief engineer, Paignton Electric Light & Power Co., Paignton.

Jackson, C. W., A.M.I.E.E, chief assistant electrical engineer, Corporation Electricity Works, King's Lynn.

Jackson, F. A., A.I.E.E., electrical engineer, director Mann, Egerton & Co., Ltd., Bank Plain, Norwich. (Teleph. No. 752.)

Jackson, F. H., chairman South American Light & Power Co., 6, Lloyd's-ave., London, E.C.

Jackson, F. H., M.I.E.E, assistant engineer, City of London Electric Lighting Co., Ltd., 64, Bankside, London, S.E.

Jackson, G. H., M.I.E.E., M.I.M.E., chief engineer, Northampton Electric Light & Power Co., Ltd., 25, Bridge-st., Northampton. (Telegs.: "Electricity, Northampton." Teleph. No. 183.)

Jackson, H., electrician, 97, Drayton-gdns., South Kensington, London, S.W.

Jackson, H., M.I.E.E., telegraph superintendent & engineer, Lancashire & Yorkshire Railway Co., Glenthorn, Horwich. (Telephone No. 5.)

Jackson, H., electrical engineer, 19, Berners-st., London, W. (Teleph. Gerrard 2398.)

Jackson, Harry, A.M.I.C.E., A.M.I.E.E., 39, Newhall-st., Birmingham. (Teleph. No. 6107, Central.)

Jackson, Henry, electric bell & telephone fitter, York-rd., West Hartlepool; & 134, Westfield-rd., Leeds.

Jackson, H. A., A.M.I.E.E., Butterley Coal & Iron Co., Loscoe Fields, Codnor, nr. Derby.

Jackson, H. F., electrical engineer, 31, Budge-row, Cannon-st., London, E.C. Director Anglo-Portuguese Telephone Co., Ltd.

Jackson, John, electrical engineer & contractor, 131, Union-st., Oldham. (Teleph. No. 160 Y.)
Jackson, K. H., A.I.E.E., electrical engineer, 110, Trinity-rd., Wandsworth Common, London, S.W.
Jackson, L. E. S., A.M.I.E.E., 3, North Park, Eltham, Kent.
Jackson, Major-Gen., Dene House, Torquay. Director Paignton Electric Light & Power Co.
Jackson, Robert Cattley, A.M.I.C.E., M.I.E.E., 24, Cathcart Hill, London, N.
Jackson, Sir H. B., Rear-Admiral, R.N., K.C.V.O., F.R.S., M.I.E.E., A.I.N.A., commanding 6th Cruiser Squadron, H.M.S. "Bacchante," Mediterranean Station.
Jackson, W., J.P., Thorngrove, Aberdeen. Director Aberdeen Suburban Tramways Co.
Jackson, W. A., boro' electrical engineer & manager, Corporation Electricity Dept., West Bromwich.
Jackson, Wm., engineer, Keswick Electric Lighting Co., Ltd., Keswick.
Jackson, W. G., M.I.MIN.E., director Yorkshire Electric Power Co., Calder-rd., Thornhill, nr. Dewsbury.
Jackson & Boyce, electrical engineers & electric light fittings makers, 19, Berners-st., London, W. (Teleph. Gerrard 2398.)
Jackson Bros., Ltd., slide rule manufacturers, &c., Bankfield Mills, Armley, Leeds.
Jackson, F., & Co., electrical apparatus makers, 14, Cross-st., Manchester. (Telegrams: "Apparatus, Manchester." Telephone No. 2038.)
Jackson, H. A., & Co., manufacturing electrical engineers & patentees, Caxton Works, Salford, Manchester. (Telegs.: "Armoured, Manchester." A.B.C., 4th & 5th ed., & Lieber's Codes. Teleph. No. 5437.)
Jackson, P. R., & Co., Ltd., mechanical & electrical engineers, gear wheel makers, Salford Rolling Mills, Manchester. (Telegrams: "Jacksons, Manchester." Telephone Nos. 623 & 5079. P.O. Trunk line No. 31. A.B.C. Code, 5th Edition.)
Jackson, Sir John (South America), Ltd., contractors for railways, tramways, electric light, &c. Nominal capital: £100,000 in £100 shares. Registered by Batten, Proffitt & Scott, 32, Great George-st., London, S.W.
Jacob, Arthur, M.I.E.E., British Aluminium Co., Ltd., 109, Queen Victoria-st., London, E.C.
Jacob, E. S., M.I.E.E., electrical engineer, 119, Victoria-st., London, S.W.; & 11, Chalcot-gdns., England's-lane, London, N.W.
Jacob, F., M.I.C.E., Ellesdene, Beaconsfield-rd., Westcombe Park, London, S.E.
Jacob & Schreppel, makers of porcelain fittings, &c., 28 & 29, London Wall, London, E.C. (Telegrams: "Schreppel, London." Teleph. No. 9846, Central.)
Jacobs, Robert E., electrical engineer, Baily, Grundy & Barrett, Ltd., 2, St. Mary's-passage, Cambridge.
Jacobs, W. & R., electrical supplies, wholesale & export, 39c, King William-st., London, E.C. (Telegs.: "Electary, London." Teleph. No. 7930, London Wall.)
Jacomb-Hood, John W., M.I.E.E., Engineer's Office, Waterloo Station, London, S.E.
Jacques, H. S., & Co., electrical & motor car engineers, 35, Tangier-st., Whitehaven. (Telegs.: "Jacques, Electricians, Whitehaven." Teleph. No. 108.)
JAEGER BROS., manufacturers of electrical accessories, switches, lampholders, ceiling roses, cut-outs, &c., 47, Victoria-st., London, S.W. (Telegrams: "Lampaient, London." Telephone No. 5026, Gerrard.) *See advt.*, FITTINGS MAKERS—ELECTRICAL.
Jaffé, Arthur, A.M.I.E.E., Strandtown, Belfast.
Jagger, J. & G., wire drawers, Old Wire Mills, Thurgoland, Sheffield.
James, Alexander D., A.M.I.E.E., 59, Langdale-rd., Thornton Heath, London, S.E. (Telegs.: "Twigsome, London." Teleph. Gerrard 1050-1.)
James, David, A.M.I.E.E., 117, Palmerston-rd., Bowes Park, London, N.
James, Edgar R., managing director Ruberoid Co., Ltd., Waterloo House, 81-83, Knightrider-st., Queen Victoria-st., London, E.C.
James, H., manufacturer of wire-covering machinery, Windley's Factory, Roden-st., Nottingham. (Teleph. No. 213 Y.)
James, H. J., electrical engineer, 63, Bonhay-rd., Exeter.
James, H. V., A.I.E.E., "Witton James" Printing Press Electric Control System, 71, Queen Victoria-st., London, E.C.
James, Hon. R., St. Nicholas, Richmond, Yorks. Director Cleveland & Durham County Electric Power, Ltd.; director Cleveland & Durham County Electric Power Co.
James, J. E., Sycamore-st., Newcastle-Emlyn. Director Newcastle-Emlyn & District Electric Supply Co., Ltd.
James, Matthew C., jun., electrical engineer, 62, Blagdon-ave., Westoe, South Shields.
James, Sydney, A.I.E.E., c/o Eastern Extension Telegraph Co., Ltd., Electra House, Finsbury Pavement, London, E.C.
James, W. H. N., A.R.C.SC., A.M.I.E.E., City of Bradford Technical College, Bradford.
James, Wm., director Ton-yr-efail & Gilfach Goch Electric Light Co., Ltd., 48, High-st., Ton-yr-efail.
James, Wm. Lewis, A.M.I.E.E., Merrymead, Warrington-rd., Harrow, London, W.
James, A. A., Ltd., wire workers & weavers, St. George's Works, Paradise-st., West Bromwich. (Telegs.: "James Wireworks, Westbromwich." Teleph. No. 19 X., West Bromwich.)
James & Browne, motor carriage engineers. Works: Hammersmith, London, W. (Telegs.: "Jemminess, London." Teleph. Nos. 417 & 418, Hammersmith.)

James, C., & Co., screw, terminal & small detached accessories makers, 155, Fenchurch-st., London, E.C. (Telegrams: "Semaj, London." Telephone No. 4041, Avenue.)

James, John, & Son, chemical merchants, 21, Lime-st., London, E.C. (Telegrams: "Quickly, London." Telephone No. 2479, Avenue.)

"James Watt" Laboratories, University, Glasgow. Director, Prof. A. Barr, D.SC., M.I.C.E.; manager, J. S. Nicholson, B.SC., WH.SC.

Jamieson, James, agent for the Midland Electric Wire Co., Leicester, 212A, St. Vincent-st., Glasgow.

Jamieson, John, A.I.E.E., electric light engineer & contractor, 46, Broomwood-rd., Wandsworth Common, London, S.W. (Teleph. No. 755, Battersea.)

Jamieson, Prof. A., F.R.S.E., M.I.C.E., M.I.E.E., &c. (*Electrical Engineering Science Taught by Correspondence*), 16, Rosslyn-ter., Kelvinside, Glasgow.

Jamieson, Walter, B.SC. (Lond.), A.M.I.E.E., 6, Ralston Drive, Ibrox, Glasgow.

Jandus Arc Lamp & Electric Co., Ltd. Registered offices: Lombard-chbrs., 46, Brown-st., Manchester. A. A. Gillies, F.C.A., sec. Works & sales offices: Hartham-rd., Holloway, N. (Telegs.: "Jandunus, London." Teleph. North 892 (2 lines).) Registered April 24, 1895. Capital: £30,000 in £10 shares. Issued: £14,435, part paid up in full & part paid £5 per share. Mortgages & charges, £8000. Directors: Ed. N. Galloway, Esq. (chairman); John T. Petro, Esq.; T. A. Earle, Esq. Manager, A. Denman Jones, A.M.I.E.E.

Jandus Arc Lamp (Continental Patents) & Electric Co., Ltd., 46, Brown-st., Manchester.

Janes & Adams, electricians, High-rd., East Finchley, London, N.

Janssen, L., director Anglo-Argentine Tramways Co., Ltd., 62, Gresham House, Old Broad-st., E.C.

Japp, F. R., LL.D., F.R.S., professor of chemistry, The University, Aberdeen.

Japy Frères & Co., electrical manufacturers, 22, Goswell-rd., E.C. (Telegs.: "Changeable, London." Teleph. No. 620, P.O. Central.)

Jaroslaw, D., mica merchant, slab & cut mica for insulation, 5, George-st., Tower Hill, London, E.C. (Telegrams: "Monazite, London." A.B.C. Code used.)

Jarratt, J. T., maker of lathes for electricians, 57, Highcross-st., Leicester. (Telephone No. 04467.)

Jarrow & District Electric Traction Co., Ltd., Electrical Federation Offices, Kingsway, London, W.C. (Telegs.: "Tramway, London." Teleph. No. 2686, Holborn (6 lines).) Registered Sept. 30, 1903. Nominal capital: £50,000 in £1 shares, all issued, & £25,000 5 per cent. debentures, £19,000 issued. Directors: G. J. Somerville, Esq. (chairman); C. S. B. Hilton, Esq.; W. Morrison, Esq. (managing). Secretary, W. Fredk. Cox. Dividends: 1907, 2½ per cent.; 1908, *nil*.

Jarrow Electricity Works (County of Durham Electrical Power Distribution Co.), Jarrow. General manager, A. S. Esslemont; technical manager, J. S. Watson.

Jarvis, Lieut.-Col. A. Weston, C.M.G., 66, Park-st., Grosvenor-sq., W. Director India Rubber, Gutta Percha & Telegraph Works Co., Ltd.; director Spanish National Submarine Telegraph Co., Ltd.

Jarvis Bros., Ltd., electrical & general engineers, Bridge-st., Middlesbrough. (Telegs.: "Jarvis, Middlesbrough." Teleph. No. 483.)

Jay, Col. W., director Commercial Cable Co., 23, Royal Exchange, London, E.C.

Jay, Henry Francis, A.M.I.E.E., 79, Walm-lane, Willesden Green, London, N.W.

Jay, T. E., electrical engineer, 7 & 8, East-st., Chichester. (Telegs.: "Jay, Chichester." Nat. Teleph. No. 175, Chichester.)

Jeacock, W., divider & engraver, 14, Gloucester-st., London, E.C. (Teleph. No. 4892, Holborn.)

Jeakes, C., & Co., electrical engineers, 51, Great Russell-street, London, W.C.

Jeboult Bros., electrical contractors, 194, Broadhurst-gdns., West Hampstead, London, N.W. (Nat. Teleph. No. 1095, Hampstead.)

Jedburgh Electricity Works, Jedburgh, Roxburgh. The Electric Supply Corporation, Ltd., proprietors. Chief engineer, K. A. Scott-Moncrieff.

Jefcoat, Chas., A.R.C.SC., A.I.E.E., lecturer in physics & electrical engineering, Municipal Technical Institute, Belfast.

Jeffery, J., M.I.E.E., manager Spanish National Submarine Telegraph Co., 106, Cannon-st., London, E.C.

Jeffery, Walter J., A.M.I.E.E., "Hazelwood," Parkhurst-rd., New Southgate, London, N.

Jefferys & Evans, installation contractors, Leigh-rd., Westcliff-on-Sea.

Jeffreys, A. G., A.I.E.E., 35A, St. James-st., London, S.W.

Jeffreys, J., & Co., Ltd., ventilating & electrical engineers, 11, Old Queen-st., Westminster, London, S.W.

Jeffries, J., A.M.I.E.E., M.S.A., electrical engineer, 29, Court-rd., Balsall Heath, Birmingham.

Jeken, H. G., chief assistant electrical engineer, Leeds City Tramways, Leeds.

Jelf, J. F., assistant controller, Central Telegraph Office, London, E.C.

Jenkin, Bernard M., M.I.C.E., M.I.M.E., M.I.E.E., 17, Victoria-st., Westminster, S.W. (Telegrams: "Kinematic, London." Teleph. No. 621, Westminster.)

Jenkin, C. F., M.A., M.I.C.E., M.I.E.E., 14, Lathbury-rd., Oxford.

Jenkin, John, M.I.E.E., Cambridge.

Jenkins, D. M., engineer, Corporation Electricity Works, Neath, Glam.

Jenkins, H. B., A.M.I.E.E., chief assistant electrical engineer, Electric Light Station, Bedford. (Nat. Telephone No. 60.)

Jenkins, I. Harding, A.M.I.E.E., Telephone House, Victoria Embankment, London, E.C.
Jenkins, Jenkin, director Mardy Electric Light Co., Ltd., Mardy, Glamorgan. (P.O. Teleph. No. 9.)
Jenkins, L., director Ton-yr-efail & Gilfach Goch Electric Light Co., Ltd., 48, High-st., Tonyrefail.
Jenkins, Robert, castings, forgings & stampings for electrical engineers, 88, Bishopsgate-st. Within, London, E.C. (Telegs.: "Permeable, London." Teleph. No. 8205, Central.) *See advt. under* STAMPINGS FOR ARMATURES, TRANSFORMERS, &c.
Jenkins, T. A., electrical engineer, Heolgerrig, Merthyr-Tydfil.
Jenkins Bros., Ltd., valve & packing mfrs., 95, Queen Victoria-st., E.C. (Telegs. "Petapsco, London.")
Jenkins, John, & Co., builders' merchants, &c., 55, Camberwell-rd., London, S.E. (Telegs.: "Dignanter, London." Teleph. Nos. 751 & 771, Hop.)
Jenkins, W. J., & Co., Ltd., electrical & mechanical engineers, Beehive Works, Retford, Notts.
Jenkinson, B. H., C.E., A.M.I.E.E., consulting electrical engineer, 9, Gray's Inn-sq., London, W.C. (Teleph. No. 3606, Central); & 88, Crouch Hill, Crouch End, N.
Jenks, A. E., & Cattell, washers, iron & steel, Heath Town, Wolverhampton. (Telegs.: "Washers, Wolverhampton." Teleph. No. 104.)
Jennings, E. J., electric power engineer, A.I.E.E., West Walls, Westgate-rd., Newcastle-on-Tyne. (Telegs.: "Potential, Newcastle-on-Tyne." Teleph. No. 4429.)
Jennings, T., electrical engineer, 180, London-rd., East Grinstead.
Jennings, C., & Co., conduits & wood work, Pennywell-rd., Bristol. (Telegs.: "Stairs, Bristol." Teleph. No. 3588, Private Exchange.)
Jennings, George, Ltd., electrical engineers, 65 & 67, Lambeth Palace-rd., London, S.E. (Telegrams: "Jennings, London." Telephone No. 680, Hop.)
Jensen, W., A.M.I.E.E., engineer & general manager Chatham & District Light Railways Co., Chatham.
Jensen & Son, chartered patent agents, 77, Chancery-lane, London, W.C. (Telegrams: "Venture, London." Telephone No. 1249, Holborn.)
Jephson, R. P., A.M.I.E.E., 18, Lansdowne-rd., Dublin.
Jeremy, W., Sussex House, Adpar, Newcastle-Emlyn. Director Newcastle-Emlyn & District Electric Supply Co., Ltd.
Jerrard's Automatic Track Cleaners, Ltd., 598, Commercial-rd., London, E.
Jervis, J. T., M.I.C.E., F.R.G.S., Queen Anne's-chbrs., Westminster, London, S.W. (Telephone No. 5291, Westminster.) Director Notting Hill Electric Lighting Co., Ltd.; director National Electric Construction Co., Ltd.; director Torquay Tramways Co., Ltd.; director Mexborough & Rawmarsh Construction Synd., Ltd.; director Rhondda Tramways Co., Ltd.; director Wisbech Electric Light & Power Co., Ltd.; director Torquay Tramways Construction Synd., Ltd.; director Mexborough & Swinton Tramways Co.; director Folkestone, Sandgate & Hythe Tramways Co.; director North British Electric Power Synd., Ltd.
Jesson, Birkett & Co., Ltd. (late Faulkner Bronze Co., Ltd.), art metal workers, 27, Ely-pl., London, E.C. (Teleph. No. 2216, Holborn); & 7, Mary Ann-st., Birmingham.
Jessop, W., assistant engineer, Electric Light Works, Eastbourne.
Jessop, Wm., & Sons, Ltd., manufacturers of magnet steel, forgings, castings, &c., Brightside Works, Sheffield (Telegs.: "Jessops, Sheffield." Nat. Teleph. No. 152); & 3, Victoria-st., London, S.W.
Jevons, S., Ltd., electrical contractors, Constitution Hill, Birmingham. (Teleph. No. 4413.)
Jewell, C. J., A.M.I.E.E., resident engineer, Wakefield & District Light Railway Co., Belle Isle, Wakefield.
Jewell, R. F., electrical engineer, Gosport & Fareham Tramways, & Gosport & Alverstoke Electric Lighting Co., Power Station, Hoc-Ford, Fareham, Hants.
Jewsbury, J., & Co., art metal workers, 71, Broad-st., Birmingham. (Nat. Telephone No. 3399.)
Jewson, F. K., A.I.E.E., telephone engineer, Western Electric Co., North Woolwich, London, E.
Jobling, J. A., manganese mines owner, St. Nicholas-chbrs., Newcastle-on-Tyne. (Telegs.: "Manganese, Newcastle-on-Tyne." Teleph. No. 1930, Nat.)
Joel, H. F., A.M.I.C.E., A.M.I.E.E., consulting electrical engineer, 110, Strand, London, W.C. (Telegs.: "Bipolarity, London." Teleph. No. 8372, Gerrard.)
Johnson, A., director Tewkesbury Electric Light Co., Ltd., Tewkesbury.
Johnson, A. C., A.M.I.E.E., chief assistant, Corporation Electricity Works, Southend.
Johnson, A. H., signal & telegraph engineer, London & S. W. Railway, Wimbledon Station, London, S.W.
Johnson, Alliston M., A.M.I.E.E., 2, Railway-rd., Urmston, nr. Manchester.
Johnson, A. M., engr.-in-charge, Bournemouth & Poole Electricity Supply Co., Ltd., Christchurch, Hants.
Johnson, Arthur Thos. Metcalf, A.M.M.C.I.E., 77, Shepherd's-Bush-rd., W. Director Johnson Secret Wireless Telegraph & Telephone Testing Synd., Ltd.
Johnson, B. C., A.M.I.E.E., 568, Chester-rd., Old Trafford, Manchester.
Johnson, B. W., electric lighting contractor, Railway-rd., King's Lynn.
Johnson, C. B., A.M.I.E.E., Technical College, Darlington.
Johnson, C. H., 28, Manningham-lane, Bradford. Director Broadstone, Ltd.
Johnson, Chas. B., A.M.I.E.E., lecturer on electrical engineering, Technical College, Darlington.
Johnson, Edward E., director Railway Lighting, Ltd., Mansion House-bldgs., 4, Queen Victoria-st., E.C.
Johnson, E. F., manager Electrical Dept., Croggon & Co., Ltd., 230, Upper Thames-st., London, E.C.

Johnson, E. J., A.M.I.E.E., 7, Wiseton-rd., Sheffield.
Johnson, Geo., A.I.E.E., 28, Locket-rd., Wealdstone, Middlesex.
Johnson, H., engineer, Mevagissey Electric Supply Co., Ltd., Mevagissey.
Johnson, H., machinery broker & dealer, 117, High-st., Stratford, London, E.
Johnson, Herbert B., A.M.I.E.E., 46, Swanage-rd., Wandsworth, London, S.W.
Johnson, Hilton, A.M.I.E.E., A.M.I.MECH.E., electrical & mechanical engineer, 5, Bloomsbury Mansions, Hart-st., London, W.C. (Telephone No. 5612, Central.)
Johnson, H. S., director Oulton Broad Electricity Co., Ltd., Oulton Broad, Suffolk.
Johnson, John Henry, A.M.I.E.E., 15, Mayhill-rd., Charlton, S.O., Kent.
Johnson, R., assistant superintending engineer, Post Office Telegraph Dept., Moseley, Birmingham.
Johnson, T. B., A.I.E.E., assistant superintending engineer, Post Office Telegraphs, Newcastle-on-Tyne.
Johnson, W., scientific & electrical instrument maker, 188, Tottenham Court-rd., London, W.
Johnson, W. B., electrical engineer & patent adviser, 4, Clayton-sq., Liverpool. (Telegrams: "Inventions, Liverpool." Telephone No. 1593, Royal.)
Johnson, Walter Claude, M.I.E.E., M.I.C.E., F.R.A.S., Broadstone, Colemans Hatch, Sussex. Chairman D.P. Battery Co.; director Broadstone Ltd.
Johnson, Walter Lyulph, A.I.E.E., Bell Bros., Ltd., Clarence Iron Works, Middlesbrough.
Johnson, Wm. Harry, electrical engineer, 5, Belgrave Mansions, Grosvenor Gardens, S.W. (Teleph. No. 592, Westminster.)
Johnson Bros., electricians, Idle-rd., Bradford. (Telephone No. 02554.)
Johnson, C. H., & Sons, Ltd., wire drawers & manufacturers, Manchester Wire Works, Smedley-rd, Manchester. (Telegrams: "Irkdale, Manchester.")
Johnson & Clark, electrical engineers, High-st., Staines.
Johnson & Co., electrical contractors, Leopold-st., Sheffield.
Johnson, E., & Co., cotton waste, cordage, &c., 20, Mary Ann-st., Birmingham.
Jones, E. H., & Meakin, Ltd., "Perfect" combined wall & lamp plug, 27 & 28, Birkbeck Bank-chbrs., Holborn, London, W.C.
Johnson Economiser & Smoke Consumer, Ltd., 6, Lloyd's-ave., London, E.C.
Johnson, George, & Son, paraffin wax manufacturers, 1, Devonshire-sq., Bishopsgate, London, E.C. (Telegs.: "Jeshurun, London." Teleph. No. 9208, London Wall.)
Johnson & Hooper, manufacturing chemists, Marsh Gate-lane, Stratford, London, E. (Telegrams: "Kindersley, London." Telephone No. 6096, Stratford. A.B.C. Code used.)
Johnson, Hurley & Martin, Ltd., engine manufacturers & motor engineers, Alpha Motor Works, Gosford-st., Coventry.
Johnson, J. H. & S., scientific & chemical apparatus makers, chemical manufacturers, &c., 6, 8 & 10, Whitechapel, & 7, Church-st., Liverpool. (Telegs.: "Sodium, Liverpool." Teleph. No. 701, Royal.) Established in 1802.
Johnson & Johnson, manufacturing chemists, 104, Golden-lane, Barbican, E.C. (Telegs.: "Porous.")
JOHNSON, MATTHEY, & CO., LTD., platinum refiners & dealers (wholesale), 74–81, Hatton Garden, London, E.C. (Telegrams: "Matthey, London." Telephone No. 568, Holborn.)
JOHNSON & PHILLIPS, LTD., Victoria Works, Charlton, S.O., Kent (Telegs.: "Juno, Charlton, Kent." Teleph. Central 75); & 12, Union-ct., Old Broad-st., London, E.C. (Telegs.: "Juno, London." Teleph. Central 2207.) Branch offices, stores & show-rooms at 187, Corporation-st., Birmingham (Telegs.: Selbac, Birmingham." Teleph. Central 7321); 12, Castle Arcade, High-st., Cardiff (Telegs.: "Selbac, Cardiff." Teleph. Cardiff 1937); 21, Bridge End, Leeds (Telegs.: "Juno, Leeds." Teleph. Central 4040); 251, Deansgate, Manchester (Telegs.: "Selbac, Manchester"); also at Glasgow, Newcastle, &c., electric light & power & telegraph engineers, manufacturers of dynamos, motors, alternators, transformers, arc lamps, cables & wires, accumulators, insulators, carbons, measuring instruments, supply meters, &c., contractors for central stations & transmission of power plants; makers of paying out & picking up gears, dynamometers, bow & stern gears, leads, buoys, grapnels, centipedes, buoy rope, &c. Complete outfits for submarine cable factories & vessels. Every description of machine for cable making & wire covering, including stranding, cabling, indiarubber, gutta-percha, cotton, silk & other covering, &c., &c. Registered June 17, 1905. Nominal capital: £175,000 in £1 ordinary shares, all issued & fully paid; & £175,000 debentures, all issued & fully paid; also £50,000 second debentures, £37,000 of which have been issued, & secured by trust deed dated Sept. 28, 1905. Directors: R. W. Blackwell, Esq. (chairman); Sir Hy. Benbow, K.C.B., D.S.O.; J. D. Bonner, Esq.; J. Macgregor, Esq. (managing). Secretary, H. J. Sheppard. Dividends: 1905, at the rate of 7 per cent.; 1906 & 1907, 7 per cent. *See advt. inside back cover.*
Johnson, R., Clapham & Morris, Ltd., manufacturers of miners' lamps, dynamo brushes, 24–26, Lever-st., Manchester; & 23, Cheapside, Liverpool. (Telegs.: "Metallicus, Manchester;" "Johnsons, Liverpool." Teleph. Nos.: 6437, Manchester; 5315, Liverpool.)
Johnson, Richard, & Nephew, Ltd., iron masters, wire drawers & galvanizers, Bradford Iron Works, Manchester (Telegs.: "Johnsons, Manchester." Teleph. Nos. 6370 & 6371); 65, London Wall, London, E.C. (Telegs.: "Resistance, London." Teleph. No. 9400, London Wall); & Ambergate Wire Mills, nr. Derby. (Telegs.: "Johnsons, Ambergate.")

Johnson Secret Wireless Telegraph & Telephone Testing Syndicate, Ltd., 40, King-st., Cheapside, London, E.C. Registered July 7, 1905. Nominal capital: £15,000 in £1 shares. Directors: A. T. M. Johnson, Esq.; W. F. C. Michaelis, Esq. (joint managing); E. J. Richardson, Esq.

Johnson & Sons, Manufacturing Chemists, Ltd., manufacturers of chemicals for electricians, 23, Cross-st., Finsbury, London, E.C. (Telegs.: "Caustic, London." Teleph. London Wall 677; & Central 14132.)

Johnson, Wm., & Co., electricians, 49, Leopold-st., Sheffield. (Telephone No. 787.)

Johnson, William, & Sons (Leeds), Ltd., engineers, Castleton Foundry, Armley, Leeds. (Telegrams: "Ronksley, Armley." Telephone No. 387.)

Johnson, W. H., & Son, electricians, motor & cycle engineers, St. James-st., King's Lynn; & Westgate, Hunstanton.

Johnsons & Willcox, chartered patent agents, 47, Lincoln's Inn Fields, London, W.C. (Telegrams: "Lincijohn, London." Telephone No. 356, Holborn.)

Johnston, A., A.I.E.E., engineer, Swansea Improvements & Tramways Co., Swansea.

Johnston, Archibald W., A.M.I.E.E., consulting electrician, Clunrinnes, Auchinairn, Glasgow.

Johnston, C. M., M.I.E.E., M.I.MECH.E., borough elec. & consulting engineer, Electricity Works, Shrewsbury.

Johnston, Frank, A.M.I.E.E., Strathleven, Holywood, co. Down.

Johnston, F. A., Electra House, Finsbury Pavement, London, E.C. Director Eastern Telegraph Co., Ltd.; director Eastern & South African Telegraph Co., Ltd.; director Western Telegraph Co., Ltd.; director Direct Spanish Telegraph Co., Ltd.; director Black Sea Telegraph Co., Ltd.

Johnston, Jas., elec. inspector, British Engine, Boiler & Elec. Insurance Co., Ltd., 12, King-st., Manchester.

Johnston, J. J. H., M.A., A.M.I.E.E., A.AM.I.E.E., electrical engineer, Oakfield, Lenzie, nr. Glasgow. (Nat. Teleph. No. 31, Lenzie.)

Johnston, Leonard, A.M.I.E.E., A.M.I.M.E., general manager & engineer, Corporation Light Railways, Gloucester. (Teleph. No. 155.)

Johnston, Stanley, electrical engineer, 7 & 9, Queen-st., Belfast. (Telephone No. 1625.)

Johnston, Wm. Shawhill, A.M.I.E.E., electrical engineer, Hill Crest, Bath-lane, Mansfield, Notts.

Johnston, George, & Co., electrical supplies dealers, 110, Cannon-st., London, E.C. (Telegrams: "Slapjack, London." Telephone No. 8024, Bank.)

Johnston, Park & Co., electrical engineers & contractors, 15, Oswald-st., Glasgow. (Telegs.: "Lighting, Glasgow." Teleph. No. 1216.)

Johnston Technical School, Durham. *See* SCHOOLS.

Johnstone's, electric lighting contractors, 36, Kensington-gdns., Brighton.

Jolin, P., & Co., electrical engineers & scientific instrument makers, 25, Temple-st., Bristol.

Joll, F. W., A.M.I.E.E., electrician, c/o Electrical Co., Ltd., 121–125, Charing Cross-rd., London, W.C.

Jolley, A. C., A.M.I.E.E., Northampton Institute, Clerkenwell, London, E.C.

Joly, Henri L., A.M.I.E.E., A.M.AM.I.E.E., member Sté. Internationale des Electriciens; technical representative of the "Mois Scientifique et Industriel" for England, 4, Glebe-pl., Chelsea, London, S.W.

Jonas, O. M., A.M.I.E.E., Great Shelford, Cambridge. (Teleph. No. 21.)

Jonas & Colver, Ltd., magnetic steel manufacturers, Continental Steel Works & Novo Steel Works, Sheffield. (Telegs.: "Jonas, Sheffield." Teleph. Nos. 2093, 663, 3112 & 2551.)

Jones, A. Denman, A.M.I.E.E., Hartham Works, Hartham-rd., Holloway, N. (Telegs.: "Jandunus, London." Teleph. North 892.)

Jones, A. W., M.I.E.E., British Thomson-Houston Co., Ltd., 83, Cannon-st., London, E.C.

Jones, Arthur W., A.M.I.E.E., electrical engineer, c/o Spence & Ionides, 14, St. Vincent-pl., Glasgow; & 18, Trefoil-ave., Shawlands, Glasgow.

Jones, B., electric lighting contractor, Castle Hill, Lynton.

Jones, Charles, M.I.C.E., M.I.E.E., chief electrical & locomotive engineer, Metropolitan Railway Co., Power Station, Neasden, London, N.W. (Teleph. No. 67B, Harlesden.)

Jones, C. Edward, A.I.E.E., Millfield, Beaconsfield, Bucks.

Jones, D. G., chief electrical engineer, John Brown & Co., Sheffield.

Jones, Dr. H. Lewis, M.D., A.I.E.E., St. Bartholomew's Hospital, West Smithfield, London, E.C.; & 143, Harley-st., London, W. (Telephone No. 1241, Paddington.)

Jones, D., Lime-st., Gorseinon. (Nat. Teleph. No. 16.) Director Gorseinon Electric Light Co., Ltd.

Jones, D. L., 1 & 2, Collenau-rd., Tonyrefail. Chairman Ton-yr-efail & Gilfach Goch Electric Light Co., Ltd.

Jones, E., director Llandrindod Wells Electric Light & Power Co., Ltd., 20, Old Bank-bldgs., Chester.

Jones, E. P., sectional engineer (electric light & power), Post Office Telegraph Department, 5, Pinfold-st., Birmingham. (P.O. Teleph. No. 26.)

Jones, E. Taylor, D.SC., professor of physics, University College, Bangor.

Jones, E. W. T., F.I.C., F.C.S., analytical chemist, 10, Victoria-street, Wolverhampton.

Jones, F. G., A.M.I.E.E., charge engineer, Corporation Electricity Works, Prince Rock, Plymouth.

Jones, F. W., Moiravale, Hampton Wick. Director Chili Telephone Co., Ltd., & Ecuador Telephone Co., Ltd.

Jones, F. W. E., M.I.E.E., Buckland, Lymington, Hants.

Jones, Henry, dynamo manufacturer & electrical engineer, 14, High-st., Lambeth, London, S.E.

Jones, H. E., Palace-chbrs., Westminster. Chairman Primitiva Gas & Electric Lighting Co. of Buenos Aires, Ltd.

Jones, Herbert, M.I.E.E., electrical engineer, Waterloo & City Railway, Waterloo Station, London, S.E.; & 8, Altenburg-gdns., Clapham Common, London, S.W.

Jones, Herbert A., electrical engineer (managing director Phœnix Dynamo Manufacturing Co., Ltd.), Thornbury Works, Bradford; & Myrtle House, Undercliffe, Bradford.

Jones, Horace John, A.M.I.E.E., M.I.M.E., 72, Victoria-st., London, S.W.

Jones, J. Lloyd, engineer, Llangollen & District Electric Light & Power Co., Ltd., Llangollen.

Jones, John W., Meter Testing Department, Westminster Electric Supply Corp., Ltd., Eccleston-pl., Eccleston-st., S.W. (Telegrams: "Visual, London." Telephone No. 266, Westminster Extension Instrument.)

Jones, L. A. Atherley, K.C., M.P., director Gateshead & District Tramways Co., Electrical Federation Offices, Kingsway, London, W.C.

Jones, O. C., A.I.E.E., electrical engineer, Mill-st., Maidstone. (Teleph. No. 207.)

Jones, P., electrical engineer, High-st., Bangor.

Jones, P. E., electrical contractor, 287, High-st., Bangor.

Jones, P. Lloyd, maker of wood casings for wires, Romeo-st., Canada Dock, Bootle, Lancs.

Jones, R., chief assistant engineer, Urban District Council Electricity Works, Dartford.

Jones, R., electrical engineer, Blaenavon Co., Ltd., Blaenavon, Mon.

Jones, R. H., engineer, Electricity Works, Colwyn Bay.

Jones, Rev. D. Lloyd, M.A., director Llandrindod Wells Electric Light & Power Co., Ltd., 20, Old Bank-bldgs., Chester.

Jones, S. Derwen, A.M.I.E.E., A.M.I.M.E., borough electrical engineer, Corporation Electric Works, Batley. (Teleph. No. 38.)

Jones, S. Mansel, wholesale electrical stores, 63, Wind-st., Swansea (Telegs.: "Cryselco, Swansea." Teleph. No. 226, Nat.); & 7 & 8, Western Mail-chbrs., Cardiff. (Telegs.: "Cryselco, Cardiff." Teleph. No. 226, P.O.)

Jones, S. W. H., electrician, 13, New-st., Worcester.

Jones, T., Supply Stores, Gorseinon. Director Gorseinon Electric Light Co., Ltd.

Jones, T. G., M.SC., WH.SC., A.M.I.C.E., head of Engineering Dept., Municipal Technical College, Swansea.

Jones, W., A.M.I.E.E., Electric Light Works, Hull (Teleph. No. 1100); & 21, Lambert-st., Hull.

Jones, W., works superintendent, Corp. Electricity Department, Bradford. (Teleph. No. 1537.)

Jones, W. A., A.M.I.E.E., assistant engineer, Electricity Works, Cathall-rd., Leytonstone, E.

Jones, Walter F., A.M.I.E.E., 70, Albert-st., Eccles.

Jones, W. J. S., A.M.I.E.E., managing engineer, County of Northampton Electric Power & Traction Co., Ltd., Wellingborough.

Jones, W. S., Chepstow, Mon. Director Chepstow Electric Lighting & Power Co., Ltd.

Jones, Wm., director Ogmore Valley Electric Light & Power Supply Co., Ltd.

Jones & Bache, electricians, Tregaron, Gloucester-rd., Kingston-on-Thames.

Jones, Bernard G., & Co., engineers & electric power specialists, 33, Commercial-st., Newport, Mon. (Telegrams: "Motors, Newport." Nat. Telephone No. 0669.)

Jones Bros., electric light contractors, 348–366, Holloway-rd., London, N. (Teleph. No. 7523, King's Cross.)

Jones Bros., makers of slate switch bases, Bangor Slate Works, Semley-pl., Buckingham Palace-rd., London, S.W.

Jones Brothers & Co. (Wolverhampton), Ltd., manufacturers of reflectors & stampings, &c., Ablow-st., Wolverhampton. (Telegs.: "Jones, Wolverhampton." A.B.C. Code used. Nat. Teleph. No. 22 Y.)

Jones, Burton & Co., electrical engineers, Liverpool. (Telegs.: "Enterprise, Liverpool.")

Jones & Foster, brass founders & lamp makers, 39, Bloomsbury-st., Birmingham. (Telegrams: "Crucible, Birmingham." Telephone No. 2611.)

Jones, Fred, & Co., silicate cotton & slag wool manufacturers, Perren-street, London, N.W. (Telegrams: "Slagwool, London." Telephone No. 675, King's Cross.)

Jones, F. J., & Son, electrical & mechanical engineers, 134, Foregate-st., Chester. (Telegrams: "Jones, Electrician, Chester." Telephone Nos. 180 & 180A.)

Jones, George, Ltd., mechanical & electrical engineers, Lionel-st., Birmingham. (Telephone No. 1003.)

Jones & Horsfield, boiler & pipe coverers, Denton, nr. Manchester. (Telegrams: "Jones & Horsfield, Denton, Manchester.") SPECIALITY: Self-supporting & removable Sheet Iron & Blue Planished Steel Casings. Send for Catalogue. Gold & Bronze Medals, Franco-British Exhibition.

Jones, Inigo, & Co., slate turners & enamellers, Tudor Slate Works, Groeslon, R.S.O., N. Wales. (Telegs.: "Inigo Jones, Groeslon.")

Jones, J., & Son, engineers, Loughborough.

Jones & Leslie Ltd., electrical engineers & experimentalists, 13, Greek-st., Shaftesbury-ave., London, W. (Telegs.: "Elemechan, London." Teleph. No. 3178, Gerrard.)

Jones, Oscar, & Co., wiring contractors & ironmongers, 7, Victoria-bldgs., Beckenham-rd., Beckenham (Teleph. Bromley 150); & 62, High-st., Beckenham. (Teleph. Bromley 330.)

Jones, Oswald, & Co., electrical engineers, 7, Mill-st., Maidstone.

Jones, T., & Co., electrical engineers, Whitechapel, Liverpool. (Teleph. Central 7874.)

Jones, T. C., & Co., machinery brokers & dealers, Lombard-wharf, Lombard-rd., Battersea, S.W.

Jones, T. S. & J. D., electricians, 15, Beaufort-sq., Chepstow.

Jones, W. F., & Co., makers of switch gear, Dacre House, Victoria-st., S.W.

Jopling, Arthur, A.M.I.E.E., A.M.I.M.E., 10, Westmorland-bldgs., Aldersgate-st., E.C.

JOPLING, A., & CO., arc lamps, 10, Westmorland-bldgs., Aldersgate-st., London, E.C. (Telegs.: "Polaristic, London." Teleph. Central 14946. A.B.C. Code, 5th edit.). *See advt. under* ARC LAMPS.

Jordan, P. J., A.M.I.E.E., c/o Mrs. Telfer, 30, Blythswood Drive, Glasgow.

Jordan & Sons, Ltd., registration agents for electric lighting & power companies, motor car & cycle companies, 116 & 117, Chancery-lane, London, W.C.; 5-8, Crown-ct., Chancery-lane; & 4-7, Bishop's-ct., Chancery-lane, W.C. (Telegs.: "Certificate, London." Teleph. Holborn 246.) Firm established 1863, incorporated as a company May 22, 1895. Nominal capital: £50,000 in £10 shares. Issued: £26,930 in ordinary shares, all paid up. Directors: William Jordan, Esq. (managing & chairman); Herbert Wm. Jordan, Esq. Secretary, M. A. Jordan.

Joseph, Edward L., A.M.I.E.E., consulting engineer & managing director of Ozonair, Ltd., 96, Victoria-st., London, S.W. (Telegs.: "Ozonair, London." Teleph. Victoria 12.)

Joseph, F. B., electrical engineer, Queen Anne's-chbrs., Westminster, London, S.W. (Telephone No. 5369, Westminster.)

Joseph, Henry, engineer & manager, Urban Electric Supply Co., Ltd., Caterham. (Teleph. No. 23, P.O.)

Joseph, H., A.M.I.E.E., engineer, Electricity Works, Station-rd., Dorking.

Josephs, Joseph, A.M.I.E.E., c/o Victoria Works, Old Charlton, Kent.

Joslins, Ltd., electrical contractors, 108, 109 & 145, High-st., & Maidenburgh-st., Colchester; & Market-pl., Chelmsford. (Telegs.: "Joslin, Colchester." Teleph. No. 8.)

Journal of the Institution of Electrical Engineers, E. & F. N. Spon, Ltd., 57, Haymarket, London, S.W.; & Spon & Chamberlain, 123, Liberty-st., New York.

Journal of the London Chamber of Commerce, 1 & 2, Oxford-ct., Cannon-st., London, E.C.

Journal of the Röntgen Society (bi-monthly; price to non-members, 4*s.*; ann. sub., 16*s.*). Editor, J. H. Gardiner, F.C.S., 19, Hanover-sq., London, W.; publishers, Wertheimer, Lea & Co., Clifton House, Worship-st., Finsbury, London, E.C.

Journal of the Society of Chemical Industry (twice a month), 9, Bridge-st., Westminster, London, S.W. (Telegs.: "59, Palatable, London." Teleph. No. 715, Victoria.) (Watson Smith, editor. Annual subscription, 36*s.*)

Joyce, T. J., electrical contractor, 78, North Strand-rd., Dublin.

Joyce, W. H., resident engineer, Cork Electric Tramways & Lighting Co., Ltd., Queenstown, Ireland. (Teleph. No. 22.)

JOYNER, CHARLES, & CO., LTD., manufacturers of electroliers & electrical accessories, Icknield-sq., Monument-rd., Birmingham. (Telegrams: "Joyner, Birmingham." Telephone No. 3513.) London office & show-rooms: 15, Charterhouse-st., E.C.; Glasgow: 130, West Regent-st.

Judd, Edwin H., electrical & mechanical engineer, 68, Gordon-st., Glasgow. (Telegs.: "Judd, Glasgow." Teleph. Argyle 2646.)

Judd, Walter, M.I.E.E., electrician-in-chief, Eastern & Associated Telegraph Cos., Electra House, Moorgate, London, E.C.

Jude, R. H., D.SC., professor of mathematics & physics, Rutherford College, Newcastle-on-Tyne.

Judson, F. H., electrician, Atlas Carbon & Battery Co., Ltd., 19, Ewer-st., Southwark, London, S.E.

Jukes, Coulson, Stokes, & Co., telegraph iron buoy makers, 11 & 12, Clement's-lane, London, E.C. (Telegrams: "Kolson, London.")

Julian & Sons, Ltd., electricians, Basingstoke.

Junior Institution of Engineers, Incorporated (Founded 1884), 39, Victoria-st., London, S.W. (Teleph. Victoria 912.) Engineer Vice-Admiral Hy. J. Oram, C.B., president; Walter T. Dunn, secretary.

Justice, H. R., M.I.M.E., consulting engineer, 55 & 56, Chancery-lane, London, W.C.

Justice, P. M., patents designs & trade marks agent, 55 & 56, Chancery-lane, London, W.C. (Telegrams: "Syng, London." Telephone No. 3, Holborn.)

Jutson & Sons, chemical manufacturers, Liverpool-st., Birmingham. (Telephone No. 399.)

Kahler, G., & Co., electrical agents, 29, Fenchurch-st., London, E.C. (Telegs.: "Acetimeter, London." Teleph. No. 747, Avenue.)

Kahn, Dr. Max, electrical engineer, 9, St. James'-ter., Nottingham.

Kahn, Harry, 75 & 76, Lombard-st., E.C. Director West London & Provincial Electric Supply Co., Ltd.; director Aron Electricity Meter, Ltd.; director Chiswick Electricity Supply Corporation.

Kain, Edward, & Co., staple & parallel vice makers, Sheffield.

Kaiser, J. M., Ltd., manufacturing electrical & mechanical engineers, 57, Dale End, Birmingham.

Kalgoorlie Electric Power & Lighting Corporation, Ltd., Broad-st. House, New Broad-st., E.C. (Telegs.: "Lucidandum, London." Teleph. No. 2579, London Wall.) Registered Dec. 14, 1906. Nominal capital: £225,000 in 175,000 6 per cent. non-cumulative preference shares of £1 each & 100,000 ordinary shares of 10s. each, & £60,000 debentures secured by trust deed, dated June 5, 1907. Issued: all the ordinary & 150,000 preference shares, all fully paid, & £35,100 debentures fully paid. Directors: R. W. Wallace, Esq., K.C.; Ed. Pope, Esq.; G. P. Doolette, Esq. Secretary, H. J. Dixon, F.C.I.S. Dividends: June, 1908 (6 months), 5 per cent. on ordinary.

Kalgoorlie Electric Tramways, Ltd., 30 & 31, St. Swithin's-lane, London, E.C. (Telephone No. 5319, Bank.) Registered March 18, 1902. Nominal capital: £250,000 in £1 shares, & £200,000 debenture stock. Issued: all the ordinary shares, & £100,000 5 per cent. "A" debenture stock & £100,000 6 per cent. "B" debenture stock. A trust deed, dated Oct. 14, 1904 (supplemental to & varying the terms of a deed dated April 21, 1902, securing £200,000 debenture stock), has been registered. Debentures outstanding: £185,984. Directors: A. H. P. Stoneham, Esq. (chairman); O. Wethered, Esq.; C. C. Baker, Esq.: C. Wren, Esq. Secretary, F. A. Holyfield.

Kalker, E., & Co., makers of insulated wires & flexibles for automobiles, Much Park-st., Coventry. (Telegrams: "Kalker, Coventry." Telephone No. 24 X.)

Kamm, Leo, electrical engineer, 27, Powell-st., Goswell-rd., E.C.; & 68, Cromwell-ave., Highgate, N. (Telegs.: "Zerograph, London." Teleph. No. 8281, P.O. Central.)

Kapp, Gisbert, Dr. Ing., M.I.C.E., M.I.E.E., professor of electrical engineering, University, Birmingham; & Pen-y-Coed, Edgbaston, Birmingham.

Kappey, Wirth & Co., manufacturers' agents, Dunedin House, Basinghall-ave., London, E.C. (Telegs.: "Kappessame, London." Teleph. No. 12969, Central.)

Karabon Co., Ltd., 3, Long Acre, London, W.C.

Karminski, E., Credit Lyonnais, 40, Lombard-st., London, E.C. Director South American Cable Co., Ltd.

Kaula, R. J., A.M.I.E.E., Wetherby Mansions, Earl's Court-sq., London, S.W.

Kavanagh, Arthur L., A.M.I.E.E., 43, Chiswick-lane, London, W.

Kay, Harry, dealer in electrical supplies, 13, Chapel-st., Salford, Manchester. (Teleph. City 3940.)

Kaye, G. W. Clarkson, A.M.I.E.E., 4, Portugal-st., Cambridge.

Kaye, Joseph, & Sons, Ltd., seamless serrated oil cans, Lock Works, Leeds; & 93, High Holborn, W.C. (Teleph. No. 1847, Holborn.)

Kaye, Neville, & Co., Ltd., electrical & general engineers, Thanet House, 231 & 232, Strand, W.C.; & (works) Sigdon-rd., Hackney, N.E., London. (Telegs.: "Asendite, London." Teleph. City 1374.)

Keagey, Wm. Glenny (New York Car Wheel Works), 18, St. Swithin's-lane, London, E.C.

Kear, S., electric light & power engineer, Red Cross-st., Bristol. (Telegs.: "Motor, Bristol." Teleph. No. 444, Nat.)

Kearney, E. W. C., managing director Kearney High Speed Railway Co., Ltd., 100, Victoria-st., Westminster, S.W.

Kearney High-Speed Railway Co., Ltd., 100, Victoria-st., Westminster, London, S.W. (Telegs.: "Unilinear, London." Teleph. Victoria 1101.) Registered Aug. 29, 1907. Nominal capital: £11,000 in 10,000 ordinary shares of £1 each & 20,000 founders' of 1s. each. Directors: Capt. Douglas-Jones; E. F. Ridout, Esq., M.A.; E. W. C. Kearney, Esq. Electrical engineer, H. W. Healy; secretary, L. Halliday, F.C.I.S.

Kearsley Electric Tramways. Worked by South Lancashire Tramways Co. (Teleph. No. 174, Farnworth.)

Keats, G. W., borough electrical engineer, Metropolitan Borough of Woolwich, Town Hall, Woolwich, S.E.

Keay, E. C. & J., Ltd., electrical, mechanical & general engineers, Cyclops Iron Works, West Bromwich; James Bridge Works, Darlaston, Staffs.; Manchester; & Corporation-st., Birmingham.

Keays, Arthur M., A.I.E.E., 2, Dorset-rd., Windsor.

Keeler & Co., Ltd., electrical apparatus manufacturers, 12, New Chesterfield-st., Marylebone, London, W.

Keeling, A. D., metal manufacturer & merchant, Warstone Metal Works, Birmingham. (Telegs.: "Nickel, Birmingham." Teleph. Nos. 443 & 444, Central.)

Keen, H. E., A.M.I.E.E., 36, Great Smith-st., Westminster, London, S.W.

Keen, W. B., F.C.A., 23, Queen Victoria-st., London, E.C. Director Yorkshire (West Riding) Electric Tramways Co., Ltd.

Keen, H. E., & Co., electrical engineers & contractors, 36, Great Smith-st., Westminster, London, S.W. (Teleph. Westminster 509.)

Keenan, J. M., A.M.I.E.E., chief assistant engineer, Corporation Electricity Works, Torquay.

Keep Bros., exporters of electrical goods, 35 & 36, Great Charles-st., Birmingham. (Telegs.: "Keep, Birmingham." Nat. Teleph. No. 4487 (3 lines). A.B.C., 5th Edition, Code used.)

Kefford, H. W., A.M.I.E.E., 562, High-st., Tottenham, London, N.

Kegan Paul, Trench, Trübner & Co., Ltd., technical publishers, 43, Gerrard-st., London, W. (Telegrams: "Columnæ, London." Telephone No. 6164, Gerrard.)

Keighley Electrical Engineering Co., Ltd., Vulcan Works, Keighley, Yorks. (Telegrams: "Electric, Keighley." Telephone No. 113.) Registered Aug. 12, 1891. Capital: £10,000 in £1 shares.

Keighley Municipal Electricity Works & Tramways, Coney-lane, Keighley, Yorks. (Teleph. No. 13.) J. M. Smyth, engineer, A.M.I.C.E., M.I.E.E.

Keith, George, C.E., M.I.E.E., 25, Rosslyn Hill, Hampstead, N.W. Director The Cuba Submarine Telegraph Co., Ltd.; chairman Chili Telephone Co., Ltd.; chairman & managing director Amazon Telegraph Co., Ltd.; chairman Ecuador Telephone Co., Ltd.; director United River Plate Telephone Co., Ltd.

Keith, H. G., director Penmachno Corwen & Bettws-y-Coed Light Railway Co., Ltd., c/o Gill, Archer Naples & Dun, 14, Cook-st, Liverpool.

KEITH, JAMES, & BLACKMAN CO., LTD. (*see illustrated entry under* ENGINEERS—VENTILATING), 27, Farringdon-ave., E.C. Works: 443 & 443A, Holloway-rd., N.; & Arbroath, N.B. (Telegs.: "James Keith, London." Teleph. Nos.: Holborn 6194 (4 lines); & Central 2808; & City 884.)

Keith, Prowse & Co., Ltd., electric piano makers, 38, Berners-st., London, W.

Kelburn, The Right Hon. Viscount, director Portpatrick Electric Supply Co., Ltd., Dunskey Estates Offices, Portpatrick, Wigtonshire.

Kelley, Henry, & Co., mechanical & electrical engineers, 26, Pall Mall, Manchester. (Telegs.: "Advantage, Manchester." Teleph. No. 663.)

Kellogg, E. H., & Co., dynamo oil, 8B, Rumford-pl., Liverpool. (Telegs.: "Sanxay, Liverpool." Teleph. No. 603.)

Kelly, A., A.M.I.E.E., consulting electrical engineer, Royal Insurance-bldgs., 18, Exchange-st., Manchester. (Telegs.: "Assessor, Manchester." Teleph. City 6247.)

Kelly, Bertram G., A.M.I.E.E., chief assistant engineer, Manx Electric Railway Co., Strathallan-cres., Douglas, I.M.

Kelman, C. S., director Adelaide Electric Tramways, Ltd., 35, New Broad-st., London, E.C.

Kelman, D. E., Hohenlinden Hall, Highbury New Park, London, N. Director Adelaide Electric Tramways, Ltd.

Kelman, J. A., director Adelaide Electric Tramways, Ltd., 35, New Broad-st., E.C.

Kelsall, Alfred Heinrich, A.M.I.E.E., Wellbank, Milngavie, N.B.

Kelsey, W. R., B.SC., A.M.I.E.E., Municipal Technical Institute, Taunton.

Kelso & Co., manufacturing electricians, 1008, Pollokshaws-rd., Glasgow. (Telegs.: "Model, Glasgow.")

Kelvin & James White, Ltd., makers of electrical instruments & switchgear, 18, Cambridge-st., Glasgow (Telegrams: "Meter, Glasgow." Telephone Nos.: P.O. 4519, Central; National, 172, Douglas); & 11, Billiter-st., London, E.C. (Telegs.: "Stormglass, London." Teleph. London Wall 9779.)

Kemble, James, London House, Mevagissey. Director & secretary Mevagissey Electric Supply Co., Ltd.

Kemble, R. W., A.M.I.E.E., 70, Josephine-ave., Brixton Hill, London, S.W.

Kemp, George, chief assistant engineer, Borough Electric Lighting Station, Shoreditch, E.C. (Teleph. No. 1157, London Wall); & 61, Foulden-rd., Stoke Newington, N.

Kemp, Jas. P., A.M.I.E.E., resident engineer, Corporation Electricity Works, Summer-lane, Birmingham.

Kemp, Robert, A.M.I.E E., Parkmore, Dufftown, N.B.

Kemp, A., & Son, copper & silver wire manufacturers, Tenby-st. North, Birmingham.

Kemp, Wm., & Co., electrical engineers & manufacturers of electric light fittings, 159, Buchanan-st., Glasgow. (Teleph. Nos.: 3885, Nat.; & 5985, P.O.)

Kempe, H. R., M.I.C.E., M.I.E.E., electrician, Postal Telegraphs, General Post Office, London, E.C.

Kempster, John Westbeech, M.I.E.E., Harland & Wolff, Belfast; & Dunvarna, Adelaide Park, Belfast, Ireland.

Kendal Corporation Electricity Works, Kendal. (Telegs.: "Barnes, Electricity, Kendal." Teleph. No. 24 G.) Engineer, John A. T. Barnes, A.M.I.E.E.

Kendal & Gent, Ltd., tool makers, Victoria Works, Gorton, Manchester. (Telegs.: "Tools, Manchester." Nat. Teleph. No. 5569.)

Kendal, J. Lomax, & Co., Ltd., electrical & mechanical engineers, 4, John Dalton-st., Deansgate, Manchester. (Telegs.: "Motor, Manchester." Teleph. No. 2135.)

Kendall, A. G., director Brazilian Street Railway Co., Ltd., 134, Palmerston House, Bishopsgate-st. Within, London, E.C.

Kendall, F., electrical engineer, Forman-st., Nottingham. (Teleph. No. 3958.)

Kendall, J. A., electro-chemist, Lonesome Chemical Works, Streatham Common, London, S.W.

Kendall, R., & Sons, wiring contractors, 21, Milsom-st., Bath. (Teleph. No. 242.)

Kendell, T., & Sons, electrical engineers & contractors, Norfolk Iron Works, Shoreditch, London, E.C. (Telephone No. 172, London Wall.)

Kendrew, T. J. K., general manager Southport Corporation Electric Tramways, 44, Chapel-st., Southport.

Kennard, Alfred Ernest, A.M.I.E.E., 23, Wheathill-rd., Anerley, London, S.E.

Kennard, F. E., A.M.I.E.E., 13, Manor-lane-ter., Lewisham, S.E.

Kennaway, C. W., M.I.E.E., 8, Queen Anne's Gate, Westminster, London, S.W.

Kennedy, D. H., A.M.I.E.E., Engineer-in-Chief's Office, G.P.O., London, E.C.; & 8, Lyncroft-gdns., Ealing, W.

Kennedy, F. C., 15, Palmerston-pl., Edinburgh. Director Burmah Electric Tramways & Lighting Co., Ltd.

Kennedy, John Nassau Chambers, Major R.E., M.I.E.E., Chatham.

Kennedy, Sir Alex. Blackie William, LL.D., F.R.S., M.I.C.E., M.I.M.E., M.I.E.E., 17, Victoria-st., Westminster, London, S.W. (Telegrams: "Kinematic, London." Teleph. No. 621, Westminster.)

Kennedy, H., & Son, makers of the "Empress" turbine & governor, Coleraine, Ireland.

Kennedy & Jenkin, consulting civil & electrical engineers, 17, Victoria-st., London, S.W. (Telegrams: "Kinematic, London." Teleph. No. 621, Westminster.)

Kennett, A. J. N., A.M.I.E.E., "Emscote," Penrith-ave., Giffnock, Glasgow.

Kennett, Sanderson W. S., 15, York-pl., Edinburgh. Director Dumbarton Burgh & County Tramways Co., Ltd.

Kenningham, R. H., electrical engineer, 91, Beverley-rd., Hull.

Kenshole, H. H., A.M.I.E.E., The Elms, Goodmayes, Ilford, Essex.

Kensington & Knightsbridge Electric Lighting Co., Ltd., 148, Brompton-rd., S.W. (Teleph. No. 585, Kensington.) Kensington Court Station (Teleph. No. 527, Western; Distributing Dept. Teleph. No. 1162, Western). Registered June 5, 1886. Nominal capital: £250,000 in ordinary shares, £50,000 in 6 per cent. 1st preference shares & £50,000 in 5 per cent. 2nd preference shares, & £90,000 in 4 per cent. debenture stock. Issued capital: £105,000 in ordinary shares of £5 each (fully paid up), £50,000 in 6 per cent. 1st preference shares of £5 each (fully paid up), £90,000 in 4 per cent. debenture stock, £50,000 in 5 per cent. 2nd preference shares (fully paid up). £200,000 debenture stock has been issued by this company jointly with the Notting Hill Electric Light Co., Ltd., of which £100,000 is covered by a trust deed of July 12, 1900, £50,000 covered by a trust deed of Nov. 18, 1902, & £50,000 covered by a trust deed, dated Nov. 2, 1904. R. S. Erskine, secretary; H. W. Miller, chief engineer. Directors: Col. R. E. Crompton, C.B. (chairman); Sir H. W. Bliss, K.C.I.E.; R. W. Wallace, Esq., K.C.; G. H. Hopkinson, Esq.; Colin C. Wyllie, jun., Esq. Dividends: on ordinary shares, 1905, 1906 & 1907, 10 per cent.; 1908, 8 per cent.; & first half of 1909, 4 per cent.

Kensington & Notting Hill Co.'s Joint Electricity Works, Shepherd's Bush, W. (Teleph. No. 143, Hammersmith.) Engineers, H. W. Miller & G. Schultz; resident engineer, C. M. Bennett.

Kensington Stamping Co., Ltd., manufacturers of electric fittings, Kensington-st., Aston, Birmingham. (Telegs.: "Supports, Birmingham." Teleph. Northern 83.)

Kent, James H., electrician, 22, Gramby-st., Liverpool.

Kent, Reginald Herbert, A.I.E.E., 71, Cranwich-rd., Stamford Hill, London, N.

Kent, Walter, electrician, 15, New Oxford-st., London, W.C.

Kent Electric Power Co., Frindsbury Power House, Strood, Kent. (Teleph. Chatham 357.) Incorporated 1902. Nominal capital: £750,000 in £1 shares. Issued: £225,018 ordinary shares, fully paid, £14,230 cumulative priority shares, & £75,000 debenture stock, fully paid. *Has acquired the undertaking of the Chatham, Rochester & District Electric Lighting Co., Ltd.* Directors: J. F. Albright, Esq. (chairman); C. P. Martin, Esq.; A. A. Campbell-Swinton, Esq.; Geo. Sutton, Esq.; P. J. Nicholls, Esq. Engineer at Frindsbury, H. B. Harvey, M.I.E.E.; secretary, F. A. H. Walker.

Kent Electric Power Syndicate, Ltd., Frindsbury Power House, Strood, Kent. Registered Feb. 11, 1902. Nominal capital: £15,030 in 1500 ordinary shares of £10 each & 600 deferred shares of 1s. each. Issued: 1500 ordinary shares & all the deferred shares. Directors: G. H. Brougham Glasier, Esq.; A. White, Esq.; J. F. Albright, Esq. Secretary, F. A. H. Walker.

Kent, George, Ltd., makers of electrical water-level recorders, 199–202, High Holborn, London, W.C. (Telegs.: "Kentobin, London.") Works: Luton.

Kenyon, E. A., M.I.E.E., The Mount, Ellesmere; & Government Telegraph Dept., Calcutta, India.

Kenyon, John, & Co., steel & tool manufacturers, Millsands, Sheffield. (Telegs.: "Kenyon, Sheffield." Teleph. No. 3611.)

Kenyon, William, & Sons, Ltd., makers of cotton driving ropes, Chapel Field Ropery, Dukinfield, Cheshire. (Telegs.: "Kenyon, Dukinfield." Teleph. Ashton 494.)

Ker, W. Arthur, A.M.I.C.E., consulting engineer, electrical & mechanical, 124, St. Vincent-st., Glasgow. (Telegs.: "Acredale, Glasgow." Teleph. No. 1645, Argyle.)

Kerr, E. McKinnon, A.M.I.E.E., c/o Siemens Bros., Stafford.

Kerr, F. W., 31, Budge-row, London, E.C. (Telegs.: "Diphda, London." Teleph. London Wall 9690.) Managing director Anglo-Portuguese Telephone Co., Ltd.

Kerr, George A., electrician, Woodside, Upper Norwood, London, S.E.

Kerr, J., electrical engineer, 29½, Eden Quay, Dublin. (Teleph. No. 1417.)

Kerr, John, Loudwater, Rickmansworth, Herts. Director Buenos Aires Port & City Tramways, Ltd.

Kerr, Jno., Gaddesdon Place, Hemel Hempstead, Herts. Director Hyderabad Electric Light & Traction Co., Ltd.

Kerr, T. A., A.M.I.E.E., engineer & manager, Trafford Power & Light Supply (1902), Ltd., Trafford Park, Manchester. (Telegs.: "Quickstep, Manchester." Teleph. Central 2684.)

Kerr, Thomas, electric bell hanger, 75, Norfolk-lane, Glasgow.

Kerr, Thomas A., A.M.I.E.E., 303, North-rd., Clayton, Manchester.

Kerr, W. T., resident engineer, Corporation Electricity Works, Hereford. (Teleph. No. 62.)

Kerr & Co., installation contractors, Georges Quay, Dublin.

Kerr, R. L., & Sons, engineers & machinery merchants, 52, Bridge-st., Manchester. (Telegs.: "Roker, Manchester." Teleph. No. 7343.)

Kerr-Jones, T., A.M.I.E.E., consulting electrical engineer, 9, Victoria-st., London, S.W.

Kerridge, C. J., electrical engineer, 4, New Town-rd., Hove.

Kerridge, H. E., wiring contractor, Market-place, Yarmouth.

Kerridge, W. B., electric bell & telephone fitter, Wimborne.

Kerry Electric Supply Co., Ltd., College-st., Killarney, co. Kerry, Ireland. (Telegs.: "Electric Supply, Killarney.") Registered May 15, 1905. Nominal capital: £2000 in £1 shares, all issued & fully paid; no debentures issued. Directors: Valentine Ryan, Esq.; W. A. Ryan, Esq., B.A., B.L.; T. Traynor, Esq. Engineer, Valentine Ryan; secretary, J. B. Ryan.

Kershaw, Abraham, electrician & scientific instrument manufacturer, St. Columba-st., Woodhouse-lane, Leeds. (Telegs.: "Science, Leeds.")

Kershaw, J. B. C., chemist & fuel expert, West Lancashire Laboratory, Waterloo, Liverpool.

Kershaw, John, & Co., Ltd., electric bell fitters, 36, Market-st., Heywood, nr. Manchester. (Telephone No. 1101.)

Kesnor, Thos., & Co., Ltd., electrical, mechanical & experimental engineers, Armadale-rd., Fulham, S.W. (Telegs.: "Kesnor, London." P.O. Teleph. Western 449.) J. L. Lawson, manager; H. J. Norballe, engineer.

Keswick Electric Lighting Co., Ltd., Forge, Keswick. (Telegs.: "Electricity, Keswick." Teleph. No. 17, Windermere.) Registered May 1, 1899. Nominal capital: £20,000. Issued capital: £3420 in shares £1 each (fully paid). Mortgages & charges, £10,100. Directors: W. Long, Esq (chairman); Rd. Rigg, Esq.; A. M. Sing, Esq.; Geo. Wilson, Esq.; F. A. Roberts, Esq. Engineer, Wm. Jackson; secretary, C. Walker.

Ketley, F. W., engineer & manager, Norwich Electric Tramways Co., Norwich. (Telegs.: "Tramways, Norwich." Teleph. No. 475.)

Kettering Urban District Council Electricity Works, Kettering. (Telegs.: "Electricity Works, Kettering." Teleph. Nos.: Works, 98; Show-room, 31.) Engineer, W. A. Walker, A.M.I.E.E.

Kettle, L. J., M.I.C.E.I., A.M.I.MECH.E., A.M.I.E.E., superintending engineer, City of Dublin Electricity Works, Pigeon House Fort, Dublin. (Teleph. No. 546.)

Kettle, H. G., & Co., electric lighting & power contractors, 24, Lower Brook-st., Ipswich.

Key, Wm., ventilating & heating engineer, 109, Hope-st., Glasgow. (Telegs.: "Ventilation, Glasgow." Teleph. No. 1338, Central.)

Key Engineering Co., Ltd., electrical engineers & contractors, 4, Queen Victoria-st., London, E.C. (Telegs.: "Keypoint, London." Teleph. No. 7234, Central); & 38, Deansgate, Manchester. (Telegs.: "Keypoint, Manchester." Teleph. No. (City) 4945, Manchester.) Works: Trafford Park, Manchester.

Keynsham Electric Light & Power Co., Ltd., Keynsham, Somerset. Registered office: 28, Baldwin-st. Bristol. Registered Dec. 29, 1899. Nominal capital: £2000 in £1 ordinary shares, £3000 in £1 preference shares & £2980 debentures. All are issued & fully paid. Debentures issued: £2980. Directors: J. E. Mills, Esq. (chairman); E. T. Collins, Esq. (secretary); C. E. Barry, Esq.; G. J. T. Parfitt, Esq. (managing).

Keys, J. W., & Co., electrical engineers, 162, Lambeth-rd., London, S.E.

Keys, W. H., Ltd., bitumen refiners, Hall End Works, West Bromwich. (Telegs.: "Oil, West Bromwich." Teleph. No. 206 (2 lines).)

Kidd, A. M., A.M.I.E.E., district manager, National Telephone Co., Ltd., 91, South Mall, Cork.

Kidderminster & District Electric Lighting & Traction Co., Ltd., electrical engineers & contractors, Electrical Federation Offices, Kingsway, W.C. Registered Dec. 19, 1898. Nominal capital: £100,000 in 50,000 ordinary & 50,000 preference shares of £10 each, of which £30,000 in 5 per cent. preference shares & £47,000 in ordinary shares are issued & are fully paid. Debenture stock: £50,000, of which £27,500 is issued. Directors: C. Shirreff Hilton, Esq. (chairman); J. A. Lycett, Esq.; H. R. Arnold, Esq. Managing engineer, A. Charlton; secretary, H. A. Stagg. Dividends on ordinary shares; 1907, 2½ per cent.; 1908, 1½ per cent.

Kidderminster & Stourport Electric Tramway Co., Electrical Federation Offices, Kingsway, W.C.; & Kidderminster. (Teleph. Nos.: Offices, 108; Works, 107.) Incorporated by Act of Parliament 1896. Nominal capital: £60,000 in ordinary shares of £10 each. Mortgage authorised: £15,000. Issued: £57,200 in shares, fully paid. Directors: C. Shirreff Hilton, Esq. (chairman); J. A. Lycett, Esq.; H. R. Arnold, Esq. Managing engineer, A. Charlton; secretary, H. A. Stagg. Dividends: 1903, 4 per cent.; 1904, 3½ per cent.; 1905, 4 per cent.; 1906 & 1907, 4½ per cent.; 1908, 3½ per cent.

Kidman, F. C., A.M.I.E.E., "Lisaniska," Western-rd., Cork.

Kidner, W. E., A.M.I.E.E., chief assistant electrical engineer, Urban District Council, Horsham, Sussex.

Kidston, A. G., & Co., exporters of electric stores, 155, Fenchurch-st., London, E.C. (Telegs.: "Suaviter, London." Teleph. Avenue 5722.)

Kieffer, Frank, A.M.I.E.E., assistant engineer, Electricity Works, High-st., Mortlake.

Kiersey & Co., agents of the "National" feed-water heater, Kilmacthomas, Co. Waterford, Ireland. (Telegrams: "Kiersey, Kilmacthomas.")

Kiesow & Co., glass globe makers, 25, Fore-st.-ave., London, E.C. (Telegrams: "Kiesows, London." Telephone No. 1871, London Wall.) Agents for Schreiber & Neffen, Vienna.

Kilburn, Brown & Co., exporters of electrical machinery & accessories, Orient House, New Broad-st. London, E.C. (Telegs.: "Tasconium, London." Teleph. No. 20, City.)

Kilby, B. M., director Woking Electric Supply Co., Ltd., Walton-rd., Woking.

Kildare Electricity Works, Kildare, Ireland. Naas Rural District Council, proprietors. Resident electrical engineer, W. A. Cooney.

Killick & Cochran, electrical engineers, 54 & 56, Fleet-st., Liverpool.

Killingley, A., chairman Bray & Enniskerry Railway Co., 52, Westland-row, Dublin.

Kilmalcolm Electric Lighting Co., Ltd., 163, Hope-st., Glasgow. (Telegs.: "Oversman, Glasgow." Teleph. Nos.: Nat. 1010, Argyle: P.O., 481, Central.) Registered June 12, 1902. Nominal capital: £10,000 in £1 ordinary shares & £5000 in 5 per cent. £1 cumulative preference shares. Issued: 4470 ordinary shares & 3695 cumulative preference shares, both fully paid. Directors: R. Barr, Esq. (chairman); T. H. Barr, Esq.; J. Fullarton, Esq.; Dr. Jas. Parker; W. B. Stirrat, Esq.; A. C. Wallace, Esq. Resident engineer, Jas. Brown, A.M.I.E.E.; secretary, H. Macmillan, C.A.

Kilmarnock Corporation Electricity Works & Trams, Kilmarnock. Engineer, A. H. Burbidge, A.M.I.E.E., A.M.I.M.E. (Teleph. No. 95.)

Kilowatt Publishing Co., Ltd., publishers of *Electrical Engineering*, 203–206, Temple-chbrs., Temple-ave., London, E.C. (Telegs.: "Circling, London." Teleph. No. 5509, Holborn.)

Kilpatrick, J. L., A.I.E.E., 49, Lichfield-rd., Stafford.

Kilpatrick, Jas., & Son, electrical installation & apparatus contractors, Terrace-bldgs., High-st., Paisley (Teleph. No. 94, Paisley); & 34, West Blackhall-st., Greenock. (Teleph. No. 466.)

Kilpin & Billson, electric light engineers & contractors, Bedford. (Telephone No. 7.)

Kilroy, W. Dickson, M.I.E.E., A.M.I.M.E., Acton-lane Works, Chiswick, W. (Telegs.: "c/o Dorothea, London." Teleph. No. 221, Hammersmith); & Omard, Harrow Weald, Middlesex.

Kilshaw, Henry, electrical mechanical engineer, West Derby Union, Liverpool.

Kimber, H. Dixon, Maritzdaal, Streatham. Director East India Tramways, Ltd.

Kimber, Harry Watkins, A.I.E.E., c/o Dick, Kerr & Co., Ltd., Abchurch-yard, Cannon-st., London, E.C.

Kimber, Sir Henry, Bart., M.P., 79, Lombard-st., E.C. Director Calcutta Tramways Co., Ltd.

Kimmins, P. T., manager Lynton & Lynmouth Electric Light Co., Lynmouth, Devon.

Kincaid, Waller, Manville & Dawson, consulting civil & electrical engineers, St. Stephen's House, Victoria Embankment, Westminster, London, S.W. (Telegs.: "Kincaid, London." Teleph. Westminster 10 & 11.)

Kindersley, E. R., director Burmah Electric Works Synd, Ltd., 53 & 54, Chancery-lane, London, E.C.

Kindersley, H. R., Cliffe Cottage, Dorchester, Dorset. Director Burmah Electric Tramways & Lighting Co., Ltd.; chairman & secretary Burmah Electric Works Syndicate, Ltd.

Kindersley, M. F., 3, Whitehall-ct., S.W. Managing director & agent, Burmah Electric Works Syndicate, Ltd.

Kinetic Co., Ltd., electric organ blowing, Waterside North, Lincoln (Telegs.: "Kinetic, Lincoln." Teleph. No. 227); & 84, Leadenhall-st., London, E.C. (Telegs.: "Citenik, London." Teleph. Central 12140.)

King, Arthur, engine speed counter & register manufacturer, Pinxton, Alfreton.

King, C. A., consulting engineer, Sanctuary House, Tothill-st., London, S.W.

King, Col. C. M., Antermony House, Milton-of-Campsie. Director Clyde Valley Electric Power Co.; director Strathclyde Electricity Supply Co., Ltd.

King, F. A., electrical engineer, 205, Byars-rd., Glasgow.

King, G. W., manager, Greenock & Port Glasgow Tramways Co., Ladyburn, Greenock. (Telegs.: "Tramways, Ladyburn, Greenock." Teleph. No. 159.)

King, Harold C., A.M.I.E.E., consulting engineer, Craven House, Kingsway, Holborn, London, W.C. (Telegs.: "Seedibus, London." Teleph. Central 7031.)

King, John, electrician, 2, Bellefield-rd., Brixton, London, S.W.

King, J. Russell, electrical engineer, 36, St. John's-sq., London, E.C.

King, John T., patent agent, 4, Clayton-square-west, Liverpool. (Telegrams: "Inventions, Liverpool." Telephone No. 5893.)

King, L. H., A.M.I.E.E., resident electrical engineer, Urban District Council, Whitby.

King, P. T., installation contractor, Manchester-st., Luton (Teleph. No. 622); & at Hitchin.

King, Wilfred, managing director Exchange Telegraph Co., Ltd., 17 & 18, Cornhill, London, E.C. (Telephone No. 1918, Avenue.)

King, W. E., electrical engineer & contractor, Barnet, Herts. (Teleph. Barnet 73.)

King, W. F., F.R.S.E., A.I.E.E., Leith Electric Works, Prince Regent-st., Leith, N.B.

King, Wm. Noel York, A.M.I.E.E., Tramway Power Station, Kelham Island, Sheffield.

King & Co., engineers & contractors, Leith Electric Works, Leith. (Telegrams: "Electric, Leith." Telephone No. 793.)

King & Co., lighting & telephone engineers, Western Electrical Works, Park-row, Bristol.

King & Co., Ltd., installation contractors, South Church Side, Hull. (Telegs.: "Kings, Hull." Teleph. No. 136.)

King Engineering Co., electrical & general engineers, Craven House, Kingsway, London, W.C. (Telegs.: "Seedibus, London." Teleph. Central 7031.)

King, P. S., & Son, publishers of electrical & scientific books, Orchard House, Westminster, S.W. (Telegs.: "Parliamentary, London." Teleph. Westminster 324.)

King's College, courses of telegraphic & electrical engineering, 160, Strand, London, W.C. *See* SCHOOLS, &c.

King's Lynn Corporation Electricity Works. (Teleph. No. 2.) J. Pilling, M.I.E.E., electrical engineer.

King's Norton Metal Co., Ltd., telegraph wire manufacturers, 16, Great George-st., London, S.W.; & King's Norton, nr. Birmingham. (Telegs.: "Ammunition, London;" "Metal, Kingsnorton.")

Kingdon, Z. H., electrical engineer, H.M. Dockyard, North Devonport.

Kingfisher (1118), Leeds, manufacturers of the Kingfisher patent lubricators & lubricants, Leeds. (Write, wire, or ring: "Kingfisher, 1118, Leeds.")

Kingham, R. D., Parkleigh, Farnham. Director Farnham & District Electricity Supply Co., Ltd.

Kinghorn, D. M., chief engineer & manager, Borough Council's Electricity Works, Southwark, S.E. (Teleph. No. 2697, Hop.)

Kinghorn Gas Light Co., Ltd., electric light contractors, Kinghorn, Fifeshire.

Kings Patent Agency, Ltd., 165, Queen Victoria-st., London, E.C. (Telegs.: "Geologic, London." Teleph. Central 682.)

Kingsbury, J. E., M.I.E.E., general manager, Western Electric Co., Norfolk House, Victoria Embankment, London, W.C. (Telegs.: "Relay, London." Teleph. Nos.: 5349, Gerrard; & 2389, P.O. Central.) Director Anglo-Portuguese Telephone Co., Ltd. *See* CABLE MANUFACTURERS, & TELEPHONE APPARATUS MAKERS.

Kingsford, W. B., 11, Lawrence Mansions, Cheyne Walk, S.W. Chairman West India & Panama Telegraph Co., Ltd.

Kingsland, Wm., M.I.E.E., 11, Woodgrange-ave., Ealing Common, London, W.

Kingston, H. W., engineer, Charing Cross, West End & City Electricity Supply Co., Ltd., 60, St. Martin's-lane, London, W.C.

Kingston, Lucius A., A.I.E.E., 33, Pembridge Villas, Bayswater, London, W.

Kingston & Co., Ltd., electrical engineers & contractors, 8, Trinity-sq., Margate; & 110, Northdown-rd., Margate.

Kingston Municipal Science & Art School & Technical Institute, Kingston Hall-rd., & Polytechnic, Fife-rd., Kingston-upon-Thames. *See* SCHOOLS.

Kingston-upon-Thames Corporation Electricity Supply, Down Hall-rd. (Nat. Telephone No. 93, Kingston.) Consulting & borough electrical engineer, J. E. Edgcome, M.I.M.E., M.I.E.E.

Kingswood Electric Supply Co., Ltd., All Saints' House, The Exchange, Bristol. Registered Nov. 26, 1903. Nominal capital: £1000 in £1 shares. Issued: 400 shares, & £322 10*s.* paid. Directors: Seymour Williams, Esq.; W. Lawrence, Esq.; H. Taylor, Esq.; J. Muse, Esq.; E. Watts, Esq.; W. Bates, Esq.; H. N. Harvey, Esq. (secretary).

Kingzett, C. T., F.I.C., F.C.S., analytical chemist, Locksly-st., Limehouse, London, E.

Kinnaird, Lord, 10, St. James's-sq., London, S.W. Director Westminster Electric Supply Corporation, Ltd.

Kinnear, J., & Son, electric light contractors, 27, Market-st., Brechin.

Kinninmont, J., & Sons, electric light apparatus makers, 26, Chilworth-street, London, W. (Telegrams: "Kinninmont, London." Telephone No. 383, Paddington.)

Kinsey, Albert Thornley, A.M.I.E.E., assistant superintending engineer, G.P.O., Moreton House, Clifton, Bristol.

Kinver Light Railway. Dudley, Stourbridge & District Electric Traction Co., Ltd., proprietors, Electrical Federation Offices, Kingsway, London, W.C.

Kipping, Percival Philip, A.M.I.E.E., manager Telephone Department, General Electric Co., Ltd., 71, Queen Victoria-st., London, E.C. (Teleph. No. 3600, London Wall.)

Kipps, E. J., A.M.I.E.E., electrical engineer, Engineering Dept., The University, Edgbaston, Birmingham.

Kiralfy, A. E., A.I.E.E., The Great White City Exhibitions, Shepherd's Bush, W.

Kirby, T. F., 7, College-st., Winchester. Chairman Winchester Electric Light & Power Co., Ltd.

Kirby Banks Screw Co., Ltd., bolt & screw manufacturers for any trade, Meadow-lane, Leeds. (Telegs.: "Hexagon, Leeds." Teleph. No. 541.)

Kirk, A., electrical engineer (Bromley, Batstone & Kirk), 24, Holborn, London, E.C.

Kirk, G. A., electrical engineer, Corlett Electrical Engineering Co., Ltd., Wigan. (Telegs.: "Corlett, Wigan." Nat. Teleph. No. 63.)

Kirk, G. L., engineer, Sheerness & District Electric Power & Traction Co., Sheerness.

Kirk, H. A., C.I.E., director-in-chief Indo-European Government Telegraphs, India Office, London, S.W.

Kirkaldy, D., & Son, testing & experimenting works, 99, Southwark-st., S.E. (Telephone No. 203, Hop.)

Kirkcaldy Corporation Electricity Works & Electric Tramways, Kirkcaldy, N.B. O. F. Francis, M.I.E.E., engineer & tramways manager. (Telegs.: "Francis, Kirkcaldy." Teleph. Nos. 124 & 110, Nat.)

Kirker, H. L., electrical engineer, c/o British Westinghouse Co., 2, Norfolk-st., London, W.C.
Kirkham, Wm., A.M.I.E.E., 159, Seedley Park-rd., Seedley, Manchester.
Kirkland, T., director Western Electric Distributing Corp., Ltd.
Kirkland & Capper, consulting electrical engineers, 17, Victoria-st., Westminster, S.W. (Telephone No. 5255, Westminster.)
Kirkpatrick, G. L., A.M.I.E.E., Sharston House, Northenden, Manchester.
Kirkpatrick, Wm. Dry, A.M.I.E.E., "Lincluden," Penkett-rd., Liscard.
Kirkpatrick & Rastall, electrical engineers, Victoria Foundry, Barrack-st., Hulme, Manchester. (Telegs.: "Wonderful, Manchester." Teleph. Central 4416.)
Kirkstall Forge Co., Ltd., iron, steel & shafting manufacturers, Kirkstall Forge, nr. Leeds. (Telegs.: "Forge, Kirkstall." Teleph. No. 147.)
Kirkwood, John, B.SC., A.M.I.E.E., 99, St. George's-rd., Westminster, London, S.W.
Kirkwood, Stephen, A.I.E.E., chief assistant electrical engineer, Corporation Electricity Works, Shrewsbury.
Kirlew Bros., Ltd., iron & steel stampers, Nasmyth Works, 198, Blackstock-rd., London, N. (Telegs.: "Kirlew, London.")
Kirtley & Dunford, electrical & mechanical engineers, 14A, Tower-st., West Hartlepool. (Teleph. No. 609.)
Kitchen, M., Eller Close, Roundhay. Director Roundhay & District Electric Lighting Co., Ltd.
Kitchener, J. V., electrical engineer, British Electric Traction Co., Electrical Federation Offices, Kingsway, London, W.C. Director Oldham, Ashton & Hyde Electric Tramway, Ltd.; director Barrow-in-Furness Tramways; director Birkdale District Electric Supply Co., Ltd.; director Middleton Electric Traction Co., Ltd.; director Potteries Electric Traction Co., Ltd.; director Rossendale Valley Tramways; director Southport Tramways Co., Ltd.; chairman Wrexham & District Electric Tramways, Ltd.; director North Staffordshire Tramways Co.
Kitcher, A. E., electric lighting contractor, 46 & 48, St. Swithun's-rd., Bournemouth.
Kitchin, G., 81, Avenue-rd., London, N.W. Director Hastings & District Electric Tramways Co., Ltd.; chairman Buenos Aires Port & City Tramways, Ltd.; director Cordoba Light, Power & Traction Co, Ltd.
Kitching, A. G., J.P., 18, Holmdale-rd., West Hampstead, N.W. Director Metropolitan Railway Co.
Kite, Chas., & Co., electrical engineers, 132, Euston-rd., & Christopher Works, Chalton-st., London, N.W. (Telegrams: "Midair, London.")
Kitson & Co., mechanical engineers, Airedale Foundry, Leeds. (Telegs.: "Airedale, Leeds." Teleph. No. 3510.)
Kitt, A., Downsland, Crondall, Hants. Director Ascot District Gas & Electricity Co.
Kitto, B., F.G.S., F.I.C., Assay Office & Chemical Laboratory, 30 & 31, Saint Swithin's-lane, London, E.C. (Telephone No. 1161, Central.)
Klamet, A., electrical & mechanical engineer, 13, Eastdown-park, Lewisham, London, S.E. (Teleph. No. 250, Lee Green.)
Klucker Manufacturing Co., switchgear & controller makers, 138, Southwark-st., London, S.E. (Telegs.: "Widerstand, London." Teleph. Central 5172.)
Knap, C., & Co., Ltd., water-tube steam boiler makers, 11, Queen Victoria-street, London, E.C. (Telegrams: "Conrad, London.")
Knatchbull-Hugessen, Hon. C. M., director North-West London Railway Co., 12, New-ct., Lincoln's Inn, W.C.
Knight, Alfred W., electrician, Cuckfield & Station Iron Works, Market-pl., Hayward's Heath, Sussex. (Telegrams: "Ironmongery, Cuckfield.")
Knight, Frederick Arthur, A.I.E.E., 4, Reedville, Birkenhead.
Knight, J. Douglas, A.M.I.C.E., M.I.E.E., M.I.MECH.E., consulting & borough electrical engineer to the Corporation of Ealing Electric Light Station & Town Hall, Ealing, London, W. (Telegs.: "Knight, Town Hall, Ealing, W." P.O. Teleph. Ealing 307.)
Knight, O. C., electrical engineer, 54, Barwick-st., Birmingham.
Knight & Co., electric light engineers, 36, Terminus-rd., Eastbourne.
Knight & Farr, electrical engineers, 25, Mansfield-rd., Nottingham.
Knocker, L. C., A.M.I.E.E., Castle Hill House, Dover.
Knollys, The Right Hon. Lord, G.C.B., &c., St. James's Palace, S.W. Director Great Northern & City Railway Co.; director Central London Railway Co.
Knowledge & Illustrated Scientific News (monthly; 1*s.* net; ann. sub., 14*s.* 6*d.*), 27, Chancery-lane, London, W.C. (Telegs.: "Africanism, London." Teleph. Holborn 121; & Central 1571.)
Knowles, C. E., A.I.E.E., A.M.I.C.E., resident engineer, Urban Electric Supply Co., Ltd., Glossop.
Knowles, C. S., electrical accessory manufacturer, 7, Victoria-st., Westminster, S.W. (Telegs.: "Sevenarch, London.")
Knowles, F. C., A.I.E.E., 21, Benthal-rd., Stoke Newington, London, N.
Knowles, H. B., M.A. (Oxon.), Principal of the Royal Technical Institute, Salford.
Knowles, John T., trade marks registration agent, 11 & 12, Southampton-bldgs., London, W.C. (Telegrams: "Junkring, London." Telephone No. 893, Holborn.)

Knox, John, & Co. (J. Mellings), contractors' plant makers & dealers in screws, engineers' tools, &c., 210, Upper Thames-st., London, E.C. (Telegrams: "Knox, London." Telephone No. 958, Bank.)

Knox, W., & Sons, engineers, Bridge, Douglas, Isle of Man.

Knudsen, K. C., A.M.I.E.E., 15, St. Helens-pl., London, E.C.

Koenigs, H., & Co., telegraph wire manufacturers, 38, Lime-st., London, E.C. (Telegrams: "Bamboo, London." Telephone No. 4270, Avenue.)

Koerber, J. A., manufacturing electrician & electrical engineer, 44, Frith-street, Soho, London, W.

Koettgen, Carl, M.I.E.E., "Ceres," Sundridge-ave., Bromley, Kent.

Kohler Bros., contracting electrical engineers, 56, Ludgate Hill, London, E.C. (Telegs.: "Kohlerical, London." Teleph. No. 13198.)

Kolar Mines Power Station, Ltd., 6, Queen-st.-pl., London, E.C. (Teleph. No. 828, Bank.) Registered Sept. 11, 1903. Nominal capital: £55,000 in £1 shares, all issued; 30,000 fully paid & 25,000 with 16s. per share paid. Directors: Capt. W. B. M'Taggart (chairman); Lord Ribblesdale; J. D. Rees, Esq., C.V.O., C.I.E., M.P.; J. Taylor, Esq., M.INST.C.E.; E. Taylor, Esq. Secretary, J. H. Wood. Dividends: 1905–06, 1906–07, 1907–08, 1908–09, 10 per cent.

Kolle, H. W., A.M.I.C.E., M.I.E.E., Egremont House, Tulse Hill, London, S.W.; & c/o Babcock & Wilcox, Ltd., Oriel House, Farringdon-st., London, E.C. (Telegs.: "Kolle, c/o Babcock, London." Teleph. No. 5540, Holborn.)

Koppel, Arthur, manufacturer of electric locomotives, 27, Clements-lane, London, E.C. (Telegs.: "Alighting, London." Teleph. Nos.: 5724, Avenue; & 9953, London Wall.)

Korting Bros., Ltd., condenser makers, 53, Victoria-st., London, S.W. (Telegrams: "Korting, London." Telephone No. 49, Victoria.)

KORTING & MATHIESEN, LTD., c/o Union Electric Co., Ltd., Park-st., Southwark, London, S.E. (Telegs.: "Abeam, London.")

Krall, Reginald, & Co., engineers, Maxwell House, Arundel-st., Strand, London, W.C. (Telegs.: "Krallinald, London." Teleph. No. 11488, Central.)

Krasa, F., & Co., makers of porcelain insulators, bobbins, pushes, &c., 7, Wood-st.-sq., London, E.C. (Telegrams: "Krasa, London." A.B.C. Code used. Telephone No. 1982, Central.)

Krause, R. Howard, M.I.E.E., Comberton Hall, nr. Kidderminster.

Kray, Max, & Co., glass manufacturers, 70 & 71, Chiswell-st., London, E.C. (Telegs.: "Biheller, London." A.B.C. Code, 5th edit. Teleph. London Wall 1597; & Central 13955.)

Krieger Electric Carriage Synd., Ltd., 48A, Gillingham-st., Eccleston-st., London, S.W. (Telegs.: "Silencieux, London." Teleph. Gerrard 6817; & Victoria 2723.)

Krupka & Jacoby, electrical engineers, contractors to H.M. Government, &c., 11, Queen Victoria-st., London, E.C. (Telegs.: "Acromion, London." Teleph. No. 367, Bank.)

Kuhl & Vogt, electrical engineers, 5, Chester-rd., Anfield, Liverpool.

Kuhn, Ernst, brass & copper wire manufacturer, 7, Savage-gardens, London, E.C.

Kühner, Henderson & Co., suppliers of electrical material, &c., Salisbury House, London Wall, London, E.C. (Telegs.: "Kühner, London." A.B.C., 4th & 5th edit., A1 & Lieber's Codes used. Teleph. No. 6789, Central.)

Kuner, J. A., electrical & motor engineer, Crouch-st., Colchester. (Teleph. No. 164.)

Kyle, J. Archibald, electrical engineer, 29, The Vineyard, Richmond, Surrey.

La Capital (Extensions) Tramways Co., Ltd. (operating in Buenos Ayres), 62, London Wall, London, E.C. *In voluntary liquidation.* Joint liquidators, E. A. Lazarus & Fortescue Thursby.

La Capital Traction & Electric Co., Buenos Aires, Ltd., 62, London Wall, London, E.C. *In voluntary liquidation.* Joint liquidators, E. A. Lazarus & Fortescue Thursby.

La Capital Tramways Co., Ltd. (operating in Buenos Ayres), 62, London Wall, London, E.C. (Teleph. No. 1022, London Wall); & Avenida de Mayo 761, Buenos Ayres. *In voluntary liquidation.* Joint liquidators, E. A. Lazarus & Fortescue Thursby.

La Plata Electric Tramways Co., Ltd., 52, Moorgate-st., London, E.C. Registered Feb. 4, 1909. Nominal capital: £450,000 in 200,000 preference & 250,000 ordinary shares of £1 each. Trust deed, dated May 26, 1909, to secure £30,000 5 per cent. debenture stock.

Lacey, Ernest M., M.I.C.E., M.I.MECH.E., M.I.E.E, consulting electrical engineer, Iddesleigh Mansions, Caxton-st., Westminster, London, S.W.

Lacey, F. W., M.I.C.E., F.R.I.B.A., M.I.E.E., borough & tramway engineer, Municipal-bldgs., Bournemouth. (Teleph. No. 233.)

Lacey, Sillar & Leigh, consulting engineers, 78, King-st., Manchester (Telegs.: "Advisory, Manchester." Teleph. No. 2109); & Iddesleigh Mansions, Caxton-st., Westminster, S.W. (Telegs.: "Advisedness, London." Teleph. Victoria 2776 & 76.)

Lackie, William W., M.I.C.E., M.I.E.E., electrical engineer, Corporation Electricity Works, 75, Waterloo-st., Glasgow. (Telegs.: "Ampere, Glasgow." Teleph. Nos.: 936 & 1304, Argyle, Nat.; & 834 835 & 844, Central, P.O.)

Lacombe & Co. *See* Le Carbone.

Lacre Motor Car Co., The, specialists in electrical appliances for motor cars, 1–5, Poland-st., Soho, London, W. (Telegs.: "Unbaffled, London." Teleph. No. 2308, Gerrard (4 lines).)

Lacy, Howard, electrical engineer, 6, Eccleston-pl., London, S.W. (Telegs.: "Ecclavian, London." Teleph. Victoria 1929.)

Lacy & Co., electrical engineers, Eccleston-yard, Eccleston-pl., London, S.W. (Tel. No. 1929, Victoria.)

Lacy-Hulbert & Co., Ltd., manufacturers of air compressors, vacuum pumps, &c., 91, Victoria-st., S.W. (Telegs.: "Percussive, London." Teleph. No. 944, Victoria); & Boreas Works, Beddington.

Lagerwall, Richard, managing director Phosphor-Bronze Co., Ltd., 87, Sumner-st., London, S.E. (Telegs.: "Phosbronze, London." Teleph. Hop. 557.)

LAHMEYER ELECTRICAL CO., LTD., ELECTRIC LIGHT, POWER & TRACTION ENGINEERS, manufacturers of generators, motors, transformers, controllers, switchboards & cables, 109–111, New Oxford-st., London, W.C. (Telegs.: "Drehstrom, London." Teleph. Nos. 133 & 134, Gerrard.)

Laidlaw, E. A., A.M.I.E.E., 11, Queen's-rd., Leytonstone, Essex.

Laidler, James, & Son, electricians, 83, New Elvet, Durham. (Telegs.: "Laidler, Durham." Teleph. No. 200.)

LAIDLER, RITCHIE & CO., LTD., electrical & mechanical engineers, Nutsford Vale Works, Longsight, Manchester. (Telegs.: "Laidler, Manchester." Teleph. No. 4197, Nat.)

Laing, G. O., electrical engineer, Hexham & District Electric Supply Co., Ltd., Hexham.

Laing, Wharton, Ltd., manufacturing electrical engineers & contractors, street lighting fittings, time switches, incandescent lamps, petrol & paraffin engines, 7, Great Newport-st., St. Martin's-lane, London, W.C. (Telegs.: "Lunarian, London." Teleph. Gerrard 3278.)

Lake, A., electric bell fitter, Old Fore-st., Sidmouth.

Lake, F., dealer in electrical plant & sundries, 132, Upper Thames-st., London, E.C. (Teleph. Bank 5726.)

Lake, G. H., assistant engineer, Corporation Electricity Works, Derby.

Lamb, A. Ramsay, district manager, National Telephone Co., Ltd., Greenock, N.B. (Telegrams: "National Telephone, Greenock." Telephone No. 1.)

Lamb, Chas., A.M.I.E.E., Corporation Electricity Works, Dundee.

Lamb, C. G., M.A., B.SC., A.M.I.E.E., lecturer in applied electricity, Engineering Laboratory, Cambridge.

Lamb, Ernest H., A.I.E.E., electrical engineer & telephone contractor, 37, King William-st., London, E.C. (Telegs.: "Lamblike, London." Nat. Teleph. No. 168, Bank.)

Lamb, Geo., lighting inspector to the Corporation, Newcastle-on-Tyne.

Lamb, Harry, A.M.I.E.E., Corporation Electricity Works, Stuart-st., Manchester.

Lamb, J., wiring contractor, Mill-rd., Yarmouth.

Lamb, James, electrical engineer, Strathern House, Crieff.

Lamb, J. F., A.M.I.E.E., superintending engineer, P.O. Telegraphs, Eastern District, Cambridge.

Lamb, Sir John C., C.B., C.M.G., director West India & Panama Telegraph Co., Ltd., Dashwood House, New Broad-st., E.C.

Lamb, Joseph P., & Co., lightning conductor manufacturers, 1, Park-lane, Liverpool.

Lambert, Ernest A., A.M.I.E.E., engineer, Coast Development Corporation, Ltd., Walton-on-Naze, Essex.

Lambert, J., M.I.E.E., resident electrical engineer & tramways manager, Corporation Electricity Works, Perth. (Teleph. No. 101.)

Lambert, R., switch block & electrical case maker, Mansfield-rd. Cabinet Works, Oak-lane, Bradford.

Lambert Bros., manufacturers of wrought iron tubes, &c., Alpha Tube & Fitting Works, Walsall.

Lambert, J. A., & Co., electricians, 67, Gainsborough-rd., Wavertree, Liverpool.

Lambert & Sons, wiring contractors, Broad-st., Bath. (Teleph. 14 Y 3).

Lambeth Brass & Iron Co., Ltd., mechanical engineers, 91 & 93, Southwark-st., London, S.E. (Telegrams: "Diaphragm, London." Telephone No. 9804, Central); & at Walsall, Staffs.

Lammond, J., & Son, electric light contractors, 32, Market-st., Brechin.

Lampard, Percy, A.M.I.E.E., "Holmdale," Cecil-rd., Cheam, Surrey.

Lampen & Co., electrical engineers, Railway Works, & Kirkgate, Wakefield.

Lanarkshire Steel Co., Ltd., steel makers, Motherwell, N.B.

Lanarkshire Tramways Co. (late Hamilton, Motherwell & Wishaw Tramways Co.), 83, Cannon-st., E.C.; & Motherwell, N.B. (Telegs.: "Tramways, Motherwell." Teleph. Motherwell 64; & London Wall 135, London.) Nominal capital: £596,000 in £10 ordinary shares & £173,000 debentures. Issued: £343,000, all fully paid, & £30,400 debentures. Directors: A. R. Monks, Esq. (chairman); H. C. Levis, Esq.; W. H. Whaite, Esq.; J. F. Nauheim, Esq.; Sir Bache E. Cunard, Bart.; G. Franklin, Esq. Secretary, A. Clements; electrical engineer, G. F. Moller, A.M.I.E.E. Dividends: June, 1907, 5½ per cent.; Dec., 1907, 6 per cent.; June, 1908, 6 per cent.; Dec., 1908, 6 per cent.; June, 1909, 5½ per cent.

Lanaway, R. S., electric bell manufacturer, Church-rd., Burgess Hill, R.S.O., Sussex.

LANCASHIRE DYNAMO & MOTOR CO., LTD., electrical engineers. Head office & works: Trafford Park, Manchester (Telegs.: "Ironclad, Manchester." Teleph. Central 6430, 6431 & 6432); Victoria Mansions, 28, Victoria-st., London, S.W. (Telegs.: "Umformer, London." Nat. Teleph. No. 839, Westminster); Caledonian-chbrs., 87, Union-st., Glasgow (Telegs.: "Ironclad, Glasgow." Nat. Teleph. No. 1404, Royal); Star-bldgs., Northumberland-st., Newcastle-on-Tyne (Telegs.: "Ironclad, Newcastle." Teleph. No. 1923); Prudential-bldgs., St. Mary-st., Cardiff (Telegs.: "Dynamo, Cardiff." Nat. Teleph. No. 1024); & 3, New-st., Birmingham. (Telegs.: "Generator, Birmingham." Teleph. No. 4406, Central.) *See advt.*, TRANSMISSION OF POWER—ELECTRIC.

Lancashire Electric Power Co., 196, Deansgate, Manchester. (Telegs.: "Phase, Manchester." Teleph. Nos. 6595 & 5990.) Incorporated by special Acts of Parliament, 1900, 1904 & 1906. Nominal capital: £3,000,000 in £10 shares. Directors: H. F. Parshall, Esq. (chairman); T. O. Callender, Esq.; E. A. Carolan, Esq.; F. E. Gripper, Esq.; Sir Robt. A. Hampson; I. Lever Rushton, Esq.; John Young, Esq. Engineer & manager, C. D. Taite, M.I.E.E.; secretary, T. E. Kay, F.C.I.S.

Lancashire Electrical Engineering Co., Ltd., Volt Works, Old-st., Ashton-under-Lyne. (Telegrams: "Volt, Ashton-under-Lyne." Telephone No. 172, Ashton-under-Lyne.) Registered April 19, 1898. Nominal capital: £5000 in £1 shares. 1883 shares have been taken up; £1834 is considered as paid. Director: J. McDermott, Esq., J.P. (chairman).

Lancashire Light Railways Co., Ltd., Atherton, Lancs. (Telegs.: "Tramways, Atherton." Teleph. No. 36, Atherton.) Registered April 21, 1898. Capital: £50,000 in £1 shares. 49,367 shares issued fully paid. A mortgage or charge, stamped to cover £9000, has been registered. Directors: Hon. Arthur Stanley, M.P. (chairman); J. Beecham, Esq.; J. M. Henderson, Esq., M.P.; A. Adam, Esq.; R. Watson, Esq.; J. S. Austen, Esq. Engineer, J. R. Salter, A.M.I.M.E., M.I.E.E.; secretary, H. P. Conibear.

Lancashire Power Construction Co., Ltd., 196, Deansgate, Manchester. (Telegs.: "Phase, Manchester." Teleph. 5990 & 6595.) Registered April 29, 1903. Nominal capital: £180,000 in £10 "A" shares & £120,000 in £10 "B" shares. Issued: 18,000 "A" with £10 paid & 10,336 "B" £10 paid, £150,000 5 per cent. first mortgage debenture stock, secured by trust deed dated Nov. 26, 1908. Directors: H. F. Parshall, Esq. (chairman); Sir Robt. Hampson; J. L. Rushton, Esq.; John Young, Esq.; F. E. Gripper, Esq.; T. O. Callender, Esq.; E. O. Carolan, Esq. Engineer, C. D. Taite; secretary, T. E. Kay.

Lancashire United Tramways, Ltd., Atherton, Lancs. (Telegs.: "Tramways, Atherton." Teleph. No. 36.) Registered Dec. 29, 1905. Nominal capital: £200,000 in £1 shares. Nominal loan capital: £300,000 prior lien debenture stock, £300,000 second debenture stock & £100,000 deferred debenture stock. Directors: Hon. Arthur Stanley, M.P. (chairman); J. M. Henderson, Esq., M.P.; A. Adam, Esq.; J. Beecham, Esq.; R. Watson, Esq.; J. S. Austen, Esq. Secretary, H. P. Conibear; general manager, J. R. Salter, M.I.E.E.

Lancashire Watch Co., Ltd., electric bells, batteries, non-magnetic watches, &c., Prescot, Lancs.; & Bath House, 57/60, Holborn Viaduct, London, E.C. (Telegs.: "Watch, Prescot;" "Watchhouse, London." Teleph. Nos.: Nat. 185, Prescot; & P.O. 2895, Central, London.) Registered March 13, 1897. Capital: £200,000 in £10 shares.

Lancashire & Yorkshire Private Telephone Co., Ltd., Branch-ave., Batley (Telegs.: "Burlinson, Batley." Teleph. No. 82); & 52, 53, 54 & 61, Trevelyan-bldgs., Manchester. (Teleph. No. 7285.) H. Verity, secretary.

Lancashire & Yorkshire Railway Co. (electrical portion, Liverpool–Southport), Hunt's Bank, Manchester. Engineer, G. Hughes.

Lancaster, E. W., A.M.I.C.E., M.I.E.E., 12, Upper Thames-st., London, E.C. (Teleph. No. 11921, Central); & Eliot Bank, Sydenham Hill, S.E.

Lancaster Corporation Electricity Supply. Works: Marton-st., Lancaster. (Telegs.: "Tester Electricity Works, Lancaster." Teleph. No. Corp. 1 L.) Chairman, Councillor James Heald; borough electrical & tramways engineer, W. A. Tester, M.I.E.E.

Lancaster Electrical Fittings Co., 8, Great John-st., Lancaster; & 100, Lancaster-rd., Morecambe. A. Taylor, manager.

Lancaster, Jas., & Son, electrical instrument makers, 275, Broad-st., Birmingham. (Telegs.: "Lankster, Birmingham." Teleph. No. 216.)

Lancaster & Tonge, Ltd., engineers, steam trap & piston makers, Pendleton, Manchester. (Telegrams: "Pistons, Manchester." Telephone No. 559.)

Lance, H. Willoughby, electrical, automobile & general engineer, 16, Lloyd-st., Llandudno. (Telegs.: "Lance, Llandudno." Teleph. Nos. 36 & 4 X.)

Lanchester Motor Co., Ltd., electrical engineers, Radix Works, Montgomery-st., Birmingham. (Telegs.: "Motivity, Birmingham." Teleph. Victoria 213 (2 lines).)

Land, S. T., A.M.I.E.E., Electricity Works, Rathmines, co. Dublin.

Land, T., & Son, enamelled conduits for interior wiring, 73, Robertson-st., Glasgow. (Telegs.: "Nail-head, Glasgow." Nat. Teleph. No. 626, Argyle.)

Land-und-Seekabelwerke Aktiengesellschaft, Cöln-Nippes, Germany. London agents: R. W. Grant & Co., 20, St. Dunstan's Hill, Eastcheap, E.C.

Landenberger & Co., electric clocks, 91, Aldersgate-st., London, E.C. (Teleph. No. 6615, P.O.)

Lander, T. E., 144, St. Vincent-st., Glasgow. Director British Electric Plant Co., Ltd.

Lander & Larsson, metal merchants, 164, Edmund-st., Birmingham. (Telegs.: "Lander, Birmingham." Teleph. No. 676. A.B.C., Lieber's & Private Codes.)

Landon, Will de Manôel, A.M.I.E.E., consulting electrical engineer, Green Bank, West Timperley, Cheshire.

Lane, W. E., A.M.I.E.E., hon. secretary, Electro-Harmonic Society, Finsbury Pavement House, London, E.C. (Teleph. Central 3569.)

Lang, C. H. D., A.M.I.E.E., 14, Greencroft-gdns., South Hampstead, N.W.

Lang, Wm., A.I.E.E., 18, Louis-st., New Leeds, Leeds.

Lang, John, & Sons, makers of lathes, engineers' tools, &c., Johnstone, nr. Glasgow (Telegs.: "Lang, Johnstone." Teleph. No. 12); & 149, Bishopsgate-st. Without, London, E.C.

Langbein Pfanhauser Works, Ltd., electro-plating outfit & dynamo makers, 18, 24 & 26, Constitution Hill, Birmingham. (Telegs.: "Langbein, Birmingham." A.B.C. Code, 5th edit. Telephone Central 6347.)

Langdon, G., electrical engineer, Callender's Cable & Construction Co., Ltd., Hamilton House, Victoria Embankment, London, E.C.

Langdon-Davies, C., electrical engineer & electrician, 12, Dennington Park-rd., London, N.W.

LANGDON-DAVIES MOTOR CO., LTD., SOUTHWARK WORKS, DEVERELL-ST., LONDON, S.E. Single-Phase, Polyphase & Continuous Current Electro Motors. F. B. O. Hawes, A.M.I.C.E., A.I.E.E., managing director. (Telegs.: "Damophon, London." Teleph. Hop. 4277 (2 lines).) Registered Jan. 20, 1905. Nominal capital: £5000, divided into 4195 shares of £1 each & 16,100 shares of 1s. each. 2507 shares of £1 each have been taken up, & 16,100 shares of 1s. each have been issued as fully paid. £5000 debentures issued. Directors: F. B. O. Hawes, A.M.I.C.E, A.I.E.E. (chairman); A. W. Cree, Esq.; F. W. Hartmann, Esq., A.M.I.E.E.; E. Yatman, Esq. Secretary, W. R. Sidwell.

Langdon-Davies Motors (Canada), Ltd., Southwark Works, Deverell-st., London, S.E. (Telegs.: "Damophon, London"); & 15, Alice-st., Toronto. Registered Sept. 12, 1907.

Lange, F. M. T., M.I.M.E., A.M.I.C.E., C.E. (Paris), M.H.V.E., 29, Red Lion-st., Clerkenwell, London, E.C. (Telegs.: "Egnaldom, London." Teleph. No. 2162, Holborn.)

Lange, Philip A., M.I.E.E., M.AM.I.E.E, M.AM.S.M.E., general manager of works, British Westinghouse Electric & Manufacturing Co., Ltd., Trafford Park, Manchester.

Langford, H. L., chief electrical engineer, Baldwin's, Ltd., Kenfig Hill, nr. Bridgend.

Langford, T. H., B.SC., A.M.I.E.E., 20, Lambourn-rd., Clapham, London, S.W.

Langford, W., engineer & general manager, Gas & Electric Light Works, Longton, Staffs. (Telegs.: "Gas Works, Longton." Teleph. No. 13.)

Langlois, T., & Co., electrical engineers, 31, Bordage-st., Guernsey. (Teleph. Nos. 2329A & 2329.)

Langston-Jones, R., & Co., electrical engineers, High-st., Teddington. (Teleph. No. 269, Kingston.)

Langton, Saml., & Sons, makers of castings, &c., Mersey Brass Works, Stockport. (Teleph. No. 957.)

Lankester & Son, Ltd., electric light engineers & contractors, 136, High-st., Southampton. (Teleph. Nos. 140 & 339.)

Lanng, V. R., superintendent, Great Northern Telegraph Co., Ltd., Aberdeen.

Lant, Geo., & Sons, makers of switch boards & ceiling blocks, Stanley-st., Wicker, Sheffield. (Teleph. No. 21 X. 3.)

Lappin, A., testing superintendent, Corporation Electricity Department, 33, Swan-rd., Harrogate.

La Reina de Plata, Ltd., 62, New Broad-st., London, E.C. Registered March 7, 1905. Nominal capital: £30,000 in 24,000 £1 ordinary shares & 6000 £1 preference shares. Issued: 23,770 ordinary shares & 3087 preference shares. Directors: G. Cheston, Esq.; F. Millington Hare, Esq.; W. Fraser, Esq.; T. J. Knight, Esq.; G. Elliott, Esq., K.C.

Larke, W. J., M.I.E.E., A.M.AM.I.E.E., A.M.I.MECH.E., c/o British Thomson-Houston Co., Ltd., Rugby.

Larkin, Thomas J., M.I.E.E., Reculver Villa, Beltinge, Herne Bay, Kent.

Larkins, Wm., lightning conductor erector, 18, Alfred-st., Bow, London, E.

Larkins, C., & Co., Ltd., electrical & general engineers, Bush Lane House, Bush-lane, Cannon-st., London, E.C. (Teleph. Central 2369.)

Larkman, Alfred E., A.I.E.E., 78, High-st., Southampton.

Larmuth, T., & Co., Ltd., makers of machinery for electric & telephone wires & cables, Salford, Manchester. (Telegs.: "Hirnant, Manchester." Teleph. No. 956.)

Larne Electric Light Works, Ltd., Suffolk House, Laurence Pountney-hill, London, E.C. Registered Feb. 24, 1896. Nominal capital: £4000 in £1 shares (500 preference). All the ordinary & preference have been taken up & considered as fully paid. Directors: P. A. Scratchley, Esq.; J. D. A. Norris, Esq. Engineer at Larne, M. G. Smyth, A.M.I.E.E.; secretary, A. H. Tucker.

Larner, E. T., A.I.E.E., 80, Lansdown-rd., Seven Kings, Ilford, E.

Lascelles, R., & Co., Ltd., electrical apparatus manufacturers.

Lassen & Hjort, makers of water softeners, 52, Queen Victoria-st., E.C. (Telegrams: "Tentwort, London." Telephone No. 4369, Central.)

Latch & Batchelor, Ltd., steel makers, wire drawers & wire rope makers, Hay Mills, nr. Birmingham (Telegrams: "Latch, Hay Mill." Telephone No. 3338); & at Avon Steel Works, Sheffield.

Latham, P. W., M.D., Trumpington-st., Cambridge. Director Cambridge Electric Supply Co., Ltd.

Latimer, Frederic Digby, A.M.I.E.E., Engineer-in-Chief's Department, National Telephone Co., 26, Cooper-st., Manchester.

Lauderdale, The Right Hon. the Earl of, Thirlestane Castle, Lauder, N.B. Chairman Great Northern & City Railway Co.

Laughton, E. C., electrical engineer, 16, Old-bldgs., Lincoln's Inn, London, W.C. (Teleph. No. 1143, P.O., City.)

Laurence, Reginald, A.M.I.C.E., director of Laurence, Scott & Co., Ltd., Gothic Works, Norwich.

LAURENCE, SCOTT & CO., LTD., Electrical Engineers, manufacturers of Continuous Current Generators & Motors, Adjustable Speed Motors for Machine Tools, Crane Motors & Controllers, &c., Gothic Works, Norwich. (Telegs.: "Gothic, Norwich." Nat. Teleph. No. 246. Codes used: A.B.C., 4th & 5th edits., Engineering, 2nd edit.) Reconstructed Dec. 24, 1896, with a capital of £50,000 in 4995 shares of £10 each & 50 founders' shares of £1 each.

Laurie, A. P., M.A., D.SC., principal Heriot Watt College, Edinburgh.

Laurie, P., power house superintendent, Cork Electric Tramways & Lighting Co., Ltd., Cork.

Laurie, T., & Co., electric lighting power & telephone engineers, West End, Falkirk, Scotland. (Teleph. No. 42.) *See advt., page* 19.

Laurie-Walker, G., B.A., A.M.I.E.E., electrical engineer, Elton Fold Works, Bury, Lancs.

Lavclaye, Ed. Fontaine de, director State of Bahia South-Western Railway Co., Ltd., 3, Salter's Hall-ct., Cannon-st., E.C.

Laverty, G., resident engineer & manager, Electricity Works, Hitchin.

Lavy, Horace, electrical engineer, 6, Maddox-st., London, W. (Teleph. Gerrard 8820.)

Law, A. Bonar, M.P., Kintillo, Helensburgh, N.B. Director The Traction & Power Securities Co., Ltd.; director Clyde Valley Electrical Power Co.; chairman Strathclyde Electricity Supply Co., Ltd.

Law, Alexander H., B.A., A.M.I.C.E., M.I.E.E., 16, Manor House-rd., Jesmond, Newcastle-on-Tyne.

Law, E., The Pavilion, Hampton Court Palace, Hampton Court. Director Metropolitan District Railway.

Law, G., electric tramways & public works contractor, Kidderminster. (Telegrams: "Law, Kidderminster." Telephone No. 61.)

Law, G. C., chief assistant electrical engineer, Electricity Works, Barnes.

Law, John Wm., A.M.I.E.E., West Cross, R.S.O., Glamorganshire.

Law Accident Insurance Society, Ltd., 215, Strand, London, W.C. (Telegs.: "Lifeguard, London." Teleph. Nos. 135 & 140, Holborn.)

Law, J. & A., arc lamp post makers, Rae-st., Glasgow. (Telegs.: "Cast-iron, Glasgow." Tel. Royal 1134.)

Law, S., & Sons, Ltd., wire drawers & manufacturers, Moorland Mills, Cleckheaton, Yorks. (Telegrams: "Law, Cleckheaton.")

Lawler, J. E., & Muirhead, engineers & agents, 39, Lime-st., London, E.C. (Telegs.: "Jimcrow, London." Teleph. Nos.: 11280, Central; & 2800, Avenue.)

Lawless, Louis J., A.I.E.E., 27, Castlewood-ave., Rathmines, Dublin.

Lawrance, N. McL., A.I.E.E., 82, Cambridge-ter., Hyde Park, W.

Lawrance, W. J., ivory & wood turner in electrical small work, 14, Farringdon-rd., London, E.C.

Lawrence, James, director of Spagnoletti, Ltd., Goldhawk Works, Goldhawk-rd., W. (Teleph. No. 181, Hammersmith); & 11, The Avenue, Bedford Park, W.

Lawrence, Julius Pierpoint, A.M.I.M.E., A.M.I.E.E., The Foundry, Knaresborough, Yorks. (Telephone No. 5 X.)

Lawrence, Sir W. R., Bart., G.C.I.E., 22, Sloane-gdns., S.W. Director Siemens Bros. & Co., Ltd.

Lawrence, W., director Kingswood Electric Supply Co., Ltd., All Saints' Works, The Exchange, Bristol.

Lawrence Patent Water Softener & Sterilizer Co., Ltd., 34, Victoria-st., Westminster, London, S.W. (Telegs.: "Sterility, London." Teleph. No. 1083, Victoria.)

Lawrie, J., station superintendent, Corporation Electricity Works, Paisley.

Lawry, H., Ltd., installation contractors, Old Town-st., Plymouth.

Lawson, A. J., M.I.C.E., civil & consulting engineer, 4, Adelphi-ter., London, W.C.

Lawson, J., electrical contractor, 24, High-row, Darlington.

Lawson, J., & Sons, electrical engineers, Commercial-st., Brighouse.

Layborn, Daniel, & Co., iron, steel, metal & tinplate merchants, Dutton-st., Liverpool. (Telegrams: "Laypat, Liverpool." Telephone No. 499.)

Laye, A. H. W., director International Ethiopian Railway Trust & Construction Co., Ltd., 34, Clements-lane, London, E.C.

Layton, A. B., A.M.I.E.E., c/o Jos. Crosfield & Sons, Ltd., Warrington.

Layton, Gordon, A.I.E.E., A.AM.I.E.E., electrical engineer, Carlisle House, Great Warford, Knutsford, Cheshire.

Layton, J., electrical engineer, Corporation Electricity Works, Tucker-st., Canning Town, London, E. (Teleph. East 865.)

Lazarus, E. A., chairman La Capital Tramways Co., Ltd.; director Anglo-Argentine Tramways Co., Ltd., 62, London Wall, E.C.

Lazarus, J. S., A.M.I.E.E., Electric Light & Power Station, Brynamman, Carmarthen.

Lazenby, Arthur, M.I.E.E., c/o Willans & Robinson, Ltd., Victoria Works, Rugby.

Lea, A. H., M.I.M.E., A.I.E.E., Glenroy, Kettering.

Lea, Frank J., A.I.E.E., consulting electrical engineer, Silverdale, The Mount, Shrewsbury. (Telegs.: "Lea, Silverdale, Shrewsbury." Teleph. No. 125.)

Lea, Fred M., A.M.I.C.E., M.I.MECH.E., M.I.E.E., 38, Bennett's Hill, Birmingham.

Lea, Henry, M.I.E.E., M.I.C.E., M.I.M.E., 38, Bennett's Hill, Birmingham. (Telegrams: "Engineer, Birmingham." Telephone No. 113.)

LEA, HENRY, & SON, consulting & electrical engineers, 38, Bennett's Hill, Birmingham. (Telegrams: "Engineer, Birmingham." Telephone No. 113.)

Lea & Perrins, manufacturers of electric light fittings, Midland Works, Bracebridge-st., Birmingham. (Telephone No. 3260.)

Lea Recorder Co., 28, Deansgate, Manchester. (Telegs.: "Recording, Manchester." Teleph. City 5040.)

LEA, SON & CO., LTD., electrical engineers & manufacturers of electroliers, switchboards & electrical accessories, Pengwerne Works, Shrewsbury (Telegs.: "Lea, Son, Shrewsbury." Teleph. No. 60); & St. Mary's Walk, Stafford. (Telegs.: "Lea, Son, Stafford." Teleph. No. 1 Y.)

Lea & Warren, electrical & general engineers, Glenroy Works, Kettering. (Telegs.: "Lea Warren, Kettering." Teleph. No. 1 Y., Kettering.) London office: 7, Victoria-st., Westminster. (Teleph. No. 5608, Westminster.)

Leach, E. H., The Chestnuts, Newmarket. Director Newmarket Electric Light Co., Ltd.

Leach, H. L., M.I.E.E., consulting electrical engineer, 3, Victoria-st., London, S.W. (Telegs.: "Cornutam, London." Teleph. No. 1201, Victoria.)

Leach, R. B., A.M.I.E.E., A.M.I.M.E., electrical engineer, Urban District Council, Farnworth.

Leadbeater, Jas., A.M.I.E.E., Electricity Works, Farnworth, Lancs.

Leaf, Henry M., mechanical & electrical engineer & contractor, 47, Victoria-st., Westminster, S.W. (Telegrams: "Locksley, London." Telephone No. 653, Westminster.)

Leaf, Walter, 6, Sussex-pl., N.W. Chairman St. James' & Pall Mall Electric Light Co., Ltd.; chairman Central Electric Supply Co., Ltd.

Leage, Horace H., A.M.I.E.E., A. W. Pocklington & Co., 47, York-st., Westminster, London, S.W.

Leahy, C. E., electrical engineer, Church-street, Tralee.

Leake, H. C., A.M.I.C.E., A.M.I.E.E., electrical engineer, Spring Hill, The Downs, Altrincham.

Leake, H., & Co., wiring contractors, St. Anne's-on-Sea.

Leamington Spa Electricity Works. Midland Electric Light & Power Co., Ltd, proprietors. (Teleph. No. 92.) Engineer & manager, Percy Olver, A.M.I.E.E.

Leamington & Warwick Electrical Co., Ltd., Electrical Federation Offices, Kingsway, London, W.C.; & Power Station, Emscote-rd., Warwick. Capital authorized: £75,000 in £10 ordinary shares, £25,000 in £10 preference shares, & £100,000 loans. Issued: 6759 ordinary shares fully paid, 241 preference shares fully paid; £35,000 4½ per cent. debentures. Directors: E. Garcke, Esq. (chairman); J. W. Mann, Esq.; J. A. Lycett, Esq. Manager, R. L. McCulloch; secretary, B. Kingsford. Dividends: 1904, 5 per cent.; 1905, 4 per cent.; 1906 & 1907, 4 per cent.

Learoyd, Vivian B., consulting & electrical engineer, 32, Byram Arcade, Huddersfield.

Leask, A. R., consulting engineer, 11, Crescent, Minories, London, E.C. (Telegrams: "Polygram, London.")

Leather, J. H., Normansleigh, Minehead. Chairman Minehead Electric Supply Co., Ltd.

Leatherhead & District Electricity Co., Ltd., 28, Victoria-st., Westminster, S.W.; & Leatherhead, Surrey. (P.O. Teleph. No. 6.) Registered June 26, 1901. Nominal capital: £35,000 in £1 shares. Issued: £34,200. Directors: P. Ralli, Esq. (chairman); S. H. Cook, Esq.; G. E. S. Venner, Esq. Consulting engineers, Handcock & Dykes; electrical engineer, H. L. Dixon, A.M.I.E.E.; secretary, G. E. S. Venner, F.C.I.S. Dividends: 1907, 2 per cent.; 1908, 3 per cent.

Leather's Chemical Co., Ltd, acid manufacturers, North Brook Vitriol Works, Bradford, Yorks. (Telegs.: "Leather, Bradford." Teleph. No. 1012.)

Leaver, J. J., ironmonger & electrician, 30, High-st., Weston-super-Mare. (Telegrams: "Leaver, Ironmonger, Weston-super-Mare." Telephone No. 63.)

Le Bas, Edward, & Co., iron, steel & metal, Dock House, Billiter-st., London, E.C. (Telegs.: "Gramercy, London." Teleph. Nos.: 1414, Avenue; & 1414, Central. A1, A.B.C., Lieber's & Western Union Codes.)

Leber, J., press & press tool maker, Kingsbury-rd., Ball's Pond, London, N.

Le Breton, W. J., director Bombay Hydro-Electric Synd., Ltd., 210–16, Gresham House, London, E.C.

LE CARBONE (formerly Lacombe & Co.), Works, Levallois-Perret, PARIS, manufacturers of CARBONS & BATTERIES, 17, Water-lane, E.C. (Telegs.: "Lacombe, London." P.O. Teleph. No. 14671, Central.) *See* Dynamo Brushes & Dynamo Makers.

Le Clair, L. J., A.M.I.E.E, Monument-rd., Ayr, N.B.

Le Claire, August, electrician, 67, Praed-street, London, W.

Lechlade Electric Light & Power Co., Ltd., High-st., Lechlade, Gloucester. (Telegs.: "Nash, Lechlade.") Registered May 22, 1909. Nominal capital: £400 in £1 shares.

Ledward, A. P., director Brisbane Electric Tramways Investment Co., Ltd.

Ledward & Beckett, Ltd., mechanical engineers, 11, Tothill-st., London, S.W. (Telegs.: "Preferment, London." Teleph. No. 872, Victoria, P.O.)

Lee, A. E., electrical engineer, Rugby School Electricity Works, Dunchurch-rd., Rugby.

Lee, A. G., A.M.I.E.E., Engineering Department, Postal Telegraphs, Bolton.

Lee, A. M., electrical contractor, 28, Houndsditch, London, E.C.

Lee, Edwin, electrical engineer & wiring contractor, 111, Union-st., Torquay.

Lee, E. H., A.I.E.E., electrical engineer, 14, Thurlby-rd., West Norwood, London, S.E.

Lee, G. P., A.M.I.C.E., A.M.I.E.E., 8, Wheatlands-rd., Upper Tooting, London, S.W.

Lee, T. F., A.M.I.E.E., 12, Royal Mint, Tower Hill, E.C.

LEE, ARTHUR, & BROS., LTD., manufacturers of marble & slate slabs for electrical fittings, Hayes, Middlesex. (Telegrams: "Lee, Hayes, Middlesex." P.O. Telephone No. 11, Hayes. A.B.C. Code.) Factories & wharves: Hayes, Middlesex; & Cumberland-rd., Bristol.

Lee, Arthur, & Son, steel manufacturers, Bessemer-rd., Sheffield.

Lee, Charles, & Son, electric bell fitters, Stall-st., Bath.

Lee & Co., manufacturers of electric light fittings, 57, Theobald's-rd., London, W.C.

Lee, Fred, & Co., manufacturers of jewels for watches, for phonographs, electrical & telegraphic instruments, Dover-st., Coventry. (Telegs.: "Fred Lee, Coventry.")

Lee & Hunt, machine & engineers' tool makers, Arkwright Tool Works, Crocus-street, Nottingham. (Telegrams: "Lee, Nottingham." Telephone No. 246.)

Lee, Lawrence, & Son, electric bell fitters, 13 & 15, Great George-st., Liverpool. (Teleph. Royal 2406.)

Leech, S. G., M.I.E.E., electrical engineer, 91, York-st., Westminster, London, S.W.

Leech & Sinkinson, Ltd., Leeds, manufacturers of electric wire covering materials. (Telegs.: "Sinkinson, Leeds." Teleph. Nos. 855 & 860. A.B.C. 4th & 5th edit. & Lieber's Codes used.)

Leecla Watch Co., non-magnetic watches, 215, Old-st., Ashton-under-Lyne.

Leeds & Bradford District Electric Railways, Ltd., 14, Howick-pl., Victoria-st., S.W. Registered June 5, 1908. Nominal capital: £60,000 in £1 shares, of which 40,000 are preference shares. Engineers, S. Sellon & Partners; secretary, C. D. Simpson.

Leeds (City of) Electric Lighting Department, 1, Whitehall-rd., Leeds. (Telegs.: "Electricity, Leeds." Teleph. Nos.: 3525-6, Office; 2055, Works.) Engineer, H. Dickinson.

Leeds Copper Works, Ltd., Pontefract-rd., Leeds. (Telegs.: "Tubes, Leeds." Teleph. 4360 (2 lines).)

Leeds Corporation Tramways. (Telegrams: "Tramways, Leeds." Telephone Nos. 44, 1690 & 2011.) Electrical engineer, J. Burbridge.

Leeds Electric Co., Ltd., electric wire makers, 22, Park Cross-st., Leeds.

Leeds Forge Co., Ltd., manufacturers of Siemens acid open-hearth steel flat plates, &c., Leeds; & 108, Fenchurch-st., & 63, Queen Victoria-st., London, E.C. (Telegrams: "Vulpes, Leeds." Telephone Nos. 107 & 2593, Leeds.)

Leeds Local Section of the Institution of Electrical Engineers Chairman, W. M. Rogerson. H. Dickinson, hon. secretary, Corporation Electricity Department, Whitehall-rd., Leeds.

Leeds Technical School, Cookridge-st., Leeds. (Nat. Teleph. No. 3594.) *See* SCHOOLS.

Leefe, F. E., art metal worker & artistic fittings maker, 364, Goswell-rd., London, E.C. (Telegs.: "Leefregel, London." Teleph. No. 1926, Central.)

Leek Urban District Council Electricity Works, Leek, Staffs. Engineer, R. M. Carr, A.M.I.E.E.; assistants, A. Hemming, F. Minchin & F. Trafford.

Leeming, W. J., A.M.I.E.E., chief electrical engineer to the Electricity Department, Buxton.

Leeming, Wm. T., A.M.I.E.E., Booth-st.-chbrs., Booth-st., Ashton-under-Lyne.

Lees, Charles H., D.SC., F.R.S, A.I.E.E., professor of physics, East London College (University of London), Mile End-rd., London, E.

Lees, H., A.M.I.E.E., shift engineer, Electricity Works, Eastbourne.

Leese, W. F., 17, Carlton-rd., Ealing, London, W. Director Brompton & Kensington Electric Light Supply Co., Ltd.; director Rosario Electric Co.; chairman Costa Rica Electric Light & Traction Co.

Leeson, J. G., A.M.I.E.E., Sandown Villa, Princes-rd., Weybridge.

Le Feuvre, W. T., A.M.I.E.E., borough electrical engineer, Corporation Electricity Works, Bexhill. (Telephone No. 7.)

Lefeaux, Ernest, A.M.I.E.E., W. T. Henley's Telegraph Works Co., Gravesend.

Legg, F. G. I., electrical engineer, Spiers & Pond, Bridge House, 181, Queen Victoria-st., London, E.C.

Legg, John, & Sons, telephone contractors, Nelson-st., Swansea. (Telegrams: "John Legg, Swansea." Telephone No. 96.)

Leggat, John, A.I.E.E., c/o Scott & Leggat, Cardiff.

Leggat, J. F., & Co., electrical & general engineers, 20, Lanark-st., Dobbies-loan, Glasgow. (Teleph. Nos.: P.O. 4889, Central; Nat. 4889, Royal.)

Legge, W. A., assistant engineer, Corporation Electricity Works, Govan.

Legge, W. N., electrician-in-charge, Corporation Electricity Works, Southport.

Le Grand, W. H., A.M.I.E.E., c/o W. J. Le Grand, Blackwell, nr. Alfreton, Derbyshire.

Le Grand & Sutcliff, artesian well engineers, 125, Bunhill-row, London, E.C. (Telegrams: "Abyssinian, London." Telephone No. 1649, Central.)

Legros, Lucien Alphonse, A.I.E.E., Melbury, Clarendon-rd., Watford.

Lehmann, L., mica merchant, 68, Basinghall-st., London, E.C. (agent for Frankfort Mica Manufacturing Co.). (Telegrams: "Richtig, London." Telephone No. 2180, Central.)

Lehmann Bros. (late T. Lehmann), original maker of the B.A. standard screw threads, Hampshire Works, Station-rd. (nr. St. James-st. Station, G.E.R.), Walthamstow, London, N.E.

Leicester Corporation Electricity Works, Leicester. (Telegrams: "Gas, Leicester." Telephone Nos.: Offices, 433; Works, 788.) Engineer, Alfred Colson, M.I.C.E., M.I.E.E.; superintendent, J. E. M. Stewart.

Leicester Corporation Tramways, Leicester. Engineer, T. Robt. Smith.

Leicester Municipal Technical School, Leicester. *See* SCHOOLS, CLASSIFIED SECTION.

Leicestershire & Warwickshire Electric Power Co., 53, Temple-chbrs., Temple-ave., London, E.C. Acts obtained in 1902 & 1904. Nominal capital: £750,000, & borrowing powers, £250,000. Directors: Sir John Rolleston; C. Thomson, Esq. Secretary, G. D. Prince.

Leicestershire & Warwickshire Electric Power Syndicate, Ltd., 53, Temple-chbrs., Temple-ave., London, E.C. Registered Dec. 24, 1901. Nominal capital: £20,000 in £10 shares. £19,900 issued & £2250 debentures. Directors: B. Hurst, Esq. (chairman); H. Holloway, Esq.; M. Robinson, Esq. Secretary, G. D. Prince.

Leigh, B., A.M.I.E.E., British Westinghouse E. & M. Co., Trafford Park, Manchester.

Leigh, F. A. Cortez, M.I.E.E., consulting engineer (of Lacey, Sillar & Leigh), 78, King-st., Manchester.

Leigh Corporation Electrical Department, Leigh, Lancs. (Teleph. No. 48A.) Engineer & manager, A. T. Smith.

Leigh, Evan, & Son, machinery exporters, 19, James-st., Liverpool.

Leigh Technical School, Leigh. *See* SCHOOLS.

Leiper, A. D., superintendent of telegraphs, Aberdeen.

Leith, Alexander, & Co., electrical engineers, 10, Neville-st., Newcastle-on-Tyne.

Leith Corporation Electricity Works, Leith. Engineer, A. P. Rutherford, M.I.E.E. (Telegs.: "Ampere, Leith." Teleph. No. 230.)

Leitner, Hy., managing director Accumulator Industries, Ltd., Woking.

Le Maistre, C. D., A.M.I.C E., M.I.E.E., 28, Victoria-st., London, S.W.

Le Marchant, J. G., director Monte Video Telephone Co., Ltd., 325, Dashwood House, London, E.C.

Lemmens, G. J., engineer, 87, Victoria-st., London, S.W. (Telegs.: "Everectus, London." Teleph. No. 3020, Victoria.)

Lemon, John, & Son, electric bell fitters, Enniskillen, Ireland.

Leng, E., electrical engineer, 79, Percy-st., Newcastle-on-Tyne.

Lennard, J. Milner, Erimus-chbrs., Middlesbrough. Director Cleveland Trust, Ltd.

Lens Lamp Co., Ltd., incandescent electric lamp manufacturers, 7, Great St. Helens, London, E.C.

Leon, G. E., 1, Bank-bldgs., Princes-st., London, E.C. Director Yorkshire (West Riding) Electric Tramways Co., Ltd.

Leon, H. S., J.P., Bletchley Park, Bletchley, Bucks. Chairman Smithfield Markets Electric Supply Co., Ltd.; chairman Yorkshire (West Riding) Electric Tramways Co., Ltd.

Leonard, F. B., A.M.I.E.E., 49, Hartland-rd., Kilburn, London, N.W.

Leonard, William, M.I.E.E., chief electrical engineer, S.E. & Chatham Railway Co., Tonbridge, Kent.

Leonardt, E. H., A.M.I.E.E., electrical engineer, "Conholt," Beaconsfield-rd., Blackheath, London, S.E.

Lepel Wireless Syndicate, Ltd., 1, Cecil-chbrs. (West), Strand, W.C.

L'Epine, M., director Cie. Générale d'Electricité de Lourenço Marques, 9, rue Boudreau, Paris.

Le Radiant, Ltd., electricians & mechanical engineers, 83, Mortimer-st., London, W.

Leroux, L. A., dynamo brush maker, 3, Aldermanbury-bldgs., London, E.C. (Telegs.: "Questant, London."

Leroy, F., & Co., manufacturers of Leroy's composition for coating boilers, 11, Gray-st., Commercial-rd., London, E. (Telegrams: "Efficiency, London." P.O. Telephone No. 5055, Central); & Gordon-st., Lower Broughton, Manchester.

Leslie, Bradford, M.I.E.E., 7, Sanctuary, Westminster, London, S.W.

Leslie, F. J., 15, Union-ct., Castle-st., Liverpool. Director South London Electric Supply Corporation, Ltd.

Lester, J. E., electrical engineer, &c., 2, Cank-st., Leicester. Works: Langton-st., Belgrave Gate, Leicester (Telegs.: "Lester, Electrician, Leicester." Teleph. No. 228 X.); & Boston.

Lester, Ll. R., civil & electrical engineer, 23, Neal-st., London, W.C.

Lester, W., & Co., electrical agents, 11, West Regent-street, Glasgow. (Telegrams: "Retsel, Glasgow." Telephone No. 1285.)

L'Estrange & Hay, Ltd., consulting engineers & electricians, The Clock House, Arundel-st., London, W.C.

Le Tall, F. W., A.I.E.E., 2, Norfolk-st., Strand, London, W.C.

Letchworth Electric Lighting, Letchworth, Herts. (Teleph. No. 2, Letchworth); & 36A, High Holborn, London, W.C. Resident electrical engineer, A. W. E. Bulmore.

Letheren, T. W., wiring contractor, 29, Friars-walk, Exeter.

Letts, F. S., electric light & power contractor, Electra House, Naseby, Rugby. (Telegs.: "Letts, Naseby.")

Leven, Chas., M.I.E.E., 109-111, New Oxford-st., London, W.C.

Lever Bros. & Co., ignition accumulator manufacturers, 101, Dawes-rd., Fulham, London, S.W.

Levetus, E. & A., & Co., exporters of all classes of electrical machinery & accessories, 55 & 56, Basinghall-st., London, E.C. (Telegs.: "Levetus, London." Teleph. Central 12693.)

Levi, Walter, manager Midland Electric Wire Co., Ltd., Leicester.

Levin, A. E., A.M.I.E.E., "Hillcroft," Shawfield Park, Bromley, Kent.

Levis, H. C., The Hall, Bushey, Herts. Managing director British Thomson-Houston Co., Ltd.; director Chatham & District Light Railways Co.; Lanarkshire Tramways Co.; Cork Electric Tramways & Lighting Co., Ltd.; British Tramways & General Construction Co., Ltd.; Uddingston District Electric Lighting Co., Ltd.

Lewellen, F. W., & Co., electric light contractors, Clacton-on-Sea.

LEWENZ, HENRY I., A.M.I.MECH.E., A.M.I.E.E., electrical engineer & power station expert, 6, Trinity-sq., London, E.C. (Telegs.: "Quadrangle, London." Teleph. Avenue 310.)

Lewes & District Electric Supply Co., Ltd., Electrical Federation Offices, Kingsway, W.C.; & Lewes, Sussex (engineer, C. F. Butler, A.M.I.E.E.). Registered as the County of Sussex Electrical Power Distribution Co., Ltd., Nov. 28, 1899. Nominal capital: £25,000 in £10 ordinary shares, £25,000 in £10 preference shares. Issued: 2507 ordinary shares, fully paid. Directors: G. J. Somerville, Esq. (chairman); Geo. Offor, Esq. Secretary, H. A. Stagg.

Lewin, S. H., & Co., electric light, bell & telephone contractors, 154, Walton-st., W. (Telephone No. 373, Western.)

Lewis, C. G. H., A.M.I.E.E., 5, Windsor-rd., Rathmines, Dublin.

Lewis, D. M., M.A., professor of physics, University College of Wales, Aberystwyth.

Lewis, F. E., chief assistant electrical engineer, Town Council, Canterbury.

Lewis, F. H., director Cornwall Electric Power Co., 89 & 90, Cheapside, London, E.C.

Lewis, F. Harman, A.I.E.E., electrical engineer & manager Leyton District Council Electricity Works, Cathall-rd., Leytonstone; & electrical engineer, Leyton District Council Tramways.

Lewis, H. A., B.A., A.M.I.E.E., Electrical Department, North Staffordshire Railway, Stoke-on-Trent.

Lewis, Herbert D. W., M.I.E.E., consulting engineer, Prudential-bldgs., St. Mary-st., Cardiff. (Teleph. Nos.: Office 978 & House 0666.) Director Rhymney Valley & General Electric Supply Co., Ltd.

Lewis, Isaac, 28, Bishopsgate-st. Within, London, E.C. Director The Victoria Falls Power Co., Ltd.

Lewis, Joseph, electrical engineer & lightning conductor manufacturer, 5 & 6, Great Winchester-st., London, E.C. (Telegrams: "Weathervane, London." Telephone No. 3053, Central.)

Lewis, Major D., Gorseinon. Director Gorseinon Electric Light Co., Ltd.

Lewis, T., Bryngwyn Hall, Gorseinon. Director Gorseinon Electric Light Co., Ltd.

Lewis, W. N., director Treforest Electrical Consumers Co., Ltd., Upper Boat, Treforest, Glam.

Lewis, Sir W. T., Bart., K.C.V.O., The Mardy, Aberdare, Glam. Director Treforest Electrical Consumers Co., Ltd.

Lewis, Wm. Yorath, A.M.I.E.E., AM.I.MECH.E., advisory engineer, 49, Queen Victoria-st., London, E.C.

Lewis, Edwin, & Sons, tube manufacturers, Wolverhampton, Staffs. (Telegs.: "Lewis, Wolverhampton." Teleph. No. 7015); & 56–58, South John-st., Liverpool. (Telegs.: "Unexcelled, Liverpool." Teleph. No. 1582.)

Lewis & Fletcher, consulting electrical engineers, Prudential-bldgs., St. Mary-st., Cardiff. (Telephone No. 978, Nat.)

Lewis Motor Co., Ltd., motor & dynamo mfrs. & contractors, 4, South Parade, Leeds. (Teleph. No. 7.)

Leybourne, S. J., Birchholme, Gateshead. Director Priestman Power Co., Ltd.

Leyland & Birmingham Rubber Co., Ltd., insulating material manufacturers, Golden Hill Works, Leyland, nr. Preston. (Telegs.: "Rubber, Leyland." Teleph. No. 11.) Branches: 49, Queen-st., Glasgow; Tower-chbrs., 29, Brown-st., Manchester; 26 & 30, Duke-st., Aldgate, London, E.C.; 123 & 124, New-st., Birmingham; & Maxwell-bldgs., Harrison-st., Johannesburg, Transvaal. Registered May 18, 1898. Nominal capital: £300,000 in £1 shares, 268,257 of which are issued & are fully paid.

Ley's Malleable Castings Co., Ltd., malleable iron castings, Vulcan Iron Works, Derby. (Telegs.: "Leys, Derby." Teleph. No. 896.)

Leyton Technical Institute, Leyton. *See* SCHOOLS.

Leyton Urban District Council Electricity Works, Cathall-rd., Leytonstone, London, E. F. Harman Lewis, A.I.E.E., engineer & manager. (Teleph. No. 930, East.)

Libby, J., electric bell fitter, Camborne.

Lichtenberg, Carl Louis, A.I.E.E., Electric Light Station, Kensington Court, London, W.
Lichtenberger, Rudolf, electric table lamp maker, 183, Finchley-rd., London, N.W.
Liddell, R. W., electrical engineer, Lahmeyer Electrical Co., Ltd., 109-111, New Oxford-st., London, W.C.
Liddle, John, chartered patent agent, 154, St. Vincent-st., Glasgow. (Telegs.: "Patentable, Glasgow." Teleph. Nos.: 1227, Argyle; 245 Y. 6, Hillhead; & P.O. 1237.)
Liddle, J. A., consulting electrical engineer, 28, Rutland-st., Edinburgh.
Lidgerwood Manufacturing Co., electric crane & hoist makers, Caxton House, Westminster, London, S.W. (Telegs.: "Lidgerwood, London." Teleph. No. 585, Westminster.)
Liebert, E. H., A.M.I.E.E., c/o J. Holroyd & Co., Ltd., Perseverance Works, Milnrow, nr. Rochdale.
Light, J., Kenley Court, Kenley, Surrey. Director Metropolitan Railway Co.
Light Electric Motor Co., Ltd., manufacturing elec. engrs., Seven Kings Electric Works, Ilford, Essex.
Light & Power Fittings Co., Ltd., 25, City Arcade, Birmingham.
LIGHT RAILWAY & TRAMWAY JOURNAL (weekly, 1s.; ann. sub., 20s.), 16, Eldon-st., London, E.C. (Telegs.: "Colonizers, London." Teleph. No. 1716, London Wall.) Editor, W. E. Freir.
Light Railway & General Construction Co., Ltd., 36, Victoria-st., Westminster, S.W.
Light Railways Co. of Sicily, Ltd., 4, Adelphi-ter., London, W.C.
Light Railways Syndicate, Ltd., 56, Lincoln's Inn Fields, London, W.C.
Lightfoot, Thomas Bell, M.I.C.E., consulting engineer, 35, Queen Victoria-st., London, E.C. (Telegrams: "Separator, London." Telephone No. 1573, Bank.)
Lightfoot Bros., electrical engineers, 15A, Cooper-st., Manchester. (Telephone No. 350.)
Liley, E. L., consulting electrical engineer, Renshaw-bldgs., 18, Renshaw-st., Liverpool. (Teleph. Royal 2654.)
Liley, W., & Co., electrical engineers, Renshaw-bldgs., 18, Renshaw-st., Liverpool. (Teleph. Royal 2654.)
Lilleshall Co., Ltd., makers of cables, iron, &c., Shifnal, Salop.
Limavady Power & Light Works, Largy Mills, Limavady, Ireland. Manager & electrician, E. J. S. Ritter; engineer, A. Rankin.
Limerick Corporation Electricity Works, Limerick. (Teleph. No. 115.) Borough electrical engineer, P. T. Macnamara.
Limerick Municipal Technical Schools, Limerick. *See* SCHOOLS.
Limia Co., Ltd. Registered Feb. 24, 1906. Nominal capital: £10,000 in £1 shares. A prior lien debenture, dated June 21, 1907, to secure £5000, has been registered. Directors: T. Greenhill, Esq.; L. E. Chagniat, Esq.; A. L. Lambert, Esq.; T. F. Turner, Esq.; A. Ireland, Esq.; T. M. de Bingham, Esq.; H. H. Syms, Esq.
Limpus & Co., electrical engineers, Kingston Hill, Kingston-on-Thames. (Teleph. P.O. Kingston 814.)
Linay, J. Carter, manufacturing electrician, High-st., Chatham (Telegrams: "Linay, Chatham"); & Vulcan Works, Rochester.
Lincoln, E. J., A.M.I.E.E., 8, Bloomsbury-sq., W.C.
Lincoln Corporation Electricity Works & Tramways. Stanley Clegg, M.I.E.E., city electrical & tramway engineer. (Telegs.: "Stanley Clegg, Lincoln." Teleph. Nos.: 109; & 213, Private.)
Lind, A. L., A.I.E.E., 37, Moorfields, Liverpool.
Lind, E. G., A.M.I.E.E., Tudor Accumulator Co., Ltd., 119, Victoria-st., Westminster, London, S.W.
Lind & Co., Ltd., wholesale electric supplies & manufacturers' agents, 37, Moorfields, Liverpool. (Telegs.: "Ampère, Liverpool." Teleph. No. 7523, Central.)
Lindley, H., mechanical engineer, Kendall & Gent, Ltd., Victoria Works, Gorton, Manchester.
Linde, Albert de, M.I.C.E., M.I.E.E., Sanctuary House, Tothill-st., London, S.W.; & 30, Bramham-gdns., London, S.W.
Lindley, C., & Co., Ltd., engineers' tools, 34, Englefield-rd., London, N. (Telegs.: "Beauvoir, London." Teleph. Dalston 643 & 644); & Beauvoir Bolt & Nut Works, Luddenden, Yorks.
Lindsay, Alex., A.M.I.E.E., electrician, 242, Whitehill-st., Dennistoun, Glasgow.
Lindsay, J., director Dublin & Central Ireland Power Syndicate, Ltd., 36, College Green, Dublin.
Lindsay, Robert, A.I.E.E., 281, High-st., Southwark, London, S.E.
Lindsay Burnet & Co., boiler makers & engineers, Moore Park Boiler Works, Govan, N.B. (Telegs.: "Burnet, Glasgow." Teleph. No. 52, Govan, Nat. & P.O.)
Line, W. J., A.M.I.E.E., The Oaks, Walton-on-the-Hill, Stafford.
Lineham, Wilfrid J., M.I.C.E., M.I.M.E., M.I.E.E., consulting constructional & mechanical engineer, 21, Newstead-rd., Lee, London, S.E. (Nat. Telephone No. 282, Lee Green.)
Lingard, T. D., Burnside, Windermere. Director City of Carlisle Electric Tramways Co., Ltd.
Linolite Co., electric light fittings makers, 25, Victoria-st., London, S.W. (Telegs.: "Windolite, London." Teleph. No. 244, Victoria.)
Linotype & Machinery, Ltd., suppliers of "L & M" electric motors for printing machinery, &c., 188 & 189, Fleet-st., London, E.C. (Telegs.: "Linotype, London." Teleph. Holborn 1464.)
Linsell, S. E., A.M.I.E.E., electrician, Martin's Hall, Stebbing, Essex.
Linsley, W. A., electrical engineer, 8, Airedale Cliff, Pollard-lane, Bramley, Leeds.
Linthwaite Electric Tramways, *owned by Huddersfield Corporation.* Engineer, R. H. Wilkinson. (Nat. Teleph. Nos. 398 & 698.)

Lintott, H. & E., Engineeering Works, Horsham. (Telegs.: "Vulcan, Horsham." Teleph. No. 036.)

Linwood Machine Tool Co., 83, John-st., Govan, Glasgow.

Linzell, Alexander D., A.M.I.E.E., 25, Heathwood-gdns., Charlton, S.E.

Lion, S., screw manufacturer & electrical sundriesman, 96, Forest-rd., Dalston, London, N.E.

Lippold, A., & Co., electricians, 172, Lambeth-rd., London, S.E. (Teleph. Hop. 3776.)

Lipscombe, F., & Co., water softener manufacturers, 49, Queen Victoria-st., London, E.C.

Lironi, V. G., M.I.M.E., A.M.I.E.E., engineer, Corporation Electric Tramways, Portsmouth (Telephone No. 690, Corp.); & Como, Cousins Grove, East Southsea.

Lisbon Electric Tramways, Ltd., 1, London Wall-bldgs., London, E.C. (Telegs.: "Lisbonense, London." Teleph. No. 2827, London Wall.) Registered July 17, 1899. Nominal capital: £1,250,000 in £1 shares: 500,000 6 per cent. cumulative preference & 750,000 ordinary. 594,188 ordinary & 425,553 preference have been taken up & are considered as paid. Debentures, £500,000, secured by trust deed, dated Nov. 22, 1899. Directors: Col. Sir Chas. Euan-Smith, K.C.B., C.S.I. (chairman); L. Breitmeyer, Esq.; A. da Silva, Esq.; F. Robinow, Esq.; L. Wagner, Esq.; J. B. Taylor, Esq.; W. B. Rommel, Esq. (managing); Admiral Sir A. H. Markham, K.C.B.; Count Henry de Burnay. Secretary, S. W. Jameson; consulting engineer, Fearnside Irvine. Dividends: 1906, 1907 & 1908, 5 per cent. on ordinary shares.

Liscombe, John, machine belting manufacturer, 10, Commercial-st., Newport, Mon. (Telegs.: "Liscombe, Newport." Nat. Teleph. No. 120, Newport.)

Lister, G. A., B.SC., A.M.I.E.E., Carlton Works, Lockhurst-lane, Coventry. (Telegs.: "Carlton, Coventry." Teleph. No. 84 X.)

Lister, John, A.I.E.E., 50, Bradbourne-st., Parsons Green, London, S.W.

Lister, J. E., electric light contractor, 2, Cank-st., Leicester.

Lister, J. Fraser, director Veritys, Ltd., Aston, Birmingham.

Lister, Thomas, & Co., Brassfounders, Ltd., Perseverance Brass & Iron Works, Brighouse, Yorks. (Telegrams: "Lister, Brighouse." Telephone No. 51, Nat.)

Lithanode Co., accumulator makers, 190, Queen's-rd., Battersea, London, S.W. (Telegs.: "Lithanode, London." Teleph. Victoria 3123.)

Lithgoe, John, A.M.I.E.E., Royce, Ltd., Trafford Park, Manchester. (Teleph. No. 4831.)

LITHOLITE, LTD., manufacturers of LITHOLITE insulating material, 55, Hackney Grove, London, N.E. (Telegs.: "Ferrules, London." Teleph. No. 1492, North.) *See advt. under* INSULATING MATERIALS.

Littauer, James, dealer in electrical supplies. Offices: 72, Finsbury Pavement. Stores: 4, Cross-st., Finsbury, London, E.C. (Telegs.: "Litterula, London." Teleph. Central 12045.)

Little, Chas. Wm. Godson, M.I.E.E., British Electric Traction Co., Ltd., Electrical Federation Offices, Kingsway, London, W.C.

Little, F., A.M.I.E.E., Ward's-bldgs., High Bridge, Newcastle.

Little, Frank, & Co., Ltd., electrical & general engineers, College-ave., Newcastle-on-Tyne.

Littleboy, T. G., A.M.I.E.E., electrical engineer, Brymbo, nr. Wrexham.

Littlejohn, R., 63, London Wall, London, E.C. Chairman Cape Town Consolidated Tramways & Land Co., Ltd.

Littlewood, Beaumont & Co., dynamos & motors, Thirston Iron Works, Honley, Yorks. (Teleph. No. 186.)

Liveing, E. H., electrical engineer, 52, Queen Anne-street, Cavendish-square, London, W.

Livens, C. M., electric light installation contractor, 172, High-st., Burton-on-Trent. (Telegrams: "Livens, Burton." Nat. Telephone No. 61.)

Liverpool Central Municipal Technical School, Liverpool. *See* SCHOOLS.

Liverpool Corporation Electric Supply, 24, Hatton Garden, Liverpool. (Telegs.: "Dynamo, Liverpool.") Alfred Clough, A.M.I.C.E., resident electrical engineer; A. Bromley Holmes, M.I.C.E., consulting electrical engineer. (Teleph. No. 7706.)

Liverpool Corporation Electric Tramways. (Telegrams: "Tramways, Liverpool." Telephone No. 7701, Central.) Resident electrical engineer, A. Clough, A.M.I.C.E.

Liverpool District Lighting Co., Ltd., electric light company, 16, Tithebarn-st., Liverpool. Registered June 29, 1895. Nominal capital: £75,000 in £5 ordinary shares. Issued: 11,000 shares, fully paid. Directors: A. H. Holme, Esq. (chairman); H. Gaskell, jun., Esq.; C. McLaren, Esq.; Th. A. von Sobbe, Esq.; W. A. Cookson, Esq. Electrical engineer & secretary, W. Miles Horsfall, M.I.E.E. Dividends: 1905 & 1906, 4½ per cent.; 1907, 5 per cent.

LIVERPOOL ELECTRIC CABLE CO., LTD., wire & cable manufacturers, 292, Vauxhall-rd., Liverpool; 86, Charing Cross-rd., London, W.C. (Teleph. Gerrard 3463 & 3464); 2, Exchange-pl., Middlesbrough (Teleph. No. 491); 13, Queens-sq., Belfast (Nat. Teleph. No. 392); Auckland, N.Z.; & Cawnpore, India. *See advt.*, CABLES—ELECTRIC LIGHT.

Liverpool Engineering & Condenser Co., Ltd., engineers, Perry-st., Liverpool.

Liverpool Engineering Society, Royal Institution, Colquitt-st., Liverpool.

Liverpool & London & Globe Insurance Co., 1, Cornhill, London, E.C. (Telegs.: "Globe Insurance, London." Teleph. London Wall 4545.) Branch offices; 56, Charing Cross, S.W.; 41, Mincing-lane, E.C.; & 89, The Grove, Stratford, E.

Liverpool Overhead Railway Co., 24, N. John-st, Liverpool. (Telegs.: "Harmood, Liverpool." Teleph. Nos. 186 & 173.) Nominal capital: £680,000 stock & shares, £226,500 loans. Issued: £500,000 in £10 ordinary shares, £120,000 in £10 5 per cent. perpetual preference shares & 3862 preference shares (amount received £34,942). Directors: Sir W. B. Forwood (chairman); Jas. E. Anderson, Esq.; G. D. Killey, Esq.; G. H. Robertson, Esq.; H. C. Woodward, Esq. Engineer, E. J. Neachell, M.I.E.E., M.I.MECH.E. Dividends: 1905–06, *nil;* 1907, ¼ per cent.

Liverpool Research Laboratory (Henry N. Warren, principal), 131, St. Domingo-rd., Liverpool.

Liverpool Silver & Copper Co., Ltd., sulphate of copper manufacturers & high conductivity copper bars, Widnes (Telegrams: "Silver, Widnes." Telephone No. 41); & 5, Fenwick-st., Liverpool. (Telegrams: "Lewisson, Liverpool." Telephone No. 5236.)

Liverpool University Engineering Society, The University, Liverpool. J. K. Catterson-Smith & J. Parker, hon. secretaries. (Teleph. Royal 621.)

Liverpool University Physical Society, Liverpool. Hon. sec., T. Worswick, 13, Croxteth-rd., Liverpool.

Liversidge, E., electrical engineer, 4, King's Head-bldgs., Cloth Hall-st., Huddersfield.

Livesay, A. G., A.M.I.E.E., British Westinghouse Electric & Manufacturing Co., Ltd., Commercial-bldgs., 15, Cross-st., Manchester; & Bower-rd., Hale, Cheshire.

Livesey, A. P., director British Westinghouse Electric & Manufacturing Co., Ltd., Westinghouse-bldg., Norfolk-st., London, W.C.

Livingston, James, A.I.E.E., chief superintendent of Postal Telegraphs, Leeds.

Livingston, R. D., & Co., electrical engineers & contractors, 3 & 5, Buchanan-ct., Eglinton-st., Glasgow. (Nat. Teleph. Gorbals 281; & P.O. Central 1003.)

Llandilo Urban District Council Electricity Works, Llandilo, Carmarthen. Engr., D. Pritchard Davies.

Llandrindod Wells Electric Light & Power Co., Ltd., 20, Old Bank-bldgs., Chester. Registered June 15, 1896. Nominal capital: £5000 in £5 shares, all issued, & £11,200 4 per cent. debentures. Memoranda of satisfaction in full (*a*) of debenture & collateral mortgage, dated March 22, 1902, securing £8700, & (*b*) of debenture & collateral mortgage, dated July 10, 1905, securing £4000, have been filed. Directors: E. Jones, Esq. (chairman); Rev. D. Lloyd Jones, M.A.; J. Grant, Esq.; D. Davies, Esq. Engineer, B. Thomas; secretary, J. Owens. Dividends: 1901, 1902 & 1904, 4 per cent.

Llandudno & Colwyn Bay Electric Railway, Ltd., Basildon House, Moorgate-st., E.C. Registered July 25, 1906. Nominal capital: £100,000 in £1 shares. Borrowing powers: £75,000. Issued: 99,400 shares, fully paid. Trust deed, dated July 27, 1909, to secure £75,000 first mortgage debentures. A memorandum of satisfaction in full on July 27, 1909, of debentures dated March 11, 1909, securing £50,000, has been filed. Directors: S. Sellon, Esq. (chairman); A. W. Tait, Esq.; T. Stoker, Esq.; J. E. Touche, Esq. Manager, W. H. Moorhouse; secretary, A. W. R. Lovering.

Llandudno Urban District Council Electricity Works. (Teleph. No. 130.) Harold Morton, engineer.

Llanelly & District Electric Lighting & Traction Co., Ltd., 53, Temple-chbrs., Temple-ave., E.C. (Teleph. Central 14076.) Registered Nov. 29, 1899. Nominal capital: £50,000 in £1 shares. Issued: £12,515. Directors: Alfred R. Holland, Esq.; G. Balfour, Esq.; A. H. Beatty, Esq.; A. V. Anderson, Esq. Secretary, G. D. Prince.

Llangollen & District Electric Light & Power Co., Ltd., Bridge-st., Llangollen. Registered Nov. 11, 1902. Directors: E. Bremner Smith, Esq.; T. C. Davies, Esq. (chairman); W. Williams, Esq.; J. S. Shaw, Esq.; P. A. Minshall, Esq. Secretary, H. A. Thomas; engineer, J. Lloyd Jones; electrician, P. E. Pace. Nominal capital: £10,000 in £1 shares. Issued: 2114 shares; £1 per share has been called up & £2110 5*s.* has been received. A debenture, dated Feb. 4, 1905, & a mortgage of even date (by way of collateral security), to secure £1000, have been registered. An agreement for further charge, dated Feb. 23, 1906 (endorsed on debenture dated Feb. 4, 1905), to secure £600, has been registered. A 5 per cent. debenture, dated Dec. 14, 1907, to secure £400 & (as collateral security) a second mortgage of certain leasehold property, have been registered.

Llanrwst Electricity Works, Llanrwst, Denbigh. Engineer, Jas. H. Targett.

Llewellin, W. M., C.E., patent & trade marks registration agent, 15, King-square, Bristol.

Llewellin's Machine Co., gear & wheel cutters, 15, King-sq., Bristol. (Telegrams: "Llewellins.")

Llewellyn, C. L., director Ross Electric Light & Power Co., Ltd., Caerau, Ross.

Llewellyn, G. H., A.I.E.E., Westgate-chbrs., Newport, Mon. (Telegrams: "Elektron, Newport." Telephone Nos.: 339, Nat.; & 528, P.O. A.B.C. Code used.)

Llewellyn, Wm., Gwallia House, Ogmore Vale. Director Ogmore Valley Electric Light & Power Supply Co., Ltd.

Lloyd, Dr. D., director Newcastle Emlyn & District Electric Supply Co., Ltd., Newcastle Emlyn.

Lloyd, G. C., A.I.E.E., 28, Victoria-st., Westminster, S.W.

Lloyd, H. R., A.I.E.E., Claremont, Cheadle Hulme, Cheshire.

Lloyd, J., manager Southport Tramways Co., Southport.

Lloyd, John, A.M.I.E.E., Vale Villa, Llanarthney, South Wales.

Lloyd, R. S., M.I.E.E., c/o Hayward-Tyler & Co., 99, Queen Victoria-st., London, E.C.

Lloyd, T., 3, Trebovir-rd., Kensington, S.W. Director Telephone Co. of Egypt, Ltd.; director China & Japan Telephone & Electric Co., Ltd.; director Oriental Telephone & Electric Co., Ltd.

Lloyd, W. B., The Laurels, Bargoed. Director Rhymney Valley & General Electric Supply Co., Ltd.

Lloyd & Co., electrical engineers, 1B, King-st., Rock Ferry, Liverpool.

Lloyd, F. H., & Co., Ltd., tramway points & crossings, James Bridge, Wednesbury.

Lloyd, R., & Co., stocks & dies for conduit threads, 135–139, Steelhouse-lane, Birmingham. (Telegs.: "Cogs, Birmingham." Teleph. Nos. 4006 & 4007.)

Lloyd & Son, Ltd., electric fittings dealers, 105, Wellington-st., Woolwich (Telegs.: "Lloyds, Ltd., Woolwich." Teleph. No. 199, Woolwich); Pier-rd., Erith (Teleph. No. 43, Erith); & 83, High-st., Northfleet. (Teleph. No. 042, Northfleet.)

Lloyd-Jones, Gerald, A.M.I.E.E., 49, Clova-rd., Forest Gate, E. (Teleph. Stratford 58.)

Lloyd Wise & Co., patent & trade mark registration agents, 46, Lincoln's Inn-fields, London, W.C. (Telegs.: "Lloyd Wise, London." Teleph. No, 4775, Central.)

Loach & Clarke, makers of electric light fittings, 20–25, Essington-st., Birmingham. (Telegrams: "Loach, Birmingham." Telephone No. 1518.)

Loam, E., A.M.I.E.E., electrical engineer, Woodville, Worsley-rd., Swinton, Manchester (Nat. Tel. Eccles 868); & Callender's Cable & Construction Co., Anchor Works, Leigh, Lancs. (Telegs.: "Callender, Leigh, Lancs." Teleph. Leigh 106 (2 lines).)

Lobley, Joseph, M.I.C.E., borough engineer & surveyor, Hanley. (Teleph. No. 134, Potteries.)

Loch Leven Water & Electric Power Co., 109, Queen Victoria-st., E.C. (Telegs.: "Cryolite, London." Teleph. London Wall 4315 (3 lines).) Issued & paid up capital: £750,000 in £10 shares. *The whole of the share capital is held by The British Aluminium Co., Ltd.* Directors: A. W. Tait, Esq. (chairman); E. E. Sawyer, Esq, M.A., M.I.C.E.; R. Heath, Esq., J.P.; F. Robinow, Esq.; R. W. Wallace, Esq., K.C.; H. Wolfenden, Esq.; R. W. Cooper, Esq. Technical adviser, Wm. Murray Morrison, M.INST.C.E., M.I.E.E.; secretary, G. W. Jeffery.

Lock, Chas., chairman Monte Video Telephone Co., Ltd., 325, Dashwood House, New Broad-st., E.C.

Lock, F. M., director Dulverton Electric Lighting Co., Ltd., High-st., Dulverton, Somerset.

Lock, F. J, electrical engineer, Station-rd., Taunton.

Lock, W. B., A.I.E.E., electrician, 15 & 16, Norfolk-st., King's Lynn. (Telegrams: "Lock, Electrician.")

Locke, T. A., A.M.I.E.E., consulting & contracting electrical engineer, 7, Crown-st., Deansgate, Bolton. (Teleph. No. 911.)

Locke, Blackett & Co., Ltd., lead manufacturers, 47, Gallowgate, Newcastle-on-Tyne. (Telegrams: "Locke, Newcastle-on-Tyne." Nat. Telephone Nos. 258 & 280.)

Lockerbie & Wilkinson (Birmingham), Ltd., electrical fittings makers, 2, Exeter-st., Birmingham.

Lockett & Handley,telectric light contractors, 21, Camomile-st., London, E.C. (Teleph. Central 13941.)

Lockhart & Macnab, electrical engineers, 34–38, Craigs, Stirling. (Teleph. No. 80.)

Lockie, J. Russell, electrical contractor, 118, Mains-st., Glasgow.

Lockitt, W. H., earthenware manufacturer, Wellington Pottery, Commercial-rd., Hanley.

Lockwood (Crosby) & Son, publishers of electrical books, 7, Stationers' Hall-court, London, E.C. (Telegrams: "Crosby Lockwood, London." Teleph. No. 4421, Central); & 121A, Victoria-st., S.W. (Teleph. No. 3129, Victoria.) *See advt., page* 23.

Lodge, Prof. Sir Oliver, D.SC., LL.D., F.R.S., M.I.E.E., principal of the University, Birmingham.

Lodge Bros. & Co., makers of patent electric ignition, 14, New-st., Birmingham. (Telegs.: "Igniter, Birmingham." Teleph. No. 4383, Central.)

Lodge-Muirhead Wireless & General Telegraphy Syndicate, Ltd., wireless telegraph & electrical engineers & contractors, 7, Carteret-st., Queen Anne's Gate, London, S.W. (Telegs.: "Lodge, c/o Muirheads, London." Teleph. Gerrard 779.) Registered June 29, 1901. Nominal capital: £30,000 in £1 ordinary shares & £20,000 in £1 preference shares & £10,000 debentures. Issued: 23,007 ordinary, 13,151 preference shares, all fully paid, & £7600 debentures. Directors: Alex Muirhead, Esq., D.SC., F.R.S.; H. J. Muirhead, Esq.; F. Lauder Muirhead, Esq. Secretary, J. Stone Blomfield.

Loewe, Ludw., & Co., Ltd., machine tool merchants, 30 & 32 (opposite 109), Farringdon-rd., London, E.C. (Telegs.: "Loewe, London." Teleph. No. 1707, Holborn.)

Loewi, O., manager & secretary to the Electrical Co., Ltd., 121–125, Charing Cross-rd., London, W.C.

Login, Louis C., A.M.I.E.E., electrical engineer, Callender's Cable & Construction Co., Ltd., Hamilton House, Victoria Embankment, London, E.C.; & 8, Oaks-cres., Merridale-rd., Wolverhampton.

Lomas, Jno., electrician, U.D.C. Electricity Works, Mirfield, Yorks.

Lomax, C. J., corporation electrical engineer, Gorton, Lancs.

Lomax, Ralph, chief electrical engineer, Corporation Electricity Works, Stockport.

London, S., director Bettwys-y-Coed Electric Lighting Co., Ltd., Miners Bridge House, Bettws-y-Coed.

London Chamber of Commerce (Electrical & Allied Trades Section), Oxford-ct., Cannon-st., E.C. (Telegrams: "Convention, London." Telephone No. 327, Bank.) Chairman, C. P. Sparks; deputy-chairman, W. L. Madgen.

London County Council Electric Lighting, Hungerford House, Victoria Embankment, London, W.C. Chief engineer, Maurice Fitzmaurice, C.M.G.; electricial engineer, Chas. A. Baker.

London County Council Tramways, 62, Finsbury Pavement, London, E.C. Generating station at Greenwich. Chief officer, A. L. C. Fell; electrical engineer, J. H. Rider.

London Decorative Metal Works, Ltd., electrical fittings makers, 44–46, Eagle-st., London, W.C. (Teleph. No. 1247, Holborn.)

London Electric Firm, electrical & mechanical engineers, George-st., Croydon. (Telegrams: "Electric, Croydon." A1, Telegraphic & Engineering Codes. Telephone No. 768, Croydon.)

London Electric Hot-Air Baths (Greville's System), Ltd., 2, Staple Inn, Holborn, London, W.C.

London Electric Supply Corporation, Ltd., 25A, Cockspur-st., London, S.W. (Telegrams: "Generator, London." Telephone No. 3800, Gerrard); & Stowage Wharf, Deptford, S.E. (Telegrams: "Gignentia, London." Telephone No. 616, Deptford.) Registered Aug., 1887. Nominal capital: £600,000 in ordinary shares of £3 & £450,000 preference shares of £5 each, & debentures not to exceed half nominal share capital. Issued: 111,000 ordinary & 69,840 preference shares, & the full amount has been called on each. The total received is £682,200. Debentures, £382,355. Directors: The Right Hon. The Earl of Crawford, K.T., F.R.S., LL.D.; Sir W. H. Preece, K.C.B., F.R.S.; R. H. Benson, Esq.; R. D. Norton, Esq.; R. Stewart Bain, Esq., C.A. (managing). Engineer, G. W. Partridge; secretary, H. C. Carter. Dividends: 1907, 6 per cent. on preference & 2½ per cent. on ordinary shares; 1908, 6 per cent. on preference, 3 per cent. on ordinary; & first half of 1909, 3 per cent. on preference (being at the rate of 6 per cent. per ann.)

LONDON ELECTRIC WIRE COMPY. & SMITHS, LTD., THE, manufacturers of cables & covered wires of all descriptions for electrical instruments, dynamo machines, bells, telephones, &c.; contractors to the Government Departments & Principal Electric Light & Telephone Companies, Playhouse-yard, Golden-lane, E.C. (Telegs.: "Electric, London." Teleph. London Wall 3105.) Works at Leyton & Salford. *See advt. facing* INSIDE BACK COVER.

London Electrical Fittings Co., Ltd. *See* Galsworthy Ltd.

London Electro Plating & Refining Co., nickel & silver platers, gilders, enamellers, &c., 23, St. John's-lane, Clerkenwell, London, E.C.

London Electrobus Co., Ltd., 17, Cockspur-st., Pall Mall, London, S.W. (Telegs.: "Electroel, London." Telephone No. 10435, Central.) Registered April 11, 1906. Nominal capital: £305,000 in £1 shares.

London Electrocab Co., Ltd. Registered June 13, 1908. Nominal capital: £100 in £1 shares.

London Import Co., Ltd., dealers in electrical novelties, 45, Tabernacle-st., Finsbury, London, E.C. (Telegs.: "Electrisez, London." Teleph. No. 237, London Wall.)

London Platino-Brazilian Telegraph Co., Ltd., Electra House, Finsbury Pavement, London, E.C. Secretary, E. Steer Hodson.

London Power & Light Installation Co., electrical engineers & contractors, 23, Chapel-st., Cripplegate, London, E.C.

London & Provincial Electrical Co., 118, Hoxton-st., London, N. (Telephone No. 267, Dalston.)

London & Provincial Patent Agency, 15, St. James'-row, Sheffield. R. Heber Radford, M.I.M.E., consulting engineer. (Telegrams: "Radford, Sheffield." Telephone No. 425.)

London Shafting & Pulley Co. Warehouse: 26, Collingwood-st., Blackfriars-rd., S.E. (Telegs.: "Chaseley, London." Teleph. Hop 2012.)

London Telegraph Training College, Ltd., Morse House, Earl's Court, London, S.W. (Teleph. No. 2696, Western.) Managing director & secretary, H. W. R. Child. *See* SCHOOLS.

London Underground Electric Railways, St. James's Park Station, S.W. (Teleph. Nos. 880, 881 & 882, Westminster.) J. P. Thomas, superintendent.

London United Tramways, Ltd., 74, High-rd., Chiswick, W. (Telegs.: "Tramways, Chiswick." Teleph. Hammersmith 256, 510 & 511.) Registered Nov. 11, 1901. Capital authorized: £1,250,000 in ordinary shares of £10 each, £1,250,000 in 5 per cent. cumulative preference shares of £10 each. Issued: 100,000 ordinary & all the preference, fully paid. There is also an issue of £1,649,930 4 per cent. first mortgage debenture stock, secured by trust deed, dated Feb. 26, 1902. Directors: C. J. Cater Scott, Esq. (chairman); The Hon. Sydney Holland; Sir Clifton Robinson (managing); W. H. Brown, Esq.; J. R. Chapman, Esq. Secretary, W. G. Verdon Smith. Dividends on ordinary shares: 1906, 3 per cent.; 1907, 1 per cent.; 1908, 3¾ per cent. on preference shares; & first half of 1909, *nil*.

London, W. F., & Co., electrical & sanitary engineers, 51, Bishopsgate-street-within, London, E.C.

London Zinc Mills, Ltd., zinc rods & battery plates, &c., Wenlock-rd., London, N. (Telegs.: "Zinc Mills, London." Teleph. North 560.)

Londonderry Corporation Electricity Supply. Works: Strand-rd., Londonderry. (Teleph. No. 154.) Chairman, W. Boyd, Esq.; engineer, R. V. Macrory, A.I.E.E.; town clerk, Sir F. H. Miller.

Londonderry Municipal Technical School, Londonderry. *See* SCHOOLS.

Londonderry-Moville Electric Railway Syndicate, Ltd., 85, Gracechurch-st., London, E.C. Registered Nov. 18, 1902. Nominal capital: £10,000 in £1 shares. Issued: £6507. 5000 considered as paid & £1 per share has been called on the remainder. Directors: C. O. Bastian, Esq.; R. H. Livesey, Esq. Secretary, F. B. Wilson.

Long, Ernest, A.M.I.E.E., 2, Brookfield-ter, Fairfield, Manchester.

Long, E. D., A.M.I.E.E., engineer, Electricity Works, Grays, Essex.

Long, F. M., A.M.I.C.E., city electrical engineer, Duke-st., Norwich. (Teleph. No. 154.)

Long, Wm., J.P., Cleabarrow, Windermere. Chairman Windermere & District Electricity Supply Co., Ltd.; director Keswick Electric Light Co., Ltd.

Long, E., & Sons, electrical engineers, 13 & 14, Sydney-st., Brighton. (Nat. Teleph. No. 92 X. 1.)

Long Eaton Urban District Council Electricity Works, Long Eaton, Derby. Engineer, F. Worrall, A.M.I.C.E. (Telephone No. 22, Long Eaton.)

Longbotham, R. H., & Co., Ltd., electrical, mechanical & general engineers, Ings Foundry, Ings-rd., Wakefield.

Longbottom, B., M.I.E.E., electrical engineer, The Elms, Chapeltown-rd., Leeds. General manager & director Electromotors, Ltd., Openshaw, Manchester.

Longden, Arnold B., A.I.E.E., 21, Cecile Park, Crouch End, N.

Longford Wire Co., Ltd., wire drawers, mechanical & electrical engineers, Warrington. (Telegs.: "Longford, Warrington." Teleph. Nos. 12 & 212.)

Longmans, Green & Co., publishers of electrical books, &c., 39, Paternoster-row, London, E.C. (Telegs.: "Longmans, London"); 91–93, 5th-ave., New York, U.S.A.; 8, Hornby-rd., Bombay; & 303, Bowbazar-st., Calcutta.

Longmuir, A., A.M.I.E.E., J. H. Holmes & Co., Examiner-bldgs., Strutt-st., Manchester.

Longstreth's, Ltd., Lithanode accumulator manufacturers, 190, Queen's-rd., Battersea, London, S.W. (Telegs.: "Lithanode, London." Teleph. No. 3123, Victoria.)

Longton Corporation Electricity Works. W. Langford, engineer. (Telegs.: "Longton, Gas." Teleph. No. 13.)

Longwood Engineering Co., Ltd., wrought iron pulley makers, &c., Parkwood Foundry, Longwood, Yorks. (Telegs.: "Walsh, Longwood." Teleph. No. 120, Milnsbridge.)

Lonnon, Wm. Upsall, A.M.I.E.E., Telephone House, Victoria Embankment, London, E.C.

Lonsdale Bros., Ltd., boiler coverers, Pump-st., Blackburn. (Telegs.: "Plastic, Blackburn." Teleph. No. 625.)

Loos, A. E., A.I.E.E., engineer & manager, Derbyshire & Nottinghamshire Electric Power Co., Electric Power Station, Ilkeston.

Looser, R. F., A.M.I.E.E., 15, Wiltshire-rd., Brixton, London, S.W.

Lorain Steel Co., manufacturers of tramway rails, points & crossings, 71 & 72, King William-st., London, E.C.

Lord, Arthur F., A.M.I.E.E., 24, Lockyer-st., Plymouth.

Lord, F. A. B., A.I.E.E., The Nest, Woodberry Down, London, N. (Telegs.: "Kryptols, London." Teleph. North 246.)

Lord, G. H., installation contractor, 128A, Linthorpe-rd., Middlesbrough.

Lord, W., installation contractor, Albert-rd., Middlesbrough.

Lord & Chamberlain, electricians, 243, Hyde-rd., Gorton, Manchester. (Teleph. No. 3 Y., Openshaw.)

Lord, J. C. & W., turbine makers, 52, Leadenhall-st., London, E.C. (Telegrams: "Ironer, London." A1 & A.B.C. Codes used.)

Lord & Shand, Ltd., electrical engineers & contractors, 24, Lockyer-st., Plymouth. (Telegs.: "Ohm, Plymouth." Teleph. No. 588.)

Lord, William Turner, & Co., electric light contractors, 120, Mount-st., London, W.

Loree, F. L., 24, Pine-st., New York City, U.S.A. Director Underground Electric Railways Co. of London, Ltd.

Lorenz, Hugo (agent), paraffin wax manufacturer, 7–8, Idol-lane, London, E.C. (Telegrams: "Lorenz, London.")

Loring, F. G., Lieut. R.N., M.I.E.E., Inspector of Wireless Telegraphy, General Post Office, London, E.C.

Lorkin, W. L., A.M.I.E.E., 2, Wellesley Villas, Clapham-rd., London, S.W.

Lorrain, J. G., M.I.E.E., M.I.MECH.E., Fellow of the Chartered Institute of Patent Agents, Norfolk House, Norfolk-st., London, W.C. (Telegrams: "Lorrain, London." Telephone No. 2511, Gerrard.)

Lothians Electric Power Co., 25, Frederick-st., Edinburgh. Capital authorised: £600,000 in £10 shares. Borrowing powers: £200,000. Directors: J. A. Hood, Esq. (chairman); D. Russell, Esq.; H. Ruffer, Esq.; N. D. Macdonald, Esq.; A. R. Holland, Esq. General manager, E. C. Churchward; secretary, James Walker, C.A.

Lotz, Abbott & Co., Ltd., electric incandescent lamps & fittings, 66, Queen-st., London, E.C. (Telegrams & Cables: "Ingbooth, London." Telephone No. 5979, Bank.)

Louch, C. S., director Edgware & Hampstead Railway Co., Electric Railway House, Broadway, Westminster, S.W.

Loudon Bros., tool makers, Johnstone, N.B.; & at 39, West Campbell-st., Glasgow.

Loudon & Clark, electrical agents, 68, Gordon-st., Glasgow. (Telegs.: "Torbay, Glasgow." Teleph. No. 1302, Argyle.)

Loughborough Corporation Electricity Works, Loughborough, Leicestershire. Engineer, W. H. Allen. (Nat. Teleph. No. 505.)

Loughborough & District Electric Traction Syndicate, Ltd., Victoria Works, Belvedere-rd., S.E. Registered Nov. 9, 1899. Nominal capital: £1000 in £10 ordinary shares. All issued & fully paid. Directors: R. P. Sellon, Esq. (chairman); B. Broadhurst, Esq.; F. E. Andrews, Esq.

Louw, T. A. L., director Cape Peninsula Lighting Co., Ltd., 54, St. Mary Axe, London, E.C.
Lovatt, Henry, contractor, Electrical Dept., 140, North End-rd., London, W.; & Wolverhampton.
Love, E. G., A.M.I.E.E., chief assistant electrical engineer, Corporation Electricity Works, Halifax.
Lovelace, H. G., electro-plater & gilder, 7, Gerrard-st., Soho, London, W.
Lovell, R. P., A.M.I.E.E., electrician, c/o Vickers Sons & Maxim, Sheffield.
Lovelock, Seabourne & Lee, electrical engineers, 28, Houndsditch, London, E.C.
Lovely, J. G., resident engineer, Northern Counties Electricity Supply Co., Ltd., Blyth & Cowpen, Northumberland.
Loveridge, Ltd., electric bell fitters & contractors, Docks, Cardiff. (Telegrams: "Justice, Cardiff." Telephone Nos.: P.O., 85; Nat., 40 & 40 T.)
Low, A. G., 9, Holland Park, London, W. Director Cuba Submarine Telegraph Co., Ltd.
Low, Archibald R., A.M.I.E.E., c/o Johnson & Phillips, Ltd., Old Charlton, S.E.
Low, D. A., WH.SC., M.I.M.E., professor of engineering, East London College (University of London), Mile End-rd., London, E.
Low, Sampson, Marston & Co., Ltd., technical publishers, Overy House, 100, Southwark-st., London, S.E. (Telegs.: "Rivsam, London." Teleph. No. 2063, Central); & Tudor House, Warwick-lane, E.C. (Teleph. No. 3636, Central.)
Lowcock, G. W., M.I.E.E., Gaythorn, Manchester. (Teleph. No. 2854.)
Lowcock, S. R., M.I.C.E., consulting engineer, Temple Courts, Birmingham.
Lowcock, A., Ltd., fuel economiser makers, 69, Lombard-st., London, E.C.; & Shrewsbury.
Lowden, Jas., & Co., electric lighting contractors, Ann-st., Belfast.
Lowdon, E. J. B., A.I.E.E., electrical engineer, 13, Dudhope-ter., Dundee.
Lowdon, J. W., electric light engineer, 65, Reform-st., Dundee.
LOWDON BROS. & CO., manufacturing electricians, Temple Electric Works, Dundee (Telegs.: "Lowdons, Dundee." Teleph. No. 618); 150, Holm-st., Glasgow (Telegs.: "Lowdons, Glasgow." Teleph. No. 4736); 50, Frederick-st., Edinburgh (Telegs.: "Lowdon, Edinburgh." Teleph. No. 2287); 2, Abbot-st., Dunfermline; & Fleming-pl., St. Andrews.
Lowe, E. S., Quay House, Newquay. Director Newquay Electric Light & Power Co., Ltd.
Lowe, Frederick J., A.M.I.E.E., 37, Brudenell-grove, Hyde Park, Leeds.
Lowe, J. W., charge engineer, Corporation Electricity Works, Wigan.
Lowe, Egerton, & Co., electrical engineers, South View-cres., Sheffield.
Lowestoft Corporation Electricity Works & Electric Tramways, Lowestoft. (Telegrams: "Bruce, Lowestoft." Telephone No. 87.) G. A. Bruce, M.I.E.E., engineer & general manager.
Lowman, A., electrical engineer, 26, Nutford-pl., London, W. (Teleph. Paddington 2156.)
Lowndes, Chas. E., A.I.E.E., 38, Conduit-st., London, W. (Teleph. No. 1401, Gerrard.)
Lowne Electric Clock & Appliances Co., Ltd., makers of Lowne's patent electric clock, Ravenscroft, 108, Bromley-rd., Catford, London, S.E. (Nat. Teleph. No. 412, Lee Green.)
Lowrance, M., & Son, manufacturing electricians, Peel-square & Market-st., Barnsley, Yorks. (Telephone No. 10.)
Lowson, James, M.I.E.E., electrician, 10, West Campbell-st., Glasgow. (Telegs.: "Motive, Glasgow." Teleph. Nos.: 3736, P.O.; & 1044, Argyle, Nat.)
Lowther, P. Y., electrical bell fitter, 60, Queen's-rd., Bayswater, London, W.
Loxley, A. C., electrical engineer, Cabinet-chbrs., Basinghall-st., Leeds.
Loxley & Co., Ltd., wholesale electric supplies & manufacturers' agents, Cabinet-chbrs., Basinghall-st., Leeds. (Telegs.: "Loxley, Leeds." Teleph. No. 590 X.)
Lubbock, The Hon. John B., 15, Lombard-st., London, E.C. Director Metropolitan Electric Supply Co., Ltd.; director Uxbridge & District Electric Supply Co., Ltd.
Lucan & Leixlip Electric Railway Co., 15, Conyngham-rd., Dublin. (Telegs.: "Lucan Tramway, Dublin." Teleph. Nos.: 2282, Dublin; & 5, Lucan.) Engineer, H. Harrison.
Lucas, A. F., manager of Corporation Tramways, Leicester. (Nat. Teleph. No. 409.)
Lucas, A. H. L., A.M.I.E.E., electrical engineer, Dorman & Smith, Ordsal Electrical Works, Salford, Manchester.
Lucas, F. R., A.I.E.E., managing director Telegraph Construction & Maintenance Co., Ltd., 38, Old Broad-st., London, E.C.; & Greenhall, Forest-row, Sussex.
Lucas, Leopold, A.I.E.E., 94, Lansdowne-rd., London, W.
Lucas, O. D., A.M.I.E.E., 49, Linden-gdns., London, W.
Lucas, Owen, consulting electrical & mechanical engineer, Albany-bldgs., 39, Victoria-st., S.W. (Telegrams: "Synchronize, London." Telephone No. 13, Westminster.)
Lucas, William, M.A., A.I.E.E., 25, Glasslyn-rd., Crouch End, London, N.
Lucas, Edward, & Son, malleable iron founders, Dronfield Foundry, near Sheffield. (Telegrams: "Lucas, Dronfield." Telephone No. 7.)
Lucas, J. E., & Son, electric elevators & cranes, Brockley, London, S.E.
Lucas, Owen, & Pyke, consulting electrical & mechanical engineers, 39, Victoria-st., London, S.W. (Telegrams: "Synchronize, London." Telephone No. 13, Westminster.)
Luck, J. M., electric bell fitter, Godalming.

Lucy, W., & Co., Ltd., electrical & mechanical engineers & founders, Eagle Iron Works, Oxford. (Telegrams: "Lucy, Oxford." Telephone No. 97, Oxford.)

Ludlow, H. W., electrical engineer, 161, Rolfe-st., Smethwick, nr. Birmingham.

Ludlow Electric Light Co., Ltd., 14, Corve-st., Ludlow, Salop. Registered March 17, 1906. Nominal capital: £8000 in 4000 ordinary shares & 4000 4 per cent. cumulative preference shares of £1 each. Issued: 2835 ordinary & 730 preference shares, all fully paid. Directors: J. Mitchell, Esq., J.P. (chairman); E. Turford, Esq.; G. Woolley, Esq.; J. C. Mackay, Esq.; J. Parker, Esq.; J. H. Edwards, Esq. Electrical engineer, W. C. Hillman; secretary, John Norton. Dividends: 1907, 1908, *nil.*

Lufkin Rule Co., makers of measuring tapes & rules of every description, 24 & 26, Holborn, London, E.C. (Telegs.: "Lyncurium, London." Teleph. No. 11369, Central.)

Lugard, C. E., A.M.I.E.E., Field's-bldgs., Middlesbrough; & Hazlehurst, Saltburn. (Teleph. Saltburn 34.)

Lugard, C. E., & Co., clutch manufacturers, Field's-bldgs., Middlesbrough. (Telegs.: "Lugard, Middlesbrough." Teleph. Middlesbrough 607; & Saltburn 34.)

Lukach, J. H., 2, Norfolk-st., Strand, W.C. (Telegs.: "Lukach, London." Teleph. No. 3261, Gerrard.) Managing director Traction & Power Securities Co., Ltd.; director Clyde Valley Electric Power Co.; director Strathclyde Electricity Supply Co., Ltd.

Luke, P. V., C.I.E., M.I.E.E., F.R.G.S., 7, Albert Hall Mansions, London, S.W. Director Calcutta Electric Supply Corp., Ltd.; director Telegraph Construction & Maintenance Co., Ltd.

Luke & Spencer, Ltd., emery wheel makers, Broadheath, nr. Manchester. (Telegrams: "Emery, Altrincham." Telephone No. 49, Altrincham.)

Lumb, Ashton, dynamo & motor maker, Lower Rough Head, Hebden Bridge, Yorks.

Lumsden, Thos. T. M., M.I.MECH.E., electrical engineer, 30, Dublin-st., Edinburgh. (Teleph. No. 1124, Central.)

Lund, Edward, electric pumps or pumps driven by electricity, 132, Northgate-st, Stockport. (Telegs.: "Lund, Engineer, Stockport.")

Lund, Richard, A.M.I.E.E., electrical engineer, 78 & 80, Queen Victoria-st., London, E.C. (Teleph. Central 1219.)

Lund Bros. & Co., electric light & power engineers, 78 & 80, Queen Victoria-st., London, E.C. (Teleph. No. 1219, Central.)

Lundberg, A. P., M.I.E.E., electrical engineer, Pioneer Electrical Works, 477–487, Liverpool-rd., London, N. (Telegs.: "Lundberg, London." Teleph. No. 1746, North.)

Lundberg, Gus. C., M.I.E.E., electrical engineer, Pioneer Electrical Works, 477 to 487, Liverpool-rd., London, N. (Telegs.: "Lundberg, London." Teleph. No. 1746, North.)

Lundberg, P. A., electrician, Pioneer Electrical Works, 477 to 487, Liverpool-rd., London, N. (Telegrams: "Lundberg, London." Telephone No. 1746, North.)

LUNDBERG, A. P., & SONS, manufacturers of electrical accessories. Inventors patentees & manufacturers of "Universal," "Dot" & "Magnum" Wall Connections, "PIVOT," "TWINOB" & "MARVEL" SWITCHES & other electric light accessories. Medals awarded, Inventions Exhibition, 1885; Crystal Palace, 1892; Gold Medals, Milan, 1906; Franco-British, 1908; Pioneer Electrical Works, 477 to 487, Liverpool-rd. (entrance Sheringham-rd.), London, N. (Telegs.: "Lundberg, London." Teleph. North 1746.) Agents: Scotland, Messrs. Yuille & Co., 60, Brown-st., Glasgow; other districts: leading wholesale houses. *See advts.*, SWITCH MAKERS—ELECTRIC, & *on lower outside edge.*

Lunken Valve Co., manufacturers of indicators, magnetic tachometers, valves & lubricators, 35, Great Dover-st., London, S.E. (Telegs.: "Lunken, London." A.B.C. Code, 4th & 5th Editions, used.)

Lunn, Edgar, A.M.I.E.E., chief inside electrical assistant, Electricity Works, Huddersfield, & 10, Springwood-ave., Huddersfield.

Lunn, Ernest G., A.M.I.E.E., 17, Trafalgar-rd., Beeston, Notts.

Lunn, J. R. P., M.I.E.E., engineer & manager, Electricity & Tramways Department, Darlington.

Lunn, Wm., A.M.I.E.E., 72, Hereford-rd., Bayswater, London, W.

Lunt, R. L., A.I.E.E., 444, Chester-rd., Old Trafford, Manchester.

Luntley, W. A., general manager, Corporation Tramways, Wolverhampton. (Teleph. No. 324.)

Lupton, Arnold, M.I.C.E., M.I.E.E., M.P., consulting engineer, 7, Victoria-st., London, S.W. Director Cumberland Power Syndicate, Ltd.

Lupton, A. G., J.P., Roundhay, Leeds. Director Roundhay & District Electric Lighting Co., Ltd.; director Yorkshire Electric Power Co.; director Electrical Distribution of Yorkshire, Ltd.

Lurgan Technical School, Lurgan. *See* SCHOOLS.

Lusby, A. J., electrician, 11, Haye's-ave., Ella-st., Hull.

Lustgarten, J., M.SC., A.M.I.E.E., lecturer on electrical engineering, School of Technology, University, Manchester.

Luton Borough Council Electricity Works & Tramways. W. H. Cooke, A.M.I.E.E., electrical engineer. (Nat. Teleph. No. 3.)

Luttrell-Elward, H., A.M.I.E.E., Fleet-st. Electric Light Station, Dublin.

Lycett, J. A., district superintendent British Electric Traction Co., Ltd., Power Station, Downing-st., Smethwick, Staffs. (Telegs.: "Power Station, Smethwick." Teleph. No. 368, Central.) Managing director Kidderminster & District Electric Lighting & Traction Co., Ltd.; managing director South Staffordshire Tramways (Lessee) Co., Ltd.; managing director Dudley, Stourbridge & District Electric Tramway Co., Ltd.; managing director Birmingham & Midland Tramway Co., Ltd.; director Worcester Electric Traction Co., Ltd.; director Leamington & Warwick Tramways Co., Ltd.; managing director City of Birmingham Tramways Co., Ltd.; managing director Wolverhampton District Electric Tramways, Ltd.; director South Staffordshire Tramways Co.; director Shropshire, Worcestershire & Staffordshire Electric Power Co.

Lydall, C. H., A.M.I.E.E., district superintendent, Cleveland & Durham County Electric Power Co., Bishop Auckland, Durham.

Lydall, Francis, A.I.E.E., B.A., B.SC., electrical engineer, 16, Bedford-gdns., Kensington, London, W.

Lyell, J. C., A.M.I.E.E., consulting electrical automobile engineer, 11, Baskerville-rd., Wandsworth Common, London, S.W. (Telegs.: "Electrinus, London." Teleph. Battersea 1000.)

Lyell, J. C., & Co., Ltd., electrical, mechanical & motor car engineers. Works: Westminster. Offices: 55, Victoria-st., London, S.W. (Telegrams & Cables: "Electrinus, London." Telephone No. 2469, Gerrard. A.B.C., A1 & Private Codes used.)

Lyle, James, manufacturing electrician & optician, 37, South Portland-st., Glasgow. (Nat. Telephone No. 217 X. 1, Gorbals.)

Lyme Regis Electric Light & Power Co., Ltd., Lyme Regis, Dorset. Registered March 8, 1909. Nominal capital: £5000 in £1 shares.

Lymington Electric Light & Power Co., Ltd., Electricity Works & Offices, Bath-rd., Lymington (Teleph. No. 17); & Broad Sanctuary-chbrs., Westminster. Registered June 29, 1898. Nominal capital: £23,000 in £5 ordinary shares, £7000 in £5 5 per cent. cumulative preference shares & £10,000 debentures. Issued: £18,000 ordinary shares, £6420 preference shares, & all the debentures, all fully paid. A trust deed has been registered, dated Sept. 26, 1902, to secure the debentures. Directors: K. Pulteney, Esq. (chairman); F. E. Gripper, Esq.; Major Stuart Murray; J. C. Wigham, Esq. Engineer & secretary, Glynn Salter. Dividends: 1901, 1902, 1903 & 1904, 4 per cent. per ann. on ordinary shares.

Lynch, Sidney, A.M.I.E.E., Engineer's Office, Surrey Commercial Dock Co., Rotherhithe, S.E.

Lynch & Co., Ltd., surgical electrical apparatus manufacturers, Silver-st., Falcon-sq., London, E.C. (Telegrams: "Lynchgate, London." Telephone No. 5555, Bank.)

Lynde, F. C., consulting & sanitary engineer, St. Ann's-passage, King-st., Manchester. (Telegs.: "Project, Manchester." Telephone No. 3599.)

Lyndhurst Ltd., Westminster, S.W. Registered Nov. 20, 1900. Nominal capital: £6000 in £1 shares. 1750 shares have been taken up & paid for. Directors: H. H. Montague Smith, Esq.; W. W. Thomson, Esq.; W. M. Bell, Esq. Secretary, J. E. Wood.

Lynton & Lynmouth Electric Light Co., Ltd., Lynmouth, N. Devon. (Nat. Teleph. No. 14, Lynton.) Registered April, 1894. Nominal capital: £7000 in £1 ordinary shares & £1000 in £1 preference shares. Issued: 1000 preference & 5851 ordinary shares have been taken up & are fully paid. Directors: C. Geen, Esq. (chairman); H. H. Benn, Esq. Electrical engineer & secretary, P. T. Kimmins.

Lyon, H. Thomson, M.I.E.E., 34, St. James's-st., London, S.W.

Lyon, J. Stanley, electrical engineer, 13, St. Aubyn's-rd., Portslade, Sussex.

Lyon, J. L., & Co., manganese merchants, 75, Mark Lane; & 19 & 20, London-st., London, E.C. (Telegrams: "Noly, London." A.B.C. Code used.)

Lyons, H. M., A.I.E.E., 70, Wolverhampton-rd., Stafford.

Lyons, J., & Co., Ltd., electric light contractors, Cadby Hall Works, Kensington, London, W. (Teleph. Nos. 420–425, Hammersmith.)

Lysaght, J., Ltd., galvanized iron manufacturers, St. Vincent's Iron Works, Bristol (Telegrams: "Lysaght, Bristol." Telephone No. 910. A.B.C. Code used); & 36, Gracechurch-st., London, E.C. (Telegrams: "Lysaght, London." Telephone No. 1464, Avenue.)

Lyster, Anthony G., engineer-in-chief, Mersey Docks & Harbour Board, Dock Office, Liverpool. (Telegs.: "Dockyard, Liverpool." Teleph. No. 8390, Central.)

Lyster, C. R. C., medical officer in charge of Electrical Department, Middlesex Hospital, London, W.

Lyth, F. W., electrician in charge, Central Station, C.L.C. Railway Co., Manchester.

Lyth, J. J., A.M.I.E.E., Siemens Dynamo Works Co., Ltd., 196, Deansgate, Manchester. (Telegs.: "Siemens, Manchester." Teleph. No. 7081.)

Lytham Electric Light & Power Co., Ltd., 66, Victoria-st., Westminster, London, S.W. Registered Aug. 3, 1906. Nominal capital: £20,000 in £1 shares. Issued: £5051, fully paid. Directors: H. Foote, Esq.; E. J. Owen, Esq. Secretary, I. D. Dymond.

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Macfarlane, Wm. Allan, A.M.I.E.E., Netherlea, Alloa, N.B.

Macfarlane Bros., enamelled stamped steel reflectors, &c., Roxburgh Works, Scotstoun, Glasgow. (Telegrams: "Enamel, Glasgow." Telephone Nos.: 426, Hillhead, Nat.; & 476, Corp.)

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Machine Tool Co., Ltd., London-rd., Nottingham. (Telegs.: "Value, Nottingham." Teleph. No. 107.)

Machinery Market (weekly; price 1*d.*), 146A, Queen Victoria-st., E.C. (Teleph. Central 730.)

Machinery Market, Colonial & Foreign Edition (quarterly), 146A, Queen Victoria-st., London, E.C. (Telegs.: "Wadham, London.") Ann. sub., 10*s.* to any part of the world, including copies of *Machinery Market* (weekly).

Machinery Users Association (Incorp.), 22 & 23, Laurence Pountney-lane, Cannon-st., London, E.C. (Telegs.: "Multifer, London." Teleph. Central 5839.)

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Macintosh, Chas., & Co., Ltd., indiarubber & cable manufacturers, Cambridge-st., Manchester (Telegs.: "Macintosh, Manchester." A.B.C. Code, 5th Edition. Teleph. Nos. 267 & 1408); Ashbourne-rd. Mills, Derby; 1–3, Golden-lane, London, E.C. (Telegs.: "Lark, London." Teleph. No. 3267, London Wall); & at Liverpool.

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Mackey, W. G., electrical contractor, 17, Clayton-st., Newcastle-on-Tyne.

Mackey's Electric Lamp Co., Ltd., Tulip-pl., New Church-st., Bermondsey, London, S.E. *In voluntary liquidation.* Liquidator, W. Bean, 174–175, Aldersgate-st., E.C.

MACKIE, W., & CO., manufacturing electrical engineers, electricians, &c., 47½ Old-st., London, E.C. (Teleph. No. 2704, Central.) *See* DYNAMO & ELECTRIC MACHINE MAKERS.

Mackies, Ltd., electrical engineers, manufacturers of wrought iron spring pulleys, turned shafting, standards, brackets, bearings, &c., Berks Iron Works, Reading (Telegs.: "Machinery, Reading." Teleph. No. 86); & 10, Bush-lane, Cannon-st., London, E.C.

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McMillan, John, resident electrical engineer, Falkirk, N.B.

McMillan, J. H., director Manchester & Liverpool Electric Railway Syndicate, Ltd., 11, Cornhill, London, E.C.

Macmillan & Co., Ltd., publishers of electrical works, St. Martin's-st., London, W.C. (Telegs.: "Publish, London." Teleph. No. 8830, Gerrard.)

McMillan, James, & Co., telephones, switch & multiple boards, Clun House, Surrey-st., Strand, W.C. (Telegs.: "Elektriken, London." Teleph. Central 14485.)

McMorland, J. & J., electric light contractors, 17, Brymner-st., Greenock. (Teleph. No. 7 X 5.)

Macnamara, Patrick T., borough electrical engineer, Limerick.

McNeale, H. T., director Mexico Electric Tramways, Ltd., Threadneedle House, 31, Bishopsgate-st. Within, E.C.

McNee, John, secretary & general manager Electric Tramways Co., Ltd., 1, Warwick-rd., Carlisle. (Teleph. No. 0180.)

Macnee & Co., contractors' plant makers, 3, Victoria-st., London, S.W. (Telegrams: "Macnee, London." Telephone No. 356, Westminster.)

McNeil, A. H., engineer, Pearson Fire Alarm, Ltd., 9, Old Nichol-st., Shoreditch, London, E.

McNelly & Co., electrical contractors, Church-st., St. Helen's, Lancs.

Macniven, D., Fort William. Director Fort William Electric Lighting Co., Ltd.

Maconochie, H., Heath Brow Cottage, Hampstead, N.W. Director Penmachno Corwen & Bettws-y-Coed Light Railway Co., Ltd.

Macphail, Arthur J., A.M.I.E.E., Inglehurst, Kirkby, Liverpool.

McPhail & Simpson, Ltd., steam superheaters, feed water heaters, multiple evaporators, &c., Wakefield. (Telegs.: "McPhails, Wakefield." Teleph. No. 153.)

Macpherson, Donald & Co., Ltd., colour & varnish manufacturers, Knott Mill, Manchester. (Telegrams: "Foochow, Manchester." Telephone No. 897.)

Macqueen Bros., manganese merchants, 9, Billiter-sq., London, E.C. (Telegs.: "Macqueen, London." A.B.C. & A1 Codes used. Teleph. No. 13066, Central.)

McQuown, F. C., A.I.E.E., 44, Marlborough Hill, St. John's Wood, London, N.W.

Macro, A. J., chief electrical engineer, Palmer's Shipbuilding Works, Jarrow.

Macroom & District Electric Lighting Syndicate, Ltd., Cork, Ireland.

Macrory, Edmund, K.C., M.I.E.E., 19, Pembridge-square, London, W.

Macrory, R. V., A.I.E.E., city electrical engineer, Londonderry Corporation Electricity Supply, Strand-rd., Londonderry. (Telegs.: "Macrory, Londonderry." Teleph. No. 154.)

M'Taggart, Capt. W. B., chairman Kolar Mines Power Station, Ltd., 6, Queen-st.-pl., London, E.C.

McWhirter, A. C., A.I.E.E., Central Electrical Engineering Works, 212 & 214, Holm-st., Glasgow.

McWhirter, W., M.I.E.E., 212 & 214, Holm-st., Glasgow.

McWhirter, Roberts & Co., fittings for telegraph cable ships, 249 & 251, East India Dock-rd., London, E. (Telegrams: "McWhirter, London." Nat. Telephone No. 56, East.)

McWhirter, Wm., & Son, electrical engineers & contractors, 212, 214 & 216, Holm-st., Glasgow. (Telegs.: "Testing, Glasgow." Teleph. Nos.: P.O., 528; after office hours, W. 721; Nat., 42, Argyle.)

MacWilliam, G. G., agent for C. T. Maling & Sons, 20, Bartlett's-bldgs., Holborn Circus, London, E.C. (Telegrams: "MacWilliam, London." Telephone No. 12539, Central.)

Madan, C. S., & Co., Ltd., injector & ejector manufacturers, Crowther-st., Salford. (Telegrams: "Vortex, Manchester." Telephone No. 2733.)

Madden, W. M., M.A., M.I.E.E., Clints, Muster Green, Hayward's Heath, Sussex.

Maddock, G. M., A.M.I.E.E., 140, Elsenham-st., Southfields, S.W.

Maddock, John, & Co., Ltd., malleable iron castings, Oakengates, Shropshire. (Telegrams: "Maddocks, Oakengates." Telephone No. 8, Oakengates.)

Madeira Electric Lighting Co. (1909), Ltd., 75, Lombard-st., London, E.C. Registered Nov. 25, 1909. Nominal capital: £30,000 in £5 shares. Directors: H. Hirst, Esq.; G. I. Moody, Esq.; H. Kahn, Esq.

Madge, F., electric light, bell & telephone contractor, 42, Inverness-pl., Cardiff.

Madge, Henry Ashley, A.M.I.E.E., H.M.S. *Vernon*, Portsmouth.

Madgen, Frederic James, A.M.I.E.E., joint managing director W. Lucy & Co., Ltd., Eagle Ironworks, Oxford. (Telegs.: "Lucy, Oxford." Teleph. No. 97.)

Madgen, William L., M.I.E.E., Falcon Works, Loughborough; & Electrical Federation Offices, Kingsway, London, W.C. Chairman, W. Lucy & Co., Ltd.; chairman Mutual Electric Trust, Ltd.; joint managing director British Electric Traction Co., Ltd.; director County of Durham Electric Power Supply Co.; chairman Merthyr Electric Traction & Lighting Co., Ltd.; director Treforest Electrical Consumers Co., Ltd.

Madras Electric Supply Corporation, Ltd., Salisbury House, London Wall, E.C. Registered Jan. 27, 1906. Nominal capital: £400,000 in £5 shares. Issued: 10,000 shares, £5 per share paid, & £250,000 5 per cent. construction debenture stock secured by trust deed, dated Feb. 22, 1906. A trust deed, dated Oct. 17, 1906, executed pursuant to a trust of Feb. 22, 1906 (already registered), securing £250,000 "Construction" debenture stock, was registered in India May 17, 1907. Directors: A. M. H. Walrond, Esq. (chairman); Sir Wm. J. Cuningham, K.C.S.I.; T. E. Ivens, Esq., A.M.I.C.E.; J. G. B. Stone, Esq. Secretary, F. R. Reeves.

Madras Electric Tramways (1904), Ltd., Dashwood House, 9, New Broad-st., London, E.C. Registered March 16, 1904. Nominal capital: £150,000 in 15,000 non-cumulative 4½ per cent. preferred ordinary shares & 15,000 deferred ordinary shares of £5 each. Issued: 11,500 preferred ordinary & 11,452 deferred ordinary. The preferred ordinary are entitled, in addition to 4½ per cent., to one-third of the surplus profits. £50,000 5 per cent. mortgage debenture stock secured by trust deed, dated March 18, 1904, £4900 mortgage debenture stock secured by trust deed of July 20, 1906, & £11,000 5 per cent. mortgage debenture stock, secured by trust deed, dated Feb. 28, 1907, of which £1800 has been redeemed. Directors: W. S. B. McLaren, Esq. (chairman); J. Gray, Esq.; T. E. Ivens, Esq. Sec., D. Willock.

Maginnis, J. P., A.M.I.C.E., M.I.M.E., consulting engineer, 11, Carteret-st., Westminster, London, S.W. (Telegs.: "Offset, London." A.B.C. Code & Unicode used. P.O. Teleph. No. 192, Victoria.)

MAGNETA TIME CO., LTD. (installed in chief Postal Buildings), Electrical Clock & Synchronized Time Systems without batteries or contacts, Chatham House Works, Turnham Green, Chiswick, W. (Telegs.: "Dial, London." Tel. Chiswick 902.) Manufacturing under seven British Patents.

Magnetic Separator, Ltd., ironfounders, electrical & mechanical engineers, 36, Dale-st., Liverpool.

Magneto Co., Ltd., magneto & electrical manufacturers, Dreadnought Works, Phillip-st., Aston.

Magnolia Anti-Friction Metal Co. of Great Britain, Ltd., 49, Queen Victoria-st., London, E.C. (Telegrams: "Magnolier, London." Telephone No. 5925, Bank. A1 & Lieber's Codes.)

Magrath, H. J., electrical engineer, 93, Effingham-rd., Lee, London, S.E.

Magoris, J. F., A.M.I.E.E., chief assistant electrical engineer, Corporation Electricity Works, Sculcoates-lane, Hull.

Maguire, J. R., 3, Cleveland-sq., London, S.W. Director African Transcontinental Telegraph Co., Ltd.

Maguire & Gatchell, Ltd., electrical engineers, 14, Dawson-st., Dublin. (Telegs.: "Maguireson, Dublin." Teleph. Nos. 107, 656 & 186.)

Mahon, Wm. H., A.M.I.E.E., "Highfield," Belmont-rd., Watford.

Mahony, M. F., Lota Beg, Co. Cork. Director Clontarf & Hill of Howth Tramroad Co.

Mahood, Ernest Robert, A.I.E.E., 12, Freshfield-pl., Kemp Town, Brighton.

Mahood, S. A., A.M.I.E.E., resident engineer, Birmingham & Midland Tramways, Ltd., Smethwick.

Maidenhead Corporation Electricity Works, Maidenhead. (Nat. Teleph. No. 95.) Engineer, C. O. Milton.

Maidstone Corporation Electric Tramways, Mill-st., Maidstone. (Teleph. No. 72.) F. E. Saunders, general manager.

Maidstone Corporation Electricity Works. Engineer, E. E. Hoadley, M.I.E.E. (Teleph. No. 41.)

Mairs, J. B., local manager National Telephone Co., 28, Market-st., Aberdeen.

Maitland, J. W., A.M.I.E.E., 34, Cavendish-rd., Chorlton-cum-Hardy, Manchester.

Major & Co., Ltd., insulating materials, Sculcoates, Hull. (Telegs.: "Major, Hull." Teleph. Nat. & Corp. 4400.)

Makin, J., A.I.E.E., 107, Upper Hanover-st., Sheffield.

Makin & Co., Ltd., electrical engineers, Kelvin Works, Townhead-st., Sheffield. (Teleph. No. 3522.)

Makinson, Warwick, electrical engineer, Roundthorn, Sale, nr. Manchester.

Makovski, A. W., A.M.I.E.E., electrical engineer, Tamplin & Makovski, Ltd., Brighton Works, Reigate.

Makower, Alfred J., M.A. (Cantab), A.M.I.E.E., head of Department of Electrical Engineering, South-Western Polytechnic, Chelsea, London, S.W.

Malaga Electricity Co., Ltd., formed to generate & supply electric light in Malaga & elsewhere in Spain, 39, Coleman-st., London, E.C. (Teleph. No. 1347, London Wall.) Registered May 23, 1896. Capital: £57,000 in 10,000 ordinary shares of £5 each, & 7000 ordinary shares of £1 each. All the shares have been taken up, & are fully paid. Mortgages & charges, £44,738. Directors: R. C. Wyatt, Esq. (chairman); F. Belcher, Esq.; R. W. Hammond, Esq. Electrical engineer, E. Crawshaw; secretary, C. Humphreys. Dividends to 1908, *nil.*

Malatesta, E., electrical & general engineer, 112, High-st., Islington, London, N.

Malcolm & Allan, Ltd., electrical engineers, 499, Eglinton-st., Glasgow. (Telegs.: "Rheostat, Glasgow." Teleph. Nos.: 408, Gorbals; & P.O., X. 70.)

Malden, G. F., A.I.E.E., "Roslyn," Fountayne-rd., Stoke Newington, London, N.

Male, Wm., & Son, Ltd., wiring contractors, 1A, Village-rd., Birkenhead.

Maling, Fredk. T., A.I.E.E., 14, Ellison-place, Newcastle-on-Tyne.

Maling, C. T., & Sons, manufacturers of earthenware for electrical purposes, Ford Potteries, Newcastle-on-Tyne (Telegrams: "Maling, Newcastle-on-Tyne." Telephone No. 599); & London. (G. G. MacWilliam, London agent, 20, Bartlett's-bldgs., E.C.)

Malleable Steel Castings Co. (1909), Ltd., Scotia Works, Lonsdale-st., Pendleton, Manchester.

Mallett, C. S., A.M.I.E.E., 5, Collingwood-ave., Muswell Hill, London, N.

Malley, John D., electrician, 15, Egerton-rd., Wavertree, Liverpool.

Mallins, Chas. W., A.I.E.E., general manager, Corporation Electric Tramways, Liverpool; & Elgin, 3, Agnes-rd., Blundellsands.

Mallinson, Arthur B., A.M.I.E.E., electrical engineer, Rochebourne, Park-rd., Crumpsall, Manchester.

Mallinson, G. G., A.M.I.E.E., Electrical Dept., Vickers, Sons & Maxim, Barrow-in-Furness.

Mallmann, F., 30, Cheniston-gdns., Kensington, W. Director Buenos Ayres Electric Tramways Co. (1901), Ltd.

Malone, J., electrical engineer & contractor, Barnstaple.

Malta Tramways, Ltd., Caxton House, Westminster, London, S.W. Registered July 9, 1908. Nominal capital: £140,000 in £1 shares. Issued: 125,000 ordinary shares & £18,377 has been received. Directors: Jno. F. Macartney, Esq.; J. A. M'Elroy, Esq.; M. L. Wright, Esq. Secretary, R. R. Hibben.

Malton & Norton Electricity Works (Northern Counties Electricity Supply Co., Ltd.), Malton, Yorks (Teleph. No. 50.) Engineer, C. W. Fairweather, M.I.E.E.; resident engineer, J. Chandler.

Malvern Urban District Council Electricity Works. (Telegs.: "Light, Malvern." Nat. Teleph. No. 36.) Resident engineer, W. J. Rendell Baker.

Manaos Tramways & Light Co. Ltd., 9, Cloak-lane, London, E.C. Registered Jan. 12, 1909. Nominal capital: £300,000 in £1 shares, & £500,000 debentures, secured by trust deed dated Oct. 20, 1909. Directors: W. C. Burton, Esq.; G. R. Booth, Esq.; J. Mitchell, Esq. Secretary, E. A. Borel.

Mance, Sir H. C., C.I.E., LL.D., M.I.C.E., M. & Past President I.E.E., Old Woodbury, Sandy, Beds. Chairman Oxford Electric Light Co.; director West African Telegraph Co., Ltd.; chairman Davis & Timmins, Ltd.

Mancey, E. P., manager Immisch Electric Launch Co., Ltd., Platt's Eyot, Hampton-on-Thames (Telegrams: "Immisch, Hampton." Telephone No. 17, Molesey); & Riversdale, Riverside, Maidenhead, Berks.

Manchester, S. C., A.I.E.E., 10, Queen's Gate, Chorley, New-rd., Bolton, Lancs.

Manchester Association of Engineers, 29, Brown-st., Manchester. (Telegs.: "Mediator, Manchester." Teleph. No. 3786.)

Manchester Corporation Electricity Department, Town Hall, Manchester (Telegs.: "Arcturus, Manchester." Teleph. Central 7650); & Dickinson-st. Works. (Telegs.: "Potential, Manchester." Nat. Teleph. Nos. 2301 & 4505.) Chairman of the Committee, Councillor G. Howarth, J.P.; engineer, S. L. Pearce, M.I.C.E, M.I.E.E., M.I.MECH.E., M.AM.I.E.E.

Manchester Corporation Tramways, 55, Piccadilly, Manchester. (Telegrams: "Tramways, Manchester.") General manager, J. M. McElroy; engineer, J. J. McMahon.

Manchester & Liverpool Electric Railway Syndicate, Ltd., 11, Cornhill, London, E.C. Registered Oct. 18, 1899. Nominal capital: £60,000 in £100 shares. Issued: £45,800. Directors: J. S. Bergheim, Esq.; Sir W. Mather; D. Cunningham, Esq.; J. H. McMillan, Esq.; The Hon. R. J. Strutt. Electrical engineer, F. B. Behr; secretary, J. D. Pillans.

Manchester Municipal School of Technology, Sackville-st., Manchester. (Telegrams: "Technology, Manchester." Nat. Teleph. Central 397.) *See* SCHOOLS.

Manchester Section of the Institution of Electrical Engineers (chairman, S. J. Watson; hon. secretary, H. W. Wilson, 19, Brazennose-st., Manchester). (Telegs.: "Kinematic, Manchester." Teleph. Central 5020.)

Manchester Steam Users' Association, 9, Mount-st., Albert-sq., Manchester. (Telegs.: "Steamusers.")

Mandelick, W. E., Electric Railway-bldg., St. James's Park, Westminster, S.W. Director Union Construction Co., Ltd.

Mander & Co., electrical engineers & contractors, 258, Villa Cross, Handsworth, Birmingham. (Teleph. Northern 649 Y.)

Mange & Co., manufacturers of enamelled iron reflectors & shades, 49, Newgate-st., London, E.C.

Manley, Wm., demonstrator in Electrical Engineering Laboratory, G.E.R. Mechanics' Institute, Stratford, London, E.

Manlove, Alliott & Co., Ltd., general engineers, boiler makers, &c., Bloomsgrove Works, Nottingham. (Telegrams: "Manloves, Nottingham." Telephone No. 274.) London office: 41 & 42, Parliament-st., Westminster, S.W. (Telegrams: "Manloves, London." Telephone No. 3405, Gerrard.)

Mann, F. C., resident engineer, Corporation Electricity Works, Exmouth.

Mann, J., director Chichester Electric Light & Power Co., Ltd., 85, Fleet-st., London, E.C.

Mann, J. W., 64, Emscote-rd., Warwick. Director Leamington & Warwick Electrical Co., Ltd.

Mann, Egerton & Co., Ltd., electric light engineers, Bank Plain, Norwich (Telegs.: "Installation, Norwich." Nat. Teleph. No. 217); 59, London-rd. N., Lowestoft; 39, Princes-st., Ipswich; & 82, Victoria-st., London, S.W.

Mann & Sons, Ltd., wiring contractors, High-st., Worcester. (Telegs.: "Manns, Ltd., Worcester." Tel. 100.)

Manners, H., electrician, 80, New Kent-rd., London, S.E.

Mannheim, Dr. John, electrical engineer, A. Dickinson & Co., 210, Gresham House, Old Broad-st., London, E.C. (Telegs.: "Noitcart, London." Teleph. No. 2548, London Wall.)

MANNHEIM INDIA RUBBER, GUTTA PERCHA & ASBESTOS WORKS CO, LTD., 61, Leadenhall-st., London, E.C. (Teleph. No. 2408, City.) Sole British agent, A. Terry.

Manning & Son, electrotypers, 26 & 28, Old-street, Goswell-rd., London, E.C.

Mannox, W., A.M.I.E.E., 91, Stirling-rd., Birmingham.

Mansbridge, G. F., M.I.E.E., Factories Department, G.P.O., Bovay-pl., Holloway, London, N. (Teleph. No. 33, Official.)

Mansel-Jones, S., wholesale electrical stores, 7 & 8, Western Mail-chbrs., Cardiff. (Telegs.: "Cryselco, Cardiff." P.O. Teleph. 226.)

Mansfield, Alfred, A.I.E.E., c/o Mansfield & Sons, Ltd., Derby-sq., James-st., Liverpool.

Mansfield, C. E., elec. inspector, British Engine, Boiler & Elec. Ins. Co., Ltd., 12, King-st., Manchester.

Mansfield Corporation Electricity Works & Tram Supply. Engineer & manager, E. Holcombe Hewlett, M.I.E.E., M.AM.I.E.E. (Nat. Teleph. No. 91.)

Mansfield & District Tramways, Ltd., 53, Temple-chbrs., Temple-ave., London, E.C. (Teleph. Central 14076); & Sutton-rd., Mansfield. (Telegs.: "Cars, Mansfield." Teleph. Mansfield 107.) Registered Dec. 7, 1906. Nominal capital: £130,000 in £1 shares, 80,000 of which are 6 per cent. cumulative preference shares; £70,000 debenture stock secured by trust deed, dated Dec. 17, 1906. Issued: 27,836 ordinary & 60,000 preference shares, & all the debentures, all fully paid. Directors: A. R. Holland, Esq. (chairman); W. J. Chadburn, Esq.; A. H. Beatty, Esq.; Geo. Balfour, Esq. Engineer, manager & secretary, C. R. Walker.

Mansfield Engineering Co., electric light & power contractors, Mansfield.

Mansfield & Meldon, electrical engineers, 43, Dame-st., Dublin.

Manton, Arthur Woodroffe, B.SC., M.I.C.E., M.I.E.E., 10, Victoria-st., London, S.W.

Manual of Electrical Undertakings & Directory of Officials (annually; 21*s*.), 37 & 38, Strand; & 1, Buckingham-st., London, W.C.

Manville, E., M.I.E.E., electrical consulting engineer, St. Stephen's House, Victoria Embankment, Westminster, London, S.W. (Telegs.: "Kincaid, London." Teleph. Westminster 10 & 11.)

Manwaring, J., 107, Manor-rd., Brockley. Chairman Ascot District Gas & Electricity Co.

Manx Electric Railway Co., Ltd., 78, Cornhill, London, E.C. (Telegrams: "Huniscorum, London." Telephone No. 10511, Central); & 1, Strathallan-cres., Douglas, Isle of Man. (Telegrams: "Electric, Douglas, Man." Teleph. No. 61.) Registered Nov. 17, 1902. Nominal capital: £275,000 in 30,000 5½ per cent. cumulative preference shares of £5, 25,000 ordinary shares of £5 each & £200,000 4½ per cent. debenture stock. Issued: 26,040 preference & 20,000 ordinary shares, & all the debenture stock, fully paid. Directors: A. G. Boscawen, Esq. (chairman); Sir W. H. Vaudrey; B. E. Greenwell, Esq.; E. Schenk, Esq. Engineer & general manager, F. Edmondson, A.M.I.E.E.; consulting engineers, Kincaid, Waller, Manville & Dawson; secretary, C. A. Huni, F.C.I.S.

Maple & Co., Ltd., electric light engineers, 141–149, Tottenham Court-rd., London, W. (Telegs.: "Maple, London." Teleph. No. 7000, Gerrard.)

Maquay, G. A., A.M.I.E.E., 3, Bowerdean-st., Fulham, London, S.W.

Marbro, Ltd., manufacturers of electrical supplies, 22, Belsham-st., Morning-la., Hackney, London, N.

Marchant, E. W., D.SC., M.I.E.E., professor of electrical engineering, The University, Liverpool. (Teleph. No. 621, Royal.)

Marchant, G. M., high pressure steam & water valves & propeller lubricators for steam engines, Rashcliffe Brass & Iron Works, Albert-st., Huddersfield. (Telegs.: "Alarm, Huddersfield." Teleph. No. 210.)

Marco, P. H., engineer & manager, Barnsley & District Electric Traction Co., Ltd., Barnsley.

Marco, C., & Co., Ltd., manufacturers of wooden pedestals with hollow shafts for wiring, 116, Curtain-rd., London, E.C. (Telegs.: "Pedestal, London.")

Marconi, Alfonso, director Marconi's Wireless Telegraph Co., Ltd., Watergate House, Adelphi, London, W.C.

Marconi, Commendatore G., LL.D., D.SC., M.I.E.E., Watergate House, Adelphi, W.C. (Telegs.: "c/o Expanse, London." Teleph. No. 14340, Central.) Managing director Marconi International Marine Communication Co., Ltd.; chairman, managing director & technical adviser, Marconi's Wireless Telegraph Co., Ltd.

Marconi International Marine Communication Co., Ltd., The, telegraph company, Watergate House, York-bldgs., Adelphi, London, W.C. (Telegs.: "Expanse, London." Teleph. No. 14340, Central. Marconi, Western Union & A.B.C. Codes.) Registered April 25, 1900. Nominal capital: £350,000 in £1 shares, 204,056 of which have been taken up, 105,000 shares issued as fully paid, & the rest are fully paid, & £40,000 debentures. Directors: J. F. G. Bannatyne, Esq.; G. Marconi, Esq., LL.D., D.SC. (managing); A. Ochs, Esq.; Major S. Flood Page; H. S. Saunders, Esq.; Col. Sir C. Euan-Smith, K.C.B.; H. Jameson Davis, Esq.; M. E. de St. Paul de Sinçay. Secretary, H. W. Allen, F.C.I.S.

Marconi's Wireless Telegraph Co., Ltd., engineers & telegraph apparatus makers & telegraph contractors, Watergate House, Adelphi, London, W.C. (Telegs.: "Expanse, London." Teleph. No. 14340 (2 lines), Central. Marconi, Western Union & A.B.C. Codes); & Hall-st. Works, Chelmsford, Essex. Registered July 20, 1897. Nominal capital: £500,000 in £1 ordinary shares & £250,000 in £1 7 per cent. cumulative participating preference shares. Issued: 394,190 ordinary shares fully paid & 153,149 preference shares fully paid. Mortgages & charges: £21,077 7*s.* 4*d.* Directors: G. Marconi, Esq., LL.D., D.SC. (chairman, technical adviser & managing); Col. Sir Chas. Euan-Smith, K.C.B., C.S.I.; H. Jameson Davis, Esq.; Major S. Flood-Page; H. S. Saunders, Esq.; S. Geoghegan, Esq., M.I.C.E.I., M.I.M.E.; Hammersley Heenan, Esq.; Capt. H. Riall Sankey; Alf. Marconi, Esq. Secretary, H. W. Allen, F.C.I.S.

Marden, Wm., A.M.I.E.E., c/o Siemens Bros., Stafford.

Mardy Electric Light Co., Ltd., Mardy, Glamorgan. Registered June 3, 1897. Capital: £2000 in £1 shares. All taken up & paid. Mortgages & charges: £600. Directors: Ed. Griffiths, Esq. (chairman); Thos. Thomas, Esq.; Daniel Davies, Esq.; A. Evans, Esq. Engineer, Ernest Davies; secretary, W. J. Jones.

Margetts, John, A.M.I.E.E., Trafalgar House, Stoke, Devonport.

Marion & Co., Ltd., proprietors of Marion's ferro-prussiate process for draughtsmen, 22 & 23, Soho-sq., London, W. (Telegrams: "Noiram, London." Telephone No. 1693, Gerrard.)

Markby, W., A.M.I.C.E., M.I.E.E., resident engineer, Willesden Works, Acton-lane, London, N.W.

Market Drayton Electric Light & Power Co., Ltd., Cheshire-st., Market Drayton. (P.O. Teleph. No. 13.) Registered Feb. 4, 1902. Nominal capital: £15,000 in £10 shares. Issued: £12,910, fully paid. Directors: R. C. D. Hudson, Esq. (chairman); C. W. Clifford, Esq.; A. E. Wycherley, Esq. Secretary, T. H. Garside; res. engr., C. F. Bottomley. Dividends: 1904, 1905 & first half of 1906, *nil.*

Markham, F. R. (Bray, Markham & Reiss, Ltd.), Black Horse-lane, Walthamstow.

Markham, Admiral Sir A. H., K.C.B., 12, Petersham-ter., Kensington, S.W. Director Cape Electric Tramways, Ltd.; director Lisbon Electric Tramways, Ltd.; director Mexico Electric Tramways, Ltd.

Markham & Co., engines for electric lighting, Broad Oak Iron Works, Chesterfield.

Marks, A. E., electrician, Ogmore Valley Electric Light & Power Supply Co., Ogmore Vale, Glam.

Marks, G. Croydon, 18, Southampton-bldgs., Chancery-lane, W.C. Director Bude Electric Supply Co., Ltd., Bude, Cornwall.

Marks & Clerk, consulting engineers & chartered patent agents, 30, Cross-st., Manchester (Telegs.: "Anticipate, Manchester." Teleph. No. 4272); 18, Southampton-bldgs., Chancery-lane, London, W.C. (Telegs.: "Abecedary, London." Teleph. No. 836, Holborn); & 13, Temple-st., Birmingham. (Telegs.: "Pumps, Birmingham." Teleph. No. 666.)

Markt Bros. & Co., manufacturers, importers & exporters of electrical accessories, 38 & 39, Beech-st., Barbican, London, E.C. (Telegs.: "Extradotal, London." Teleph. No. 1668, Central.)

Marlborough Electric Supply Co., Ltd., 38, Parliament-st., S.W. Registered Dec. 8, 1904. Nominal capital: £1000 in £1 shares.

Marler, H. A., A.I.E.E., consulting electrician, 51, Northolme-rd., Highbury, London, N.

Marler, H., & Co., electrical engineers, 9, Finsbury-sq., London, E.C. (Teleph. No. 9538, London Wall.)

Marley, G. E., A.M.I.E.E., Engineer's Office, Surrey Commercial Docks, Rotherhithe, S.E.

Marling, W., J.P., Stanley Park, Stroud. Director Gloucestershire Electric Power Co.; director Gloucestershire Electric Power Syndicate, Ltd.

Marlor, L. H., A.M.I.E.E., assistant engineer, Corporation Electricity Department, Manchester.

Marples, Ernest, A.M.I.E.E., Dallah, Station-rd., Gravelly Hill, Birmingham.

Marples, Leach & Co. *See* Adnil Electric Co.

Marr, James B., electrical engineer (Nursey & Marr), 53, Victoria-st., Westminster, London, S.W. (Telegrams: "Nurmarrus, London." Telephone No. 1855, Victoria.)
Marr, J. L., A.I.E.E., Parkside, Roker, Sunderland.
Marr, J. J., & Co., electrical engineers & manufacturing electricians, 18, Moorfields, Liverpool. (Telegrams: "Marr, Moorfields, Liverpool." Telephone No. 1777.)
Marriage, T. S., & Co., electric light & bell fitters, Bell-st., Reigate; & Station-rd., Redhill, Surrey.
Marris, G., & Son, Ltd., makers of brass stampings for electric & other trades, &c., Browning-st., Birmingham. (Telegrams: "Stampers, Birmingham." Telephone No. 3544.)
Marryat, Howard, M.I.E.E., 28, Hatton Garden, London, E.C.
Marryat & McNaught, Ltd., electrical engineers, Askew Works, 31A, Askew-cres., Shepherd's Bush, W. (Teleph. Chiswick 565.)
Marryat & Place, electrical engineers. Head office: 28, Hatton Garden, E.C. (Telegs.: "Annealable, London." Tel. No. 991, Holborn); & 30, Kirby-st., E.C. Factory: Askew Works, Shepherd's Bush, W.
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Marsden, W. G., electrical engineer, New Queen-st., Morecambe.
Marsden, W. T., A.I.E.E., 44, Grange-cres., Sharrow, Sheffield.
Marsden, Jas., Ltd., electrical engineers, Lancaster-rd., Preston.
Marsden, John, & Co., electrical engineers, Market-place, Huddersfield. (Telephone No. 530.)
Marsden & Maudsley, electric lighting contractors, New Queen-st., Morecambe.
Marsh, E. J., A.I.E.E., Power House, Kelham Island, Sheffield.
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Marsh, S. P., electrician, 63, Regent-st., Rugby.
Marsh, T. E., A.M.I.E.E., 42, Reighton-rd., Upper Clapton, London, N.E.
Marsh, Wm., A.M.I.E.E., engineer & general manager, Corporation Tramways, Brighton. (P.O. Tel. 353.)
Marsh Bros., electrical engineers, Sheffield Brass & Electrical Works, Townhead-st., Sheffield. (Tel. 684.)
MARSH, SON & CO., LTD., manufacturing electrical engineers, 15, Gerrard-st., London, W. (Telegs.: "Voltmeters, London." Tel. No. 2414, Gerrard.) *See* ACCESSORIES MANUFRS.—ELECTRIC.
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Marshall, Wm. C., M.A., director Hindhead & District Electric Light Co., Ltd., Hindhead, Surrey.
Marshall, Wm. H. U., M.I.E.E., A.M.I.MECH.E., electrical engineer, resident engineer for Preece & Cardew, H.M. Dockyard, Portsmouth.
Marshall, Fleming & Co., electric crane makers, Dellburn Works, Motherwell, N.B. (Telegs.: "Dellburn, Motherwell." Teleph. No. 50.)
Marshall, R. E. & C., Ltd., installation contractors, 5, Clarence-st., Cheltenham. (Telegrams: "Marshall, Cheltenham." Telephone No. 351.)
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Marshall, W. & T., wiring contractors, Burnside Works, Stirling.
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Martin, H., Olive Mount, Grosvenor-rd., St. Helens. Director New St. Helen's & District Twys. Co., Ltd.
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Martin, P., electrician, 12, Grove-rd., Mile End, London, E.
Martin, P. M., manufacturing electrician, 29, Waterloo-st., Glasgow.

Martin, Sir R. B., Bart., 140, High-st., Notting Hill, W. Director Notting Hill Electric Light Co., Ltd.

Martin, Wm., M.D., A.I.E.E., West Villa, Akenside-ter., Newcastle-on-Tyne.

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Martin & Co., manufacturers of dynamo castings, &c., Albion Works, East-rd., West Ham, London, E. (Telegrams: "Almartaga, London." Telephone No. 381, Stratford.)

Martin, Fitt, Thomas & Co., electric light engineers, 7, High-st., Grantham. (Telegs.: "Martins, Grantham." Teleph. No. 20.)

Martin, Mark, & Sons, electric lighting contractors, 1, Cornfield-ter., Eastbourne.

Martin & Newby, electric bell fitters & contractors, 2, Fore-st., Ipswich.

Martin & Sander, engineering photographers, 4, Manor-rd., Stoke Newington, London, N.

Martin, Thos. R., & Co., Ltd., electrical engineers & manufacturers' agents, Pilgrim House, Pilgrim-st., Newcastle-on-Tyne. *In voluntary liquidation.* Liquidator, Chas. Gray, 37, Albert-rd., Middlesbrough.

Martin, W. C., & Co., electrical engineers, 10, West Campbell-st., Glasgow. (Telegrams: "Motive, Glasgow." Teleph. Nos.: 3736, P.O.; & 1044, Argyle, Nat.)

Martin, W. C., & Co., electrical contractors, Gloucester Mansions, Charing Cross-rd., London, W.C. (Telegs.: "Tribord, London." Teleph. No. 4053, Gerrard.)

Martindale, W. B. H., A.M.I.C.E., M.I.M.E., Haistwell House, Sunningdale, Berks. (Telegs.: "Martindale, Sunningdale." Teleph. Ascot 269.) Director Cork Electric Tramways & Lighting Co., Ltd.; director Chatham & District Light Railways Co.

Martineau, W., director Brazilian Street Railway Co., Ltd., 134, Palmerston House, Bishopsgate-st., E.C.

Martineau, Beames & Madeley, Ltd., brass founders & electric bell makers, 58–62, Holloway Head, Birmingham. (Telegs.: "Martsmith, Birmingham." Teleph. No. 258.)

Martyn, S. W., A.M.I.E.E., A.M.I.MECH.E., 11, Pratt-st., Camden Town, London, N.W. (Telegs.: "Aerocars, London." Teleph. North 984.)

Martyn, S. W., & Co., automobile & electrical engineers, 11, Pratt-st., Camden Town, London, N.W. (Telegs.: "Aerocars, London." Teleph. No. 984, North.)

Marx, J., & Co., pumps & turbine makers, 133–139, Finsbury Pavement, London, E.C. (Telegrams: "Schuhstoff, London." Telephone No. 9014, London Wall.)

Marzi Loud-Speaking Telephone Co., Ltd. Registered Nov. 15, 1907. Nominal capital: £15,000 in £1 shares.

Maschinenfabrik Oerlikon (Zürich), electrical engineers, Oswaldestre House, Norfolk-st., Strand, London, W.C. (Telegs.: "Oerlik, London." Teleph. No. 4167, Gerrard.) G. Wüthrich, manager.

Maslin, J. C., 36A, Derby-rd., Long Eaton. Director Harrington Electric Light Co., Ltd.

Mason, A. V., A.M.I.E.E., general manager & engineer, South Metropolitan Electric Tramways & Lighting Co., Ltd., Langley Park-rd., Sutton, Surrey. (Teleph. Nos.: 14, Office; & 24, Works.)

Mason, D. M., electrical superintendent, Electricity Works, Croydon.

Mason, G., Rottingdean, Sussex. Chairman New Rottingdean Electricity Co., Ltd.

Mason, R. G., manufacturer of electrical instruments, 69, Park-rd., Clapham, London, S.W.

Mason, B., & Co., electric light fittings makers & metal rollers, Wharf-st., Aston, Birmingham. (Teleph. No. 181, East.)

Mason & Brown, manufacturing electricians, Volta Works, 82, Rutland-st., Leicester. (Nat. Teleph. No. 4413.)

Mason, C. H., Wilson & Co., Ltd., electrical engineers, 18–25, West-st., Gateshead. (Nat. Teleph. No. 309.)

Mason, J. F., & Co., electrical engineers, 136A, Woodhouse-lane, Leeds.

Mason, W. F., Ltd., civil, electrical & mechanical engineers, Mona Works, Levenshulme, Manchester. (Telegs.: "Mona, Levenshulme." Teleph. No. 216, Rusholme.)

Mason, W. H., & Co., electrical engineers, 12, Broad-st., Pendleton, Manchester.

Massachusetts Chemical Co., 6, 7 & 8, Crutched Friars, London, E.C. (Telegs.: "Windsail, London." Teleph. Central 1370.)

Massé, Francis, & Co., makers of engine grease & grease lubricators, 53, Union-rd., Rotherhithe, S.E.

Massey, J. D., A.M.I.C.E., consulting engineer, 139, Cannon-st., London, E.C. (Telegs.: "Howbeit, London." Teleph. No. 5812, Bank.)

Massey, Wm. H., M.I.C.E., M.I.E.E., consulting, mechanical & electrical engineer, 25, Queen Anne's-gate, London, S.W. (Telegs.: "Massive, London." Teleph. No. 2528, Victoria.)

Massey, Wm. T., A.M.I.E.E., 37, Howarth-st., Old Trafford, Manchester.

Massey, B. & S., mechanical engineers, Openshaw, Manchester. (Telegrams: "Masseys, Openshaw." Telephone No. 300.)

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Mathematical Gazette (six times a year, 1*s.* 6*d.* per number); editor, W. J. Greenstreet, Marling Endowed School, Stroud, Glos. Geo. Bell & Sons, York House, Portugal-st., London, W.C.

Mather, Sir W., LL.D., director Manchester & Liverpool Electric Railway Syndicate, Ltd.; chairman Mather & Platt, Ltd., Salford Iron Works, Manchester.

Mather, T., WH.SC., M.I.E.E., F.R.S., professor of electrical engineering, City & Guilds of London Central Technical College, Exhibition-rd., London, S.W.; & 37, Wyatt Park-rd., Streatham Hill, S.W.

Mather Bros., electric light installation contractors, 36, Farringdon-st., E.C.; & 278, Caledonian-rd., N. London. (Telephone Nos.: 1929, North; & 1509, Holborn.)

Mather, G. R., & Son, pump makers, Albion Foundry, Wellingborough. (Telegs.: "Mather, Wellingborough." Nat. Teleph. No. 14 Y.)

MATHER & PLATT, LD., manufacturing, electrical, mechanical, hydraulic & fire engineers, contractors for electric light & power plants, electric railways & tramways, gas & steam engines, pumps, sprinklers, &c., Salford Iron Works & Park Works, Manchester; & Queen Anne's-chbrs., Westminster, London, S.W.; also at Birmingham, Glasgow, Newcastle-on-Tyne & Cardiff. (Telegs.: "Mather, Manchester;" "Sprinkler, London." Nat. Teleph. Nos.: 5781, 5782 & 5783, Manchester; & 851 & 852, Westminster.) Reconstructed & registered Jan. 21, 1899. Nominal capital: £600,000 in £1 ordinary shares & £400,000 in £10 preference shares. 600,000 ordinary are issued & fully paid & 40,000 preference shares, fully paid. Directors: Sir W. Mather (chairman); J. Taylor, Esq. (vice-chairman); Dr. E. Hopkinson; J. J. Holden, Esq.; J. E. Hubbard, Esq.; L. E. Mather, Esq.; J. Platt, Esq.; J. Wormald, Esq. Secretary, V. R. Milner, F.C.I.S. Dividends: 1907, 10 per cent. on ordinary & bonus of 5 per cent., 5 per cent. on preference; 1908, 10 per cent. on ordinary & bonus of 7½ per cent., 5 per cent. on preference; first half of 1909 (*interim*), at rate of 10 per cent. per annum.

Matheson, C. L., K.C., 20, Fitzwilliam-sq., Dublin. Director Greystones Electric Light & Power Co., Ltd.

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Mathews, E. G. D., A.M.I.E.E., 49, Clanricarde-gdns., Bayswater, London, W.

Mathews, S., A.M.I.E.E., 15, Welbeck Mansions, Inglewood-rd., West Hampstead, N.W.

Mathews, W. Lee, London director of Thomas Bolton & Sons, Ltd., 88, Bishopsgate-st. Within, London, E.C. (Telegs.: "Wiredrawn, London." Teleph. Central 632.)

Mathews, Ernest, & Co., manufacturers of slate slabs, bases, switchboards, &c., 61, St. Mary Axe, London, E.C. (Telegs.: "Timists, London." Teleph. No. 506, Avenue; Works, 764, Eastern.)

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Mathieson, Alex., & Sons, Ltd., Saracen Tool Works, Glasgow. (Telegs. & Cables: "Mathieson, Glasgow." Nat. Teleph. Nos. 741, 742 & 743, Tron.)

Mattei, A., LL.D., 4, Paper-bldgs., Temple, E.C. Director Hobart Electric Tramway Co., Ltd.

Matterson, Huxley & Nutson, Ltd., electric bell fitters, Cross Cheaping, Coventry.

Matthew, G. W., & Co., electric light contractors, Castle-st., Cardiff. (Telegs.: "Instal, Cardiff." Teleph. No. 01379, Nat.)

Matthewman, J. W., electrical engineer, Cecil-rd., Dronfield, Sheffield.

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Matthews, F. J. A., A.M.I.E.E., F.G.S., electrical engineer, Vulcan Boiler & General Insurance Co., Ltd. 67, King-st., Manchester; & 73, Victoria-cres., Eccles.

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Matthews, H., & Sons, makers of casings & cleats, Stockport-rd., Manchester. (Telephone No. 4382.)

Matthews' Improved Electricity Meter, Ltd., 35, Bucklersbury, London, E.C.

Matthews & Yates, Ltd., electrical & ventilating engineers, Cyclone Works, Swinton, Manchester (Telegrams: "Cyclone, Swinton, Manchester." Telephone No. 1871); 84, Gray's Inn-rd., London, W.C. (Telegrams: "Ventilo, London." Telephone No. 4823, Holborn); 144, St. Vincent-st., Glasgow (Telegrams: "Cyclone, Glasgow." Telephone No. 716, Argyle); & Standard-bldgs., City-sq., Leeds. (Telegs.: "Cyclone, Leeds." Teleph. No. 1926, Nat.)

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Mattos, Jonkheer H. Teixera de, 6, Nieuwe, Spiegelstraat, Amsterdam. Director Underground Electric Railways Co. of London, Ltd.

Maud & Turner, engineers & machine tool manufacturers, Perseverance Works, Gibbet-street, Halifax, Yorks. (Telegrams: "Maud Turner, Halifax." Telephone No. 67.)

Maude & Co., arc lamp-post makers, Mansfield.

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Mavor & Coulson, Ltd., engineers & electricians, 47, Broad-st., Mile End, Glasgow. (Telegs.: "Prodigious, Glasgow." Teleph. Nos.: Nat. 2805 & 2806; P.O. Y 13. A.B.C. Code, 5th Edition, used.) Registered March 17, 1897. Capital: £100,000 in £5 shares (2200 ordinary & 17,800 preference). Directors: H. A. Mavor, Esq.; W. A. Coulson, Esq.; Sam. Mavor, Esq. A. F. Walker, secretary.

Mawbey, E. Geo., M.I.C.E., borough & chief tramway works engineer, Leicester.

Mawby, Wm., & Son, wiring contractors, Cross-st., Birkenhead. (Telephone No. 262.)

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Mawdsley's Ltd., manufacturing & electrical engineers, Zone Works, Dursley, Glos. (Telegs.: "Zone, Dursley." Teleph. No. 6, Dursley.)

Mawle, J., & Sons, installation contractors, 22 & 65, High-st., Banbury. (Telegs.: "Mawles, Banbury." Teleph. P.O. 53.)

Mawson, Clark & Co., oil & lubricant manufacturers, &c., Pandon-bldgs., City-rd., Newcastle. (Telegrams: "Lubricant, Newcastle-on-Tyne." Telephone Nos.: 1525, Nat.; & 84, P.O.)

Mawson & Swan, Ltd., makers of scientific instruments, &c., 11–15, Mosley-st., Newcastle-on-Tyne. (Telegs.: "Mands, Newcastle-on-Tyne." Teleph. No. 1470.)

Maxfield, W. Bestwick, registered patent agent & United States patent attorney, Parkstone-ave., Parkstone, Dorset.

Maxim, Sir Hiram S., M.I.E.E., "Ryecoles," Dulwich Common, London, S.E.

Maxim Lamp Works, Ltd., the electrical engineers, makers of the Maxim arc & incandescent lamps, Maxim Works, Walthamstow. (Telegs.: "Arconcello, London." Teleph. No. 84, Walthamstow.)

Maxime & Co., Ltd., wood fittings for electrical purposes, 10 & 11, Featherstone-st., London, E.C. (Teleph. No. 1117, London Wall.)

Maxted, Knott & Coles, consulting engineers, Burnett-ave., Hull. (Telegs.: "Energy, Hull." Teleph. No. 459.)

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Maxwell, Wm., & Co., manufacturing electrical engineers, 204, Goldhawk-rd., Shepherd's Bush, W.

Maxwell's (Dundee), Ltd., electrical & mechanical engineers & brassfounders, St. Andrew's-st., Dundee. (Teleph. No. 1213.)

May, Chas. Stanley, A.M.I.E.E., Stisted, Braintree.

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May, W. R., A.M.I.E.E., station supt., Electricity Works, Lowestoft; & 202, Denmark-rd., Lowestoft.

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Mayer, Arthur, electrician, Cathkin-rd., Langside, Glasgow.

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Mayer, A., & Son, makers of electric alarm clocks, 127, Aldersgate-st., London, E.C. (Telegrams: "Ascio, London." P.O. Telephone No. 427, Central.)

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Mayfield, J. T., & Co., electrical engineers, 63 & 63A, Cannon-st., London, E.C. (Teleph. No. 1440, Central); & Pier-ave., Clacton-on-Sea.

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Mead, Wm., A.I.E.E., General Electric Co., Ltd., Witton, nr. Birmingham; & Harold Villa, Deykin's-ave., Witton, nr. Birmingham.

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Meadows, W. A., & Co., electrical engineers, Free Trade-bldgs., Percy-st., Hanley. (Teleph. No. 862.)

Meakin, Robert, A.M.I.E.E., Derby-rd., Chellaston, nr. Derby.

Meakins, J. & G., Ltd., earthenware manufacturers, Lichfield-st., Hanley.

Mear, S., Longton, Staffs. Director Potteries Electric Traction Co., Ltd.

Meares, J. L. D., C.E., consulting engineer to the Bessbrook & Newry Tramway Co., Bessbrook, co. Armagh.

Mearns, Jas., director Aberdeen Suburban Tramways Co., 15, Golden-sq., Aberdeen.

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Mechanical Appliances Co., Ltd., 48, Gt. Eastern-st., London, E.C. (Telegrams: "Appliances, London.")

Mechanical Engineer (weekly; ann. sub., 12*s.* 6*d.*; abroad, 17*s.* 6*d.* thin, 21*s.* thick edit.), 53, New Bailey-st., Manchester.

Mechanical World (weekly, 1*d.*), 65, King-st., Manchester.

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Medway's Safety Lift Co., Rolt-st., Deptford, London, S.E. (Teleph. Deptford 127.)

Meech, J., A.M.I.E.E., electrical engineer, Electromotors, Ltd., 35, Queen Victoria-st., London, E.C.

Meek, John, jun., A.I.E.E., 42, Fauconberg-rd., Chiswick, London, W.

Meek, Watson & Co., pressspahn manufacturers, 10, Fore-st., London, E.C.

Meeres, S. H., electrical engineer, Electrical Department, L. & N.W. Railway, London-rd., Manchester.

Meggitt, B., electric light & power contractor, 7 & 8, Station-st., Mansfield. (Nat. Teleph. No. 224.)

Meguin, Franz, & Co., makers of perforated metals, armature core stampings, &c., 110, Cannon-st., London, E.C. (Telegrams: "Browpost, London." Telephone No. 8168, Bank.)

Meighan, Jas., & Son, electric light contractors, 328–332, Abercromby-st., Calton, Glasgow. (Teleph. Nos.: 2837, Bridgeton, Nat.; & 42 Y., P.O.)

Meik, P. W. & C. S., consulting engineers, 16, Victoria-st., London, S.W. (Telegrams: "Snowdon, London." Telephone No. 370, Victoria.)

Meiklejohn, J. B., installation contractors, 115 & 115A, Bath-st., Glasgow.

Meirowsky & Co., mica merchants & manufacturers of mica insulating materials, 10, Bush-lane, London, E.C. (Telegs.: "Steelhead, London." Teleph. No. 5931, Bank.)

Melbourne Electric Supply Co., Ltd., late Electric Lighting & Traction Co. of Australia, Ltd., Finsbury Pavement House, London, E.C. (Telegs.: "Unruffled, London." Teleph. Central 3569.) Registered Aug. 17, 1899. Nominal capital: £150,000 7 per cent. first cumulative preference shares, £150,000 6 per cent. cumulative preference stock, £150,000 ordinary shares. Borrowing powers up to £400,000. Issued: 4834 ordinary shares & 20,000 7 per cent. first cumulative preference shares, £150,000 6 per cent. cumulative preference stock, & £250,000 5 per cent. first debenture stock, secured by various deeds. Directors: J. B. Braithwaite, Esq. (chairman); J. F. Albright, Esq.; D. Finlayson, Esq.; W. Parker, Esq.; R. Percy Sellon, Esq. (managing). Chief engineer & local managing director, F. W. Clements (Melbourne); secretary, W. E. Lane. Dividends: 1901, 6 per cent. on preference shares (now stock); 1902, 1903, 1904, 1905, 1906, 1907 & 1908, *nil*; 1909, 7 per cent. on first preference shares from date of issue (May 1909) to Aug. 31, 1909.

Melchior, M., director Gt. Northern Telegraph Co., Ltd., of Denmark, 26, Kongens Nytorv, Copenhagen.

Meldola, Raphael, F.R.S., F.R.A.S., F.C.S., F.I.C. (professor of chemistry, City & Guilds of London Institute), 6, Brunswick-square, London, W.C.

Meldon, J. C., electrical engineer, 28, South Anne-st., Dublin.

Meldrum Bros., Ltd., engineers, Timperley, Manchester. (Telegs.: "Meldrum, Altrincham." Teleph. Altrincham 181.)

Melhuish, Richard, Ltd., electricians, &c., 50, 51, 84, 85 & 87, Fetter-lane, E.C.; & 143, Holborn, E.C. (Teleph. No. 5878 (2 lines), Holborn.)

Mell, Parry, A.M.I.E.E., 17, Tavistock-st., Leamington Spa. (Teleph. No. 711.)

Melliar, Foster, R.A., Merkjastien, Bude. Director Bude Electric Supply Co., Ltd.

Mellier, C., & Co., electrical engineers & contractors, 48, 49, & 50, Margaret-street, London, W. (Telegrams: "Wheelrace, London." Telephone No. 2823, Gerrard.)

Melling, J., maker of stampings, malleable castings & press tools, 9, New Broad-st., London, E.C. (Telegs.: "Negotors, London." Teleph. No. 497, London Wall.)

Mellor, S., A.M.I.E.E., Corporation Electricity Works, & 130, Scalpcliffe-rd., Burton-on-Trent.

Melly, Henry G., A.M.I.E.E., Riversley, Aigburth, Liverpool. (Teleph. No. 43, Mossley Hill.)

Melms, Pfenninger & Sankey, Ltd., steam turbines & accessories, 28, Victoria-st., London, S.W. (Telegs.: "Trochilics, London." Teleph. No. 3137, Victoria.)

Melrose Electricity Works (Electricity Supply Corporation, Ltd.), Melrose, Roxburgh, N.B.

Melsom, Sydney W., A.M.I.E.E., electrical engineer, National Physical Laboratory, Teddington.

Melton Mowbray Electric Light Co., Ltd., electricians, mechanical engineers, &c., 33, Regent-st., Melton Mowbray. (P.O. Teleph. No. 10 X.) Registered June 18, 1897. Nominal capital: £25,000 in ordinary £5 shares & £20,000 debentures; £20,000 in ordinary shares, issued & fully paid. Debentures issued: £20,000. Directors: W. J. New, Esq. (chairman); S. C. Hobson, Esq.; F. E. Gripper, Esq.; J. C. Wigham, Esq. Engineer & manager, J. E. Edmundson, A.M.I.E.E.; secretary, W. C. Mountain. Dividends: 1902, 1903, 1904, 1905, 1906, 2½ per cent.; 1907 & 1908, 2 per cent.

Melville, O., electrical engineer, 310, High-st., Redburn Wynd, Kirkcaldy, Scotland. (Teleph. No. 192.)

Mendham, Wm. Phillips, electrical engineer, 24, Tyndall-ave., Bristol.

Menmuir, J., A.M.I.E.E., Kelvin & James White, Ltd., 18, Cambridge-st., Glasgow.

Mensing, L. C. H., electrical engineer, 9, Inverleith-gdns., Edinburgh.

Menzies, D. P., F.S.A. (Scot.), electrical engineer, electric lamp & post manufacturer, & ventilation contractor, Plean Castle, Airth Station, Stirlingshire.

Mercedes Electric Manufacturing Co., Ltd., motor & motor car manufacturers, 11A, Regent-st., S.W.

Mercer, R. G., A.M.I.E.E., British Westinghouse Electric & Manufacturing Co., Winchester House, Victoria-sq., Birmingham. (Telegs.: "Multiphase, Birmingham." Teleph. No. 2540, Central.)

Merchant Venturers' Technical College, Bristol. (Teleph. Nos. 407 & 1190.) *See* SCHOOLS, &c.

Mercier, Maunsell, consulting electrical engineer, 83, Camp-st., Broughton, Manchester. (Telegs.: "Wenham, Manchester.")

Meredith, W. M., A.I.E.E., c/o A. Constable & Co., 10, Orange-st., Leicester-sq., London, W.C.

Meredith & Co., electro-nickel & copper platers, Dynamo Works, Woodcock-st., Birmingham.

Merredew Bros., electricians, 74, London-rd., Kingston-on-Thames.

Merrett, W. H., A.M.I.E.E., Royal School of Mines, South Kensington, London, S.W.

Merriman, Will H., A.I.E.E., Commonwood, East Looe, Cornwall, R.S.O.

Merritt, F. H., A.M.I.E.E., resident engineer & manager, Electricity Works, Frome. (Teleph. No. 26.)

Merry, Dr. J. T., chairman Tyneside Trwys. & Tramroad Co., Neptune Bank, Wallsend, Northumberland.

Merry, T. W., station superintendent, Kings-rd. Central Station, St. Pancras, London, N.W.

Merryweather & Sons, electric fire engine makers, 63, Long Acre, London, W.C. (Tel. No. 1795, Gerrard.)

Mersea Motor & Electric Co., Ltd., 90–91, Queen-st., London, E.C.

Mersey Chemical Co., chemical manufacturers, Chestergate, Stockport.

Mersey Railway Co., Central Station, Birkenhead. Incorporated June 28, 1866. Capital authorized: £2,235,768 ordinary stock & £649,232 3 per cent. perpetual preference stock. Issued: £1,412,263 ordinary stock & £649,232 preference stock. Debentures issued: £669,388 4 per cent. new first perpetual debenture stock, £116,600 4 per cent. debenture stock, £460,000 3 per cent. debenture stock & £282,354 3 per cent. "B" debenture stock. Directors: J. Falconer, Esq., M.P. (chairman); R. Cooper, Esq.; Hon. R. Clere Parsons; S. G. Sheppard, Esq.; G. Waddell, Esq.; H. A. Wakeman-Newport, Esq. General manager & secretary, J. Shaw.

Merthyr Electric Traction & Lighting Co., Ltd., electrical engineers & contractors, Electrical Federation Offices, Kingsway, W.C. (Telegs.: "Merthyr, c/o Tramway, London." Teleph. No. 2686, Holborn (6 lines)); & Merthyr Tydvil. (Telegs.: "Traction Co., Merthyr." Teleph. Nos.: Nat., 0180; & P.O., 14.) Registered June 23, 1898. Nominal capital: £100,000 in £5 ordinary & £5 preference shares, & £50,000 debenture stock secured by trust deed of Oct. 23, 1901, & an acknowledgment of indebtedness dated Feb. 16, 1905. Issued: £30,000 ordinary shares & £30,000 preference shares, fully paid, & £48,400 debenture stock. Directors: W. L. Madgen, Esq. (chairman); G. J. Somerville, Esq.; C. G. Tegetmeier, Esq. Secretary, H. A. Stagg; managing engineer, L. W. Dixon. Dividends: on ordinary 1906, 4 per cent.; 1907 & 1908, 5 per cent.

Merton, Henry R., & Co., Ltd., metal merchants, &c., 2, Metal Exchange-bldgs., Whittington-ave., E.C. (Telegs.: "Merton, London." Teleph. Avenue 949); & at Birmingham, Manchester & Glasgow.

Merz, J. T., PH.D., D.C.L., The Quarries, Newcastle-on-Tyne. Chairman Newcastle-upon-Tyne Electric Supply Co., Ltd.; chairman County of Durham Electrical Power Distribution Co., Ltd.; chairman Tyneside Tramways & Tramroads Co.; director Priestman Power Co., Ltd.; director County of Durham Electric Power Supply Co.; director Tyneside Electrical Development Co., Ltd.; director Sunbeam Lamp Co., Ltd.; director Bankfoot Power Co., Ltd.

Merz & McLellan, consulting engineers, 28, Victoria-st., Westminster, London, S.W. (Telegs.: "Amberkraft, London." Teleph. No. 256, Westminster); & Collingwood-bldgs., Newcastle-on-Tyne. (Telegs.: "Amber, Newcastle-on-Tyne." Teleph. No. 2354, Central.)

Messenger & Sons, electroliers, 19, Broad-st., Birmingham.

Metal & General Agency (Weager & Funck), agents for patent welding composition, 5, Whittington-ave., London, E.C. (Telegs.: "Lysippus, London." Teleph. No. 2272, Central.)

Metallic Seamless Tube Co., Ltd., steel tube & steel conduit manufacturers, Wiggin-st., Birmingham. (Telegrams: "Flask, Birmingham." Telephone No. 2245.)

Metcalf, Geo. A., works manager, Thomas Smith & Sons, Steam & Electric Crane Works, Rodley, nr. Leeds.

Metcalf, John, Turners & Manville, Ltd., 5, Lloyd's-ave., London, E.C. (Telegs.: "Vulbeston, London." Teleph. No. 1458, Avenue.)

Metcalf, Rev. F. W. R., M.A., R.N., A.I.E.E., Trotting Hill, Southborough, Tunbridge Wells.

Metcalf, George, & Co., wire rollers & polishers, & lead foil rollers for cable makers, Virgil-st., Cornbrook, Manchester.

Metcalfe, Chas. C., A.M.I.E.E., electrical engineer to the Education Committee, Municipal School of Technology, Manchester; & 5, Urban-rd., Sale, Cheshire.

Metcalfe, J. G., director Underground Electric Railways Co. of London, Ltd., Electric Railway House, Broadway, Westminster, S.W.

Metcalfe, Sir Ch., Bart., 28, Victoria-st., London, E.C. Director The Victoria Falls Power Co., Ltd.

Meters, Ltd., 6, Mawson-chbrs., Deansgate, Manchester. (Telephone No. 3927.) Registered Oct. 4, 1897. Nominal capital: £200,000 in ordinary shares of £1 each, £150,000 in preference shares of £1 each & £150,000 first mortgage debenture stock transferable in multiples of £1. Issued: 199,898 ordinary shares, 131,245 preference shares, all fully paid, & £130,650 debentures. Directors: Ald. J. Miles (chairman); G. H. Braddock, Esq.; H. J. Davis, Esq.; Ald. Wm. Jackson; R. E. Braddock, Esq. Secretary, Albert Manning. Dividends: 1903-1907, 6 per cent.; 1908, 5 per cent.; 1909, 6 per cent. on ordinary shares. Reserve fund, March 31, 1909: £60,000.

Methuen & Co., publishers of electrical & scientific books, 36, Essex-st., Strand, London, W.C. (Telegrams: "Elegiacs, London.")

Metropolitan Amalgamated Railway Carriage & Wagon Co., Ltd., electric tramway makers, Saltley, Birmingham.

Metropolitan District Railway, Electric Railway House, Broadway, Westminster, London, S.W. (Telegs.: "Diselec, London." Teleph. Gerrard 5820 (9 lines).) Authorized capital: £10,501,666 in stock or shares, £3,886,374 by loans. Issued: £3,235,000 ordinary stock, fully paid, £1,500,000 5 per cent. preference stock, fully paid, £1,250,000 4 per cent. guaranteed stock, fully paid, £2,116,666 3 per cent. consolidated rent charge stock fully paid, & £1,470,000 5 per cent. second preference stock, fully paid, £1,624,200 4 per cent. debenture stock, & £1,211,625 6 per cent. debenture stock. Directors: Sir Geo. S. Gibb (chairman); W. H. Brown, Esq.; W. C. Burton, Esq.; J. R. Chapman, Esq.; The Right Hon. Lord Geo. Hamilton, P.C. (deputy-chairman); The Right Hon. Sir Chas. Dalrymple, Bart., P.C.; E. Law, Esq.; M. Griffith, Esq.; Sir Clifton Robinson; John Young, Esq. Secretary, J. Carter.

Metropolitan Electric Supply Co., Ltd. Head office: 16, Stratford-pl., Oxford-st., London, W. (Telegs.: "Kilowatt, London." Teleph. Pad. 5001 (3 lines); Gerrard 3711.) Nominal capital: £1,500,000 in 200,000 ordinary shares & 100,000 preference shares of £5 each. All the ordinary & 76,121 preference have been taken up, £5 per share has been called on 195,936 ordinary shares & 76,121 preference, all of which has been paid, £235,000 in 4½ per cent. debentures & £250,000 in 3½ per cent. debentures. A memorandum of satisfaction in full of charges, dated July 30, 1901, Sept. 5, 1902, & Dec. 17, 1902, securing in all £235,000, has been filed. A mortgage by sub-demise, dated Aug. 5, 1904 (supplemental to trust deed, dated July 20, 1894, securing £250,000 first debenture stock), & a further mortgage by sub-demise of Sept. 9, 1904 (supplemental to trust deed, dated July 4, 1899, securing £250,000 second debenture stock), have been registered. Directors: W. Harrison Cripps, Esq. (chairman); Admiral Lord John Hay; Sir Jas. Pender, Bart.; Frank Bailey, Esq.; The Hon. Jno. B. Lubbock; J. Carr Saunders, Esq.; F. Leverton Harris, Esq. General manager, J. Conacher; secretary, E. Cunliffe Owen, C.M.G.; chief engineer, J. S. Highfield. Dividends: 1904 & 1905, 10 per cent.; 1906, 8 per cent.; 1907, 6½ per cent.; 1908, 5½ per cent.

Metropolitan Electric Tramways, Ltd. (registered Nov. 21, 1894, under title of Metropolitan Tramways & Omnibus Co., Ltd.), Electrical Federation Offices, Kingsway, W.C. (Telegs.: "Metrolito, London." Teleph. No. 2686, Holborn.) Engineers' Department: Spencer House, South-pl., Finsbury. (Telegs.: "Lentiscus, London." Teleph. No. 17, London Wall.) Authorized share capital: £1,500,000 in 500,000 £1 ordinary shares, 500,000 £1 5 per cent. preference shares & 500,000 £1 deferred shares. Issued: 391,337 ordinary shares fully paid, all the preference fully paid & 314,016 deferred shares fully paid. £589,183 4½ per cent. debenture stock, fully paid up. A trust deed, dated May 28, 1906 (supplemental to a trust deed of April 28, 1904), securing £250,000 debenture stock ranking *pari passu* with £350,000 stock already issued, has been registered. £200,000 second debenture stock has been created & secured by trust deed, & has been issued as security for loans. Directors: E. Garcke, Esq. (chairman); J. Devonshire, Esq. (managing); W. L. Madgen, Esq.; Sir Ernest Spencer (deputy-chairman); G. Richardson, Esq.; C. G. Tegetmeier, Esq. Secretary, A. L. Barber; engineer, A. H. Pott, M.I.C.E., M.I.E.E. Dividends: 1905, 3 per cent. on ordinary shares; 1906, 4 per cent.; 1907 & 1908, 4½ per cent.

Metropolitan Engineering Association, Ltd., civil, electrical & mechanical engineers, 4, Queen Victoria-st., London, E.C. *About to go into voluntary liquidation.*

Metropolitan Railway Co., 32, Westbourne-ter., London, W. (Telegs.: Secretary, "Underground," General Manager, "Metlectric, London." Teleph. Paddington 5340); & Power Station, Neasden, London, N.W. (Telegs.: "Jones, Met. Rly., Neasden Works." Teleph. Harlesden 67B.) Capital authorised: £12,504,103, Surplus Lands stock £2,640,915, debenture stock £5,166,939. Issued: £5,732,062 consolidated ordinary stock, £3,611,558 3½ per cent. preference stock, £1,110,715 3½ per cent. "A" preference stock, £1,249,768 3½ per cent. convertible preference stock. Debenture stock issued: £50,000 4 per cent. terminable debenture stock, £3,601,278 3½ per cent. debenture stock & £1,248,995 3½ per cent. "A" debenture stock. Directors: Rt. Hon. Sir Charles McLaren, Bart., P.C., M.P. (chairman); Sir Wm. Birt (deputy-chairman); Sir C. Furness, M.P.; A. G. Kitching, Esq., J.P.; J. Light, Esq.; T. Parker, Esq., M.I.C.E.; Lieut.-Col. C. Probyn, D.L., J.P. Engineer, W. Willox; chief electrical engineer, C. Jones, M.I.C.E., M.I.E.E.; general manager, R. H. Selbie; secretary, W. H. Brown. Dividends on ordinary stock: 1907, ½ per cent.; 1908, ½ per cent.; & first half of 1909, 1 per cent.

Metz, Paul, electric fire alarms & wireless telegraph apparatus, 29, Newhall Hill, Birmingham.

Metzger, G. F., M.I.C.E., M.I.E.E., mechanical & electrical engineer, 22, Cooper-st., Manchester. (Telegs.: "Metzger, Manchester." Teleph. No. 5892.)

Mevagissey Electric Supply Co., Ltd., London House, Mevagissey, Cornwall. Registered Feb. 5, 1907 Nominal capital: £5000 in 1134 ordinary shares of 10*s.* each & 4433 preference shares of £1 each. Directors: C. W. M. Grier, Esq., M.B.; J. K. Roberts, Esq.; J. Kemble, Esq. (secretary). Electrical engineer, F. Johnson.

Mewburn, J., district manager, National Telephone Co., Bank-chbrs., Little Park-st., Coventry. (Telephone No. 85.)

Mewburn, Ellis & Pryor, chartered patent agents, 70, Chancery-lane, London, W.C. (Telegrams: "Patent, London." Telephone No. 243, Holborn.)

Mewton, W. H. D., Llandaff, Glam. Director Treforest Electrical Consumers Co., Ltd.

Mexborough & Rawmarsh Construction Syndicate, Ltd., 2, Queen Anne's-chbrs., Westminster, London, S.W. Registered May 13, 1905. Nominal capital: £175,000 in £1 shares, all issued, & fully paid. Directors: L. B. Schlesinger, Esq. (chairman); B. Bernheim, Esq.; W. H. Fowler, Esq.; J. T. Jervis, Esq. Secretary, L. D. H. Jacobs.

Mexborough & Swinton Tramways Co., Queen Anne's-chbrs., Tothill-st., Westminster, S.W. (Telegs.: "Overhauled, London." Teleph. Gerrard 5134 & 5135); & Rawmarsh, Yorks. (Telegs.: "Tramways, Parkgate, York." Teleph. Rotherham 266.) Nominal capital: £180,000 in shares, £90,000 by loans. Directors: L. B. Schlesinger, Esq. (chairman); W. B. Cownie, Esq.; J. T. Jervis, Esq.; D. L. Winter, Esq. Engineer & manager, P. Priestly; secretary, R. Watson.

Mexborough Urban District Council Electricity Works. (Telegs.: "Electricity Works, Mexborough." Teleph. No. 96.) Engineer, J. Senior, A.M.I.E.E.

Mexican Light & Power Co., Ltd., Threadneedle House, 31, Bishopsgate-st. Within, London, E.C. (Teleph. City 1080 (3 lines).)

Mexican Power Development Syndicate, Ltd., Basildon House, Moorgate-st., E.C. *In voluntary liquidation.* Liquidator, A. W. Tait.

Mexico Electric Tramways, Ltd., Threadneedle House, 31, Bishopsgate-st. Within, London, E.C. (Telegs.: "Traficante, London." Teleph. London Wall 2827.) Registered April 13, 1898. Nominal capital: £500,000 in £1 ordinary shares & £500,000 in £1 6 per cent. cumulative preference shares, 5 per cent. debentures, secured by trust deed, £400,000, & second debentures, £500,000, secured by trust deed. Issued: all the ordinary & preference shares, fully paid, & all the first debentures & £321,000 second debentures. Directors: R. C. Brown, Esq. (managing); R. P. Ormsby, Esq.; S. G. Crowell, Esq.; R. Gowans, Esq.; H. M. Hubbard, Esq.; H. T. M'Neale, Esq. Secretary, W. E. Davidson. Dividends: 1902–1907, *nil.*; *interim*, 1908, 5 per cent.

Mexico Tramways Co., Threadneedle House, 31, Bishopsgate-st. Within, London, E.C. (Telegs.: "Outstorm, London." Western Union & Private Codes. Teleph. City 1080 (3 lines).)

Meyer, S. W., Park-st., York. Director Yorkshire District Light Railway Syndicate, Ltd.

Meysey-Thompson, A. H., J.P., director Yorkshire Electric Power Co., Calder-rd., Thornhill, nr. Dewsbury.

Mica Lubricant Co., lubricant manufacturers, Albany-chbrs., 63, King-st., South Shields. (Telegrams: "Mica, South Shields." Telephone No. 256.)

Mica Plate Co., Ltd., insulating materials, Ajax Works, Dagenham, Essex. (Telegs.: "Amberlac, Dagenham." Teleph. Rainham 13.)

MICANITE & INSULATORS CO., LTD., Empire Works, Blackhorse-lane, Walthamstow, London, E. (Telegs.: "Mytilite, London." Teleph. No. 38, Walthamstow.) *See advt.*, MICA MERCHANTS.

Michaelis, W. F. C., joint managing director Johnson Secret Wireless Telegraph & Telephone Testing Syndicate, Ltd., 40, King-st., Cheapside, E.C.

Mid Yorkshire Tramways Co., 22A, College Hill, Cannon-st., London, E.C.

Middlesbrough Corporation Electricity Works. Engineer & manager, H. M. Taylor. (Nat. Telephone No. 424, Middlesbrough.)

Middlesbro', Stockton & Thornaby Tramways, Middlesbro'. Resident engineer, A. W. Barnley. Imperial Tramways Co., Ltd., proprietors, *q.v.*

Middlesex Electric Co., electric light & power contractors, 41, Berners-st., London, W. (Teleph. Gerrard 593); & 137–143, High-rd., Chiswick. (Teleph. Hammersmith 284.)

Middleton, H. M., A.I.E.E., 31, Defoe-ave., Kew-gdns., Surrey.

Middleton, P. C., electrical engineer, Eccleston-yard, Eccleston-pl., London, S.W.

Middleton, R. H., chairman Railway Construction & General Development Co. (Tasmania), Ltd.

Middleton, V. G., electrical contractor, Broadway-chbrs., Westminster, London, S.W.

Middleton, Wm., A.M.I.E.E., Newcastle & District Electric Lighting Co., Close Power Station, Newcastle-on-Tyne.

Middleton & Co., electrical engineers & contractors, 19, Upper St. Martin's-lane, London, W.C. (Telegs.: "Battiwalla, London." Teleph. No. 8564, Gerrard); 11, King-st., Dover (Telegs.: "Battiwalla, Dover." Teleph. No. 20 Y.); & 39, Dover-st., Folkestone. (Telegs.: "Battiwalla, Folkestone." Teleph. No. 47, Folkestone.)

Middleton Corporation Electricity Works & Electric Tramways. Electrical engineer, S. Pauls, A.M.I.E.E.; electrician, S. P. Dodson. (Nat. Teleph. Middleton 30.)

Middleton Electric Traction Co., Ltd., Electrical Federation Offices, Kingsway, London, W.C. (Telegs.: "Middleton, c/o Tramway, London." Teleph. No. 2686, Holborn); & Tramway Depôt, Hilton Fold-lane, Middleton. Registered Dec. 29, 1900. Nominal capital: £100,000 in 10,000 ordinary shares of £5 each & 10,000 5 per cent. cumulative preference shares of £5 each & 4 per cent. debenture stock, £50,000. All issued. Directors: Lord Vaux of Harrowden (chairman); J. V. Kitchener, Esq. Manager, W. F. Endean; secretary, W. S. Wreathall. Dividends: 1902, 3 per cent.; since, *nil.*

Middleton & Townsend, electrical contractors, 56, Belford-rd., Edinburgh. (Telegs.: "Blancmange, Edinburgh." Teleph. No. 2213.)

Middletown Car Works, electric tramcar builders, 20, Copthall-ave., London, E.C. A. Ball, representative.

Midgley, A. H., A.M.I.E.E., 86, Cranmer-rd., Forest Gate, London, E.

Midgley, T. S., assistant electrical engineer, Corporation Electricity Works, Oldham. (Teleph. No. 269.)

Midland Agencies, Ltd., engineers & electrical contractors, 42, Summer-row, Birmingham.

Midland Counties Institution of Engineers. W. Hay, president; G. Alfred Lewis, M.A., secretary, Albert-st., Derby. (Telegs.: "Lewis, Derby." Teleph. No. 735 Y., Derby.)

Midland Electric Corporation (1900), Ltd., electrical & mechanical engineers, 14, Dale-st., Liverpool. (Telegs.: "Construct, Liverpool." Teleph. Central 2032.) Registered May 15, 1900. Nominal capital: £200,000 in £1 shares. Issued: £150,507, fully paid. Directors: E. K. Muspratt, Esq. (chairman); J. Taylor, Esq.; J. S. Harmood Banner, M.P., Esq. Secretary, G. Saies, F.C.I.S. Dividends: 1905, 1906, 1907 & first half of 1908, *nil.*

Midland Electric Corporation for Power Distribution, Ltd. Registered office: Colmore House, 21, Waterloo-st., Birmingham. (Telegs.: "Biphase, B'ham." Teleph. Central 752.) Generating station: Ocker Hill, Tipton. (Teleph. West Bromwich 111.) Secretary's office: 14, Dale-st., Liverpool. (Telegs.: "Construct, Liverpool." Teleph. Central 2032.) Registered June 23, 1897. Nominal capital: £400,000 in 40,000 ordinary & 40,000 preference shares & £250,000 guaranteed debentures. Issued: 30,000 ordinary shares fully paid, 13079 preference shares fully paid, & all the debentures fully paid. A trust deed, dated July 29, 1903, to secure £250,000 4½ per cent. debentures, created by resolution of April 27, 1903, has been registered. Directors: E. K. Muspratt, Esq., J.P., LL.D. (chairman); J. S. Harmood Banner, Esq., M.P.; J. Taylor, Esq., J.P.; J. F. Albright, Esq.; G. H. Nisbett, Esq., M.I.E.E. General manager & chief engineer, J. Hardie McLean, M.I.E.E.; secretary, G. Saies, F.C.I.S.

Midland Electric Light & Power Co., Ltd., electric light contractors, Wise-st., Leamington. Nominal capital: £50,000 in £10 shares. Issued: £31,390, fully paid. Directors: A. Chamberlain, Esq., J.P. (chairman); G. Hookham, Esq., J.P.; John Chamberlain, Esq. Electrical engineer, P. Olver.

Midland Electric Manufacturing Co., Ltd., manufacturers of all kinds of switch gear for electrical distribution, Stafford Works, Conybere-st., Birmingham.

MIDLAND ELECTRIC WIRE CO., LTD., wire coverers, Leicester. (Telegs.: "Conductors, Leicester." Nat. Teleph. No. 45.) *See* DYNAMO MFRS.

Midland Electrical Supply Co., 475, Moseley-rd., Birmingham. (Teleph. No. 364, South.)

Midland Engineering Co., Ltd., makers of condensing & cooling plants, 2, Victoria-sq., Birmingham. (Telegs.: "Plans, Birmingham." Teleph. Central 2996.)

Midland Ignition Co., Lichfield-rd., Aston Manor, nr. Birmingham.

Midland Lighting Corporation, Ltd., electric & gas lighting, Fitzwilliam-st., Sheffield. (Telegrams: "Midland, Fitzwilliam-st., Sheffield." Nat. Telephone No. 2520.)

Midland Manufacturing Co., Ltd., tramway tools, Sheffield.

Midland Railway Carriage & Wagon Co., Ltd., makers of tramcars, railway carriages & wagons of every description (J. H. B. Moss, London representative), Midland Works, Birmingham (Telegs.: "Wagon, Birmingham." Teleph. No. 397); Abbey Works, Shrewsbury (Telegs.: "Midland, Shrewsbury." Teleph. No. 41); & 5, Laurence Pountney Hill, E.C. (Telegs.: "Underframe, London.")

Midland Trading Co., Ltd., electrical engineers & contractors, Savile-st., Sheffield.

Midland Wire Cordage Co. (Davison's), wire rope & lightning conductor manufacturers, Orchard Works, Vincent-st., Balsall-heath, Birmingham. (Telegs.: "Orchard, Birmingham.")

Midleton, Rt. Hon. Viscount, director Eastern & South African Telegraph Co., Ltd.; director Western Telegraph Co., Ltd., Electra House, Finsbury Pavement, London, E.C.

Miers, W., Hazlewood, Roundhay, Leeds. Director Roundhay & District Electric Lighting Co., Ltd.

Milburn, Sir Chas., Bart., director Newcastle & District Electric Lighting Co., Ltd., 38, Grainger-st. West, Newcastle-on-Tyne.

Miles, A. C., chairman Dudley, Stourbridge & District Electric Traction Co., Ltd., Electrical Federation Offices, Kingsway, London, W.C.; chairman Rothesay Tramways Co., Ltd.; director Gravesend & Northfleet Electric Tramways, Ltd.; director Airdrie & Coatbridge Tramways Co.; director Greenock & Port Glasgow Tramways Co.

Miles, D., installation contractor, 17, Swiss-ter., Folkestone.

Miles, P. N., director Somerset & District Electric Power Co., Ltd., Broad Sanctuary-chbrs., S.W.

Miles, R. A., A.M.I.E.E., 13, Gratton-ter., Cricklewood, London, N.W.

Miles, Woodward & Co., mechanical engineers, Cardigan Engineering Foundry, Cardigan.

Milford-on-Sea Electric Supply Co., Ltd., Milford-on-Sea, Hants. Registered April 15, 1903. Nominal capital: £8000 in £1 shares & £2000 4 per cent. first mortgage debentures. Issued: 5200 shares & £1450 4 per cent. debentures, all fully paid. Directors: V. D. Harris, Esq., M.D. (chairman); F. Christy, Esq.; P. Matthews, Esq.; W. S. Schultz, Esq. Engineer, L. Nicholson; secretary, W. R. Beesley. Dividends: 1906, 3½ per cent.; 1907, 4 per cent.

Millar, C. H., A.I.E.E., Ervillagh, Foxrock, co. Dublin.

Millar & Stewart, wholesale agents electrical supplies, 7, Hanover-st., Edinburgh. (Telegs.: "Switches, Edinburgh." Teleph. No. 1914, Central.)

Millars Karri & Jarrah Co. (1902), Ltd., makers of telegraph arms & poles, 72, Bishopsgate-st. Within, London, E.C. (Telegrams: "Jarrah, London." Telephone No. 368, London Wall.)

Millen, J. H., A.M.I.E.E., Underground Electric Railways Co., Lots-rd., Chelsea, S.W.

Miller, E., director Bombay Hydro-Electric Syndicate, Ltd., 210–16, Gresham House, London, E.C.

Miller, E. H., A.I.E.E., Westminster Fire Office, 27, King-st., Covent Garden, London, W.C.

Miller, Francis Samuel, A.M.I.E.E., c/o H. P. Saunderson & Co., Ltd., Elstow Works, Bedford (Telegs.: "c/o Saunderson, Elstow"); & 40, Chaucer-rd., Bedford.

Miller, H. W., M.I.C.E., M.I.E.E., Kensington & Knightsbridge Electric Lighting Co., Ltd., Kensington-ct., London, W. (Teleph. No. 527, Western.)

Miller, H. W., A.M.I.E.E., c/o Berry Construction Co., Ltd., Charing Cross House, Charing Cross-rd., London, W.C.

Miller, John D., district manager, National Telephone Co., Ltd., 72, High-st., Galashiels.

Miller, Leslie, A.M.I.E.E., electrical engineer, 66, Hatton Garden, London, E.C. (Teleph. Central 7877.)

Miller, R., 132, Gresham House, E.C. Director River Plate Electricity Co., Ltd.; director Electric Traction Co. of Hong Kong, Ltd.; director Bombay Hydro-Electric Syndicate, Ltd.

Miller, T. L., M.I.C.E., M.I.MECH.E., M.I.E.E., M.AM.I.E.E., T. L. Miller, Wilson & Pegg, consulting mechanical & electrical engineers, 709, Tower-bldgs., Water-st., Liverpool; 19, Brazennose-st., Manchester; & 47 & 48, Scottish Temperance Insurance-bldgs., Donegall-sq., Belfast. (Telegs.: "Kinetic, Liverpool;" "Kinematic, Manchester;" & "Kinetic, Belfast." Teleph. Nos.: 6216, Central, Liverpool; 5020, Manchester; & 2898, Belfast.)

Miller, Wm., electrical engineer & contractor, 17, Duke-st., Dublin.

Miller, W. H., engineer, Holsworthy Electric Supply Co., Ltd., Holsworthy.

Miller, W. H., chief assistant, Corporation Electricity Works, Wakefield. (Teleph. No. 137.)

Miller, Wm. P., A.M.I.E.E., 25–26, Ludgate Hill, Birmingham, & 41, Fountain-rd., Edgbaston, Birmingham.

Miller, I., & Co., engineer stores & furnishers, 112 & 114, Golden-lane, London, E.C. (Telephone No. 53, London Wall.)

Miller, J., Son & Co., manufacturing chemists, 79, West Nile-street, Glasgow. (Telegrams: "Decimal, Glasgow." Telephone Nos. 1058, Nat. & Corp.)

Miller & Sons, Ltd., electric light engineers & contractors, Conduit-st., London, W.

Miller, T., & Co., electricians & engineers, 66, Victoria-st., London, S.W. (Teleph. No. 1755, Victoria.)

Miller, T. L., Wilson & Pegg, consulting engineers, 19, Brazennose-st., Manchester; 709, Tower-bldgs., Water-st., Liverpool; & 47 & 48, Scottish Temperance Insurance-bldgs., Donegall-sq., Belfast. (Telegs.: "Kinematic, Manchester;" "Kinetic, Liverpool;" & "Kinetic, Belfast." Teleph. Nos.: 5020, Manchester; 6216, Central, Liverpool; & 2898, Belfast.)

Millfield Foundry, engineers & ironfounders, 114, Millfield, Belfast. (Teleph. No. 466.)

Milliken, John, light inspection & motor cars for railways & tramways, 3, Ocean-bldgs., Belfast. (Telegrams: "Guardian, Belfast." Telephone No. 781.)

Mills, A. E., M.A., M.I.E.E., F.PHYS.S., Halcyon, North Finchley, London, N.

Mills, Frank O., engineer, Electrical Contracts & Maintenance Co., Ltd., Sanctuary House, Westminster, London, S.W. (Teleph. Gerrard 757.)

Mills, Herbert John, A.M.I.E.E., 172, Uxbridge-rd., Shepherd's Bush, London, W.

Mills, H. L., A.M.I.E.E., chief assistant, Corporation Electricity Works, Southampton.

Mills, H. R., A.M.I.E.E., Douglas House, Gwydor-rd., Elmer's End, Beckenham.

Mills, J. E., director Keynsham Electric Light & Power Co., Ltd., Keynsham, Somerset.

Mills, Rt. Hon. A. H., 67, Lombard-st., London, E.C. Director Central London Railway Co.

Mills, S. J. A., A.M.I.E.E., A.M.I.M.E., consulting engineer, Strawberry Bank, Blackburn. (Tel. 151 X.)

Mills, Thomas, A.I.E.E., Longdown Lodge, Sandhurst, Berks.

Mills, W. H., engineer-in-chief, Hill of Howth Electric Railway, Amiens-st. Terminus, Dublin.

Mills & Donald, electric light fitters, 47, London-st., Edinburgh. (Teleph. No. 5117, Central.)

Mills, English & Co., Ltd., electrical & general engineers, 35 & 36, Wind-st., Swansea (Telegs.: "Mills English, Swansea." Teleph. Nos. 276, Corp. & Nat.); & Castle-bldgs., Llanelly. (Teleph. No. 361.)

Mills, John, & Sons, brass founders, Walker-gate Brass Works, Newcastle. (Telegs.: "Mills, Newcastle." Nat. Teleph. No. 550.)

Millwall Electric Co., Snowdon's Wharf, Millwall, London, E.

Milne, F. E. & A., consulting electrical & mechanical engineers, 136, Wellington-st., Glasgow.

Milne, Leonard, consulting engineer, 66, Victoria-st., London, S.W. Director City of Ely Electric Light & Power Co., Ltd.; director Newquay Electric Light & Power Co., Ltd.

Milne, Jas., & Son, Ltd., electric light fittings manufacturers, Milton House Works, & 14, Clyde-st., Edinburgh; 59, Farringdon-rd., London, E.C.; 111, St. Vincent-st., Glasgow; & 34, Wellington-st., Leeds. (Telegs.: "Milne," Edinburgh, London & Leeds; & "Gaslights, Glasgow." Teleph. No. 4892.) Registered May 3, 1899, to acquire former company of same name. Nominal capital: £50,000 in £5 ordinary shares & £100,000 in £10 5 per cent. preference shares. All are issued & fully paid. Directors: J. Milne, Esq. (chairman); T. T. M. Lumsden, Esq.; A. Macpherson, Esq.; J. M. Oliver, Esq.; H. Strathearn, Esq.; Wm. D. Helps, Esq. Secretary, D. H. Jones.

Milnes, G. C., A.M.I.E.E., Electricity Works, Lancaster.

Milnes, W. M., assistant electrical engineer, Corporation, Burnley.

Milns, W. E., commercial & consumers' engineer, Corporation Electric Supply, Birmingham.

Milton, A., electric lighting contractor, 18, High-st., Crewe.

Milton, C. O., A.I.E.E., resident engineer, Corporation Electricity Works, Maidenhead.

Milton, J., A.M.I.E.E., chief assistant engineer, Wycombe (Borough) E. L. & P. Co., High Wycombe.

Minchen, J. E., A.M.I.E.E., Thornvale, Moneygall, King's County, Ireland.

Minchin, F., assistant engineer, U.D.C. Electricity Works, Leek, Staffs.

Mindo, Arnold W., M.I.MECH.E., A.M.I.E.E., M.I.N.A., Withy-grove, Fulwood, Preston.

Minehead Electric Supply Co., Ltd., Friday-st., Minehead, Somerset. (Telegs.: "Electric, Minehead." P.O. Teleph. No. 13 A.) Registered July, 1902. Nominal capital: £5000 in £1 ordinary shares, £2000 in £1 5 per cent. preference shares, £8000 in £10 5 per cent. preference shares & £5000 debentures. 2400 ordinary & all the £1 preference shares & 500 £10 preference shares have been issued & fully paid. Trust deed, dated Nov. 28, 1907, to secure £5000 debenture stock, has been registered, all issued & fully paid up. Directors: J. H. Leather, Esq. (chairman); R. H. Holman, Esq.; I. T. Ollerhead, Esq., M.R.C.S.; E. Culverwell, Esq. Engineer & secretary, B. W. Gothard. Dividends on ordinary: 1904, 4 per cent.; 1905, 5 per cent.; 1906, 1907 & 1908, *nil.*

Mining & General Supplies Co., Ltd., electrical engineers, 6, Crosby-sq., London, E.C. (Telegrams: "Underdrain, London." Telephone No. 1904, Central.)

Mining Journal (weekly), 46, Queen Victoria-st., E.C.

Mining Magazine, Salisbury House, London, E.C.

Minns, Sidney & Co., boiler fluid makers for steam boilers, Trafalgar-rd., Dalston, London, N.E. (Telegrams: "Minns, London.")

Minshall, J., Croeswylan, Oswestry. Director Oswestry Electric Lighting & Power Co., Ltd.

Minshall, P. H., director Llangollen & District Electric Light & Power Co., Ltd., Bridge-st., Llangollen.

Minshall, T. H., M.I.E.E., A.M.I.C.E., consulting engineer, 34, Victoria-st., London, S.W. (Telegs.: "Mynshul, London." Teleph. No. 5392, Westminster.)

Minton, R. R., & Co., makers of paint for insulating purposes, 39–71, Cheapside, Liverpool. (Teleph. No. 6236, Central, Private Exchange.)

Mirfield Urban District Council Electricity Works, Mirfield, Yorks. Consulting engineer, A. B. Mountain; electrician, Jno. Lomas.

Mirrlees Bickerton & Day, Ltd., makers of the Diesel oil engines. Head office & works: Hazel Grove, nr. Stockport. (Telegs.: "Economy, Hazel Grove." Teleph. Stockport 445.) London office: 225, Gresham House, Old Broad-st., E.C.

MIRRLEES WATSON CO., LTD., condensing plant manufacturers. Head office & works: Scotland-st., Glasgow. London office: 225, Gresham House, Old Broad-st., E.C. (Telegs.: "Mirrlees, Glasgow;" "Mirrlees, London." Teleph. Nos.: Nat., 1783 S. S.; Corp., X. 69.)

Miskin, Alfred, A.I.E.E., 37, Worley-rd., St. Albans.

Miskin & Rice, electrical engineers, 110, St. Martin's-lane, London, W.C.; & St. Albans, Herts. (Teleph. Nos.: 1588, Central; & 115, St. Albans.)

Missenden & District Electric Light & Power Co., Ltd., High-st., Amersham, Bucks. Registered June 29, 1907. Nominal capital: £1000 in £1 shares. Directors: G. Carrington, Esq.; S. F. Beck, Esq.; W. Clay, Esq.

Mitchell, Capt. Clayton, R.N., West Highlands, Winchester. Director Winchester Electric Light & Power Co., Ltd.

Mitchell, David L., A.I.E.E., resident engineer, Hotel Hydro, Peebles.

Mitchell, David S., A.I.E.E., Clandon, Chase Green-ave., Enfield, Middlesex.

Mitchell, E. A., M.I.E.E., consulting engineer, 59 & 60, Broad-st.-ave., London, E.C. (Telegs.: "Awakenment, London." Teleph. No. 258, London Wall); & Chasemore, Park Hill, Carshalton.

Mitchell, G., electrical engineer, 39, Victoria-st., London, S.W. (Telegs.: "Skirret, London." Teleph. No. 1780, Victoria.)

Mitchell, H. E., A.M.I.C.E., M.I.E.E., consulting engineer, 5, Victoria-st., Westminster, S.W. (Teleph. Victoria 2685.)

Mitchell, Jas., Bryntirion, Hereford. Chairman Ross Electric Light & Power Co., Ltd.; chairman Ludlow Electric Light Co., Ltd.; chairman Tewkesbury Electric Light Co.

Mitchell, J., director Manaos Tramways & Light Co., Ltd., 22A, College Hill, London, E.C.

Mitchell, Leslie, A.M.I.E.E., c/o C. E. Mitchell, 58, Loveday-rd., West Ealing, London, W.

Mitchell, P. J., electrical & mechanical engineer, Caxton House, Westminster, S.W. (Telegs.: "Antehelix, London." Teleph. No. 2107, Victoria.)

Mitchell, Robert B., A.M.I.E.E., superintendent of mains, Corporation Electricity Works, 75, Waterloo-st., Glasgow. (Teleph. Nos.: 834, 835 & 844, Central, Post Office; & 936 & 1304, Argyle, Nat.)

Mitchell, S. W., A.M.I.E.E., Ivy Cottage, Apes Dale, Blackwell, Worcestershire.

Mitchell, T. A., A.M.I.E.E., 10, Maple-rd., Anerley, S.E.

Mitchell, W., electrician & electric bell fitter, 15, Camden-passage, Islington, London, N.

Mitchell, Wm. Fernie, A.M.I.E.E., Electricity Works, Dewar-pl., Edinburgh.

Mitchell, J., & Co., engineers, makers of Voisey's Electric Light Cable Grip, Craven House, Kingsway, London, W.C. (Telegrams: "Chalcocite, London." Telephone No. 5390, Gerrard.)

Mitchell, J., & Sons, electrical & mechanical engineers, Brockholes, nr. Huddersfield.

Mitchell, J. B., & Sons, electrical engineers, 4, Narrow Wine-st., Bristol.

Mitchell, L. C., & Co., installation contractors, 15, St. Aldgate-st., Gloucester.

Mitchell, Thos., & Sons, Ltd., dealers in electrical machinery, tools, &c., Bolton, Lancs. (Telegs.: "Realize, Bolton." Teleph. No. 302.)

Mitchell's Emery Wheel Co., Mill-st., Bradford, Manchester. (Telegrams: "Diameter, Manchester." Telephone No. 3575.)

Mitchell-Cocks, Jas., A.M.I.E.E., 1, St. Stephen's Villas, St. Leonard's-rd., London, S.W.

Mitchelson, D., district manager National Telephone Co., Ltd., 43, High-st., Dumbarton.

Mittelhausen, Chas., M.I.E.E., A.M.I.C.E., engineer & manager, U.D.C. Electricity Works, Bexley, Kent; & 19, St. John's Park, Blackheath, S.E.

Mittelhausen, J., M.I.E.E., electrical engineer, 19, St. John's-park, Blackheath, S.E.

Mix & Genest, Ltd., telephone manufacturers, 55, Red Cross-st., Barbican, E.C. (Telegs.: "Genest, London." Teleph. Nos.: 129, Bank; & 11818, Central.)

Moat, William, M.A., A.M.I.E.E., electrical engineer, Johnson Hall, Eccleshall, Staffs.

Moberly, R. M., A.M.I.E.E., c/o Arthur Pearson, 27, Paradise-st., Birmingham.

Model Engineer (weekly; price 2*d.*; ann. sub., 13*s.*), 26–29, Poppins-ct., Fleet-st., London, E.C. (Telegs.: "Prensa, London." Teleph. No. 9071, Central.)

Moeller & Condrup, Ltd., brazing lamps & furnaces, 78, Fore-st., E.C. (Telegrams: "Condrup, London." Telephone No. 2607, Central.)

Moenich, Oscar & Co., Ltd., telegraph wire manufacturers, Billiter House, Billiter-st., London, E.C. (Telegs.: "Moenich, London." Teleph. Avenue 2337.)

Moesch & Schmidt, manufacturers' agents, 43, Basinghall-st., London, E.C. (Telegrams: "Moesch, London." Teleph. No. 12128, Central.)

Moffat, J. M., electrician, 448, Merton-rd., Wandsworth.

Moffat Bros., makers of electrical fittings, 49, West Campbell-st., Glasgow. (Teleph. No. 2280, Argyle.)

Moffatt & Co., electric wood casing makers, Midland Mills, Gloucester. (Telegrams: "Moffatt, Merchant, Gloucester." Telephone No. 17.)

Moffet, J. S. D., Corporation tramways manager, Rochdale. (Nat. Teleph. No. 48.)

Moffett, F. J., B.A., M.I.E.E., consulting & inspecting engineer, Union-chbrs., Temple-row, Birmingham. (Telegs.: "Muscular, Birmingham." Teleph. Central 6227.)

Moffett & Rosher, consulting & inspecting engineers, Union-chbrs., Temple-row, Birmingham. (Telegs.: "Muscular, Birmingham." Teleph. No. 6227, Central.)

Moir, Alex, A.M.I.E.E., 24, Herondale-ave., Wandsworth Common, London, S.W. (Teleph. Battersea 1803.)

Moir, J., elecl. inspector, British Engine, Boiler & Electrical Insurance Co., Ltd., 12, King-st., Manchester.

Mole, M., & Son, electrical stampings & pressings of all kinds. Stampers & piercers, 52, Charlotte-st., Birmingham.

Molesworth, Sir G. L., K.C.I.E., Manor House, Bexley. Director Calcutta Electric Supply Corp., Ltd.

Molesworth, Walter Henderson, M.I.E.E., M.I.M.E., consulting engineer, 14, Howick-pl., London, S.W. (Teleph. No. 5333, Westminster.)

Moller, Gustavus Fred., A.M.I.E.E., general manager, Lanarkshire Tramways Co., Power House, Edinburgh-rd., Motherwell, N.B.

Molloy, B. C., 5, Paper-bldgs., Temple, E.C. Director British Tramways & General Construction Co., Ltd.

Molyneux, W. A., electrical engineer, Portesham, Dorchester.

Monckton, C. C. F., M.I.E.E., consulting elec. engineer, Parliament Mansions, Victoria-st., London, S.W.

Moncreiffe, Sir R. D., Bart., Moncreiffe, Bridge of Earn, N.B. Director Sunderland District Electric Tramways, Ltd.

Mond, A. M., M.P., director Belfast & North-East Ireland Electricity & Power Gas Co., 39, Victoria-st., London, S.W.

Mond, Emile S., 39, Victoria-st., S.W. Director North Western Electricity & Power Gas Syndicate, Ltd.; director Belfast & North East Ireland Electricity & Power Gas Co.

Mond, R. L., M.A., F.R.S.E., electrician, The Poplars, 20, Avenue-rd., Regent's Park, London, N.W.

Money, Alfred Wm., A.M.I.E.E., Chiswick Electric Supply Corporation, Chiswick, London, W.

Money, George W., A.M.I.E.E., 2, Avondale-ter., Coatesworth-rd., Gateshead-on-Tyne.

Money-Kent, J. M. V., A.M.I.C.E., M.I.E.E., M.I.MECH.E., consulting electrical engineer, 25, Old Queen-st., Westminster, London, S.W. (Teleph. No. 1156, Victoria.)

Monkhouse, F. L., M.I.E.E., A.M.I.M.E., 10, Wyndcote-rd., Allerton, nr. Liverpool.

Monks, A. R., 27, Cannon-st., London, E.C. Chairman Chatham & District Light Railways Co.; chairman Cork Electric Tramways & Lighting Co., Ltd.; chairman Lanarkshire Tramways Co.; director Uddingston District Electric Lighting Co., Ltd.; director Isle of Thanet Electric Tramways & Lighting Co., Ltd.

Monmouth Corporation Electricity Works, Monmouth. F. W. Windsor, resident engineer.

Monson, C. B., A.I.E.E., Town Hall, Kensington, W. (Teleph. Nos.: 746, Kensington; & 1227, Western.)

Monson, P., M.I.E.E., civil engineer & electrician, Town Hall, High-st., Kensington, London, W. (Teleph. Nos.: 746, Kensington; & 1227, Western.)

Montagu, G., director Exchange Telegraph Co., Ltd., 17 & 18, Cornhill, E.C.

Montague, G., A.M.I.M.E., A.M.I.E.E., electrical engineer, Leigh Woods, Clifton, nr. Bristol.

Monterey Railway, Light & Power Co., Ltd., London. Capital: £1,000,000.

Monte Video Telephone Co., Ltd., 325, Dashwood House, New Broad-st., E.C. (Telegs.: "Monticle, London." Teleph. Wall 7837.) Registered July 31, 1888. Directors: Chas. Lock, Esq. (chairman); J. G. le Marchant, Esq.; L. R. Philipps, Esq. Secretary, Robert H. Rivers. Nominal capital reduced in 1898 to £160,000, £73,000 in £1 ordinary shares & £87,000 in £1 preference shares. Issued: 86,492 preference shares & 72,680 ordinary shares, both fully paid. Dividends on ordinary shares: 1906, 5 per cent.; 1907, 6 per cent.; & first half of 1908, 3 per cent.

Montrose Electricity Works. North of Scotland Electric Light & Power Co., Ltd., proprietors. Engineer, F. Barritt Hills. (Teleph. No. 41, Montrose.)

Moody, Francis M., A.I.E.E., 206, City Road Park, Sheffield.

Moody, Gerald T., director West London & Provincial Electric Supply Co., Ltd., 14, Ironmonger-lane, London, E.C. Director Madeira Electric Lighting Co. (1909), Ltd.

Moody Bros., electrical engineers, 1, Carteret-st., Westminster, S.W. (Teleph. No. 591, Westminster.)

Moon, William, A.I.E.E., 68, Welldon-cres., Harrow, London, W.

Mooney, W., J.P., Leixlip Castle, Leixlip. Chairman Dublin & Lucan Electric Railway Co.

Moor, P. T., A.M.I.E.E., 9, Glebe-ter., Far Headingley, Leeds.

Moore, A. E., A.M.I.E.E., assistant lecturer on electrical engineering, University, Manchester.

Moore, Alfred John, A.M.I.E.E., assistant electrical engineer, Haulbowline Dockyard, nr. Queenstown, Ireland.

Moore, A. Nichols, A.I.E.E., chief assistant engineer, Corporation Electricity Department, Belfast.

Moore, Chas. H., 22, Ryder-st., St. James's, S.W. Director India Rubber, Gutta Percha & Telegraph Works Co., Ltd.; director Spanish National Submarine Telegraph Co., Ltd.

Moore, E., installation contractor, Doncaster.

Moore, E. S. Woollard, A.M.I.C.E., consulting engineer, Central House, New-st., Birmingham.
Moore, G. Arbuthnot, A.I.E.E., Engayne, Spital, Bromborough, Cheshire.
Moore, H., installation contractor, 8–10, Longford-bldgs., Oxford-rd., Manchester. (Teleph. City 5573.)
Moore, H. W., A.M.I.E.E., 89, Brownlow-rd., Horwich, Lancs.
Moore, J., director Dulverton Electric Lighting Co., Ltd., The Retreat, Dulverton.
Moore, J. S., chemist & electrician, 56, Grange-road, London, S.E.
Moore, J. S., Dervock, co. Antrim. Director Giants' Causeway, Portrush & Bush Valley Railway & Tramway Co.
Moore, John G., insulating material manufacturer, 56, Beechdale-rd., Brixton Hill, London, S.W.
Moore, Joseph, electrical & general engineer (agent for Clarke, Chapman & Co.), 22, Arcade-chbrs., St. Marysgate, Manchester. (Telegs.: "Cyclops, Manchester." Teleph. No. 3430.)
Moore Bros., electrical cabinet makers, 8, Powell-st., Goswell-rd., London, E.C.
Moore, F. C., & Co., electrical engineers & contractors, 1, Windsor-ter., Penarth.
Moore, Griffiths & Co., electrical engineers, 53, Queen-st., Cardiff.
Moore, Haigh & Co., motor manufacturers, Star Works, Kirkstall-rd., Leeds. (Teleph. No. 195 Y.)
Moore, M. & R., marble masons, 64, Pentonville-rd., London, W. (Telegrams: "Slattato, London." Telephone No. 494, King's Cross.)
Moorhouse, Albert, A.M.I.E.E., chief engineer, Willesden Infirmary, London, N.W.; & 2, Park Royal Villas, Willesden, N.W.
Moorhouse, C. F., district manager, National Telephone Co., Brighton.
Moorhouse, W. H., resident manager, Llandudno & Colwyn Bay Electric Railway, Ltd., Basildon House, Moorgate-st., E.C.
Morcom, R. K., M.I.E.E., M.A. (Camb.), electrical engineer, Belliss & Morcom, Ltd., Ledsam-st. Works, & 36, Wellington-rd., Edgbaston, Birmingham.
MORDEY, W. M., M.INST.C.E. M.I.E.E. (Mordey & Dawbarn, consulting electrical engineers), 82, Victoria-st. (Grosvenor Mansions), Westminster, S.W. (Telegs.: "Biphase, London." Teleph. No. 5086, Westminster.)
Mordey & Dawbarn, consulting engineers, 82, Victoria-st., Westminster, S.W. (Telegrams: "Biphase, London." Telephone No. 5086, Westminster.)
Morecambe Corp. Electricity Works. (Teleph. No. 91.) *Electrification of tramways postponed.*
Moreland, Richard, & Son, Ltd., mechanical engineers, 80, Goswell-rd., London, E.C. (Telegs.: "Expansion, London." Teleph. No. 7467, Central.)
Moreton & Foster, iron telegraph pole manufacturers, St. Leonard's Works, Bromley-by-Bow, London, E.
Morgan, D. N., director Ton-yr-efail & Gilfach Goch Electric Light Co., Ltd., 48, High-st., Tonyrefail.
Morgan, E. C., 20, Sussex Mansions, London, S.W. Chairman Calcutta Tramways Co., Ltd.; chairman Burma Electric Tramways & Lighting Co., Ltd.; chairman Electric Traction Co. of Hong Kong, Ltd.; director Hastings & District Electric Tramways Co., Ltd.
Morgan, E. D., A.I.E.E., "Belle Vue," 24, Queen's-rd., Tunbridge Wells, Kent.
Morgan, Geo., controller, Stores Department, General Post Office, 17–19, Bedford-st., London, W.C. (Telegs.: "Sundry, London." Teleph. Central 8708; & Official 58, via Central 1007.)
Morgan, Geo., electrical engineer, 262, Nithsdale-rd., Glasgow.
Morgan, Hopkin, A.M.I.E.E., 9, Courtland-pl., Port Talbot, South Wales.
Morgan, J. D., A.I.E.E., Marks & Clerk, 13, Temple-st., Birmingham.
Morgan, J. Wayne, electrical engineer, 6, Church-rd., Whitchurch, nr. Cardiff. (Telegs.: "Voltage, Whitchurch, Glam." Nat. Teleph. Whitchurch 23.)
Morgan, J. B., engineer, Urban District Council, Horsham. (Nat. Teleph. No. 6.)
Morgan, John, Tregib Arms, Brynamman, Carmarthenshire. Director Brynamman & District Electric Supply Co., Ltd.
Morgan, J. G. Y. D., A.I.E.E., Victoria Garage, St. Stephen's-rd., Norwich.
Morgan, P. H., A.M.I.E.E., East Dene, Charteris-rd., Woodford Green, Essex.
Morgan, R. J., electrical inspector, British Engine, Boiler & Electrical Insurance Co., Ltd., 12, King-st., Manchester.
Morgan, Wm. D. N., A.I.E.E., managing engineer, Coatbridge & Airdrie Electric Supply Co., Ltd., Electricity Works, Coatbridge.
MORGAN CRUCIBLE CO., LTD., THE, Battersea Works, London, S.W. (Telegs.: "Crucible, London." Nat. Teleph. Battersea 1670; & P.O., Western 1034. A.B.C., 4th & 5th edit., A1, Lieber's & Western Union, Univ. Edit., Codes.) Sole manufacturers of "MORGANITE" Brushes, Dash-pot Plungers & Bearings, "BATTERSEA CARBON" Brushes, Morgan's & Salamander Crucibles, Morgan's Plumbago, Battersea Refractory Bricks, &c.
Morgan Williams & Couzens, consulting engineers, 39, Victoria-st., London, S.W. (Telegs.: "Consonance, London." Nat. Teleph. No. 5029, Westminster.)
Morgan-Brown, W. (Wm. Brookes & Son), patent & design registration agent, 55 & 56, Chancery-lane, London, W.C. (Telegrams: "Aniline, London.")
Mork Patent Pulley Block Co., makers of electric travelling pulley blocks, 42–44, Moor-lane, London, E.C.
Morley, J. W., agent, Consett-chbrs., Newcastle-on-Tyne. (Teleph. No. 2983.)

Morley Corporation Electricity Supply Works, Morley, Yorks. (Telephone No. 89, Morley.) Engineer, J. E. Ellis, A.M.I.E.E.; electrician, H. C. Crisp.

MORLEY ELECTRICAL ENGINEERING CO., LTD., electrical engineers, Troy Works, Stanningley, nr. Leeds. Registered May 3, 1897. Nominal capital: £5000 in £1 shares. 1524 have been taken up & paid for in full. Mortgages & charges: £3000. W. Summerscales, managing director.

Morling & Cullum, electric bell fitters, High-st., Lowestoft.

Mornement & Ray, Ltd., electrical & general engineers, East Harling, Norfolk.

Morpeth Electricity Works, Morpeth, Northumberland. (Nat. Teleph. No. 049, Morpeth.) Northern Counties Electricity Supply Co., proprietors. Consulting engineers, C. S. Vesey Brown & C. W. Fairweather; engineer, W. H. Bibby.

Morris, A. T., A.M.I.E.E., Testing Dept., Faraday House, Southampton-row, London, W.C.

Morris, David King, M.I.E.E., PH.D., Morris & Lister, Ltd., Carlton Works, Lockhurst-lane, Coventry. (Telegs.: "Carlton, Coventry." Teleph. Coventry 84 X.)

Morris, Donald H., electrical engineer & branch manager, Lowdon Bros. & Co., 152, Holm-st., Glasgow.

Morris, E., electrical engineer & contractor, Chesterfield.

Morris, J., director North Wales & District Light Railway & Electric Power Syndicate, Ltd., 6, Booth-st., Manchester.

Morris, James, electrical engineer, Knowsley-st., Bolton. (Telephone No. 3 X.)

Morris, James F. W., A.I.E.E., 20, Grammant-rd., Peckham, London, S.E.

Morris, John Leslie, A.I.E.E., Berkeley, Hampton Court-rd., Hampton Court.

Morris, John Stuart, lightning conductor manufacturer, Wardrobe-chbrs., Queen Victoria-st., London, E.C. (Telegrams: "Acclivitas, London.")

Morris, J. T., M.I.E.E., electrical engineer & professor in electrical engineering, East London College, Mile End-rd., London, E. (Teleph. No. 3384 E); & 47, Cumberland Mansions, Seymour-pl., London, W.

Morris, P. D., electrical engineer, 26A, High-st., Islington, London, N. (Teleph. Central 11976; & Dalston 1612.)

Morris, Robert F., A.I.E.E., 5, Foregate-st., Worcester.

Morris, Sir John H., K.C.S.I., 88, Queen's Gate, S.W. Director St. James' & Pall Mall Electric Light Co., Ltd.; director Central Electric Supply Co., Ltd.

Morris, W. R., electrical engineer, instrument & apparatus maker, Faraday Works, Glover's-rd., Small Heath, Birmingham. Established 1837.

Morris Bros., acid manufacturers, 12, Priory-pl., Doncaster.

Morris, H. N., & Co., acid manufacturers, Gorton Brook Chemical Works, Manchester, S.E. (Telegrams: "Glauber, Manchester." Telephone No. 75, Openshaw.)

Morris Herbert & Bastert, Ltd., mechanical & electrical engineers, Loughborough.

Morris, John, & Son, electric light contractors, 87, Park-st., London, W.

Morris Jones & Co., installation contractors, 5, Foregate-st., Worcester.

Morris & Lister, Ltd., manufacturing electrical engineers, Carlton Works, Lockhurst-lane, Coventry. (Telegs.: "Carlton, Coventry." Teleph. No. 84 X.)

Morris, Timothy, Ltd., manufacturing electricians, 172, Hockley Hill, Birmingham. (Teleph. No. 2417.)

Morris Warden & Co., engineers, 68, Gordon-st., Glasgow. (Telegs.: "Morden, Glasgow." Teleph. Nos.: 1020, Royal, Nat.; & 1020, P.O.)

Morris-Hawkins, Ltd., speciality: electric motors. Head office & works: Dagenham, Essex. (Telegs.: "Interpole, Dagenham." Teleph. Rainham 13.) London office: 30, St. Mary Axe, E.C. (Teleph. London Wall 288.)

Morrish, J. Mellanby, electric light & power engineer, 26, Linthorpe-rd., Linthorpe, Middlesbrough. (Teleph. No. 096.)

Morrison, —, electrical engineer, 4, Birley-st., Blackpool. (Teleph. No. 187.)

Morrison, A. M., electrical inspector, British Engine, Boiler & Electrical Insurance Co., Ltd., 12, King-st., Manchester.

Morrison, G., A.I.E.E., 78, Kingsley-ave., West Ealing, London, W.

Morrison, G. J., C.E., M.I.E.E., 7, The Sanctuary, London, S.W.

Morrison, J. D., secretary & commercial manager, The Electric & Ordnance Accessories Co., Ltd., Aston, Birmingham. Private address: "Cluny," Money Hill-rd., Sutton Coldfield.

Morrison, R. L., electrical inspector, British Engine, Boiler & Electrical Insurance Co., Ltd., 12, King-st., Manchester.

Morrison, W., general manager Gateshead & District Tramways, Tramways Depôt, Sunderland-rd., Gateshead; & Braemar House, Law Fell, Gateshead. Director Hartlepool Electric Tramways Co., Ltd.; & managing director Jarrow & District Electric Traction Co., Ltd.

Morrison, William Murray, M.I.C.E., M.I.E.E., technical adviser, British Aluminium Co. & Loch Leven Water & Electric Power Co., 109, Queen Victoria-st., London, E.C. (Telegs.: "Morrison, c/o Cryolite, London.")

Morrison, Kekewich & Co., metal merchants & brokers, 70, Gracechurch-st., London, E.C. (Telegs.: "Morrison, London." Teleph. Wall 3263 (2 lines).)

Morrison, R., & Co., manganese merchants, 2, Fen-court, Fenchurch-street, London, E.C. (Telegrams: "Sulphur, London." Telephone No. 11,171, Avenue.)

Morrison, W. G., & Co., dealers in electrical supplies, 58, West Regent-st., Glasgow. (Teleph. No. 5779, Corp.)

Morrow, H. E., A.M.I.E.E., L.C.C. Paddington Technical Institute, Saltram-cres., London, W.

Mors (England), Ltd., 45, Great Marlborough-st., London, W.

Morse, Sydney, A.I.E.E., 37, Norfolk-st., Strand, London, W.C. (Telegrams: "Esrom, London." Telephone No. 1540, Gerrard.)

Morshead, Leslie R., A.I.E.E., British Westinghouse Electric & Manufacturing Co., Ltd., Trafford Park, Manchester.

Morten, Walter V., district manager, National Telephone Co., Commercial-bldgs., Park-row, Leeds. (Teleph. No. 1, Central, Leeds.)

Morton, Andrew Home, A.M.I.E.E., advising engineer, 81, Francis-rd., Five Ways, Birmingham. (Telegs.: "Counsel, Birmingham." Teleph. Midland 1384.)

Morton, Frank, A.M.I.E.E., Aberglaslyn, Mellor-rd., Marple Bridge, Stockport.

Morton, H., electrician, Belturbet Electric Lighting Co., Belturbet, Ireland.

Morton, J. S., A.M.I.E.E., Corporation Electricity Works, Ashton-under-Lyne.

Morton, W. B., M.A., professor of natural philosophy, Queen's College, Belfast.

Morton, Wm. Rostern, A.M.I.E.E., 57, Sanderson-rd., Newcastle-on-Tyne.

Morton, Francis & Co., Ltd., electric light & telegraph pole manufacturers, 17, Victoria-st., London, S.W. (Telegrams: "Dropper, London." Telephone No. 688, Victoria); & Hamilton Iron Works, Garston, Liverpool. (Telegrams: "Ironsides, Liverpool.")

Morton, G. H., & Son, Ltd., electrical engineers, 77 & 79, Bold-st., Liverpool, W.

Moseley, D., & Sons, Ltd., indiarubber manufacturers, Chapelfield Works, Ardwick, Manchester. (Telegrams: "Moseleys, Manchester." Telephone Nos. 79 & 257.)

Moseley & Son, lathe & tool makers, 63, New Oxford-st., London, W.C.

Moser Electrical Engineering Co., 128, Palace-chbrs., Bridge-st., London, S.W.

Moser, West & Bateman, Ltd., emery wheel makers, 98, Leadenhall-st., London, E.C.; & East Greenwich. (Telephone No. 396, Deptford.)

Mosers, Ltd., tools & requisites for electrical engineers, 178, 180, 182 & 192, Borough High-st., London, S.E.; & 4, Marshalsea-rd., London, S.E. (Telegs.: "Moserson, London." Teleph. No. 3563, Hop. (5 lines).)

Mosley, Col. Paget, 27, St. James-sq., London, S.W. Director State of Bahia South-Western Railway Co., Ltd.

Mosley, F., electrician, Great Northern Telegraph Co., Ltd., Newcastle-on-Tyne.

Moss, Gilbert, A.M.I.E.E., assistant electrical engineer, British Engine, Boiler & Electrical Insurance Co., Ltd., 12, King-st., Manchester, & 7, Bishop-rd., Pendleton, Manchester.

Moss, James, electrical & mechanical engineer, 63, Darnley-st., Brooks Bar, Manchester.

Moss-Blundell, C. B., A.I.E.E., 703, Lea Bridge-rd., Leyton, London, N.E. (Telephone No. 531, Walthamstow.)

MOSSES & MITCHELL, original vulcanized fibre manufacturers; Blake & Saddle staples, 122 & 124, Golden-lane, E.C. (Telegs.: "Insulator, London." Teleph. London Wall 437.) *See advts. under* INSULATING MATERIALS & VULCANIZED FIBRE.

Mossop, Walter, & Co., electrical engineers & contractors, 52, Queen Victoria-st., London, E.C.

Mostyn, Hon. H. P., chairman Church Stretton Electric Supply Co., Ltd., Church Stretton, Salop.

Mostyn, R. J. F., A.I.E.E., electrical engineer, Sandown, St. Minver-rd., Bedford.

Motherwell Corporation Electricity Supply Works. S. Williams, engineer. (Teleph. No. 59, Motherwell.)

Motherwell Iron & Steel Co., iron & steel manufacturers, Motherwell, N.B.

Motor, The (1*d.*), 7, 9, 11, 13 & 15, Rosebery-ave., London, E.C.

Motor Car Journal (weekly, 1*d.*), Cordingley & Co., 27–33, Charing Cross-rd., W.C.

Motor & Industrial Engineering Co., Ltd., 4, Union-ct., London, E.C.

"Motors," Ltd., alternate current motor manufacturers, 12, Camomile-st., London, E.C. (Telegrams: "Strikingly, London.")

Mott, Basil, A.R.S.M., M.I.C.E., engineer, Central London Railway, 2, Queen Square-pl., Queen Anne's Mansions, London, S.W. (Telephone No. 52, Westminster.)

Mott, H. R., A.M.I.E.E., assistant electrical engineer, Corporation of London, Guildhall, London, E.C.; & Hillcrest, Elmbourne-rd., Upper Tooting, S.W.

Mott, I. R., & Co., Ltd., electric bell push makers, 18A, Dale End, Birmingham.

Mottershead & Co., electrical engineers & medical battery makers, 7, Exchange-st., Manchester. (Telegrams: "Otter, Manchester." Telephone No. 1374.)

Mottram, E. H., A.I.E.E., Royal Pierremont Sanitary Laundry, York-st., Broadstairs.

Moul, Herbert E., A.M.I.E.E., 58, Victoria-st., Westminster, S.W.; & 18, Kensington Court-pl., London, W.

Mould's, Ltd., electrical contractors, High-st., Leatherhead. (Nat. Teleph. No. 15.)

Moulsdale, Wm. E., A.I.E.E., 24, Chapel-st., Liverpool.

Moulsdale, W. E., & Co., electrical engineers, 24, Chapel-st., Liverpool. (Telegrams: "Moulin, Liverpool." Telephone No. 7882.)

Moulton, The Rt. Hon. Lord Justice Fletcher, P.C., F.R.S., M.I.E.E., 57, Onslow-sq., London, S.W. (Teleph. No. 720, Kensington.)

Mountain, A. B., M.I.E.E., consulting & borough electrical engineer, St. Andrews-rd., & Woodside, Grimscar, Huddersfield. (Teleph. Nos. 261 & 487, Private.)

Mountain, M. B., M.I.E.E., electrical engineer.

Mountain, W. C., M.I.MECH.E., M.I.E.E., M.I.M.E., electrical engineer, managing director Ernest Scott & Mountain, Ltd., Close Works, Gateshead; & Sun-bldgs., Newcastle-on-Tyne (Telegs.: "Esco, Newcastle-on-Tyne." Nat. Teleph. Newcastle 1259; & Gateshead 311, 312 & 312A); & The Hermitage, Gateshead. (Teleph. No. 44.)

Mountfort, L. F., A.M.I.E.E., Engineer's Office, Tyburn, Birmingham.

Mowatt, Rt. Hon. Sir F., G.C.B., 41, Sloane-gdns., S.W. Director Indo-European Telegraph Co., Ltd.

Mower, Geo. A., managing director Sturtevant Engineering Co., Ltd., 147, Queen Victoria-st., E.C. (Teleph. No. 7121, Central.)

Moxon, W., director West Riding Tramways & Electricity Supply Co., Ltd., 28, Victoria-st., S.W.

MOY, ERNEST F., LTD., manufacturing electrical engineers, Greenland-pl., & 116, Bayham-st., Camden Town, London, N.W. (Telegs.: "Movedor, London." Teleph. Nos.: 1978, North; & 1600, P.O., Hampstead.) Registered March 30, 1896. Nominal capital: £10,000 in £1 shares. £10,000 issued & fully paid, & £3000 debentures, secured by a trust deed, dated May 23, 1907. Mortgages & charges: £1450. Ernest F. Moy, managing director; Chas. G. Fox, F.C.I.S., secretary. Dividends: 1901 & 1902, 7½ per cent.; 1903, 10 per cent.; 1904 & 1905, 7½ per cent. *See* SWITCH MANUFACTURERS—ELECTRIC.

Moynihan, R. E., A.M.I.E.E., 1, Church-st., Altrincham.

Moysey, Frank L., A.I.E.E., 103, Wellmeadow-rd., Catford, London, S.E.

Moysey, Henry J., A.M.I.E.E., 17, Hawthorn-rd., Gosforth, Newcastle-on-Tyne.

Mozley, H., general manager Corporation Tramways, Burnley, Lancs. (Teleph. Nos.: 46, Private; & 92, General.)

Muckley, W. H., works superintendent, Corporation Tramways Department, Liverpool.

Mudford, F. J., M.I.E.E., F.P.S., Arrow Electrical Works, Jackson-rd., Holloway, London, N. (Telegs.: "Mudford, Electrician, Holloway." Teleph. North 3191.)

Mudies Electrical Co., electrical engineers, 126, Cambridge-st., Birmingham.

Muir, Edward, electrical engineer, Glasgow Athenæum, St. George's-pl., Glasgow.

Muir, R. W., maker of high-speed engines for electric lighting, 97, St. James-road, Glasgow.

Muir, Wm., & Co., Ltd., machine tools, Sherbourne-st., Manchester. (Telegs.: "Britannia, Manchester." Teleph. City 529.)

Muirhead, Alex, D.SC., F.R.S., F.C.S., M.I.E.E., The Lodge, Shortlands, Kent. Chairman Lodge-Muirhead Wireless & General Telegraphy Syndicate, Ltd.; & Muirhead & Co., Ltd.

Muirhead, F. Lauder, Downe Lodge, Downe, Kent. Director Lodge-Muirhead Wireless & General Telegraphy Syndicate, Ltd.

Muirhead, H. J., director Lodge-Muirhead Wireless & General Telegraphy Syndicate, Ltd., 12, Carteret-st., Queen Anne's Gate, S.W.

Muirhead, Jas., B.SC., A.M.I.C.E., A.M.I.E.E., 16, Penn Lea-rd., Newbridge Hill, Bath.

Muirhead, J., steel railway chairs, &c., Cart Forge, Glasgow (Telegs.: "Muirhead, Glasgow." Telephone No. 25, Clarkston); & 46, St. Mary Axe, London, E.C.

MUIRHEAD & CO., LTD., telegraph engineers & contractors, Elmers End, Kent. (Telegs.: "Muirheads, Elmers-End." Telephone No. 50, Bromley.) *See* INSTRUMENT MAKERS—ELECTRICAL.

Mulholland, Maugham & Co., Ltd., engineers, Ferryhill Engine Works, West Cornforth R.S.O., co. Durham. (Telegs.: "Mulholland, West Cornforth." P.O. Teleph. No. 2.)

Müller, Carl, 29, 30, Kanonierstr., Berlin. Director Chilian Electric Tramway & Light Co., Ltd.

Müller, Chas. A., electrical accessories merchant, 10, Arcade, Westgate, Bradford, Yorks. (Teleph. No. 2229, Bradford.)

Müller, J. H., director Chilian Electric Tramway & Light Co., Ltd., 1, London Wall-bldgs., London, E.C.

Müller Bros., electrical instrument makers, 58, Dean-st., Soho, London, W.

Mulliner, A. M., assistant electrical engineer, Corporation, Eccles.

Mulliner, E. B., consulting engineer, 48, Birch-rd., Oxton, Cheshire.

Mullowney, J., electrical inspector, British Engine, Boiler & Electrical Insurance Co, Ltd., 12, King-st., Manchester.

Mumford, A. G., Ltd., general engineers, Culver-st., Colchester.

Munday, A., electrical engineer, 61, Watling-st., London, E.C.

Mundella, V. A., M.A., B.SC., M.I.E.E., principal, Technical College, Sunderland.

Municipal & General Properties Synd., Ltd., 9, Cloak-lane, Cannon-st., London, E.C. (Teleph. Central 9886.)

Municipal Journal (weekly, price 2*d.*), 80–81, Fleet-st., & 12, Salisbury-sq., Fleet-st., London, E.C.

Municipal Tramways Association, Sheffield Corporation Tramways, Division-st., Sheffield. Hon. Secretary, A. R. Fearnley.

Munro, A. R., A.M.I.E.E., 54, Lavender-gdns., Clapham Common, S.W.

Munro, Carlos S. A., electrical engineer, Twickenham & Teddington Electric Supply Co., Ltd., The Green, Twickenham.

Munro, Donald S., A.M.I.E.E., 11, Randolph-pl., Edinburgh.

Munro, Edward May, M.I.E.E., Brecknell, Munro & Rogers, Ltd., Finsbury Pavement House, London, E.C.

Munro, H. D., M.I.E.E., city electrical engineer, Corporation Electricity Offices, Exeter. (Teleph. No. 194.)

Munro, J., telegraph superintendent, Highland Railway, Inverness.

Munro, John, M.I.M.E., prof. of mechanical engineering, Merchant Venturers' Technical College, Bristol.

Munro, John M. M., F.R.S.E., M.I.E.E., A.M.I.C.E. (Messrs. Anderson & Munro), 136, Bothwell-st., Glasgow.

Munro, Robert W., mechanical engineer, 103–149, Cornwall-rd., South Tottenham, London, N. (Telegs.: "Robert Munro, London." Teleph. No. 1713, Tottenham.)

Munro, Wm., electric light fittings maker, 185, Trongate, Glasgow. (Teleph. No. 46, Bell, P.O.)

Munro Fire Detector Co., Ltd., 64, Victoria-st., London, S.W. (Teleph. Gerrard 485.)

Munro, John, & Co., elec. engineers, 45, York-pl., & Swinton-row, Edinburgh. (Tel. No. 4115, Central.)

Munro & Mackintosh, agents in Scotland for Richter's Carbons, 103, Bath-st., Glasgow.

Munsey, D., J.P., Beech House, Cambridge. Chairman Cambridge Electric Supply Co., Ltd.; director Cambridge Electric Tramways Syndicate.

Munster Electric Lighting Co., Ltd., electric light contractors, Fethard, Tipperary; & 26, North John-st., Liverpool. Registered Nov. 14, 1908. Nominal capital: £2000, all issued, & £1000 debentures. Directors: J. Hunter, Esq., J.P. (chairman); E. Griffiths, Esq. Chief engineer, C. Armstrong-Lamb; secretary, R. H. Bindloss.

Muntz Metal Co., metal manufacturers, 23, Rood-lane, London, E.C. (Telegs.: "Tubing, London.")

Murch, Philip, borough engineer, Town Hall, Portsmouth.

Murdoch, Alex., A.M.I.E.E., chief assistant engineer, Borough Council Electricity Works, Fulham, S.W.

Murdoch, W. D., Bordage, Guernsey. Director Guernsey Railway Co., Ltd.

Murdoch, W. H. F., B.SC., M.I.E.E., head of the Electrical Engineering & Physics Department, Hackney Institute, Dalston-lane, London, N.E.

Murgatroyd, E., manager, Corporation Tramways, Keighley.

Murphy, Leonard, A.M.I.E.E., East London College, Mile End-rd., London, E.; & 268, Victoria Park-rd. South Hackney.

Murphy, W. Lombard, 33, Upper Merrion-st., Dublin. Director Clontarf & Hill of Howth Tramroad Co.

Murphy, W. M., J.P., Suffolk House, Laurence Pountney Hill, London, E.C. Director Cork Electric Tramways & Lighting Co., Ltd.; director Isle of Thanet Electric Tramways & Lighting Co., Ltd.; chairman Dublin United Tramways Co., Ltd.

Murray, Col. F. J. G., director Calcutta Electric Supply Corp., Ltd., Salisbury House, London Wall, London, E.C.

Murray, E. T. Ruthven, M.I.E.E., M.I.MECH.E., engineer-in-chief North Metropolitan Electric Power Supply Co.; North Metropolitan Electrical Power Distribution Co., Ltd.; Engineer's Office, Spencer House, 4, South-pl., Finsbury Pavement, London, E.C. (Telegs.: "Lenstiscus, London." Teleph. No. 17, London Wall.)

Murray, I. J., agent for the Sunbeam Lamp Co., Victoria House, Sandymount, Dublin.

Murray, J. K., A.M.I.E.E., telephone engineer, National Telephone Co., Ltd., 99, Douglas-st., Glasgow. (Teleph. No. 229 X. 3, Douglas.)

Murray, Lee, M.C.E. (MELB.), M.I.C.E., M.I.E.E., general manager Bruce Peebles & Co., Ltd., Edinburgh.

Murray, Major Stuart, Hooper's Hill, New Milton, Hants. (Telegs.: "Murray, Hordle.") Director Lymington Electric Light & Power Co., Ltd.

Murray, T. Blackwood, B.SC., M.I.E.E., electrical engineer, Albion Motor Car Co., Ltd., South-st., Scotstoun, Glasgow. (Telegs.: "Automobile, Glasgow." Nat. Teleph. Hillhead 1991–3.)

Murray, Wm., 5, Copthall-bldgs., London, E.C. Director Altrincham Electric Supply Co., Ltd.

Murray, Wm., A.I.E.E., Tramway Offices, Chingford-rd., Walthamstow, N.E.

Murray, W. R., chief assistant engineer, Corporation Electricity Works, Ayr, N.B.

Murray, R. C., & Co., electric, ship & street lamp makers, 7, Carlton-court, Glasgow. (Telegrams: "Lampads, Glasgow." Nat. Telephone No. 76, Gorbals; & No. 576, Corp.)

Murray, McVinnie & Co., Ltd., steam packing mfrs. (metallic), Mavisbank Quay, South Side, Glasgow.

Murray & Sons, wiring contractors, Sheerness.

Murray, Workman & Co., Ltd., enclosed high speed engines, air compressors & Pelton water wheels, Craigton Engineering Works, Glasgow. (Telegs.: "Effectual, Glasgow." Teleph. Govan 195.)

Murrell Bros., electrical engineers & contractors, Warham Works, Warham-rd., Harringay, London, N. (Teleph. No. 1685, Tottenham.)

Murrin, Wm. Geo., M.I.E.E., electrical engineer, 22, Brackley-rd., Chiswick, London, W

Murrin, W. G., electrical engineer & contractor, 18, Trefoil-rd., Wandsworth Common, London, S.W. (Teleph. No. 450, Putney); & 10, Pier-ter., South Lowestoft. (Teleph. No. 21.)

Muse, J., director Kingswood Electric Supply Co., Ltd., All Saints' House, The Exchange, Bristol.

Muse, Thos., electrical apparatus maker, 1, South View, Newington, Hull.

Musgrave & Co., Ltd., electrical fans, Belfast. (Telegs.: "Musgrave, Limited, Belfast." Teleph. No. 68.)

Musgrave, J., & Sons, Ltd., engineers, boiler makers, &c., Globe Iron Works, Bolton, Lancashire. (Telegs.: "Musgrave, Bolton." Teleph. No. 590.)

Musker, C. & A. (1901), Ltd., mechanical, hydraulic & electrical engineers, Tue Brook, Liverpool.

Muspratt, E. K., J.P., Seaforth Hall, nr. Liverpool. Director Electric Supply Co. of West Australia, Ltd.; chairman Midland Electric Corporation (1900), Ltd.; chairman Electric Supply Co. of Victoria, Ltd.; director Midland Electric Corporation for Power Distribution, Ltd.

Muspratt Laboratory of Physical & Electro-Chemistry, The University, Liverpool. Director, Prof. F. G. Donnan. (Teleph. Royal 207.)

Musselburgh & District Electric Light & Traction Co., Ltd., Musselburgh, N.B. (Telegs.: "Tramways, Musselburgh." Teleph. No. 4.) Registered office: Queen Anne's-chbrs., Westminster, S.W. Registered July 6, 1905. Nominal capital: £60,000 in £1 ordinary shares & £60,000 in £1 preference shares, & £90,000 debentures, secured by trust deeds, dated Nov. 13, 1905, & May 11, 1909. Issued: £43,007 in ordinary shares, £45,200 in preference shares & £64,700 debentures, all fully paid. Directors: L. B. Schlesinger, Esq. (chairman); W. H. Fowler, Esq., J.P.; B. Bernheim, Esq.; W. B. Cownie, Esq., C.A.; J. Anderson, Esq. Resident manager & engineer, A. A. Watkins, A.M.I.E.E.; secretary, R. Watson. Dividends on ordinary shares: 1905, 1906, 1907 & 1908, *nil.*

Mutual Electric Trust, Ltd., electricians, engineers, &c., Lewes-rd., Brighton.

Mutual Electricity Supply Co., Ltd., 39, Victoria-st., London, S.W. Registered Feb. 16, 1906. Nominal capital: £20,000 in £1 shares. Secretary, E. J. Cox.

Myer, B. L., A.M.I.E.E., electrical engineer, 36, Oxford-st., Liverpool.

Myer & Co., electrical engineers, 33, Mount Pleasant, Liverpool. (Teleph. No. 3817, Royal.)

Myers, E. R., A.M.I.E.E., Burwood, Worcester-rd., Sutton, Surrey.

Myers, J. R., A.M.I.M.E., station superintendent, Electricity Works, Ilford, Essex.

Myerson, F. T., iron works, 215, St. John's-st., London, E.C.

Mylan, Wm. F., A.M.I.E.E., electrical engineer, Bank-chbrs., Fargate, Sheffield.

Myring, J., & Co., sanitary & electrical engineers, 67 & 69, Abbey-rd., St. John's Wood. (Telegrams: "Unknown, London." Telephone No. 469, Paddington.)

Naftel, Percy H., A.I.E.E., inspector of installations, Corporation Electric Supply Works, Liverpool.

Nairn, Wm., M.I.E.E., A.M.I.C.E., London United Tramways Co., Ltd., 74, High-rd., Chiswick, London, W. (Teleph. No. 329, Chiswick.)

Nairobi Electric Power & Lighting Co., Ltd., 8, Martin's-lane, Cannon-st., London, E.C. Registered Feb. 23, 1906. Nominal capital: £30,000 in 18,000 ordinary & 12,000 preference shares of £1 each. Issued: 7100 ordinary & all the preference, all fully paid. £15,000 6 per cent. debentures authorised, £11,000 issued. Directors: Gen. Sir Stanley Edwardes, K.C.B.; W. H. Hooker, Esq.; Lieut. R. C. Bayldon, R.N.; G. A. Higlett, F.C.I.S., Esq. (secretary). Consulting engineers, Burstall & Monkhouse.

Nalder, F. H., M.I.E.E., mechanical & electrical engineer, Nalder Bros. & Thompson, Ltd., 34, Queen-st., London, E.C.; & 104, Gleneldon-rd., Streatham, S.W.

Nalder, Hubert H., A.I.E.E., engineer & manager, Cork Electric Tramways & Lighting Co., Ltd., Cork.

Nalder, N. Francis, electrical engineer, 94, St. George's-sq., S.W.

NALDER BROS. & CO., scientific & electrical instrument manufacturers, 7, Carteret-st., Queen Anne's Gate, Westminster, S.W. (late 16, Red Lion-st., Clerkenwell). (Telegrams: "Secohm, London." Telephone Gerrard 779.)

NALDER BROS. & THOMPSON, LTD., makers of ammeters, voltmeters, gravity & moving coil permanent magnet type, electrostatic voltmeters, recording instruments & automatic cut-outs, & circuit breakers, ohmmeters, generators, testing sets, wattmeters, synchronisers, power factor indicators, telethermometers & limit indicators, 34, Queen-st., Cheapside, London, E.C. (Telegs.: "Occlude, London." Teleph. Bank 123 & 124.) Registered May 19, 1899. Nominal capital: £12,500 in £1 ordinary shares & £10,000 in £1 preference shares. Issued: 11,125 ordinary & 8256 preference, all fully paid. Directors: F. H. Nalder, Esq. (chairman & managing); E. D. Wilson, Esq.; A. F. Harris, Esq.; G. F. Pittar, Esq. Secretary, A. F. Harris. *See* MEASURING INSTRUMENT MFRS.—ELECTRIC.

Nance, Harry, electrical manufacturers' agent & merchant, 4, Church-st., Cardiff. (Telegs.: "Potential, Cardiff." Nat. Teleph. No. 2017.)

Nance, Ralph, A.M.I.E.E., electrical engineer, 2, Dock-chbrs., Cardiff. (Telegs.: "Nance, Cardiff." Teleph. No. 125.)

Napier, F. D., A.M.I.MECH.E., A.M.I.E.E., resident engineer, North Metropolitan Electric Power Supply Co., Taylor's-lane, Willesden, N.W. (Teleph. Harlesden 114.)

Napier, Hon. Mark F., Pullenden Manor, Lingfield, Surrey. Director Reuter's Telegram Co., Ltd.

Napier, J. W., engineer, Town Electricity Supply, Alloa, N.B. (Teleph. Alloa 109A.)
Napier, Wm. H. U., A.I.E.E., "Pendennis," King's-rd., Leytonstone, Essex.
Napier-Colson, G. B., A.I.E.E., 7, Colehcrne-rd., Earl's Court, London, S.W.
Nash, Ernest A., A.I.E.E., 77, Castellain Mansions, Elgin-ave., London, W.
Nash, E. D., general engraver, 40, St. John's-sq., Clerkenwell, London, E.C.
Nash, Herbert, A.M.I.E.E., electrical & general engineer, 1, High-st., Notting-hill-gate, London, W. (Telegs.: "Cellulique, London." Teleph. No. 23, Western); also at Gerrard's Cross & Beaconsfield.
Nash, Marcus, A.M.I.E.E., Littlebourne, Guildford.
Nash, R. P., engineer, Electricity Works, Prescot.
Nash, R. W., C.E., Palace-chbrs., Westminster, S.W. Director Typewriting Telegraph Corporation, Ltd.
Nash, T., & Son, consulting engineers, Testing Works, Sheffield. (Telegs.: "Thomas Nash, Sheffield." Teleph. Nos. 299 & 2594. A.B.C. & Western Union Codes.)
Nathan, Cecil, A.I.E.E., 7, Campden Mansions, The Mall, Kensington, London, W.
Nathan, Sir Matthew, G.C.M.G., secretary to the Post Office, St. Martin's-le-Grand, London, E.C.
National Association of British Exporters (Incorporated), 64, Imperial-bldgs., Ludgate Circus, E.C.
NATIONAL BOILER & GENERAL INSURANCE CO., LTD., 22, St. Ann's-sq., Manchester (Telegs.: "National, Manchester." Teleph. City 1409, 248, 4802 & 1409 T.); & 60, Queen Victoria-st., London, E.C. (Telegs.: "Incrustation, London." Teleph. Bank 142.)
National Brake & Electric Co., makers of air compressors & complete air-brake equipments for electric tramways, 14, Great Smith-st., London, S.W. (Telegs.: "Fanabitis, London." Teleph. No. 767, Westminster.) Wm. A. Parker, European manager.
National Carbide Co., Ltd., carbide of calcium manufacturers, 11, Queen Victoria-st., London, E.C.
National Conduit & Cable Co., Ltd., electric cable, wire & tube manufacturers, 1, 2 & 3, Oxford-ct., Cannon-st., London, E.C. (Telegs.: "Mummified, London." Teleph. No. 5677, Bank.)
National Electric Construction Co., Ltd., 245, High-st., Bangor. D. O. Evans, M.I.E.E., manager.
National Electric Construction Co., Ltd., tramway contractors & electrical engineers, Queen Anne's-chbrs., Westminster, London, S.W. (Telegs.: "Overhauled, London." Teleph. Gerrard 5134 & 5135.) Registered July 16, 1897. Nominal capital: £250,000 in £1 ordinary shares. Issued: £170,000, fully paid. £75,000 debentures, secured by trust deed, dated May 7, 1907. Directors: L. B. Schlesinger, Esq. (chairman); J. Carr Saunders, Esq.; Jas. T. Jervis, Esq., M.I.C.E., F.R.G.S.; B. Bernheim, Esq.; W. H. Fowler, Esq., J.P. General manager & secretary, W. B. Cownie; chief engineer, F. E. Stanley. Dividends: 1906, 10 per cent.; 1907 & 1908, *nil.*
National Electric Signs Co., Ltd., electrical engineers, 112, Bath-st., Glasgow. (Teleph. Nat. Douglas 230 Y 4; & P.O. Central 1926.)
National Electric Supply Co., Ltd., 119A, Fishergate, Preston. (Telegrams: "Illuminate, Preston." Telephone Nos. 83 & 145.) Works: Crown-st. Nominal capital: £39,331 5*s.* in ordinary shares, £145,250 preference shares & £362 10*s.* founders' shares. Issued capital: £39,331 5*s.* ordinary shares, fully paid; & £82,475 preference shares of £5 each, fully paid; & 100 founders' fully paid £3 12*s.* 6*d.* shares. 4 per cent. loans, £36,567 19*s.* 1*d.* Directors: J. Booth, Esq. (chairman); E. Pyke, Esq., J.P.; & Joseph Anderson, Esq. Electrical engineer, J. H. Tonge, M.I.E.E., A.M.I.C.E.; secretary, Thos. Cross, F.C.I.S. Dividends on ordinary shares: 1906, 7*s.* 6*d.* per share; 1907, 8*s.* per share; & 1908, 8*s.* per share. Preference shares 4 per cent.; loans 4 per cent.; founders' shares, 1906, £1 7*s.* 2*d.* per share.; 1907 & 1908, £2 14*s.* 3*d.* per share.
National Electrical Co., electrical engineers, 60, Newhall-st., Birmingham.
National Electrical Manufacturers' Association, Incorp., 2, Queen Anne's Gate, London, S.W. W. Davenport, sec. (Telegs.: "Unlatch." Tel. No. 2258, Hop.) C. S. Northcote, M.I.E.E., hon. organizing sec. (Telegs.: "Bureaulite." Tel. No. 601, Westminster.) Members of committee: H. H. Berry (Berry, Skinner & Co.), 78, Upper Thames-st., E.C.; H. W. Butler (Electrical Power Storage Co.), 4, Gt. Winchester-st., E.C.; E. J. Clark (Hart Accumulator Co., Ltd.), Marshgate-lane, Stratford, E.; T. J. Grainger (Sunbeam Lamp Co.), Gateshead-on-Tyne; F. B. O. Hawes (Langdon-Davies Motor Co., Ltd.), Deverell-st., S.E.; A. P. Lundberg, 477, Liverpool-rd., London, N.; E. S. Marsh (Marsh, Son & Co., Ltd.), 15, Gerrard-st., W.C.; F. H. Nalder (Nalder Bros. & Thompson, Ltd.), 34, Queen-st., E.C.; H. Oppenheimer (International Electric Co.), 111-115, Salusbury-rd., Kilburn, N.W.
National Fan & Motor Co., Ltd., dynamo & motor manufacturers, East Bog, Bo'ness, N.B.
National Gas Engine Co., Ltd., makers of gas engines, Wellington Works, Ashton-under-Lyne (Telegs.: "National, Ashton-under-Lyne." Tel. No. 425 (4 lines)); & 21, Bridge-st., Deansgate, Manchester.
National Lighting Corporation, Ltd., electric light fittings manufacturers, 35, Cock-lane, Snow Hill, E.C.
National Motor Carriage Syndicate, Ltd., 37, Walbrook, London, E.C. Registered May 25, 1897. Nominal capital: £18,000 in £1 ordinary shares & £12,000 in £1 deferred shares. Issued: all the ordinary & 8000 deferred shares, both fully paid. Directors: G. de L. Duckworth, Esq.; H. F. Joel, Esq.; A. F. Mulliner, Esq.; T. Wm. Potter, Esq.; A. Maxwell Tod, Esq. Electrical engineers, H. F. Joel & H. A. Rosenthal; secretary, V. C. Doubleday.
National Physical Laboratory, Teddington. (Telegs.: "Physics, Teddington." P.O. Teleph. Kingston 728; & Richmond 229A.)

National Provincial Electricity Corporation, Ltd., 118, Queen Victoria-st., London, E.C. Registered March 27, 1903. Nominal capital: £30,000 in £1 shares, 8733 issued; £5000 debentures. Directors: G. D. Handley, Esq. (chairman); A. West, Esq.; W. T. Pressland, Esq.; W. L. Machell, Esq. Secretary, J. W. Cranfield.

National Rail & Tramway Appliances Co., Ltd., Taylor-st., Liverpool. (Telegs.: "Brakeblock, Liverpool." Teleph. No. 1198, Royal.)

NATIONAL TELEPHONE CO., LTD. Head office: Telephone House, Victoria Embankment, London, E.C. (Telegs.: "National Telephone, London." Teleph. Nos.: Secretary's office, 19, Head office; Engineer-in-chief, 52, Head office.) Registered March 10, 1881. The share capital is £7,500,000, in 15,000 6 per cent. first preference shares of £10 each, 15,000 6 per cent. second preference shares of £10 each, 250,000 5 per cent. third preference shares of £5 each, £2,225,000 6 per cent. preferred stock & £3,725,000 deferred stock. Of which capital, £150,000 first preference, £150,000 second preference, £1,250,000 third preference, £2,225,000 preferred stock, & £3,725,000 deferred stock have been issued & fully paid, as well as £2,000,000 3½ per cent. debenture stock & £1,983,593 4 per cent. debenture stock. Trust deed, dated Jan. 14, 1909, supplemental to deeds, dated Dec. 30, 1899, Oct. 8, 1900, Oct. 21, 1901 & March 3, 1904, securing £450,000 4 per cent. debenture stock. Directors: Geo. Franklin, Esq. (president); S. H. Sands, Esq. (vice-president); C. S. Agnew, Esq.; The Rt. Hon. Lord Balfour of Burleigh; The Rt. Hon. Lord Harris, G.C.S.I., G.C.I.E.; Sir Cuthbert Quilter, Bart.; G. H. Robertson, Esq.; Sir Albert Rollit; W. A. Smith, Esq. Albert Anns, secretary; Frank Gill, engineer-in-chief. Dividends: 1903, 1904 & 1905, 6 per cent. on preferred stock, 5 per cent. on deferred stock; June, 1906, 6 per cent. on preferred stock, 5 per cent. on deferred stock; Dec., 1906, 6 per cent. on preferred stock, 5½ per cent. on deferred stock; June, 1907, 6 per cent. on preferred stock, 6 per cent. on deferred stock; Dec., 1907, 6 per cent. on preferred stock, 6 per cent. on deferred stock; June, 1908, 6 per cent. on preferred stock, 6 per cent. on deferred stock. For other officials, *see* CLASSIFIED SECTION. *See advt., facing title page.*

National Telephone Journal (monthly, 3*d.*; ann. sub., 4s.), Telephone House, Victoria Embankment, E.C.

National Telewriter Co., Ltd., manufacturers of & dealers in electrical apparatus, 20, Bucklersbury, & 30–34, Tabernacle-st., London, E.C. (Telegs.: "Telewriter, London." Teleph. Gerrard 9103.)

Nature (weekly, price 6*d.*), St. Martin's-st., London, W.C.

Nauheim, J. F., 56, Canfield-gdns. W., Hampstead, N.W. Director Chatham & District Light Railways Co.; director Lanarkshire Tramways Co.; director British Thomson-Houston Co., Ltd.

Nautilus Metal Co., anti friction metal makers, Dock House, Billiter-st., London, E.C. (Telegs.: "Gramercy, London." Teleph. Nos.: 1414, Avenue, Nat.; & 1414, Central, P.O.); & 16, Deansgate, Manchester. (Telegs.: "Gramercy, Manchester.")

Naylor, G. F., chief assistant electrical engineer, Corporation, Nelson, Lancs.

Naylor, J. P., electrical engineer, 1, Gresham-st., London, E.C. (Teleph. London Wall 1671.)

Naylor, T. B., A.M.I.E.E., 4, Charleville-rd., Rathmines, Dublin.

Naylor, W. S., general manager, Chloride Electrical Storage Co., Ltd., Clifton Junction, nr. Manchester.

Naylor Bros., brackets, pole fittings, lattice steel poles of all descriptions, Golborne, Lancs. (Telegs.: "Naylor Bros., Golborne." Teleph. No. 22, Newton-le-Willows.)

Naylor Bros. (London), Ltd., varnish manufacturers, 407, Oxford-st., London, W. (Telegs.: "Glossiest, London." Teleph. Paddington 926.)

Naylor, C. H. S., & Co., electrical engineers, 49, Ducie-st., Piccadilly, Manchester.

Naylor, John, & Son, electric bell fitters, Cheapside, Halifax. (Telegrams: "Naylor, Cheapside, Halifax." Telephone No. 130.)

Naylor, J., & Sons, electrical contractors, Peter's-lane, York.

Neachell, A., electrical engineer, 31, Kinveachy-gdns., Charlton, S.E.

Neachell, E. J., M.I.E.E., M.I.MECH.E., engineer & manager, Overhead Railway Co., 31, James-st., Liverpool.

Neal, Ralph, press tool maker, 49 & 50, Percival-st., London, E.C. (Telephone No. 4948, Central.)

Neale, Geo. A., M.I.E.E., signal & telegraph engineer, Hull & Barnsley Railway Co., Hull. (Telegs.: "Neale, Junction, Hull." Nat. Teleph. No. 232 X.)

Neale, G. Hall, director Blackpool Electric Tramways (South), Ltd., 43, Castle-st., Liverpool.

Neale, G. W., metal merchant, 83, Upper Thames-st., London, E.C. (Telephone No. 5819, Bank.)

Neale, H. A., electrical engineer, Crompton & Co., Ltd., Salisbury House, London Wall, London, E.C.

Neale, Wm., The Cedars, Yardley-rd., Acock's Green, Birmingham. Director of the Associated Cos. of the British Electric Traction Co., Ltd.; & director City of Birmingham Tramways Co., Ltd

Needham, John, & Sons, tube manufacturers & makers of electrical steel, 44, Brown-st., Manchester. (Telegs.: "Utility, Manchester." Teleph. No. 6852 (2 lines).)

Neele, C. W., A.I.E.E., electrical engineer, Great Central Railway, Guide Bridge, Lancs.

Negretti & Zambra, electrical instrument makers, 38, Holborn Viaduct, London, E.C. (Telegrams: "Negretti, London." Telephone No. 583, Holborn.)

Neil, R. O. B., assistant electrical engineer, G.W. Rly., Fishguard Harbour, Pembrokeshire.

Neild, Geo. A., A.M.I.E.E., c/o British Thomson-Houston Co., Ltd., Rugby.

Neill, D. T., & Co., electric lighting contractors, 166, Great Junction-st., Leith. (Teleph. No. 997.)

Neilson, G., director Coatbridge & Airdrie Electric Supply Co., Ltd., Electricity Works, Coatbridge, N.B.

Neilson, R. M., consulting engineer & chartered patent agent, 45, Hope-st., Glasgow. (Telegs.: "Momentum, Glasgow." P.O. Teleph. Central 4755.)

Nelder, C. U., director Dulverton Electric Lighting Co., Ltd., High-st., Dulverton.

Nell, Frederic, The Victor turbine water wheel & pumps, 46, Queen Victoria-st., London, E.C. (Telegs.: "Turbinatus, London." Teleph. No. 903, Bank.)

Nelson, G. D., A.M.I.E.E., 28, Wood Vale, Forest Hill, London, S.E.

Nelson, John Peel, A.I.E.E, 78, Solent-rd., West Hampstead, London, N.W.

Nelson, R., electrical engineer, 52, Main-st., Bridgeton Cross, Glasgow.

Nelson, Robert, H.M. Electrical Inspector of Mines, Home Office, Whitehall, London, S.W.

Nelson Corporation Electric Supply & Tramways, Nelson, Lancs. D. Helme, engineer. (Nat. Teleph. No. 115, Nelson.)

Nener, E., electrical engineer, Dillwyn-st., Swansea.

Nesbitt, Wm., electrical engineer, Monalee House, 43, Harders-rd., Peckham, London, S.E.

Nettley, Charles N., A.I.E.E., electrical engineer, 82, Seaford-rd., West Ealing, London, W.

Neumann, S., Salisbury House, London Wall, E.C. Director African Transcontinental Telegraph Co., Ltd.

Nevile, R. H. C., electrician, Wellingore, Lincoln. (Telegrams: "Nevile, Wellingore, Navenby.")

Nevile Engineering Co., Ltd., St. Martin's Gate, Worcester. (Telegrams: "Nevile, Worcester." Telephone No. 196.)

Nevill, H. A., engineer, Corporation Electricity Works, Wakefield.

Neville Kaye & Co., Ltd., electric lift makers, 231 & 232, Strand, London, W.C.

Neville Machine & Tool Co., Ltd., The, machine tool makers, 7, James-st., Liverpool. (Telegs.: "Neville, Liverpool." Teleph. Bank 4347.)

Neville, Victor, & Co., electrical engineers & contractors, 20, Park Cross-st., Leeds. (Teleph. No. 4024.)

NEVILLE, WILLIAMS & CO, insulation specialists, 80A, Southwark-st., London, S.E. (Telegs.: "Sinecure, London." Teleph. Hop 3356.) Sole manufacturers of "Varsulat" varnishes. Makers of "Ensign" Transformers, foreign & colonial exporters. Sole agents in the U.K. for "Tinol" Patent Solder.

Nevin, John, J.P., Littlemoor, Mirfield. Chairman Electrical Distribution of Yorkshire, Ltd.

New C. G. M., deputy electrical engineer, Corporation, Cardiff.

New, E. Sanford, London manager D.P. Battery Co., Ltd., 11, Victoria-st., Westminster, S.W. (Telegrams: "Cumulose, London." Telephone No. 291, Westminster.)

New, W. J., Parke House, Melton Mowbray. Chairman Melton Mowbray Electric Light Co., Ltd.

New Barnet Electrical Works, electrical accessories makers, Off Station-rd., New Barnet.

New British Electric Supply Co., Ltd., electrical engineers, Rochester Works, 43, Stoke Newington-rd., London, N. (Telegs.: "Arcazon, London." Teleph. No. 388, Dalston.)

New Century Electric Co., installation contractors, 354, Caledonian-rd., London, N. (Teleph. No. 7674, P.O., Central.)

New Conveyor Co., Ltd., Smethwick, Birmingham. (Telegs.: "Aptitude, Birmingham." Teleph. No. 50.)

New General Traction Co., Ltd., 8, Crosby-sq., London, E.C. (Telegs.: "Carwheel, London.") Registered March 26, 1896. Nominal capital: £120,000 in £5 ordinary shares & £250,000 in £5 preference shares; all are issued & are fully paid. Mortgages & charges: £325,700. Directors: Baron E. B. d'Erlanger; Hon. A. G. Brand; Francis FitzGerald, Esq.; R. J. West, Esq.; E. A. Hopkins, Esq. (managing). Electrical engineer, E. I. Winslow; secretary, J. G. Mills, F.C.I.S. Dividends: 1903–04, 1904–05, 1905–06, *nil.*

NEW GUTTA PERCHA CO., LTD., electrical cable makers. Head offices: Dashwood House, New Broad-st., London, E.C. (Telegs.: "Guttashea, London." Teleph. No. office, 2611, Wall.) Works: Greenwich. *See advt., page* 400.

New Phonopore Telephone Co., Ltd. Offices: 31, Budge-row, Cannon-st., E.C. (Telegs.: "Orthite, London." Teleph. No. 5998, Bank.) Works: Southall, Middlesex. Registered July 19, 1895. Nominal capital: £10,000 in £1 shares. 6741 ordinary & 1000 founders' have been taken up. 20*s.* per share has been called on 6741, & the founders' shares are considered as fully paid. A mortgage, dated Sept. 10, 1906, to secure an unspecified amount, but stamped to cover £2500, has been registered. Directors: A. Haes, Esq.; F. C. Liddell, Esq.; A. F. Liddell, Esq.; W. A. Hart, Esq.; C. Isaac, Esq. (managing & secretary). Electrical engineer, A. H. Nicholson. Dividends: 1903, 1904, 1905, 10 per cent. on ordinary, 12½ per cent. on founders'; 1906, 10 per cent. on ordinary, 20 per cent. on founders'; & 1907, 10 per cent. on ordinary, 26 per cent. on founders'.

New Rottingdean Electricity Co., Ltd., suppliers of electricity, The Electric Station, Rottingdean, Sussex. Registered Feb. 16, 1899. Capital: £4000 in £1 shares & £2000 debentures. Directors: G. Mason, Esq. (chairman); C. A. Reed, Esq.; F. Thomas, Esq. Engineer, J. W. Brown; secretary, R. Biffin.

New St. Helens & District Tramways Co., Ltd., Atherton, Lancs. Registered Nov. 14, 1898. Nominal capital: £150,000 in 16,000 preference & 10,000 ordinary £5 shares. Issued: 9000 ordinary & 15,980 preference shares, fully paid. Directors: Hon. Arthur Stanley, M.P. (chairman); H. Martin, Esq., J.P.; J. Hunter, Esq., J.P.; J. S. Austen, Esq.; J. M. Henderson, Esq., M.P.; J. R. Salter, Esq. (managing). Secretary, H. P. Conibear.

New South African Engineer (monthly, 6*d.*; ann. sub., 7*s.* 6*d.*), 44, Fleet-st., London, E.C. (Telegs. "Cerebellum, London." Teleph. No. 2534, Holborn); & at Manchester & Johannesburg.

New System Private Telephone Co., Ltd., The, 37, King William-st., London Bridge, E.C. (Telegrams: "Telepathic, London." Nat. Teleph. Bank 168.) Registered May 15, 1902. Nominal capital: £10,000 in £1 shares & £3000 debentures. Issued: £10,000, fully paid, & £3000 debentures. Secretary, Gerald C. Lamb. Dividends: 1904, 1905 & 1906, 5 per cent.

New York Hamburg Indiarubber Co., Ltd., ebonite manufacturers, 34, Moorfields, London, E.C. (Telegs.: "Centuplico, London." Teleph. No. 7918, London Wall.)

Newall, F. S., Castle Hill, Wylam-on-Tyne. Director Tyneside Electrical Development Co., Ltd.; director Bankfoot Power Co., Ltd.

Newall Engineering Co., mechanical engineers, Blackhorse-lane, Walthamstow, London, E. (Telegs.: "Elevenfold, London." Teleph. No. 33, Walthamstow.)

Newall, R. S., & Son, Ltd., telegraph cable manufacturers, Hawthorne-rd., Bootle, Liverpool.

Newalls Insulation Co., Ltd., boiler & steam pipe coverers, 31, Moseley-st., Newcastle-on-Tyne. (Telegs.: "Newalls, Newcastle-on-Tyne." Nat. Teleph. Central 827.)

Newarc Lamp Syndicate, Ltd., electric lamp manufacturers, Leadenhall-bldgs., Leadenhall-st., E.C.

Newark Electric Supply Co., Ltd., E.C. Registered Dec. 31, 1906. Nominal capital: £1000 in £1 shares.

Newbald, E., & Co., electrical engineers, Court-rd., High-st., Sutton, Surrey.

Newbold, Walter, & Co., Ltd., lathe & tool makers, Pearl-bldgs., 107, Upper Thames-st., E.C. (Telegrams: "Newbold, London." Telephone No. 8307, Bank.)

Newburn Electricity Works, Newburn, Northumberland. (Teleph. Blaydon 28.) Newcastle & District Electric Lighting Co., proprietors. Engineer, W. D. Hunter.

Newbury Electricity Works, Newbury, Berks. (Nat. Telephone No. 115 X., Newbury.) The Urban Electric Supply Co., Ltd., proprietors. Engineer, H. W. Bush.

Newby, Geo., A.I.E.E., electrical engineer, Imperial-chbrs., James-st., Harrogate. (Teleph. No. 0254.)

Newby, Geo., electrical engineer, 51, Tyrell-st., Bradford.

Newcastle & District Electric Lighting Co., Ltd., 38, Grainger-st.-west, Newcastle-on-Tyne. (Telegs.: "Electricity, Newcastle-on-Tyne." Teleph. Nos. 761 & 762.) Registered Jan. 14, 1889. Nominal capital: £300,000 in £10 shares. Issued capital: £300,000 & £150,000 debenture stock, secured by trust deed of Aug. 8, 1905. £10 per share has been called on 30,000. A memorandum of satisfaction in full of mortgage debentures, dated Sept. 9, 1903, securing £11,085, has been filed. Particulars of £100,000 5 per cent. second debentures have been filed. J. Patterson, secretary. Directors: J. B. Simpson, Esq. (chairman); W. D. Hunter, Esq., M.I.E.E. (electrical engineer & managing); Sir B. C. Browne; Col. W. M. Angus, C.B.; Sir Chas. Milburn, Bart.; A. Scholefield, Esq.; F. R. Simpson, Esq.; H. I. Brackenbury, Esq. Dividends: 1905 & 1906, 5 per cent.; 1907, 4 per cent.; 1908, 2 per cent.

Newcastle Emlyn & District Electric Supply Co., Ltd., Newcastle Emlyn. Registered Aug., 1908. Nominal capital: £2000 in £1 shares. Issued: £1500. Directors: Dr. J. Powell; Dr. D. Lloyd; A. P. Davies, Esq.; J. E. James, Esq.; W. Jeremy, Esq.; Wm. Davies, Esq. Engineers, J. R. Parkington & Co.

Newcastle Section of the Inst. of Electrical Engineers, Newcastle-on-Tyne. Prof. H. Stroud, D.Sc., chairman; hon. sec., C. Faraday Proctor, c/o Edison & Swan United Electric Light Co., Ltd., Benwell, Newcastle-on-Tyne.

Newcastle-under-Lyme Corporation Electricity Works, Newcastle-under-Lyme, Staffs. (Teleph. No. 10A, Newcastle-under-Lyme.) Engineer, A. J. C. De Renzi.

Newcastle-upon-Tyne Corporation Electricity Works & Electric Tramways, Newcastle-upon-Tyne. Tramways engineer & manager, E. Hatton; assistant electrical engineer, W. Dalton, A.I.E.E., A.M.I.M.E. (Telegs.: "Traction, Newcastle-on-Tyne." Teleph. Nos.: Nat., 913 & 914; & P.O., 241.)

Newcastle-upon-Tyne Electric Supply Co., Ltd. Registered office: Royal Exchange-bldgs., Newcastle-upon-Tyne. Works: Carville, Wallsend. (Telegs.: "Supply, Newcastle-upon-Tyne;" "Power, Wallsend." Teleph. Nos.: Nat., 882, 883, 884, 885 & 886; P.O., 530.) Registered Jan. 8, 1889. Capital: £1,500,000, divided into 150,000 preference shares of £5 each & 150,000 ordinary shares of £5 each. Issued: £687,500 ordinary shares, all fully paid; £687,500 preference shares, all fully paid. Mortgages & charges: £687,500, secured by trust deed, dated June 30, 1909. Temporary loans: £1002. M. Short, secretary; Merz & McLellan, consulting engineers. Directors: J. T. Merz, Esq., PH.D. (chairman); J. H. Armstrong, Esq.; L. D. Cunliffe, Esq.; F. W. Dendy, Esq.; T. G. Gibson, Esq., J.P.; G. B. Hunter, Esq., D.Sc.; J. H. B. Noble, Esq.; James Tennant, Esq., J.P.; Rt. Hon. R. S. Watson, LL.D.; Sir Lindsay Wood, Bart. Dividends: 1901, 1902, 1903, 1904, 1905, 1906 & 1907, 8 per cent. on ordinary & 5 per cent. on preference; 1908, 2½ per cent. per annum on ordinary & 5 per cent. per annum on preference; 1909, *interim*, 2½ per cent. on preference.

Newington, A. G., M.I.E.E., c/o The Admiralty, Whitehall, London, S.W.

Newington, Frank A., M.I.E.E., city electrical engineer, 5, Dewar-pl., Edinburgh. (Telegs.: "Generation, Edinburgh." Teleph. No. 2105, Central.)

Newington, R. H., electrical & mechanical engineer, Hampton, Middlesex.

Newington, S. Wilmott, borough electrical engineer, Corporation Electricity Works, Oldham. (Telegrams: "Greenhill Electricity Works, Oldham." Telephone No. 269.)

Newitt, L., M.I.E.E., electrical engineer, H.M. Dockyard, Chatham, Kent.

Newlands, J., C.I.E., deputy controller, Central Telegraph Office, General Post Office, St. Martin's-le-Grand, London, E.C.

Newman, B., electrical engineer, Newmans, 49, Empress-ave., Cranbrook Park, Ilford, London, E. (Teleph. No. 648.)

Newman, C. W. D., A.M.I.E.E., A.M.I.MECH.E., principal Marine Engineering Academy, Barry Dock, Glam.

Newman, John Ernest, A.I.E.E., Tilesford, Pershore.

Newman, K. C. H., A.M.I.E.E., A.M.I.MECH.E., electrical contractor, Broadbank-chbrs., 16, Oxford-st., Harrogate. (Teleph. No. 1053.)

Newman, F., & Co., Ltd., engineers & iron casters, Victoria Foundry, Lever-st., Wolverhampton. (Teleph. No. 45 Y. 4.)

Newman & Guardia, Ltd., electrical & galvanic instrument manufacturers, 90 & 92, Shaftesbury-avenue, W. (Telegrams: "Goniometer, London.")

NEWMANS, electrical contractors, 4, Cranbrook-rd., Ilford. (Telegs.: "Guarantee, Ilford." Teleph. No. 685.)

Newmarket Electric Light Co., Ltd., High-st., Newmarket, Suffolk. (Teleph. No. 38.) Registered 1897. Nominal capital: £30,000 in £10 ordinary shares & £15,000 debentures. Issued: £25,160, fully paid, & £14,200 debentures. Directors: G. H. Verrall, Esq. (chairman); F. E. Gripper, Esq.; W. T. Pressland, Esq.; B. Chennell, Esq.; H. J. Garrod, Esq.; E. H. Leach, Esq. Electrical engineer, F. A. Simpson; secretary, A. H. Ruston. Dividends: 1903, 1904, 1905 & 1906, 4¼ per cent.; 1907, 5 per cent.

Newport Borough Technical Institute, Newport, Mon. *See* SCHOOLS.

Newport Corporation Electricity Supply Works & Electric Tramways, Newport, Mon. (Nat. Teleph. Nos.: 295, Works; & 142 L., Office.) H. Collings Bishop, M.I.E.E., engineer & general manager.

Newport Electricity Works (Isle of Wight Electric Light & Power Co.), Newport, Isle of Wight. (Teleph. Newport 45.) Engineer & manager, A. E. Mayes, A.M.I.E.E.; assistant, H. G. Banks.

Newport Enamelled Slate Co., Ltd., Carngethin Wharf, Newport, Mon. (Telegs.: "Enamelled, Newport." Nat. Teleph. No. 278.)

Newquay Electric Light & Power Co., Ltd., Newquay, Cornwall; & 66, Victoria-st., S.W. Registered July 31, 1905. Nominal capital: £15,000 in £1 shares & £4000 debentures. Issued: 11,810 ordinary shares, fully paid. Debentures issued: £4000. Directors: J. Rogers, Esq., J.P. (chairman); H. Foote, Esq.; E. S. Lowe, Esq.; L. Milne, Esq. Resident engineer, A. S. Hawkins secretary, E. Ernest Smith. Dividends: 1907 & first half of 1908, 4 per cent.

Newry Municipal Technical School, Newry, co. Down.

Newstead, T. B. L., A.M.I.E.E., electrical engineer, 26, King's-ave., Old Trafford, Manchester.

Newsum, H., Sons & Co., Ltd., timber merchants & manufacturers of electric wire casings, Gainsborough. (Telegrams: "Newsums, Gainsborough." Telephone No. 5.)

Newton, Chas. A., A.M.I.E.E., Market-pl., Derby. (Teleph. No. 413.)

Newton, C. E., electrical engineer, "Martley," Leigham Court-rd., Streatham, S.W.

Newton, M. F., A.M.I.E.E., mains engineer, Tramway Power House, Kelham Island, Sheffield.

Newton, R. S., A.M.I.E.E., c/o Lancashire Electric Power Co., 196, Deansgate, Manchester.

Newton, Wm., electrical engineer, 58, North-st., Clapham, London, S.W. (Teleph. No. 687, Battersea.)

Newton Abbot Electricity Works (Urban Electric Supply Co.), Newton Abbot. Engineer, G. E. Smith, A.M.I.E.E.

Newton, Bean & Mitchell, steam engine makers for electrical purposes, Dudley Hill, Bradford. (Telegs.: "Adroit, Dudley Hill." Nat. Teleph. Dudley Hill 2.)

Newton Bros., dynamo & motor manufacturers, Market-pl., Derby. Works address: Alfreton-rd., Derby. (Telegs.: "Dynamo, Derby." Teleph. Nos.: 413, Offices; 207, Works.)

Newton & Co., scientific & electrical apparatus makers, 3, Fleet-st., London, E.C. (Teleph. No. 13785, Central); & Newton Works, 471, Hornsey-rd., London, N. (Teleph. No. 1047, North.)

Newton, S., & Co., electrical, mechanical & motor engineers, 210, Brixton Hill, London, S.W.

Newton & Son, patent agents, 6, Bream's-buildings, Chancery-lane, London, E.C. (Telegrams: "Newton, London." Telephone No. 67, Holborn.)

NEWTONS, LTD., MANUFACTURING ELECTRICAL ENGINEERS, "ZONE" PATENT DYNAMOS & MOTORS, &c., TAUNTON. (TELEGRAMS: "ARC, TAUNTON." NAT. TELEPHONE NO. 9.) Nominal capital: £40,000 in £10 shares, fully paid up. Mortgages & charges, £10,000.

Niblett, J. T., M.I.E.E., consulting engineer, "Norman Norris," Vines Cross, Heathfield, Sussex. (Telegs.: "Niblett, Vines Cross.")

Nicholl, C. W., A.M.I.E.E., 9, Cole Park-rd., Twickenham.
Nicholl, C. W., 13, St. Helen's-pl., E.C. General manager Durham Collieries Electric Power Co., Ltd.
Nicholls, P. J., 17, Farringdon-st., London, E.C. Director Kent Electric Power Co.
Nicholls, T., & Son, dealers in electrical apparatus, 258, Kingsland-rd., London, N.E. (Telegrams: "Celluloid, London.")
Nichols, E. J., A.M.I.E.E., 79, Monkgate, York.
Nichols, R. J., director Hooghley River Electric Power Co., Ltd.
Nicholson, A. H., A.M.I.E.E., New Phonopore Telephone Co., Southall.
Nicholson, F. H., A.I.E.E., 25, Cleveden-pl., Eaton-sq., London, S.W.
Nicholson, Geo., director Blackpool, St. Anne's & Lytham Tramways Co., Ltd., 30, Birley-st., Blackpool.
Nicholson, H. J., electrical engineer, Queen's-rd., Weybridge. (Teleph. No. 93.)
Nicholson, J. H., electrical engineer, 69, Wright-st., Hull. (Teleph. No. 2753, Central.)
Nicholson, John S., B.SC., WH.SC., A.M.I.E.E., lecturer in electrical engineering & senior demonstrator in the James Watt Laboratories, University, Glasgow.
Nicholson, L., engineer, Milford-on-Sea Electric Supply Co., Milford-on-Sea, Hants. (Telegs.: "Nicholson, Milford-on-Sea." Teleph. No. 6.)
Nicholson, John, & Sons, Ltd., sulphuric acid for accumulators, Chemical Works, Hunslet, Leeds. (Telegs.: "Nicholson, Leeds." Teleph. Nos. 2420 & 2421.)
Nicholson, W. N., & Sons, Ltd., general engineers, Newark-on-Trent. (Telegrams: "Nicholsons, Newark.")
Nicholson & Wadley, electrical contractors, 14, Neville-st., Newcastle-on-Tyne.
Nickel Plating Co. (The), nickel platers, 13, Greek-street, Soho, London, W.
Nicol, E. W. L., A.I.E.E., L.C.C. Generating Station, Greenwich, S.E.
Nicoll, Henry, A.I.E.E., 8, Walton-st., London, S.W.
Nicoll, W. E., A.M.I.E.E., F.C.I.S., general manager, Scarborough Tramways Co., Scarborough.
Nicoll, G. H., & Co., electrical engineers & contractors, 18, Bank-st., Dundee. (Telegs.: "Mangles, Dundee." Teleph. No. 710.)
Nicolson, A. McLean, A.M.I.E.E., Siemens Bros. & Co., Caxton House, Westminster, S.W.
Nicolson, Dr. J. T., M.I.C.E., professor of engineering, Municipal School of Technology, Manchester.
Nicolson, G. A., director Fife Synd., Ltd., 37, Castle-st., Edinburgh.
Nicrobalt Steel Co., 47, Victoria-st., London, S.W. (Telegs.: "Nicrobalt, London." Teleph. Westminster 237.)
Nielsen, F. C. C., M.I.E.E., representative in England & manager in London of the Great Northern Telegraph Co., Ltd., of Denmark, 15 & 15A, St. Helen's-pl., Bishopsgate-st. Within, London, E.C. (Telegs.: "Nordiske, London.")
Nielson, J. Fred., A.M.I.E.E., electrical engineer, John Brown & Co., Ltd., Clydebank, Glasgow.
Nightingale, G. P., manganese merchant, 24 & 25, Great Tower-st., London, E.C. (Telegs.: "Philomela, London." A.B.C. Code, 4th edit., used.)
Niles-Bement-Pond Co., machine tool & crane manufacturers, 25, Victoria-st., London, S.W. (Telegs.: "Niliacus, London." Teleph. Gerrard 486.)
Nisbett, G. H., M.I.E.E., engineer & manager British Insulated & Helsby Cables, Ltd., Prescot, Lancs.; director Midland Electric Corporation for Power Distribution, Ltd.; director Mordey Fricker Electricity Meter Co., Ltd.; director Foots-Cray Electricity Supply Co., Ltd.
Nisbett, H. J., A.I.E.E., manager Rhondda Tramways Co., Porth, South Wales.
Niven, Andrew Mackie, A.M.I.E.E., Bruce Peebles & Co., Ltd., Edinburgh.
Niven, Chas., M.A., D.SC., F.R.S., professor of natural philosophy, University, Aberdeen.
Nixon, A. T., engineer-in-charge, Corporation Electricity Works, Sheffield.
Nixon, C. B., A.I.E.E., Leyland Motor, Ltd., Leyland, nr. Preston.
Nixon, F. A., A.M.I.C.E., A.I.E.E., chief electrical engineer, Electric Lighting Station, Handsworth, Birmingham. (Teleph. No. 39, Handsworth.)
Noakes, Thos., & Sons, Ltd., manufacturers of engine & boiler fittings for high pressure steam, 4 & 5, Osborn-pl., Brick-lane, Whitechapel, E. (Telegs.: "Cockbrass, London." Teleph. Avenue 4339.)
Nobbs, Cornelius George, A.M.I.E.E., 87–89, Cleveland-st., Fitzroy-sq., W.
Nobel's Explosives Co., Ltd., manufacturers of electric fuses & blasting apparatus, 195, West George-st., Glasgow. (Telegrams: "Nobel, Glasgow." Telephone No. 1229, Glasgow.) London Agency: 220, Winchester House, Old Broad-st., London, E.C.
Noble, J. H. B., The Manor House, Jesmond, Newcastle-on-Tyne. Director Priestman Power Co., Ltd.; director Newcastle-on-Tyne Electric Supply Co., Ltd.
Noble, P. E., 102, Grey-st., Newcastle-on-Tyne. Director Cleveland & Durham County Electric Power Co.; director Cleveland & Durham Electric Power, Ltd.; director Northern Counties Electricity Supply Co., Ltd.
Noble, William, A.M.I.E.E., superintending engineer, Central Metropolitan District, P.O. Telegraphs, London, E.C.
Noble, J., & Sons, electricians, Peterborough.
Noble & Lund, Ltd., machine tool makers, Felling-on-Tyne. (Telegs.: "Lathes, Felling." Teleph. 23.)

Noble & Rogers, electric bell fitters, Wellingborough.

Noblet, T., & Co., electrical engineers, contractors & analytical chemists, Totnes, Devon.

Nolan, Wm., director Dundalk Electric Tramway Co., Ltd., 118, Grafton-st., Dublin.

Nolan & Rowell, electrical sundries manufacturers, 503, Cambridge-road, Hackney, London, E.

Nonpareil Electric Syndicate, Ltd., 2, Victoria-mansions, Victoria-street, London, S.W.

Norbury, R., electrical engineer, 65, Half Edge-lane, Eccles.

Norfolk Electrical Co., Ltd., Norfolk House, Cannon-st., Birmingham. (Telegs.: "Adaptor, Birmingham." Teleph. Central 5600.) Registered July 6, 1908. Nominal capital: £2000 in £1 shares.

Norie, J. R. D., electrical engineer & manager, H. Fellowes & Co., Seamoor-rd., Westbourne, Bournemouth. (Telephone No. 202.)

Norman, John T., F.C.S., analytical & consulting chemist, City Central Laboratory, 23, Leadenhall-st., London, E.C. (Telegrams: "Unremitting, London." Telephone No. 580, Avenue.)

Norman & Beard, Ltd., organ builders & manufacturers of apparatus for the application of electric action to organs, &c., 19, Ferdinand-st., Chalk Farm-rd., London, N.W. (Telegrams: "Vibrating, London." Telephone No. 805, North); Norwich & Glasgow.

Norman Engineering Co., elec. engrs. & contractors, 513, Lordship-lane, S.E. (Tel. No. 367, Sydenham.)

Norrie, Wm., distribution engineer, Corporation Electricity Works, Liverpool.

Norris, E. A., electrical engineer, Hudson & Kearns, Ltd., Hatfield-st. Works, Stamford-st., London, S.E.

Norris, George, ivory & wood (push) turner, 26 & 31, Eyre-st. Hill, Hatton Garden, London, E.C.

Norris, J. D. A., director Larne Electric Light Works, Ltd., Suffolk House, Laurence Pountney Hill, E.C.

Norris, J. R., electrical engineer, "Fairhaven," Kensington-rd., Oldham.

Norris, J. R., installation contractor, 18A, Victoria-bldgs., Manchester.

Norris & Henty, makers of gas, oil & hot air engines, 87, Queen Victoria-st., London, E.C. (Telegrams: "Nornodeste, London." Telephone No. 836, Bank.)

Norris, S. E., & Co., manufacturers of leather belting, Juniper-st., Shadwell, London, E. (Telegrams: "Vigilos, London." Telephone No. 196, East.)

Norrish, G., electrical engineer, 27, London-rd., Brighton. (P.O. Teleph. No. 27.)

North, Wilmot, gears, &c., Rodley-lane & St. Mary's-rd., Sheffield. (Telegs.: "Wheels, Sheffield." Teleph. No. 1021.)

North British Electric Power Syndicate, Ltd., Queen Anne's-chbrs., Westminster, London, S.W. Registered March 31, 1908. Nominal capital: £4325 10*s.* in 4300 "A" shares of £1 each & 510 "B" shares of 1*s.* each. Directors: J. T. Jervis, Esq.; B. Bernhein, Esq.; W. B. Cownie, Esq. Secretary, L. D. H. Jacobs.

North British Rubber Co., Ltd., 2, 4 & 6, East-rd., City-rd., London, E.C. Works: Castle Mills, Edinburgh. (Telegrams: "Ebwa, London." Telephone No. 370, Bank.)

North-British Wire Manufacturing Co., copper & brass wire drawers, dynamo brush makers, &c., 71, West Nile-st., Glasgow; & 70 & 71, Bishopsgate-st. Within, London, E.C. (Telegs.: "Weaving, Glasgow.")

North-East Coast Institution of Engineers & Shipbuilders (Summers Hunter, president; John Duckitt, secretary), Bolbec Hall, Westgate-rd., Newcastle-upon-Tyne. (Telegs.: "Duckitt, Newcastle-on-Tyne." Nat. Teleph. No. 689.)

North-East London Construction Co., Ltd. Registered March 14, 1907. Nominal capital: £50,000 in £1 shares.

North-Eastern Novelty Co., hardwood turners; specialities: adaptor cases, wall plug covers, fibre discs, xylonite push plungers, 20, Victoria-st., Goole, Yorks. (Telegs.: "Novelty Co., Goole.")

North-Eastern Railway Co. (Tynemouth Electric Lines), York. Consulting electrical engineer, C. H. Merz; resident engineer, R. A. Copperthwaite.

North Eastern Steel Co., iron & steel manufacturers, Middlesbrough.

North of England Institute of Mining & Mechanical Engineers (Thomas Emerson Forster, president), Neville Hall, Newcastle-on-Tyne. (Telegs.: "Moneo, Newcastle-upon-Tyne." Nat. Teleph. No. 2201, Central.)

North Lancashire Electrical Treatment Co., Ltd., Theatre-st., Ulverston, Lancs.

North Melbourne Electric Tramways & Lighting Co., Ltd., 9, Cloak-lane, Cannon-st., London, E.C. Registered Aug. 1, 1905. Nominal capital: £200,000 in 100,000 ordinary £1 shares & 100,000 £1 cumulative preference shares & £200,000 debentures, secured by trust deed, dated Dec. 15, 1905. Issued: all the ordinary & 67,257 preference & £167,000 debentures, all fully paid. Directors: A. F. Farish, Esq. (chairman); Chas. Wren, Esq.; H. Blunt, Esq.; W. C. Burton, Esq. Engineer in Melbourne, A. D. Murdoch; secretary, E. A. Borel.

North Metropolitan Electric Power Supply Co., Electrical Federation Offices, Kingsway, London, W.C. (Telegs.: "Metrolito, London." Teleph. Holborn 2686.) Incorporated 1900. Nominal capital: £750,000 & £250,000 debentures. Issued: 30,002 shares of £10 each, fully paid, & 10,000 with £5 paid, £75,000 6 per cent. cumulative preference stock. 5 per cent. mortgage debentures: £126,500. Directors: E. Garcke, Esq. (chairman); Sir Ernest Spencer; J. Devonshire, Esq. (managing); W. L. Madgen, Esq.; G. Richardson, Esq.; C. G. Tegetmeier, Esq. Engineer-in-chief, E. T. Ruthven-Murray; assistant secretary, Evelyn Boys. Dividends; 1907, 4 per cent.; 1908, 5 per cent.

North Metropolitan Electrical Power Distribution Co., Ltd., Electrical Federation Offices, Kingsway, W.C. (Telegs.: "Metrolito, London;" "Electricity Works, Hertford." Teleph. Holborn 2686.) Registered April 19, 1899. Capital: £100,000 in ordinary shares & £50,000 in debentures. Issued: £50,000 in ordinary shares, fully paid, & £20,000 5 per cent. debentures. Directors: J. Devonshire, Esq. (chairman); W. L. Madgen, Esq.; G. Offor, Esq. Chief engineer, E. T. Ruthven-Murray; resident engineers, J. M. Bowman, Hertford; H. B. Sale, Barnet; A. H. Bennett, Enfield; T. E. Eachus, St. Albans; secretary, Evelyn Boys. Dividends: 1905 & 1906, *nil;* 1907, 2 per cent.; 1908, *nil.*

North Metropolitan Tramways Co., Electrical Federation Offices, Kingsway, W.C. *Transferred to the L.C.C.*

North of Scotland Electric Light & Power Co., Ltd., Electricity Works, Montrose. Incorporated March 24, 1899, title changed to above 1904. Ordinary share capital: £100,000 in £5 ordinary shares & £50,000 debentures. Issued: £50,000 ordinary shares, fully paid, & £10,430 debentures. Directors: Geo. A. Scott, Esq.; Dr. Stone; F. E. Gripper, Esq.; D. S. Campbell, Esq.; J. C. Wigham, Esq. Engineer & manager, F. Barritt Hills, Montrose; E. Ames, Brechin; E. J. Williams, Inverness; secretary, J. Watkin. Dividends: 1903, 1904 & 1905, 2½ per cent.; 1906 & 1907, *nil.*

North Staffordshire Railway, Stoke-on-Trent. (Teleph. No. 802.) Electrical engineer, Andrew F. Rock.

North Staffordshire Tramways Co., Ltd., Electrical Federation Offices, Kingsway, London, W.C. (Telegs.: "Potteries, c/o Tramways, London.") Nominal capital: £72,000 in ordinary shares of £6 each, £20,000 in 6 per cent. preference shares of £10 each, £100,000 in 5 per cent. debentures, & second debentures £40,000. Issued: all the ordinary & preference shares, fully paid, £100,000 debentures, & second debentures £40,000. Trust deed, dated 1896, securing £93,300 first mortgage debentures, & second mortgage debentures, dated 1898, securing £30,100. Directors: J. S. Raworth, Esq.; J. V. Kitchener, Esq.; W. G. Bond, Esq. Secretary, B. Kingsford. Dividends: 1896, 1897 & 1898, 3 per cent.; 1899, 4 per cent.; 1900–1907, 5 per cent. on ordinary shares.

North Wales & District Light Railway & Electric Power Syndicate, Ltd., 6, Booth-st., Manchester Registered May 2, 1900. Nominal capital: £1200 in £100 shares, 11 of which have been taken up. Directors: W. T. Pressland, Esq.; E. R. Davies, Esq.; J. M. Hewitt, Esq.; J. W. Donaldson, Esq.; W. H. Robson, Esq.; A. Maund, Esq.; E. Hewitt, Esq.; J. Morris, Esq.; J. P. Bedson, Esq. Engineers, Bennet & Ward-Thomas; secretary, J. H. Stagg.

North Wales Power & Traction Co., Ltd., Old Bank-bldgs., Chester; & Llanberis, R.S.O., Carnarvonshire. (Teleph. Llanberis 15.) Registered July 30, 1903. Nominal capital: £270,000 in £5 shares. Issued: £236,500. A deed, dated June 28, 1907 (modifying a trust deed, dated Aug. 15, 1905, securing £150,000, reduced by deed of modification to £80,000 first debentures), has been registered. Deed dated July 31, 1907, securing £100,000 second debentures. Directors: Rt. Hon. J. Tomkinson, M.P.; H. R. Hogg, Esq.; E. Noel Humphreys, Esq. Secretary, R. B. Humphreys.

North-West London Railway Co., 12, New-ct., Lincoln's Inn, W.C. Nominal capital: £2,250,000 in £10 shares & £750,000 debentures. Directors: Sir R. Head, Bart.; Hon. C. M. Knatchbull-Hugessen; N. Scott Russell, Esq.; J. S. Brookfield, Esq. Secretary, W. A. Sparke.

North-Western Electricity & Power Gas Co., 37, Cross-st., Manchester. (Teleph. No. 1084.) Incorporated 1903 & 1904. Proposed capital: £1,500,000 in shares, £500,000 in loans. Directors: T. W. Twyford, Esq. (chairman); R. Heath, Esq., J.P.; F. Rigby, Esq.; A. Seymour-Jones, Esq.; W. C. Houstoun, Esq.

North-Western Electricity & Power-Gas Syndicate, Ltd., 37, Cross-st., Manchester. (Teleph. Manchester 1084.) Registered Jan. 21, 1903. Nominal capital: £30,000 in £100 shares, £10,000 issued. Directors: T. W. Twyford, Esq.; A. F. Wenger, Esq.; T. O. Callender, Esq.; R. Heath, Esq.; F. Rigby, Esq.; E. S. Mond, Esq.; A. Seymour-Jones, Esq.; Wallace C. Houstoun, Esq.; Jno. Harding, Esq. Consulting engineers, Lacey, Sillar & Leigh; H. A. Humphrey; secretary, R. Fleming.

Northallerton Electric Light & Power Co., Ltd., High-st., Northallerton, Yorks. (Telegrams: "Electricity Works, Northallerton.") Registered 1889. Capital: £3600 in ordinary 6*s.* & 2900 preference £1 shares, of which 4561 ordinary & 1151 preference have been taken up. Debentures issued: £3500 5 per cent. debentures. Directors: J. Hutton, Esq. (chairman); C. E. L. Ringrose, Esq.; J. A. Hutchinson, Esq., M.D.; T. Boddy, Esq.; T. Routledge, Esq.; J. Thomas, Esq. Electrical engineer & secretary, F. R. Batty, A.M.I.E.E. Dividends: 1906, *nil*; 1907, 5 per cent.

Northampton Corporation Electric Tramways. (Teleph. Nos. 279 & 280.) Manager, J. Gottschalk; engineer, J. F. Cameron.

Northampton & County Modern & Technical School, Northampton. *See* SCHOOLS.

Northampton Electric Light & Power Co., Ltd. Office & works: 25, Bridge-st., Northampton. (Telegs.: "Electricity, Northampton." Teleph. No. 183.) Registered April 5, 1889. Directors: F. H. Thornton, Esq., J.P. (chairman); Alderman W. Tomes, J.P.; Brook Sampson, Esq.; & E. M. Browne, Esq., 2, St. Giles's-sq. (secretary). Engineer, G. H. Jackson, M.I.E.E., M.I.M.E. Nominal capital: £100,000 in "A" & "B" shares. Issued: 10 "A," 46,604 ordinary "B" shares & 25,040 5 per cent. preference "B" shares, all fully paid, & £40,750 4 per cent. 1st mortgage debentures, £5000 4 per cent. 2nd mortgage debentures & £5000 5 per cent. 3rd mortgage debentures. Dividends: 1906, 4 per cent.; 1907 & 1908, 5 per cent.; & first half of 1909, 4½ per cent. (*interim*).

Northampton Institute Engineering Society, Northampton Institute, St. John-st., Clerkenwell, London, E.C. Hon. secretary, H. Wallis. (Teleph. Holborn 3072.)

Northampton Polytechnic Institute, Clerkenwell, London, E.C. (Teleph. No. 3072, Holborn.) Dr. R. Mullineux Walmsley, principal. *See* SCHOOLS, CLASSIFIED SECTION.

Northcote, Chas. S., M.I.E.E., 6, Old Queen-st., Westminster, London, S.W. (Teleph. Westminster 601.)

Northern Accessories Co., wholesale electrical supplies, Carr-st., Blackfriars-st., Manchester. (Telegs.: "Tubings, Manchester." Teleph. City 3790.)

Northern Aluminium Co., Ltd., Caxton House, Tothill-st., London, S.W.

Northern Counties Electricity Supply Co., Ltd., Hinton's-bldgs., Middlesbrough. Registered Nov. 26, 1900. Nominal capital: £200,000 in £1 ordinary shares. Issued: £150,000. £1 per share has been called up on 146,000 & 4000 are considered as paid. Debentures: £100,000, secured by trust deed, dated July 14, 1905. A trust deed, dated Dec. 11, 1907, securing £100,000 second debenture stock, has been registered, of which £75,000 has been issued. Directors: C. Emmott, Esq. (chairman); P. E. Noble, Esq.; Capt. H. P. Pullcine. Secretary, Andrew Gemmell; manager, C. W. Fairweather. Dividends: 1904, 3 per cent.; 1905, 3 per cent.

NORTHERN ELECTRIC WIRE CO., THE, SEDBURGH MILLS, HALIFAX. (TELEGRAMS: "CABLES, HALIFAX." TELEPHONE NO. 127.) *See* WIRE COVERERS—SILK.

Northern Electrical Co., electric light & power contractors, 117, Cleethorpe-rd., Grimsby. (Tel. No. 19 X.)

Northern Electrical Engineering & Plating Co., Ltd., electrical & general engineers, Borough-rd., North Shields. (Telegrams: "Northern, North Shields." Nat. Telephone No. 31.) Registered Aug. 24, 1896, with a capital of £1000 in £1 shares, all issued & fully paid. Directors: A. Frazer, Esq. (chairman); G. A. Smith, Esq. Electrical engineer, T. Harrison.

Northern Electrical & Ventilating Co., Ltd., contractors & manufacturers, 49, Dale-st. Works: Batchelor-st., Liverpool.

Northern Engineering & Construction Co., Ltd., mechanical engineers & electricians, 19, Wentworth-pl., Newcastle-on-Tyne. (Telegs.: "Rotary, Newcastle-on-Tyne.")

Northern Machine Screws, Ltd., screws, terminals, &c., Hunslet Mills, Leeds. (Telegs.: "Vulcan, Leeds." Teleph. No. 1688, Central.)

Northern Polytechnic Institute, Holloway-rd., London, N. (Telegrams: "Pyrenean, London." Telephone No. 154, North.) Principal, R. S. Clay, D.SC., B.A. (Cantab.).

Northern Steel & Hardware Co., Ltd., machinery merchants, Bloom-st., Salford, Manchester. (Teleph. No. 3768.)

Northern Telephone Manufacturing Co., manufacturers of telephones, Leeds.

Northey, P. W., M.I.M.E., A.I.E.E., c/o White Co., Albion-st., Gaythorn, Manchester.

Northgate Ironworks Co., manufacturers of castings, Bury St. Edmunds.

Northwich Electric Supply Co., Ltd., Northwich. (Teleph. No. 88.) Registered 1897. Nominal capital: £25,000 in £5 shares & £11,000 debentures, secured by trust deed, dated Jan. 12, 1905. 3650 shares have been taken up & the full amount called, & all the debentures have been issued & are fully paid. Directors: J. A. Saner, Esq. (chairman); R. J. Browne, Esq., M.D.; J. Burgess, Esq.; W. M. Beckett, Esq.; F. W. Brock, Esq.; H. B. Brunner, Esq.; E. T. Ward, Esq. Consulting engineer, A. W. Sclater, A.M.I.C.E., M.I.E.E.; engineer & secretary, Wm. Boyd, A.M.I.E.E., A.M.I.M.E. Dividends: 1904, 2 per cent.; 1905, 2½ per cent.; 1906, 3½ per cent.; 1907, 4 per cent.

Northwood Electric Light & Power Co., Ltd., 7 & 8, Idol-lane, Eastcheap, London, E.C. (Telegs.: "Confute, London." Teleph. No. 11375, Central); & Northwood, Middlesex. Registered June 23, 1900. Nominal capital: £15,000 in £1 ordinary shares & £15,000 preference shares. Issued: 12,357 ordinary & 6730 preference shares, all fully paid. Directors: A. L. Radford, Esq. (chairman); H. W. Couzens, Esq., M.I.E.E. (engineer); J. Devonshire, Esq. Secretary, R. H. F. Hitchens, F.C.P.A.

Northwood Electric Wiring Co., Green-lane, Northwood, Middlesex.

Northwood, J. & J., electrical shades, globes, &c., Glass Works, Wordsley, near Stourbridge.

Norton, G. P., Station-st.-bldgs., Huddersfield. Director British Columbia Electric Railway Co., Ltd.

Norton, H. J., electrician, 17, Lavender-gdns., West Jesmond, Newcastle-on-Tyne.

Norton, R. D., 211, King's-rd., Chelsea, S.W. Director London Electric Supply Corporation, Ltd.

Norton & Gregory, Ltd., mathematical instrument makers, engineering photographers & draughtsmen, Castle-lane, Buckingham Gate, Westminster, London, S.W. (Telegs.: "Nortazo, London." Teleph. Gerrard 2029; & Westminster 716); & 34, Robertson-st., Glasgow. (Telegs.: "Velographs, Glasgow." Teleph. P.O. Central 1515; & Nat. Argyle 151.)

Norton, H. G., & Co., installation contractors, 417, High-st., Cheltenham.

Norwich Corporation Electricity Works, Duke-st., Norwich. (Telephone No. 154.) F. M. Long, city electrical engineer.

Norwich Electric Tramways Co., 8, Crosby-sq., London, E.C.; & Norwich. (Telegs.: "Tramways, Norwich." Teleph. No. 475.) Nominal capital: £264,000 in £10 shares, all issued & fully paid, & £66,000 4 per cent. mortgage debentures. Directors: Baron E. B. d'Erlanger; Francis Fitz-Gerald, Esq.; E. A. Hopkins, Esq.; Geo. M. Chamberlin, Esq.; Hon. A. G. Brand. Secretary, J. G. Mills, F.C.I.S.; engineer & manager, F. W. Ketley. Dividends: 1904, 3 per cent.; 1905 & 1906, 2½ per cent.; 1906–07, 1¾ per cent.; 1907–08, 1¼ per cent.

Norwich Municipal Technical School, Norwich. (Teleph. No. 378.) *See* SCHOOLS, CLASSIFIED SECTION.

Nosworthy, F. E., A.M.I.E.E., general manager & engineer, Amazon Telegraph Co., Ltd., 42, Old Broad-st., London, E.C.

Notcutt, S. A., B.A., LL.M., B.SC., consulting electrician, Constitution Hill, Ipswich.

Nott, C. H., engineer & electrician, Exe Bridge Iron Works, Tiverton, Devon. (Telephone No. 050.)

Nott, J. E., & Co., Ltd., engineers, High-st., Brecon (Telegs.: "Nott, Brecon." P.O. Teleph. No. 10); & Middleton-ter., Llandrindod Wells. (Telegs.: "Nott, Llandrindod Wells." P.O. Teleph. No. 10x.)

Notting Hill Electric Lighting Co., Ltd. Registered Office, Central Station & Works: 140, High-st., Notting Hill Gate, London, W. (Teleph. Kensington 345.) Nominal capital: £200,000 in 16,452 ordinary, 550 founders', & 2998 ordinary cumulative 6 per cent. preference shares, all of £10 each, & £64,000 4 per cent. first mortgage debentures. 10,852 ordinary & the whole of the other shares have been taken up, & the full amount has been called & paid. £64,000 of 4 per cent. 1st mortgage debentures issued. A trust deed, dated Nov. 2, 1904, issued jointly by this company & the Kensington & Knightsbridge Electric Lighting Co., Ltd. (supplemental to two trust deeds dated July 12, 1900, & Nov. 18, 1902, covering debenture stock issued jointly with Kensington & Knightsbridge Electric Lighting Co., £150,000, jointly to secure a further £50,000 debenture stock, ranking *pari passu* with the two former joint issues), has been registered. R. G. Rawkins, secretary; George Schultz, engineer & manager. Directors: Sir W. Crookes, F.R.S. (chairman); A. E. Franklin, Esq., J.P.; J. T. Jervis, Esq.; Sir J. W. Swan, F.R.S.; Sir R. B. Martin, Bart. Dividends: 1906, *interim* at rate of 6 per cent. per annum on ordinary; 1907 & 1908, 7 per cent. on both ordinary & ordinary preference; & first half of 1909, 3 per cent.

Nottingham Camera Co., cabinet work, Bridlesmith Gate, Nottingham.

Nottingham Corporation Electricity Supply & Electric Tramways. Works: Talbot-st. (Telegrams: "Current, Nottingham." Nat. Telephone No. 627.) Chairman, Sir John Turney, Kt.; electrical engineer, Herbert Talbot, M.I.E.E.

Nottingham Electrical Co., Ltd., manufacturers of & dealers in electrical apparatus, 13, Farmer's Factory, Sherwood-st., Nottingham. (Telephone No. 68 X.)

Nottingham Gas & Electric Fittings Co., Ltd., 17, Dilk's Yard, Long Row West, Nottingham.

Nottingham Guild of Mechanical & Electrical Engineers, 2, Ashforth-st., Nottingham. President, Ald. C. Bennett, J.P.; secretary, F. A. W. Taylor.

Nottinghamshire & Derbyshire Tramways Development Co., Ltd., 53, Temple-chbrs., Temple-ave., London, E.C. Registered Nov. 29, 1902. Nominal capital: £30,000. Issued: £22,620 with £10 per share called up. Directors: W. S. B. McLaren, Esq. (chairman); G. Wigley, Esq.; Duke Fox, Esq.; A. R. Holland, Esq. Secretary, G. D. Prince.

Novelty & Nameplate Co., 102, Button-lane, Sheffield.

Nugent, M., director Dundalk Electric Tramway Co., Ltd., 118, Grafton-st., Dublin.

Nuneaton Borough Electricity Works. (Telegs.: "Electricity Works, Nuneaton." Nat. Teleph. No. 65.) Engineer, S. Cameron Gibson, A.M.I.E.E.

Nunn, Watts & Co., electrical engineers, 82, Mark-lane, London, E.C. (Telephone No. 6078, Avenue.)

Nunwick, T. A., representative for the northern & midland counties of Dorman & Smith, Ordsal Station Works, Salford.

Nurse, C., & Co., tool manufacturers & importers, 181 & 183, Walworth-rd., London, S.E. (Tel. No. 11521, Central); 100, Fleet-st., Ludgate Circus, London, E.C. (Tel. No. 9675, Central); & 48, Finsbury Pavement, London, E.C. (Tel. No. 9185, Central.)

Nussbaum, G. A., C.E., A.I.E.E., telephones, cables, &c., contractor to the War Office, India Office, Nat. Telephone Co., Ltd., &c., 29, Ludgate Hill, London, E.C. (Telegs.: "Etincelle, London." Teleph. Holborn 2505.)

Nuthall, B., electrician, Ivy Side, King's-road, Kingston-on-Thames.

Nuttall, H., C.E., engineer to Kearsley Urban District Council, 20, Market-st., Bury.

Nuttall, H. A., electrical inspector, British Engine, Boiler & Electrical Insurance Co., Ltd., 12, King-st., Manchester.

Nutter, T., chief assistant engineer, Electricity Works, Burnley.

Nyborg, T. G., A.M.I.E.E., Ordnance D.O., Sir W. G. Armstrong, Whitworth & Co., Elswick, Newcastle-on-Tyne.

Oakey, J., & Sons, Ltd., emery & emery cloth & glass paper & cloth manufacturers, Wellington Mills, Westminster Bridge-rd., London, S.E. (Telegrams: "Oakey, London.")

Oakley, E. W., director St. Austell & District Electric Lighting & Power Co., Ltd., 118, Queen Victoria-st., London, E.C.

Oakley, Sir H., 37, Chester-ter., Regent's Park, N.W. Chairman Central London Railway Co.

Oakley Steel Foundry Co., Ltd., Trafford Park, Manchester. (Telegs.: "Teloak, Manchester." Teleph. No. 41.)

Oakley, W. H., & Co., electrical instrument & optical lantern manufacturers, 202 & 203, Grange-rd., London, S.E. (Telegrams: "Oakley, Grange, London.")

Oates, T., wiring contractor, Charlotte-ter., South Shields.

Oatway, Geo. H., M.I.E.E., fire & automatic signalling engineer, 94, Paul-st., E.C. (Telegs.: "Pyromancy, London." Teleph. No. 986, London Wall); & 82, Milton Park, Highgate, London, N.

Oban Town Council Electricity Works. Engineer, Malcolm Sutherland.

Oborn, Thomas, electrical engineer & contractor, 2, John-st., Edgware-rd., London, W. (Teleph No. 4115, Paddington.)

O'Brien, A. P., A.M.I.E.E., 40, Woodfield-rd., Ealing, W.

O'Brien, Henry E., A.M.I.E.E., A.M.I.C.E., Lancashire & Yorkshire Rly., Newton Heath, Manchester.

O'Brien, J. Owden, M.I.M.E., F.I.P.A. (late W. P. Thompson & Co. of Manchester), patent agent, 6, Bank-st., Manchester. (Telegs.: "Owden, Manchester." Teleph. Central 6192.)

O'Brien, R., & Co., electrical engineers & contractors, 5, Brazennose-st., Manchester. (Telephone No. 2273, Central.)

O'Bryen, A. C., M.I.E.E., "Worth," 2, Conyers-rd., Streatham, S.W. (Teleph. Streatham 629.)

Ochs, A. L., 34, Clement's-lane, E.C. Director Marconi International Marine Communication Co., Ltd.; director International Ethiopian Railway Trust & Construction Co., Ltd.

O'Connor, J., electrical engineer, Park-st., Ashton-under-Lyne.

Odhams, J. & G., electric light & power contractors, 206, 207, Upper Thames-st., London, E.C. (Telegs.: "Odhams, London." Teleph. No. 5853, Central.)

Odling, W., M.A., F.R.S., Waynflete professor of chemistry, University of Oxford.

O'Donnell, John P., consulting engineer, Palace-chbrs., Bridge-st., Westminster, London, S.W. (Telegrams: "Odonnell, London." Telephone No. 3118, Gerrard.)

Oetzmann & Co., electric light contractors, &c., 62–79, Hampstead-rd., London. (Telegrams: "Oetzmann, London." Telephone Nos.: 650, King's Cross; & 6951, Central.)

Offer & Sons, electricians, Church-st., Kingston-on-Thames. (P.O. Telephone No. 38.)

Offor, George, A.I.E.E., Peak Hill Villa, Sydenham, S.E. Director of Associated Cos. of The British Electric Traction Co., Ltd.; director Railway & Tramway Trust, Ltd.

Offord & Co., manufacturing electrical engineers, 97 & 98, Woodcock-st., Birmingham. (Telegrams: "Offord, Woodcock-st., Birmingham." Nat. Telephone No. 2229.)

Ogden, F. L., chief assist. electrical engineer, Corporation Electricity Works, Oldham. (Teleph. No. 269.)

Ogden, S., A.M.I.MECH.E., A.M.I.E.E., Westwood, nr. Crumpsall, Manchester.

Ogilvie, A. M., A.I.E.E., assistant secretary, G.P.O., London, E.C.

Ogilvie, Alexander, B.SC., electrical engineer, Leith Electric Works, Leith.

Ogilvie, William, electrical engineer, 19, Woodbine-rd., Gosforth, Newcastle-upon-Tyne.

Ogmore Valley Electric Light & Power Supply Co., Ltd., Ash-grove, Dunraven-pl., Ogmore Vale. (Telegs.: "G. Adams, Ogmore Vale." P.O. Teleph. No. 13.) Registered June 10, 1891. Nominal capital: £10,000 in £5 shares & £3000 debentures. Issued: all the ordinary shares fully paid & £2600 debentures. Directors: John Williams, Esq. (chairman); R. A. Williams, Esq.; D. J. Thomas, Esq., M.R.C.S.; D. H. Evans, Esq.; W. Llewellyn, Esq.; John Adams, Esq.; G. M. Griffiths, Esq.; W. Jones, Esq.; & E. Davies, Esq. Secretary, George Adams; electrician, A. E. Marks. Dividends: 1900–1908, 7½ per cent.; & first half of 1909, at rate of 5 per cent. per ann.

O'Gorman, Mervyn J. P., M.I.E.E., M.I.M.E., consulting engineer, c/o Swinburne, O'Gorman & Baillie 82, Victoria-st., Westminster, S.W. (Telegs.: "Swooper." Teleph. Westminster 734 & 292.)

O'Gorman & Baillie, consulting electrical engineers, 82, Victoria-st., Westminster, S.W. (Telegs.: "Swooper, London." Teleph. Westminster 734 & 292.)

O'Hanlon, F. B., A.M.I.E.E., assistant electrical engineer, Hampstead Municipal Electric Lighting Station, London, N.W.

O'Hara, F., electrical engineer, National Electric Construction Co., Torquay.

Ohl, G. E., maker of incandescent lamps & electric light apparatus, fittings, &c., Hamburg, Germany. London office: 9 & 10, St. Mary-at-Hill, London, E.C. (Telegrams: "Clapboard, London.")

Ohlson, Harold, electrician, Hooper's Telegraph & Indiarubber Works, Ltd., 31, Lombard-st., London, E.C. (Telephone No. 1169, Avenue.)

O'Keeffe, Edward A., B.E., M.I.E.E., head science master & organizing secretary, Crawford Municipal Technical Institute, Cork. (Telegrams: "Technical, Cork." Telephone No. 575.)

Okell, E. G., M.I.E.E., borough electrical engineer, Corp. Electricity Dept., Prince Rock, Plymouth.

Okells, electrician, 36, Plymouth Grove, C.-on-M., Manchester.

Okonite Co. London Agency, 56, Moorgate-st., E.C.

Oldaker, W., electric light fittings maker, Phœnix Art Metal Works, Trinity-st., Smethwick.

Oldbury Steel Conduits, Ltd., conduit tubes & fittings, Paddock Works, Oldbury. (Telegs.: "Conduits, Oldbury." Teleph. No. 130, Oldbury.)

Oldfield, J., & Sons, Ltd., ordinary leather & link belting, 8 & 20, Dixon-st. & Fox-st., Glasgow. (Telegs.: "Oldfield, Glasgow.")

Oldham, T. Murley, 24, New Bridge-st., London, E.C. (Telegs.: "Enticeable, London." Teleph. No. 2208, Holborn.)

Oldham, Ashton & Hyde Electric Tramway, Ltd., Electrical Federation Offices, Kingsway, W.C. (Telegs.: "Ashton, c/o Tramways, London." Teleph. No. 2686, Holborn (6 lines)); & Tramway Depôt, Denton, Lancs. Registered Dec. 18, 1897. Nominal capital: £50,000 in £10 ordinary shares, £50,000 in £10 preference shares & £50,000 4 per cent. first mortgage debentures. Issued: £50,000 ordinary, £50,000 preference shares, fully paid, & £47,000 debentures. Directors: E. Garcke, Esq. (chairman); L. A. Atherley-Jones, Esq., K.C., M.P.; J. V. Kitchener, Esq.; R. Whittaker, Esq., J.P. Secretary, W. S. Wreathall. Dividends on ordinary shares: 1901 & 1902, 8 per cent. per annum; 1903, 7 per cent.; 1904, 1905, 1906, 1907 & 1908, 6 per cent.

Oldham Corporation Electricity Works, Oldham, Lancs. (Telegs.: "Greenhill Electricity Works, Oldham." Teleph. No. 269.) S. Wilmott Newington, engineer.

Oldham Corporation Tramways, Oldham.

Oldham, F., & Co., engineers & electricians, 22, Archway-rd., Highgate, London, N.

Oliven, O., 88, Leadenhall-st., London, E.C. Director Anglo-Argentine Tramways Co.

Oliver, Charles, A.I.E.E., electrical engineer, Cambridge-pl., Burrage-rd., Woolwich. (Telegrams: "Oliver, c/o Light, Woolwich." Telephone No. 76.)

OLIVER ARC LAMP, LTD., arc lamp manufacturers, Cambridge-pl., Burrage-rd., Woolwich, S.E. (Telegs.: "Light, Woolwich." Teleph. No. 76, Woolwich.)

Oliver, Clark & Co., Ltd., installation contractors, 20A, Goldhawk-rd., Shepherd's Bush, London, W. (Teleph. No. 1453, Western.)

Oliver, W., & Sons, electricians, 85, High-st. W., Glossop. (Teleph. No. 190.)

Ollerhead, T. J., L.R.C.P. & S., Hillbury, Minehead, Somerset. Director Minehead Elec. Supply Co., Ltd.

Ollivant, Sir E. C. K., K.C.I.E., 31, Leinster-gdns., London, W. Director Bombay Electric Supply & Tramways Co., Ltd.

Olrick, Lewis, & Co., engineers & boiler makers, 16, Howick-pl., Victoria-st., Westminster, S.W. (Telegs.: "Olrick, London." Nat. Teleph. Westminster 5782.)

Olsson, M. C., A.M.I.E.E., 4, Bishopsgate-st. Within, E.C. (Telegs: "Olssonmar, London." Teleph. London Wall 6435.)

Olver, Percy, A.M.I.E.E., chief engineer & manager, Midland Electric Light & Power Co., Ltd., Leamington Spa. (Telegs.: "Midland Electric Light, Leamington." Teleph. No. 92.)

O'Meara, Major W. A. J., C.M.G., late R.E., M.I.C.E., M.I.E.E., Engineer-in-chief, General Post Office, St. Martin's-le-Grand, London, E.C.

Omega Electric Lamp Co., Ltd., The (Scoular, Haywood & Co., managers), Palace Works, Crab Tree-lane, Hammersmith, London. (Telegs.: "Scoularite, London." Teleph. Western 4872.)

Omnium Wholesale Supply Co., motor cars, electric & engineering company, Pinner, Middlesex. Managing director, H. Inglis, A.M.I.M.E. (Telegs.: "Inglis, Eastcote.")

Oppenheim, William, maker of china electroliers, brackets, &c., Dresden China Depôt, 43, Farringdon-st., London, E.C. (Telephone No. 4130, Central.)

Oppenheimer, H., A.I.E.E., electrical engineer, manager of the International Electric Co. (sole depôt of Mix & Genest, Ltd., Berlin), 111–115, Salusbury-rd., Kilburn, London, N.W. (Telegs.: "Genest, London." Teleph. Paddington 488; P.O. Willesden 477.)

Oppermann's Electric Works, 11, Lever-st., Goswell-rd., E.C. (P.O. Teleph. No. 1486.)

Optician (weekly, 2*d.*), 123–125, Fleet-st., London, E.C. (Teleph. Holborn 194.)

Orchard & Co., electrical engineers & contractors, Market House, Mary-st., Weymouth.

Ord, Godfrey C., electrical engineer, The Esplanade, Sunderland.

Organ, R., installation contractor, Winchcombe-st., Cheltenham. (Telephone No. 6 X. 2.)

Orient Electric Power Syndicate, Ltd., Parliament-chbrs., Great Smith-st., Westminster, London, S.W. Registered July 10, 1906. Nominal capital: £5000 in £1 shares & £3000 debentures. Debentures issued: £2500. Directors: R. W. Hogarth, Esq. (chairman); T. Wilson, Esq.; L. R. W. Forrest, Esq.; J. F. Albright, Esq.

Oriental Telephone & Electric Co., Ltd. Offices: Alderman's House, Alderman's Walk, Bishopsgate, London, E.C. (Telegrams: "Oakenpin, London." Telephone No. 2188, London Wall.) Registered 1881, & reconstructed March 12, 1894. Nominal capital: £300,000 in 200,000 ordinary shares & 100,000 6 per cent. cumulative preference shares. Issued: 179,313 ordinary & 50,000 preference shares, fully paid, & £200,000 4 per cent. debenture stock secured by a trust deed, dated June 28, 1905. Directors: B. St. John Ackers, Esq.; Chas. P. Ackers, Esq.; H. Grëwing, Esq.; H. Johnstone Grewing, Esq.; T. Lloyd, Esq. Secretary, John Macleod. Dividends: 1905 & 1906, 6 per cent. on preference & 7 per cent. on ordinary shares; 1907 & 1908, 6 per cent. on preference & 8 per cent. on ordinary free of tax.

Oriental Tube Co., Ltd., steel conduit tube manufacturers, West Bromwich, Staffs. (Telegrams: "Tubes, West Bromwich." Telephone No. 45.)

Orme, Evans & Co., Ltd., enamellers, Elgin Works, Wolverhampton. (Telegrams: "Orme, Wolverhampton." Telephone No. 228.)

Ormerod, J., & Sons, Ltd., leather driving band makers, Castleton, nr. Manchester. (Telegrams: "Ormerods, Castleton, Manchester." Telephone No. 95, Rochdale.)

ORMISTON, P., & SONS, wire manufacturers, drawers & coverers, 79, Clerkenwell-rd., London, E.C. (Telegs.: "Ormiston, London." P.O. Teleph. No. 13259, Central.) *See* FUSE WIRE MFRS.

Ormrod, A. L., 4, Norfolk-st., Manchester. Chairman Trafford Power & Light Supply (1902), Ltd.; chairman W. T. Glover & Co., Ltd.

Ormrod, Wilson, electrical engineer, 134, Shortridge-ter., Newcastle-on-Tyne.

Ormsby, R. P., director Mexico Electric Tramways, Ltd, Threadneedle House, 31, Bishopsgate-st. Within, E.C.

Orr Ewing, The Right Hon. Lady Augusta, director Portpatrick Electric Supply Co., Ltd., Portpatrick, Wigtonshire.

Orr, R. A. N., electrician, Corporation Electricity Works, Faversham, Kent.

Orsettich, Robert, M.I.E.E., chief engineer, General Electric Co., Ltd., Witton Works, Birmingham.

Orton, K. J. P., M.A., PH.D., F.I.C., professor of chemistry, University College of North Wales, Bangor, North Wales. (Telegs.: "Orton, Bangor.")

Orton, Reginald, engineer & manager, Douglas Southern Electric Tramways, Ltd., Douglas, Isle of Man.

Orton, Wilfrid J. P., A.I.E.E., 3, Cecil-ave., Harboro-rd., Ashton-on-Mersey, Manchester.

Orton, John, & Co., electric bell fitters, 43, Butter Market, Ipswich.

Osborn, R. W., electrical & mechanical engineer, 4–6, York-rd., Welford-rd., Leicester. (Nat. Tel. 4247.)

Osborn, S., & Co., Ltd., files, springs & steel castings for all purposes, Clyde Steel Works, Sheffield. (Telegs.: "Osborn, Sheffield." Teleph. Nos. 409 & 2039.)

Osborne, Capt. C. A., director Dunfermline & District Tramways Co., 37, Castle-st., Edinburgh.

Osborne, Hugh, electrical engineer, 108A, West Regent-st., Glasgow.

Osborne, J. N., Glenholme, Paignton. Director Paignton Electric Light & Power Co., Ltd.

Osborne, Marshall, A.M.I.E.E., 10, St. Peter's-rd., Harborne, Birmingham.

Osborne & Hunter, electrical contractors & engineers, 108A, West Regent-st., Glasgow. (Teleph. No. 779, Douglas.)

Osborne, Marshall & Co., electrical engineers, 55, Newhall-st., Birmingham.

Oschwald, A., B.A., lecturer in elec. engineering, South Western Polytechnic, Manresa-rd., Chelsea, S.W.

O'Shaughnessy, Major J. J. F., M.I.E.E., Headquarters, London Telegraph Corps R.E., Palmer-st., S.W.

OSLER, F. & C., LTD., makers of electric light fittings, 230, Broad-st., Birmingham; & 100, Oxford-st., London, W. (Telegs.: "Osler, Birmingham;" "Osler, London." Birmingham Teleph. No. 1310, Midland; London Teleph. No. 3826, Gerrard.)

Ostermann, F. W., porcelain insulators, electrical accessories & ebonite (speciality: perforated sheets & boxes), 57 & 58, Leadenhall-st., E.C. (Telegs.: "Gaysome, London." Teleph. No. 2492, Central.)

O'Sullivan, M., LL.D., A.I.E.E., 1, Crown Office Row, Temple, London, E.C.

O'Sullivan, P. F., M.I.C.E.I., engineer, Dublin United Tramways Co., 1896, Ltd., 9, Upper Sackville-st., Dublin. (Telegs.: "Tramways, Dublin." Teleph. No. 58B, Dublin.)

Oswald, Jno., Duninkier, Kirkcaldy. Director Wemyss & District Tramways Co., Ltd.

Oswald, T. H., power & electrical engineer, 153, Fenchurch-st., London, E.C. (Telegs.: "Dynamized, London." Teleph. No. 8640, Central.)

Oswestry Electric Lighting & Power Co., Ltd., 6, Salop-rd., Oswestry, Salop. Directors: A. Wynne Corrie, Esq. (chairman); E. Bremner Smith, Esq. (managing & electrical engineer); G. Perks, Esq.; J. Minshall, Esq.; R. Taylor, Esq. Secretary, W. W. Coulson, F.C.A. Nominal capital: £10,000 in £1 shares. 8026 shares have been taken up & are fully paid. Dividends: 1902, 1903, 3 per cent.; 1904 & 1905, 4½ per cent.; 1906 & 1907, 4 per cent.

Oulton Broad Electricity Co., Ltd., Oulton, Lowestoft, Suffolk (Teleph. No. 013, Oulton.) Registered April 30, 1904. Nominal capital: £5000 in £1 shares. Directors: T. Horne, Esq. (chairman); H. S. Johnson, Esq.; J. Croft, Esq. Engineer, B. Barber; secretary, A. G. Bull.

OUSEY, GEO. R., & CO, fittings manufacturers, 7, Bunhill-row, London, E.C. (Telegs.: "Ousey, London." Teleph. No. 1994, Central. A.B.C. Code, 5th edit.) *See advt.* FITTINGS MFRS.—ELEC.

Outram, F. D., consulting engineer, 28, Victoria-st., London, S.W. (Telegrams: "Eyebolts, London." Telephone No. 128, Westminster.)

Overend & Jones, dynamo & motor makers, Burnett-st., Bradford. (Teleph. No. 3257.)

Owen, D., B.A., A.I.E.E., lecturer in experimental physics, Birkbeck College, Breams-bldgs., Chancery-lane, London, E.C.

Owen, Douglas, director Urban Electric Supply Co., Ltd.; director Camborne Electricity Supply Co., Ltd., Broad Sanctuary-chbrs., Westminster. Director Twickenham & Teddington Electric Supply Co., Ltd.

Owen, E. J., 52, Shaftesbury-ave., S.W. Director City of Ely Electric Light & Power Co., Ltd.; director Lytham Electric Light & Power Co., Ltd.

Owen, Halsall, engineer, Monks, Hall & Co., Ltd., Iron Works, Warrington & Wigan.

Owen, J. L., director Penmachno Corwen & Bettws-y-Coed Light Railway Co., Ltd., c/o Gill, Archer, Naples & Dun, 14, Cook-st., Liverpool.

Owen, Samuel, B.SC., teacher in electrical engineering & physics, Technical College, Portsmouth.

Owen, J., & Sons, Ltd., manufacturers of accumulator boxes, Stanley Mills, Melrose-rd., Kirkdale, Liverpool. (Telegs.: "Owen, Liverpool." Teleph. Nos. 23 & 527, Bootle.)

Owens, Felix J. A., A.M.I.E.E., 16/20, Colquitt-st., Liverpool.

Owens, P. B., electrical engineer, 135, Breck-rd., Wallasey, Cheshire.

Owensmith, Walter, electrical engineer, 15, Davies-st., London, W. (Telephone No. 4739, Gerrard.)

Oxford Electric Co., Ltd., 45, Broad-st., Oxford. (Telegrams: "Energy, Oxford." Local Telephone No. 39.) Works: Cannon Wharf, Oxford. Registered Aug. 24, 1891. Nominal capital: £100,000 in £5 ordinary shares, £50,000 in 5 per cent. cumulative preference shares of £5 each, & £50,000 in 4 per cent. debenture stock. Issued: £100,000 ordinary shares, fully paid, £27,500 in preference shares fully paid, & £12,500 in preference shares, £3 paid, & £50,000 4 per cent. debenture stock secured by trust deed. Directors: Sir Henry C. Mance, C.I.E., M.I.E.E. (chairman); Sir Irving Courtenay; Alderman Sir Robert Buckell. H. Eeles, F.C.I.S., secretary; F. H. Francis, A.M.I.E.E., chief engineer. Dividends: 1904, 1906, 1907 & 1908, 7 per cent.; first half of 1909, at rate of 5 per cent. per annum, free of income tax.

Oxford Tramways Syndicate, Ltd., Queen Anne's-chbrs., Westminster, London, S.W. Registered May 21, 1908. Nominal capital: £55,000 in £1 shares. Directors: B. Bernheim, Esq.; W. B. Cownie, Esq.; Sir Robt. Buckell; Col. R. F. Webb.

Oxley, Alan Ralph, A.M.I.E.E., Hampstead Corporation Electricity Works, Lithos-rd., Hampstead, London, N.W.

Oxychlorides, Ltd., electro-chemists, &c., Winchester House, Old Broad-st., London, S.E. (Telegs.: "Oxychlorid, London." Teleph. No. 68, London Wall.)

Ozonair, Ltd., patentees & manufacturers of apparatus for the commercial production of ozone, for ventilating, medical & manufacturing purposes, 96, Victoria-st., London, S.W. (Telegs.: "Ozonair, London." Teleph. Victoria 12.)

P. C. & H. Syndicate, Ltd. Registered Jan. 29, 1909. Nominal capital: £12,000.

P. & H. Syndicate, Ltd., College Hill-chbrs., London, E.C.

P. & O. Batti-Wallahs' Society, 113, 115 & 117, Charing Cross-rd., London, W.C. (Telegs.: "Audiphone, London." Teleph. No. 8101, Central.) Hon. secretary, J. F. Avila.

P. Q. Cable Co., 24, Royal Exchange, London, E.C. (Telegs.: "Telepany, London." Teleph. Avenue 645); 2, Mincing-lane, E.C. (Teleph. Avenue 646); 5, New Bridge-st., E.C. (Teleph. Central 5952); The Baltic & Shipping Exchange, E.C. (Teleph. Central 7335); 24, Hop Exchange, S.E. (Teleph. Central 12007); & 36, Victoria-st., S.W. (Teleph. Victoria 3651.)

P. V. Syndicate, Ltd. Registered Feb. 5, 1909. Nominal capital: £1000 in £1 shares.

Pace, P. E., electrician, Llangollen & District Electric Light & Power Co., Ltd., Llangollen.

Pacific Cable Board, Queen Anne's-chbrs., London, S.W. (Telegrams: "Pacifieth, London." Telephone No. 363, Westminster.)

Pacific & European Telegraph Co., Ltd., Electra House, Finsbury Pavement, London, E.C. (Telegrams: "Amulet, London.") Registered June 24, 1892. The share capital is £100,000 in £10 shares, fully subscribed for, & £4 per share called up. There are also 4 per cent. guaranteed debentures £99,400. Directors: Sir Albert J. Leppoc Cappel, K.C.I.E. (chairman); the Hon. A. G. Brodrick; Sir J. Denison-Pender, K.C.M.G.; B. J. Wolfe Barry, Esq. Secretary, F. L. Robinson.

Pacific Radio-Telegraph Co., Ltd., 32, Old Jewry, London, E.C. Registered Feb. 5, 1909. Nominal capital: £60,000 in £1 shares.

Packer, John Lewis, A.M.I.E.E., British Insulated & Helsby Cables, Ltd., & Mayfield, Huyton, Lancs.

Packham & Son, electric light & bell fitters, 144, Western-rd., Brighton. (Teleph. Nos.: 539, Corp.; & 238, Nat.)

Padgett, G. H., Ingleton, Yorks. Chairman Ingleton Electric Lighting & Power Co., Ltd.

Page, Archibald, M.I.E.E., assistant engineer, Corporation Electricity Department, 75, Waterloo-st., Glasgow. (Telegs.: "Ampere, Glasgow." Teleph. Nos.: P.O. 834, 835 & 844; & Nat. Argyle 936 & 1304.)

Page, A. Flood, A.I.E.E., 35, St. George's-sq., S.W.

Page, D. G., electrical engineer, Walmley-rd., Sutton Coldfield.

Page, F. W., A.M.I.C.E., A.M.I.E.E., consulting electrical engineer, Clarendon-chbrs., 14, St. Ann's-sq., Manchester. (Teleph. City 1308.)

Page, H., electrical engineer (Messrs. Smeeton & Page), 63, Queen Victoria-st., London, E.C. (Telegrams: "Iolanthe, London." Telephone No. 5848, Bank); & Glenholme, Marlborough-rd., Gunnersbury, W. (Telephone No. 123, Chiswick.)

Page, Major S. Flood, M.I.E.E., 35, St. George's-sq., London, S.W. Director Marconi's Wireless Telegraph Co., Ltd.; director Marconi International Marine Communication Co., Ltd.

Page & Miles, Ltd., electrical engineers & contractors, 60, Western-rd., Brighton; 79, Western-rd., Hove; & 42, South-st., Worthing. (Telegs.: "Electric, Brighton." A.B.C. Code, 5th edit. Teleph. Nos.: 288, Brighton; 2629, Hove; & 14, Worthing.)

Page & Rowlingson, patent agents, 28, New Bridge-st., London, E.C. (Telegs.: "Pagensis, London." Teleph. No. 332, Central); & Manchester.

Page's Weekly (weekly, 6*d.*), Lennox House, Norfolk-st., W.C. (Telegs.: "Sinewy, London." Teleph. Gerrard 3349.)

Paget, C. G., A.M.I.E.E., consulting electrical engineer, Parliament-chbrs., Gt. Smith-st., Westminster, S.W.

Paget, Percy W., A.I.E.E., 201, Richmond-rd., Hackney, London, N.E.

Paignton Electric Light & Power Co., Ltd., 5, Palace-ave., Paignton. Registered June 19, 1908. Nominal capital: £15,000 in £1 shares. Issued: £11,000. Directors: W. J. Hain, Esq.; Major-Gen. G. D'A. Jackson; T. H. Ward, Esq., M.D.; J. A. Burland, Esq., L.R.C.P.; P. Waycott, Esq.; F. Sarson, Esq.; W. A. Axworthy, Esq.; J. N. Osborne, Esq.; C. S. Appleton, Esq.; J. H. Cooper, Esq. Engineer, C. D'A. Jackson; secretary, J. R. Mill.

Pailthorpe, H. Noel, patent-drawings draughtsman, 3, Featherstone-bldgs., Holborn. Estab. 1872.

Pain, J., wiring contractor, 62, High-st., Hythe.

Pain, R., & Son, electricians, Woking. (Telegrams: "Pain, Woking." Telephone No. 46, Woking.)

Paine, Ernest, electrical engineer, 15, St. George's-rd., Westcombe Park, Blackheath.

Paisley Corporation Electricity Works, Paisley. (Telegs.: "Parkinson, Paisley." Teleph. No. 119.) Consulting & resident electrical engineer, C. F. Parkinson, M.I.E.E., M.I.M.E.

Paisley District Tramways Co., 83, Cannon-st., London, E.C.; & Paisley, N.B. (Teleph. London Wall 135, & Paisley 218.) Nominal capital: 39,500 shares of £10 each, 500 of which are issued, fully paid, & 120 with £2 paid. Loans authorised: £131,000. Directors: O. H. Smith, Esq. (chairman); Lord Arthur Butler; D. Johnstone Smith, Esq.; J. Young, Esq. General manager & engineer, Fred Coutts; secretary, A. Clements.

Paisley Technical College, Paisley. *See* SCHOOLS, CLASSIFIED SECTION.

Pal, Michael, & Co., engineers, Parliament Mansions, Victoria-st., London, S.W. (Telegs.: "Palinda, London." Teleph. No. 919, Victoria.)

Palairet, C. R., A.M.I.E.E., electrical & mechanical engineer, Siemens Bros., Caxton House, London, S.W.; & Ivy House, Little Haywood, Stafford.

Palatine Engineering Co., Ltd., overhead equipment for electric tramways, 10, Blackstock-st., Liverpool. (Telegrams: "Waste, Liverpool." Telephone No. 5936, Central.)

Palmer, C., electrical engineer, Cheam-rd., Sutton, Surrey.

Palmer, H., chief inspector, Corporation Tramways, Bournemouth.

Palmer, John, B.SC.(ENG.), A.M.I.E.E., Corporation Electricity Works, Back of the Walls, Southampton.

Palmer, W., electrical engineer, 138, Burdett-rd., Bow, London, E.

Palmer, W. H., director Railway Construction & General Development Co. (Tasmania), Ltd.

Palmer & Co. (Electricians), Ltd., electrical engineers & contractors, 10, Great Castle-st., Oxford Circus, London, W. (Teleph. Gerrard 2342.)

Palmer, F. H., & Co., electrical engineers, 21, Lower Park-row, Bristol.

Palmer, Howe, & Co., telegraph code experts, publishers, &c., Princess-st., Manchester. (Tel. Cen. 1222.)

Palmer, T., & Son, electrical instrument case makers, 15, Acanthus-rd., London, S.W.

Palmers Shipbuilding & Iron Co., Ltd., mechanical engineers, steel makers & blast furnace owners, 60, Fenchurch-st., London, E.C.; & Jarrow. (Telegs.: "Palmers, Jarrow.")

Pank, A., wiring contractor, Howard-st., Yarmouth.

Pank, A., & Son, engineers, Bedford-st., Norwich. (Telephone No. 100.)

Panton, Joseph A., A.M.I.E.E., A.M.I.M.E., Liverpool Overhead Railway, 31, James-st., Liverpool.

Panzetta & Co., dealers in electrical appliances, 72, Charing Cross-rd., London, W.C.

Pape, Frank, A.M.I.E.E., 17, Montrave-rd., Penge, S.E.

Pape, Richard, Ltd., manufacturing electrical & storage battery engineers, sole licensees of the "Fors" Patent Accumulators, Albion House, New Oxford-st., London, W.C. (Telegs.: "Retainful, London." Teleph. Gerrard 1792.)

Paper Cutting & Toilet Requisite Co., Ltd., telegraph paper makers, 26, Grove Park, Camberwell, London, S.E. (Telegrams: "Toilet, London." Telephone No. 206, Brixton.)

Papworth, J. W., A.M.I.E.E., A.M.I.MECH.E., burgh electrical engineer, Stirling, Scotland. (Teleph. No. 75.)

Para Electric Railways & Lighting Co., Ltd., 20, Birchin-lane, London, E.C. Registered July 25, 1905. Nominal capital: £700,000 in 70,000 ordinary & 70,000 6 per cent. cumulative preference shares of £5 each, & £700,000 debentures secured by trust deed, dated April 11, 1906. Issued: 70,000 ordinary shares, fully paid, & 45,000 preference shares. Directors: Major Sir Wm. Evans Gordon (chairman); E. C. Cheston, Esq.; H. Ansell, Esq.; W. C. Burton, Esq.; W. K. Whigham, Esq.; E. S. Baring-Gould, Esq.; Dr. José Paes de Carvalho. Secretary, G. H. H. Chambers.

Parfitt, G. J. T., A.M.I.E.E., M.S.A., electrical engineer, Keynsham, Bristol. (Telegs.: "Parfitt.") Managing director & secretary Keynsham Electric Light & Power Co., Ltd.

Parfitt, Webber & Co., electrical engineers & manufacturers & installation contractors, Keynsham, R.S.O., Bristol; & Denmark-st., Bristol. (Telegrams: "Parfitt, Keynsham." Telephone No. 1284.)

Pargeter, B. J., A.I.E.E., elec. engineer, Grove Lodge, Crescent-grove, Clapham Common, London, S.W.

Paris, E. A., A.M.I.E.E., Crow Trees, Gomersal, nr. Leeds. Director Barnsley & District Electric Traction Co., Ltd.; director Peterborough Electric Traction Co., Ltd.; director Yorkshire (Woollen District) Electric Tramways Co., Ltd.

Paris Accumulator Co., Ltd., accumulator manufacturers, 14, Park Cross-st., Leeds.

Parish, C. W., 58, Ennismore-gdns., S.W. Chairman Cuba Submarine Telegraph Co., Ltd.; director Amazon Telegraph Co., Ltd.

Parish & Co., electrical engineers & contractors, 77, Clapham-rd., Lowestoft.

Park Bros., Ltd., electrical engineers & contractors, 2, Spring Bridge-rd., Ealing, W. (Teleph. No. 425, P.O.); & Pack Horn-rd., Gerrard's Cross.

Parker, A. C., electrical engineer, Hobart Electric Tramway Co., Ltd., 358, Mansion House-chbrs., 11, Queen Victoria-st., London, E.C.

Parker, A. J., 9, Stone-bldgs., Lincoln's Inn, London, W.C. Chairman Typewriting Telegraph Corporation, Ltd.

Parker, C. E. F., A.M.I.E.E., 11, Bembridge-cres., East Southsea, Portsmouth.

Parker, Dr. Jas., Clovelly, Kilmacolm. Director Kilmacolm Electric Lighting Co., Ltd.

Parker, Edwin T., A.M.I.E.E., A.M.I.M.E., 59, Bescot, Walsall, Staffs.

Parker, Edwin, A.M.I.E.E., 20, Granville-ave., Whalley Range, Manchester.

Parker, F. A., A.M.I.E.E., 36, Park-rd., Rugby.

Parker, F. H., A.I.E.E., 72, Greenvale-rd., Well Hall, Eltham, Kent.

Parker, Hon. Reg., director Sunderland District Electric Tramways, Ltd., 18, St. Helen's-pl., London, E.C.

Parker, J., director Ludlow Electric Light Co., Ltd., 14, Corve-st., Ludlow, Salop. Director Tewkesbury Electric Light Co., Ltd.

Parker, J., manufacturer of casings, cleats, &c., Steam Joinery Works, 109, Conybere-street, Birmingham. (Telegrams: "Joinery, Birmingham.")

Parker, John, consulting electrical engineer, Nelson-st., Hereford.

Parker, J. A., M.I.C.E., engineer-in-chief (Great North of Scotland Railway), Aberdeen.

Parker, John Hampden, A.M.I.E.E., destructor & station superintendent, Electricity Department, Greenock, N.B.

Parker, Percy C., A.I.E.E., B.SC., 51, Holly-ave., Jesmond, Newcastle-on-Tyne.

Parker, Thomas, J.P., F.R.S.E., M.I.C.E., M.I.E.E., M.I.M.E., consulting electrical & general engineer & electro-chemist, Severn House, Ironbridge, Salop. (Teleph. Ironbridge 20.) Director Metropolitan Railway Co.

Parker, W., director Melbourne Electric Supply Co., Ltd., Finsbury Pavement House, London, E.C.

Parker, W. Beaumont, electrical engineer, Standard Engineering Co. (Leeds), Ltd., Bond-st., Leeds. (Telegs.: "Triple, Leeds." Teleph. No. 1105.)

Parker Brothers, electric bell fitters, Newton Abbot.

Parker, Thomas, Ltd., electrical engineers & contractors, Wolverhampton. *See* The Rees Roturbo Manufacturing Co., Ltd.

Parkes, F. W., A.M.I.E.E., Grosvenor House, Wellington-pl., Belfast. (Telegs.: "Amperes, Belfast." Teleph. No. 2909.)

Parkes, Robert J., medical electrician (electropathist), 2, Church-st., Southport. (Teleph. No. 209.)

Parkin, C., manufacturing electrical engineer, Huddersfield-rd., Liversedge S.O., Yorks.

Parkington, J. R., & Co., electrical engineers, Newcastle-Emlyn.

Parkinson, C. F., M.I.M.E., M.I.E.E., consulting & resident electrical engineer, Corporation, Paisley, N.B.; & "Walkerville," Potterhill, Paisley.

Parkinson, Frank, electrical power engineer, Eldon Mount, Guiseley, nr. Leeds.

Parkinson, Frank Westlake, A.M.I.E.E., 11, Chichester-st., Belfast. (Teleph. No. 3128.)

Parkinson, G. R. J., A.M.I.E.E., 48, Wellington-rd., Bilston.

Parkinson, Joseph, electrician, Meadowside, Lancaster.

Parkinson, T., lightning conductor manufacturer, Canterbury-st., Blackburn. (Telephone No. 15.)

Parkinson, W. W., works manager, Corporation Electric Works, Blackpool.

Parkinson, F., & Co., electrical power engineers, Royal Insurance-bldgs., Park-row, Leeds. (Teleph. No. 3436.)

Parkinson & Frodsham, manufacturers of non-magnetizable watches, 5, Budge-row, Cannon-st., London, E.C.

Parkinson, J., & Co., dealers in electrical supplies, St. Nicholas-st., Newcastle-on-Tyne. (Telegs.: "Acme, Newcastle-on-Tyne." Teleph. Central 2838.)

Parkinson, J., & Son, vice & tool makers, Cromwell-rd., Shipley. (Telegs.: "Temples, Shipley." Teleph. No. 80.)

Parkinson & Son, electrical engineers & contractors, Fisher-st., Southampton-row, W.C.; & 11, Gloucester-rd., W., London. (Teleph. Nos.: 1881, Holborn; & 737, Kensington.)

Parks, F., artistic silk shade manufacturer, 26, Nassau-st., Mortimer-st., London, W. (Teleph. No. 4938.)

Parkyn & Peters, manganese merchants, 32, Queen Victoria-st., London, E.C. (Telegs.: "Parkyn, London.")

Parlett, G. B., A.M.I.C.E., M.I.E.E., c/o Callender's Cable & Construction Co., Cambridge-st., Birmingham.

Parmiter, Hope & Sugden, manufacturing electrical engineers, Hulme Electrical Works, Manchester. (Telegrams: "Terminal, Manchester." Nat. Telephone No. 1902.)

Parmley & Baxter, wiring contractors, 5, Station-rd., South Shields.

Parnham, R. E., A.M.I.E.E., Engineer's House, County Asylum, Radcliffe-on-Trent, Nottingham.

Parr, G. D. Aspinall, M.SC., M.I.E.E., A.M.I.MECH.E., Head of Electrical Engineering Department, The University, Leeds.

Parr, W. H. M., A.M.I.E.E., Hill View, Lee-lane, Horwich.

Parr, E. B., & Co., general pattern & model makers, 224, Bermondsey-st., London, S.E.

Parrack, W. T., M.I.MECH.E., shafting & pulley agent, 138, Leadenhall-st., London, E.C. (Telegrams: "Parracks, London." A.B.C. Code. Telephone No. 1345, Central.)

Parry, Evan, A.I.E.E., 801, Salisbury House, London Wall, London, E.C.; & 54, East Sheen-ave., London, S.W.

Parshall, Horace F., M.SC., M.I.C.E., M.I.E.E., 801, Salisbury House, London Wall, E.C. (Telegs.: "Parshalite, London." Teleph. No. 301, London Wall.) Chairman Lancashire Power Construction Co., Ltd.

Parsons, A. D. C., A.I.E.E., 48, Princes-gdns., London, S.W.

PARSONS, E. M., electrician & telephone engineer, 67, King Edward-st., Hull.

Parsons, I. Hardy, electrical engineer (of Gent & Co., Ltd.), Faraday Works, Leicester. (Telegs.: "Lodestone, Leicester." Teleph. No. 151.)

Parsons, Richard A., A.I.E.E., electrical engineer, Eastwood, Kingsholm, Gloucester. (Nat. Teleph. No. 248.)

Parsons, The Hon. C. A., C.B., F.R.S., M.A., D.C.L., HON.M.I.E.E., M.I.C.E., Heaton Works, Newcastle-upon-Tyne. Director Cambridge Electric Supply Co., Ltd.; director Scarborough Electric Supply Co., Ltd.; director Newcastle & District Electric Lighting Co., Ltd.

Parsons, The Hon. G. L., A.M.I.E.E., Heaton Works, Newcastle-on-Tyne.

Parsons, The Hon. Richard Clere, M.A., M.I.C.E., A.I.E.E., 39, Victoria-st., London, S.W. (Telegs.: "Outfall, London." Nat. Teleph. No. 5079, Westminster.) Director Mersey Railway Co.

Parsons, T. C., M.I.E.E., borough electrical engineer, Govan, N.B. (P.O. Teleph. No. X. 536); & Broomlea, Maxwell Drive, Pollokshields, Glasgow.

Parsons, W. Barclay, director Underground Electric Railway Co. of London, Ltd., Electric Railway House, Broadway, Westminster, S.W.

Parsons, Wm. S., A.M.I.E.E., 9, Green Bank-rd., Liverpool.

Parsons Bros., electrical engineers, 4, Queen-st., Gloucester. (Telegs.: "Parsons Bros., Gloucester." Teleph. No. 3 Y., Nat.)

Parsons, C. A., & Co., manufacturing electricians, Heaton Works, Newcastle-on-Tyne (Telegs.: "Turbo, Newcastle-on-Tyne"); 8, Victoria-st., London, S.W. (Telegs.: "Silently, London"); & 65 & 67, Prudential-bldgs., Park-row, Leeds.

Parsons, Fletcher & Co., Ltd., oil manufacturers & merchants, Gravel-lane, Southwark, S.E. (Telegrams: "Fletcher, London." Telephone No. 819, Hop.)

Parsons, F., & Son, electric light contractors, Albion-rd., Stoke Newington, London, N. (Teleph. No. 1641, Dalston.)

Parsons, J., & Son, electricians, 48, Bedwin-st., Salisbury.

Parsons, Sherwin & Co., Ltd., installation contractors, Nuneaton.

Parsons, W., & Co., installation contractors, 66, Regent-st., Leamington. (Telegs.: "Parsons, Engineers, Leamington." Teleph. No. 732.)

Partick Town Council Electricity Works, Partick, N.B. (Teleph. 1264.) Engineer, Wm. Sillery, A.M.I.E.E.

Partington Advertising Co., agents for the Electrical Advertising Syndicate, Ltd., Victoria Embankment, London, W.C. (Telegs.: "Partanus, London." Teleph. No. 3185, Gerrard.)

Partington, W. E., & Co., electrical engineers, 19, Station-rd; Stores: 177, Stockport-rd., Levenshulme, Manchester. (Telegs.: "Partington, Levenshulme." Teleph. H.M. 112.)

Partington, W. K., & Co., electric light & power engineers, 28, Minories, London, E.C. (Telegs. "Micarelle, London." Teleph. No. 6071, Avenue); & 63, Broadwater-rd., Tottenham, N.

Partridge, Edward Henry, A.I.E.E., 147, Shooter's Hill-rd., Blackheath, S.E.

Partridge, Gerald W., M.I.C.E., M.I.E.E., chief engineer, London Electric Supply Corporation, 25A, Cockspur-st., London, W.C. (Telephone No. 3800, Gerrard.)

Partridge, H. Ralph C., A.I.E.E., M.I.MECH.E., 6, Church-row, Putney Bridge, Fulham, S.W.

Partridges Ltd., electro & nickel platers, oxydizers; also makers of screws, B.A. threads, terminals, &c., Northwood-st., Birmingham. (Teleph. Nos. 2272 & 1639.)

Pasley, Hy., & Sons, manufacturers of engineers' tools, Brocco Works, Edward-st., Sheffield. (Telegs.: "Brocco, Sheffield." Teleph. No. 1121.)

Pass, C., & Son, Ltd., metal smelters, sellers of antimonial lead of all grades. Buyers of lead ashes, old accumulators & dross from same. Bedminster Smelting Works, Bristol. (Telegs.: "Pass, Bristol." Teleph. Nos. 3475 & 3476.)

Patchell, W. H., M.I.C.E., M.I.M.E., M.I.E.E., consulting engineer, Caxton House, Westminster, London, S.W. (Telegs.: "Patchell, London." Teleph. No. 898, Westminster.)

Patchett, James, A.I.E.E., Wellington, Salop.

Patchett, G., & Sons, wire manufacturers, Sedburgh Mill, Halifax. (Telegs.: "Patchett, Halifax." Teleph. No. 127.)

Patent Conveyor Co., Ltd., electrical & mechanical engineers, Fitzwilliam-st., Huddersfield.

Patent Electric Shot-Firing Co., electric bell fitters & contractors, Sheffield-rd., Chesterfield.

Patent Nonpolarizing Voltaic Battery Co., 143, Cannon-st., London, E.C.

Patent Office:—Comptroller General, W. Temple Franks, 25, Southampton-bldgs., London, W.C. Sale Branch (hours 10 a.m. to 4 p.m.): Quality-ct., Chancery-lane, W.C. (Telegs.: "Patent Office, London.")

Patent Plug Co., Ltd., makers of patent wood wall plugs, 11, Carteret-st., London, S.W. (Telegrams: "Jumpeth, London.")

PATENT PROCESS WIRE WEAVING CO., manufacturers of all classes of wire gauze & dynamo brushes, Bridgeton, Glasgow. (Telegrams: "Durable, Glasgow." Nat. Telephone No. 2527.) *See advt. under* DYNAMO BRUSHES.

Patent Rivet Co., Ltd., makers of bolts, nuts, rivets, screws, &c., Bridge-st., Smethwick, nr. Birmingham. (Telegs.: "Privet, Birmingham." Teleph. No. 2016.)

Patent Telephone Recorder Co. (Continental), Ltd. Registered Feb. 10, 1909. Capital: £1000 in £1 shares.

Patents & Industries, Ltd., consulting electrical engineers, 10, Sergeant's Inn, Fleet-st., London, E.C.

Paterson, B. S., electrical & mechanical engineer, St. James's-st., Newcastle-on-Tyne.

Paterson, Clifford C., A.M.I.C.E., A.M.I.E.E., National Physical Laboratory, Teddington.

Paterson, F. S., M.I.MECH.E., M.I.E.E., Wyncroft, Bickley Park, Kent. Director British Electric Wiring Co., Ltd.

Paterson, Hugh, electrical engineer, British Westinghouse Electric & Manufacturing Co., Ltd., Ward's-bldgs., High Bridge, Newcastle-on-Tyne. (Telegs.: "Multiphase, Newcastle-on-Tyne." Teleph. No. 568.)

Paterson, R. H., station superintendent, Electricity Works, Hammersmith, London, W.

Paterson, Sydney, M.I.E.E., M.I.M.E., managing director Johnson & Phillips, Ltd., Charlton, S.O. (Telegs.: "Paterson, Juno, Charlton, Kent." Teleph. No. 75, Central.)

Paterson, Bell & Co., Ltd., consulting & electrical engineers, 47, Waterloo-st., Glasgow. (Telegrams: "Tension, Glasgow." Telephone Nos.: Corp., 3765; Nat., 43 Y 1.)

Paterson Engineering Co., Ltd., makers of boiler feed water softeners, filters, &c., Amberley House, Norfolk-st., Strand, London, W.C. (Telegs.: "Cumulative, London." Teleph. No. 6560, Gerrard.)

Paterson, W., & Son, electric light & bell contractors, 1, Bothwell Circus, Glasgow. (Telegs.: "Locksmith, Glasgow." Nat. Teleph. Argyle 980; & P.O. 5980.)

Patey, A. P., M.I.E.E., M.I.M.E., H.M. Office of Works, Engineering Division, 37, Great George-st., London, S.W.

Paton, Frederick, electrical engineer & contractor, 51, Victoria-st., London, S.W. (Telegrams: "Electrinus, London.")

Paton, G. K., A.M.I.E.E., chief electrical engineer, North Wales Power & Traction Co., Ltd., Llanberis, R.S.O. (Teleph. No. 15.)

Patrick, J. & T., electric light fitters & incandescent lamp importers & telephone fitters, 46, Union-rd., Rotherhithe, London, S.E. (Teleph. No. 3153, Hop.)

Patrick & Son, mechanical & electrical engineers, 155, Fulham-rd., London, S.W.

Patten, H. C. M., A.M.I.E.E., assistant engineer, Corporation Electric Lighting & Tramways Department, Nelson-st., East Ham, London, E.

Patterson, Percy, electrical accessory manufacturer, 77, Fore-st., London, E.C.

PATTERSON, WILLIAM, manufacturer of dynamo & motor brushes. Sole & original maker "Matchless" self-lubricating type in copper & brass gauze, also straight wire brushes for turbo machines, Walker Gate, Newcastle-on-Tyne. (Telegs.: "Wirework, Newcastle-on-Tyne." Nat. Teleph. Central 510.) *See advt.*, DYNAMO BRUSHES.

Patterson, Richard, & Co., electrical engineers, 57 & 59, High-st., Belfast.

Patterson & Sutton, installation contractors, 13, Drummond-st., Euston-rd., London, N.W.

Pattison, R. N., electrician, Corporation Electricity Works, Stirling.

Pattison, W., & Son, manufacturing electricians, 88, Claypath, Durham. (Telegrams: "Pattison, Claypath, Durham.")

Pattman, C., & Co., electric fittings & accessories dealers, 18, Barking-rd., East Ham, London, E. (Teleph. No. 590, East Ham.)

Patton, Geo., electric lighting contractor, Bath-lane, Newcastle-on-Tyne. (Teleph. No. 04820.)

PAUL, ROBT. W., M.I.E.E., manufacturer of electrical instruments & scientific apparatus, Newton-ave. Works, New Southgate, London, N. (Telegs.: "Unipivot, London." Teleph. No. 566, Hornsey.) Show-rooms: 33, Leicester-sq., London, W.C. (Teleph. No. 900, City.) *See* INSTRUMENT MAKERS—ELECTRICAL.

Paul, M., & Co., engines, Dumbarton.

Pauling & Co., electrical engineers, 91, Cambridge-st., Glasgow. (Teleph. Nos.: 2796, Central, P.O.; 211 Y. 9, Douglas, Nat.)

Pauls, S., A.M.I.E.E., Corporation Electricity Works, Townley-st., Middleton, Lancs. (Nat. Tel. No. 30.)

Paus, Rudolph H., A.M.I.E.E., c/o British Thomson-Houston Co., Ltd., Rugby.

Paxman, James, C.E., J.P., chairman Messrs. Davey, Paxman & Co., Ltd., engineers, Colchester.
Paxman, W., director Messrs. Davey, Paxman & Co., Ltd., engineers, Colchester.
Paxton, A., & Co., electrical suppliers, Arcade-chbrs., High-st. Arcade, Cardiff. (Telegs.: "Paxton, Arcade-chbrs., Cardiff." Teleph. No. 01063.)
Payn, J. J., A.M.I.E.E., Beaumont Villa, St. Peters, Jersey.
Payne, G., resident engineer, Church Stretton Electric Supply Co., Ltd., Church Stretton, Salop.
Payne, H. J., electrical & mechanical engineer & scientific instrument maker, 1, Riverview-rd., Chiswick, London, W.
Payne, R. M. Horne, The Hermitage, Brentwood, Essex. Chairman British Columbia Electric Railway Co., Ltd.; director Sao Paulo Tramway, Light & Power Co., Ltd.
Payne, S. G., A.M.I.E.E., works superintendent, Electricity Works, Bury, Lancs.
Payne & Bates, Ltd., manufacturers of & dealers in gas, oil, steam & electric engines, &c., Great Heath, Foleshill, nr. Coventry.
Payne, Edward J., & Son, patent design & trademarks agents, Warwick-chbrs., 104 & 106, Colmore-row, Birmingham; & 26, Trinity Churchyard, Coventry.
Payne & Griffiths, steam engine & boiler fittings manufacturers, Tudor Works, Ladywood-rd., Birmingham. (Telegs.: "Thermal, Birmingham." Teleph. Midland 581.)
Peace, Alfred, J.P., Penlea, Bridgwater. (Telegs.: "Peace, Bridgwater." Nat. Teleph. No. 138.) Chairman Bridgwater & District Electric Supply & Traction Co., Ltd.
Peace, James Bennet, M.A., A.I.E.E., Engineering Laboratory, The University, Cambridge.
Peace, J. R., & Co., acid proof composition, Old Hall-st., Liverpool.
Peache, J. Courthope, M.I.C.E., Quex House, Old Bilton, Rugby. Director West London & Provincial Electric Supply Co., Ltd.
Peacock, C. T., A.M.I.E.E., 34, Elfindale-rd., Herne Hill, London, S.E.
Peacock, F., electric lighting contractor, 59, Station-rd., Colchester.
Peacock, W. H., electrician, 329, Goldhawk-rd., London, W. (Teleph. Chiswick 294.)
Peacock Patent Steel Grip Lock Nut & Fish Bolt Syndicate, Ltd., Prudential-bldgs., Queen-st., Nottingham. (Telegrams: "Gath, Nottingham." Telephone No. 1396.)
Peake, A. H., M.A., A.I.E.E., Engineering Laboratory, Cambridge.
Peake, R. E., M.I.C.E., telegraph engineer (Clark, Forde & Taylor), 4, Great Winchester-st., E.C.
Peaker, Alfred, A.M.I.E.E., Ashley House, Ladypit-lane, Leeds.
Pearce, George, electrician, 162, Clapham-park-rd., London, S.W.
Pearce, Herbert, A.M.I.E.E., 35, Burnaby-gdns., Chiswick, London, W.
Pearce, J. Graham, electrical engineer, Plymouth, Stonehouse & Devonport Tramways Co., Stonehouse.
Pearce, S. L., M.I.C.E., M.I.E.E., M.I.MECH.E., M.AM.I.E.E., chief electrical engineer, Manchester Corporation, Dickinson-st., Manchester. (Telegs.: "Potential, Manchester." Teleph. Nos. 2301 & 7838.)
Pearce, S. Robert, A.M.I.E.E., electrical engineer, 40, Locket-rd., Wealdstone, Middlesex.
Peard, G. W., A.M.I.E.E., British Insulated & Helsby Cables, Ltd., Prescot; & Heyes House, Rainhill, Lancs.
Pearman, R. Carrol, 3, Heath Mansions, Putney Heath-lane, S.W. Director Delhi Electric Tramways & Lighting Co., Ltd.
Pearn, Frank & Co., Ltd., general engineers, West Gorton, Manchester. (Telegrams: "Pumps, Manchester." Telephone No. 1021.)
Pearsall, W. P., electrical engineer, c/o J. G. White & Co., Ltd., 22A, College Hill, London, E.C.
Pearsall, Jas., & Co., silk for covering wires, 71–72, Little Britain, E.C. (Telegs.: "Pearsall, London." Teleph. No. 1639, Holborn.)
Pearson, Arthur, A.M.I.E.E., Ballymagrorty, 255, Vicarage-rd., King's Heath, nr. Birmingham.
Pearson, G. A., A.M.I.E.E., lecturer in electrical engineering, Municipal Technical School, Hull.
Pearson, H., installation contractor, 4, Cotham Vale-rd., Bristol.
Pearson, Hugh A., A.M.I.E.E., 5, Tavistock-pl., W.C.
Pearson, K., M.A., professor of applied mathematics, University College, Gower-st., London, W.C.
Pearson, R. Lloyd, A.M.I.E.E., consulting electrical engineer, University College, Reading.
Pearson, T., A.I.E.E., Clarkson & Beckitt, Maryhill, Glasgow.
Pearson, V. H., assistant electrical engineer, Electricity Works, Saltburn-by-the-Sea.
Pearson, W. H. M., director Vera Cruz Electric Light, Power & Traction, Ltd., 47, Parliament-st., London, S.W.
Pearson Bros., electrical engineers, 54–56, Long-row, Nottingham. (Telephone No. 942.)
Pearson & Co., electrical contractors, 51, Mosley-st., Manchester. (Teleph. City 1194.)
Pearson Co.'s, accumulator makers, 154, Abbott-rd., London, E. (Teleph. East 1047.)
Pearson Fire Alarm, Ltd., contractors to H.M. War Office & Admiralty, Jewin House, Redcross-st., London, E.C. (Telegs.: "Sauvetage, London." Teleph. London Wall 1028.) Registered March 9, 1903. Capital: £250,000 in £1 shares. A. H. McNeil, general manager.
Pearson, R. H. & J., Eastbourne, Ltd., electrical engineers, 102, Terminus-rd., Eastbourne. (Tel. 38.)
Pearston, Osborne, A.M.I.E.E., electrical engineer, 40, Tollington Park, London, N.
Pease, A. F., chairman Bankfoot Power Co., Ltd., 92, Northgate, Darlington.
Pease, H. M., A.M.I.E.E., telephone engineer, Western Electric Co., North Woolwich, London, E.

Peasnell, F. W., A.M.I.E.E., 39, Clement-st., Broughton, Manchester.

Peck, John S., M.AM.I.E.E., M.I.E.E., consulting electrical engineer, British Westinghouse Co., Trafford Park, Manchester.

Peck, Wm. E., & Co., agents for tramway materials, &c., 30 & 31, Bartholomew Close, London, E.C. (Telegs.: "Gentlefolk, London." Teleph. No. 4821, Holborn.)

Peckett, A., A.M.I.E.E., A.M.I.M.E., electrical engineer, 46, King William-st., London, E.C.

Pecover & Adeane, domestic electricians, 9 & 10, Bathurst-st., Hyde Park, London, W.

Peczenik, C. E., A.M.I.E.E., 11, Pancras-lane, London, E.C. (Telegs.: "Antinomian, London." Teleph. No. 933, Bank.)

Peddar, P. C. N., Stowmarket. Chairman Suffolk Electricity Supply Co., Ltd.

Pedley & White, electrical engineers, Church-st., Weybridge.

Peebles, Wm. Carmichael, Edinburgh. Director Ardrossan, Saltcoats & District Tramways Co.

Peebles, Wm. H., electrical engineer, Wm. Harvie & Co., Ltd., McAlpine-st., Glasgow.

Peebles, Bruce, & Co., Ltd., engineers, Edinburgh. (Telegs.: "Peebles, Edinburgh." Teleph. Central 1867. Western Union, A.B.C., 5th edit., & Private Codes.) London office: Hastings House, Norfolk-st., Strand, W.C. (Telegs.: "Peeblesite, London." Teleph. Central 5593.)

Peek, G. F., Delancey, St. Sampson's, Guernsey. Chairman Guernsey Railway Co., Ltd.

Peel, C. S., A.M.I.E.E., 48, Brompton-sq., London, S.W. (Telephone No. 1703, Kensington.)

Peel, Hon. Geo., director Eastern Extension Australasia & China Telegraph Co., Ltd., Electra House, Finsbury Pavement, E.C.

Peel, L. M., A.I.E.E., "Moore House," Beckenham, Kent.

Peers, George R., A.M.I.E.E., medical electrician, 72, Gilda Brook-rd., Eccles.

Peet, H. F., M.I.E.E., c/o W. Soper, Esq., 54, St. Mary Axe, London, E.C.

Pegg, Geo., electrical engineer, "Rosemary," Chase Court-gdns., Enfield.

Pegg, H. V., A.M.I.C.E., A.M.I.E.E., T. L. Miller, Wilson & Pegg, consulting mechanical & electrical engineers, 709, Tower-bldgs., Water-st., Liverpool; 19, Brazennose-st., Manchester; & 47 & 48, Scottish Temperance-bldgs., Donegall-sq., Belfast. (Telegs.: "Kinetic, Liverpool;" "Kinematic, Manchester;" & "Kinetic, Belfast." Teleph. Central, Liverpool 6216; Central, Manchester 5020; & Belfast 2898.)

Pegg, R. C., electrical engineer, Garrick Theatre, Charing Cross-rd., London, S.W.

Pegg, Thos., "The Beacon," Ockbrook, Derby; & Long Eaton. (Telegs.: "Pegg, Long Eaton." Teleph. No. 40.) Chairman Harrington Electric Light Co., Ltd.

Pegler, Mrs. Clara A., Pontypool. Director Pontypool Electric Light & Power Co., Ltd.

Pegler, W., jun., electrician, The Cross, Pontypool. Director Pontypool Electric Light & Power Co., Ltd.

Peile, H., director Priestman Power Co., Ltd., Milburn House, Newcastle-on-Tyne.

Peirson & Co., ENGINEERS & CONTRACTORS FOR CONSTRUCTIONAL IRONWORK FOR STATIONS, &c., 17 & 18, St. Dunstan's Hill, Great Tower-st., London, E.C. (Telegrams: "Allegretto, London." Telephone No. 5951, Avenue.)

Pelapone Engine Co., Ltd., high speed oil engine makers, Carr Bridge Works, Dewsbury.

Pell, Bennett, M.I.E.E., "Collinwood," Exeter-rd., Exmouth.

Pell, F. B., A.I.E.E., London manager, Tramway Supplies, Ltd., 22, Walbrook, London, E.C. (Teleph. No. 3179, London Wall); & 28, West Hill, Highgate, N.W.

Pell, Wm. M. D., A.I.E.E., electrical engineer, Cambridge-pl., Burrage-rd., Woolwich. (Telegrams: "Pell, c/o Light, Woolwich." Telephone No. 76.)

Pellew, P., electrical engineer, St. Mary-st., Cardiff.

Pember, J. D., A.M.I.E.E., borough electrical engineer, Dartford, Kent.

Pemberton, S. Thos., electrical manufacturers' representative agent, Council-chbrs., Colmore-row, Birmingham. (Telegs.: "Armature, Birmingham." Teleph. No. 5453.)

Pemberton, Arber & Co., electric lighting contractors, 8, Gray's Inn-passage, London, W.C. (Telegs.: "Pemarber, London." Teleph. No. 4532, Holborn.)

Pemberton Electricity Works, Pemberton, nr. Wigan. Wigan Corporation, proprietors. Engineer, J. Slevin; assistant, H. J. L. Bull.

Pembroke (Ireland) District Council Electric Light & Power Station, Pembroke, Ireland. (Teleph. No. 1289.) Engineer, S. L. R. Price.

Pemsel & Wilson, Ltd., electrical & general engrs., London-rd., Apsley End, Hemel Hempsted, Herts.

Penarth Electric Lighting Co., Ltd., Electrical Federation Offices, Kingsway, London, W.C. (Telegs.: "c/o Tramway, London." Teleph. Holborn 2686); &|Penarth, Glam. (Nat. Teleph. Nos.: Works, Penarth 118; Show-room 477.) Registered June 10, 1897. Capital: £50,000 in 2500 ordinary shares & 2500 preference shares of £10 each. All the ordinary shares have been taken up. Acting managing engineer, H. Cameron; secretary, C. H. Godward. Directors: G. J. Somerville, Esq. (chairman); Geo. Offor, Esq.

Penarth Tramway Syndicate, Ltd., 124, Bute-st., Cardiff. Registered Sept. 16, 1903. Nominal capital: £3000 in £10 shares.

Pender, J. C. Denison-, director Eastern Telegraph Co., Ltd.; director Eastern & South African Telegraph Co., Ltd., Electra House, Finsbury Pavement, London, E.C.

Pender, Sir J. Denison, K.C.M.G., director African Direct Telegraph Co., Ltd.; director Eastern Extension Australasia & China Telegraph Co., Ltd.; director Europe & Azores Telegraph Co., Ltd.; director Direct Spanish Telegraph Co., Ltd.; managing director Eastern & South African Telegraph Co., Ltd.; vice-chairman & managing director Eastern Telegraph Co., Ltd.; trustee Submarine Cable Trust; managing director West African Telegraph Co., Ltd.; chairman West Coast of America Telegraph Co., Ltd.; chairman Black Sea Telegraph Co., Ltd.; director Globe Telegraph & Trust Co., Ltd.; deputy-chairman Western Telegraph Co., Ltd.; director Pacific & European Telegraph Co., Ltd., Electra House, Finsbury Pavement, London, E.C.

Pender, Sir J., Bart., 2, Mount-st., Berkeley-sq., London, W. Director Direct U.S. Cable; director Telegraph Construction & Maintenance Co., Ltd.; director Globe Telegraph & Trust Co., Ltd.; director Metropolitan Electric Supply Co., Ltd.

Pendlebury, H. L., F.C.S., analytical & consulting chemist, Laboratory, 22, Blackfriars-st., Manchester; & 4 Wentworth-st., Bolton.

Pendlebury, J., & Son, electrical engineers, Eccles Bridge, Eccles.

Penfold, Alderman S., J.P., Folkestone. (Tel. No. 59.) Director Folkestone Electricity Supply Co., Ltd.

Penford, M. J., A.M.I.E.E., Birmingham, Tame & Rea Drainage Power House, Saltley, Birmingham.

Penmachno Corwen & Bettws-y-Coed Light Railway Co., Ltd., c/o Gill, Archer, Naples & Dun, 14, Cook-st., Liverpool. Registered May 27, 1904. Nominal capital: £3000 in £1 shares, of which 1979 are issued. Directors: H. Maconochie, Esq.; J. L. Owen, Esq.; A. Carter, Esq.; J. Roberts, Esq.; H. G. Keith, Esq. Secretary, F. W. Archer.

Penman & Co., Ltd., boiler makers, Strathclyde-st., Glasgow. (Telegs.: "Penman, Glasgow." Teleph. No. 2544.)

Penn, W. Cooper, M.I.M.E., & R. P. Thorp, engineers, 25, Victoria-st., Westminster. (Telegs.: "Penniform, London." Teleph. Victoria 182.) London office of Higginbottom & Mannock.

Penning, Sydney Heathcote, A.M.I.E.E., distribution engineer, Woolwich Boro' Council's Substation, Eltham; & 45, Shooters Hill-gdns., Westmount-rd., Eltham.

Penny, R. W., A.M.I.E.E., 6, Florence Mansions, Postrevor-rd., Munster Park, London, S.W.

Penrith Electric Supply Co., Ltd., 2, Castlegate, Penrith, Cumberland. Registered Oct. 5, 1908. Nominal capital: £7000 in £1 shares, of which 3500 are 5½ per cent. cumulative preference shares. Issued: 3192 ordinary & 2770 preference shares, all fully paid. Directors: P. Fox, Esq. (chairman); H. Winter, Esq.; Fred Armstrong, Esq.; P. H. Whittaker, Esq.; W. Bartholomew, Esq. Engineer, Dundas Fox; secretary, J. Thompson.

Penrose, Col. C., R.E., A.I.E.E., Head-Quarter Offices, High-st., Portsmouth.

Penrose, Thomas, A.M.I.E.E., Hazeldene, Wardle-rd., Sale, Manchester.

Penrose, A. W., & Co., Ltd., electrical engineers & contractors, 109, Farringdon-rd., London, E.C. (Telegrams: "Zincograph, London." Telephone No. 9663, Central.)

Pentland, W., & Co., electrical engineers, Newgate-st., Morpeth

Penton, E., A.I.E.E., 1, Mortimer-st., London, W.

Penzance & District Electric Supply Co., Ltd., 3, Clarence-st., Penzance. Registered Dec. 12, 1903. Nominal capital: £1000 in £1 shares. Issued: £300 fully paid. Directors: S. W. Cooper, Esq.; W. T. Pressland, Esq.; A. West, Esq. Electrical engineer, A. J. Fippard.

Pepper, G. R., A.I.E.E., 63, Avondale-rd., Croydon.

Peppercorn Bros., dealers in electric appliances, 16, 17, 18 & 19, Broadway; & 14, High-st., Deptford, London, S.E.

Percival, Arthur, electrical & mechanical engineer, Lady's Well Brewery, Cork.

Percival, F. S., Bodawen, Portmadoc, N. Wales. Chairman Yale Electric Power Co., Ltd.

Percival, F. W., 1, Chesham-st., Belgrave-sq., W. Director Yale Electric Power Co., Ltd.

Percival, Gerald, electrical engineer, 30, Old Georges-st., Cork.

Percival, Major-Gen. H., late R.A., New House, Pakenham, Bury St. Edmunds. Director Yale Electric Power Co., Ltd.

Percival & Co., electricians & wiring contractors, 11, Snargate-st., Dover.

Percival, Vickers & Co., Ltd., manufacturers of shades, globes, &c., Glass Works, Jersey-st., Manchester. (Nat. Teleph. Central 4782.)

Percy, J. S., electrician-in-charge, Woolwich Boro' Council's Substations, Eltham & Lee.

Percy, Stephen, electrical contractor, Osborne-rd., Newcastle-on-Tyne.

Perfecta Seamless Steel Tube & Conduit Co., Ltd., Plume-st., Birmingham (Telegs.: "Perfecta, Birmingham." Teleph. No. 72, Aston); & 64, Victoria-st., Westminster, London, S.W. (Telegs.: "Tuberfecta, London." Teleph. No. 5359, Westminster.)

Periam, Herbert W., Ltd., Bolt, Nut, Screw & Rivet Nail Works, Floodgate-st., Birmingham. (Telegrams: "Floodgate, Birmingham." Telephone No. 373.)

Perken, Son & Co., Ltd., opticians & electrical instrument makers, 99, Hatton Garden, London, E.C. (Telegrams: "Optimus, London." Telephone No. 4515, Central.)

Perkin & Co., Ltd., speciality: Burnley's Rozinal Soldering Paste, Lord-st. Works, Whitehall-rd., Leeds. (Telegs.: "Perco, Leeds." Teleph. No. 231.)

Perkins, A., district manager National Telephone Co., Telephone-ave., Bristol.

Perkins, C. E. H., Lieut. R.E. (M.), A.I.E.E., Coombe Hill, East Grinstead, Sussex.

Perkins, E. P., A.M.I.E.E., engineer, Chiswick Electricity Supply Corporation, Ltd., Aberystwith. (Teleph. P.O. 22.)

Perkins, J. E. S., A.M.I.C.E., electrical engineer, Queen-st. Iron Works, Peterborough.

Perkins, Joseph, & Co., contracting electricians, 21, Princess-sq., & 30A, Ebington-st., Plymouth.

Perks, G., Bailey-st., Oswestry. Director Oswestry Electric Lighting & Power Co., Ltd.

Perman, Edward, electrical contractor, 157, Dock-st., Newport, Mon.

Perrott, Wm. Dentson, A.M.I.E.E., Electricity Works, South Denes-rd., Great Yarmouth.

Perry, Capt. S., R.G.A., director Galway Electric Co., Ltd., Newtownsmyth, Galway.

Perry, Frank, superintendent Anglo-American Telegraph Co., Ltd.; A1 Exchange, Liverpool. (Telephone No. 1535.)

Perry, H. H., M.I.E.E., The Cottage, East Barnet-rd., Enfield.

Perry, John, electric light contractor, Edgcumbe-st., Stonehouse, Plymouth. (Teleph. No. 434.)

Perry, J., M.E., M.I.C.E., county surveyor, consulting engineer, County Court House, Galway. (Telegs.: "Perry, Galway.")

Perry, Miss A. M., M.A., director Galway Electric Co., Ltd., Newtownsmyth, Galway.

Perry, Miss J. H., B.A., director Galway Electric Co., Ltd., Newtownsmyth, Galway.

Perry, Miss Margaret, director Galway Electric Co., Ltd., Newtownsmyth, Galway.

Perry, Prof. J., M.E., D.SC., LL.D., F.R.S., M.I.E.E., A.M.I.C.E., Royal College of Science, South Kensington, S.W. Chairman Galway Electric Co., Ltd.

Perry, Wm. Geo., A.I.E.E., 155, Upper Kennington-lane, Vauxhall, London, S.E.

Perry & Co., electric light fittings manufacturers, 17, Grafton-st., Bond-st., London, W. (Telegrams: "Periphery, London." Telephone No. 3910, Gerrard.)

Perry & Co., Ltd., manufacturers of driving chains, &c., Perryan Works, Lancaster-st., Birmingham. (Telegs.: "Perry, Birmingham." Teleph. No. 819, Victoria.)

Perry, Thomas, & Son, file, rasp & magnet manufacturers, Columbia File Works, Herbert-rd., Small Heath, Birmingham.

Perry, Thos., & Son, Ltd., mechanical engineers, Highfield Works, Bilston, Staffs. (Telegs.: "Perry, Bilston.")

Perth Corporation Electricity Works & Tramways, Perth. Engineer, J. Lambert, M.I.E.E.

Perth Electric Tramways, Ltd., 30 & 31, St. Swithin's-lane, London, E.C. (Telegs.: "Tractable, London." Teleph. No. 5319, Bank.) Registered March 12, 1900. Nominal capital: 100,000 6 per cent. cumulative preference shares & 100,000 ordinary shares, both of £1 each, & £250,000 debentures. Issued: all the preference & ordinary shares, fully paid. Debentures outstanding: £222,136. Directors: A. H. P. Stoneham, Esq. (chairman); O. Wethered, Esq.; R. Popkiss, Esq.; Chas. Wren, Esq. Electrical engineer, H. J. Somerset; secretary, F. A. Holyfield. Dividends: 1905, 2½ per cent.; 1906, 5 per cent.; 1907, 5 per cent. on ordinary; 1908, 2½ per cent.; in full on preference to date.

Peru Telephone Co., Ltd. (Edmund Petley, F.C.I.S., acting sec.), 42, Old Broad-st., London, E.C. (Telegrams: "Chiliadal, London." Telephone No. 9343, London Wall.) Nominal capital of £100,000 in £5 shares. Only the 7 signatories shares have been taken up; nothing has been called or paid.

Pescatore, A. B., M.I.E.E., electrical engineer, 119, Victoria-st., London, S.W.

Pescatore, P., elec. engr., Tudor Accumulator Co., Ltd., Barnmeadow Works, Dukinfield, nr. Manchester.

Peschek, J., electrical engineer, 44, Wellington-rd., Old Charlton, S.O.; & Armstrong Works, Woolwich-rd., Charlton, S.O., Kent. (Teleph. No. 222, Woolwich.)

Petavel, J. E., D.SC., A.M.I.C.E., A.M.I.E.E., F.R.S., professor of engineering & director of the Whitworth Laboratories, The University, Manchester.

Peterborough City Garage Co., electrical contractors, Cowgate, Peterborough.

Peterborough Corporation Electricity Supply Works, Peterborough. Engineer, J. C. Gill.

Peterborough Electric Traction Co., Ltd., Electrical Federation Offices, Kingsway, London, W.C. (Telegs.: "c/o Tramway, London." Teleph. Holborn 2686.) Registered Aug. 5, 1902. Nominal capital: £60,000 in 6000 ordinary & 6000 6 per cent. cumulative preference shares of £5 each. Issued: 4000 ordinary & 4400 preference shares fully paid, & £21,000 debenture stock, secured by trust deed, dated June 26, 1903. Directors: W. J. Greer, Esq. (chairman); Lord Vaux of Harrowden; E. A. Paris, Esq. Secretary, C. H. Godward. Dividends: 1903, 2½ per cent.; 1904–1907, *nil*.

Peterborough (Soke of) County Technical School, Peterborough. *See* SCHOOLS.

Peters, Philip, A.M.I.E.E., "Yardley Fields," Yardley, nr. Birmingham.

Petersen, Theodor, M.I.E.E., "Shiplake," Parkside-gdns., Wimbledon Common, London, S.W. (Teleph. No. 163, P.O., Wimbledon.)

Peterson, H. W. J., A.M.I.E.E., 18, Gourock-rd., Eltham Park, Kent.

Pethick, S., 4, Burn View, Bude. Director Bude Electric Supply Co., Ltd.

Pethybridge, W., A.I.E.E., 3, Rhodesia-rd., Clapham Rise, London, S.W.

Petithory, Earl A., A.M.I.E.E., Western Electric Co., Ltd., North Woolwich, London, E.

Petley, Edmund, F.C.I.S., secretary of the Amazon Telegraph Co., Ltd., & the Chili, the Ecuador & the Peru Telephone Cos., Ltd., 42, Old Broad-st., London, E.C.

Peto, W., M.I.E.E., "Sunnybank," Ashtead, Surrey.

Peto & Radford, Ltd., electrical engineers & contractors, 100, Hatton Garden, E.C. (Telegs.: "Concentration, London." Teleph. No. 1660, Holborn); & Greville Works, Ashtead, Surrey. Nominal capital: £40,000 in £1 shares. 34,000 have been issued & are fully paid. Directors: W. Peto, Esq. (chairman); F. W. A. Radford, Esq.; E. Mumford, Esq.; F. G. Hart, Esq. (secretary).

Petrie, Sir Chas., J.P., 21, Rose-st., Liverpool. Director Singapore Electric Tramways, Ltd.

Petropolis Synd., Ltd., 1, London Wall-bldgs., London, E.C. Registered Nov. 2, 1906. Nominal capital: £10,000 in £1 shares.

Pettifor, P. G., A.M.I.E.E., electrical engineer, British Ericsson Manufacturing Co., Beeston, Notts.

Peyton, W., assistant electrical engineer, Urban District Council, Bexley.

Peyton & Peyton, Ltd., electric light fittings makers, Bordesley Works, Birmingham.

Pfeiffer, A. J. J., M.I.E.E., Broad-st. House, New Broad-st., London, E.C.

Pfeil & Co., engineers' tools & lathe manufacturers, 145–157, St. John-st., London, E.C. (Telegrams: "Pfeil, London." Telephone Nos. 623 & 626, Holborn.)

Phelon & Moore, electrical engineers, Valley-rd., Cleckheaton, Yorks.

Phelps, Wintour & Sons, electric light contractors, Broad-st., Teddington, Middlesex. (P.O. Teleph. Kingston 32.)

Phibbs, J. Pullar, M.I.E.E., 35, Dawson-st., Dublin.

Philip, Arnold, B.Sc., A.M.I.E.E., H.M. Dockyards, Portsmouth.

Philipps, Col. Ivor, D.S.O., M.P., 1, Leadenhall-st., London, E.C. Chairman United Electric Tramways Co. of Caracas, Ltd.

Philipson & Co., machinists, tramcar life guard & step makers, Holland-st., Astley Bridge, Bolton, Lancs. (Telegs.: "Safety, Bolton.")

Phillimore, Hugh B., A.M.I.C.E., electrical engineer, Aluminium Works, Kinlochleven, Argylls, N.B.

Phillips, A. D., A.M.I.E.E., Fife Electric Power Co., Commercial Bank-bldgs., Dunfermline.

Phillips, A. F., M.I.C.E., consulting electrical engineer, Caxton House, Westminster, London, S.W. (Telegs.: "Umberto, London.")

Phillips, A. Lovell, A.M.I.E.E., 4, Albany Mansions, 87, Charing Cross-rd., London, W.C.

Phillips, Charles D., mechanical engineer, Emlyn Iron Works, Newport, Monmouthshire (Telegrams: "Machinery, Newport." Telephone Nos.: 18, Nat.; & 576, G.P.O.); & Gloucester.

Phillips, Charles J., M.I.E.E., National Telephone Co., Ltd., 36, Whitefriars-st., London, E.C. (Teleph. Holborn 2001; & Croydon 45.)

Phillips, E., director Cinque Ports Light Railway, Ltd., 165, Queen Victoria-st., London, E.C.

Phillips, E. Dinsdale, editor, *Electrical Magazine & Engineering Monthly*, Bazaar-bldgs., Drury-lane, London, W.C. (Telegs.: "Bazaar, London." Teleph. Central 11142.)

Phillips, E. G., superintendent Commercial Cable Co., 23, Royal Exchange, London, E.C. (Teleph. Nos. 1146 & 1147, Avenue.)

Phillips, Edward Goodson, A.M.I.E.E., telegraph engineer, Telegraph Department, Metropolitan Railway, Bishop's-rd. Station, London, W.; & The Lindens, Pendelstone-rd., Walthamstow.

Phillips, Ernest Geo., A.M.I.E.E., electrical engineer, Boots Cash Chemists, Ltd., Nottingham; & "Heatherbrae," Woodborough-rd., Mapperley Hill, Nottingham.

Phillips, J. A., electrical engineer, 55, Esmond-rd., Bedford-park, London, W.

Phillips, J. H. S., A.M.I.E.E., River House, St. Peter's-rd., St. Margaret's-on-Thames.

Phillips, Lewis W., A.M.I.E.E., lecturer in electrical engineering & mathematics, Northampton Institute, London, E.C.; & 37, Compton-rd., Canonbury, N.

Phillips, N. D. B., A.M.I.E.E., 40, Sinclair-rd., West Kensington, London, W.

Phillips, R. E., M.INST.C.E., consulting electrical engineer, 70, Chancery-lane, London, E.C.

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Phillips, W. L., A.M.I.E.E., A.M.I.C.E., 48, Highbury, West Jesmond, Newcastle-on-Tyne.

Phillips, A., & Co., electricians & motor car engineers, 78, High-st., Dartford.

Phillips Commutator Grinder Co., Ltd., patentees & manufacturers, 95, Cannon-st., London, E.C.

Phillips, H. Fentum, & Co., manufacturing electrical engineers, Guildford Electrical Works, Guildford. (Telegrams: "Fentum Phillips, Guildford." Telephone No. 0182, Guildford.)

Phillips, J. W. & C. J., engineers, 23, College-hill, London, E.C. (Telegrams: "Colloquial, London.") BRISTOL RECORDING INSTRUMENTS.

Phillips & Kahn, electrical engineers, 108 & 109, Strand, London, W.C.

Phillips & Leigh, patent agents, 22, Southampton-buildings, London, W.C. (Telegrams: "Rotnevni, London." Telephone No. 133, Holborn.)

Phillips' Monthly Machinery Register & Electrical Machinery, Motor Car & Steam Wagon Supplement (price 6*d.*; ann. sub., 6s.). Published by Charles D. Phillips, Emlyn Ironworks, Newport, Mon.

Phillipss, chartered patent agents, 70, Chancery-lane, London, W.C. (Telegrams: "Phicycle, London." Telephone No. 7518, Central.)

Philosophical Magazine (monthly, price 2*s.* 6*d.*), Taylor & Francis, Red Lion-ct., Fleet-st., London, E.C.

Philpot, E. J., & Son, electrical engineers, 34, St. George's-st., Canterbury (Teleph. No. 189); & 91, High-st., Ramsgate. (Teleph. No. 274.)

Phipps, W. W., 8, Great Tower-st., London, E.C. Director Primitiva Gas & Electric Lighting Co. of Buenos Aires, Ltd.

PHIPPS, RASHLEIGH & CO., electric lighting engineers & contractors, artistic electric light fittings, 147, Oxford-st., London, W. (Telegrams: "Diffuser, London." Telephone Nos.: 3973, Gerrard; & 12155, Central.)

Phœnix Assurance Co., Ltd., 19 & 70, Lombard-st., E.C.; & 57, Charing Cross, S.W., London. (Telegs.: Fire Dept., "Phœnix Fire, London." Teleph. Central 8157 & 8158. Telegs.: Life Dept., "Biometry, London." Teleph. Avenue 2262.) *See* CONTRACTORS—ELECTRIC LIGHT & POWER.

Phœnix Bolt & Nut Co., makers of telegraph fittings, Downing-st., Handsworth, Birmingham. (Telegs.: "Bolts, Birmingham.")

PHŒNIX DYNAMO MANUFACTURING CO., LTD. Head offices: Thornbury Works, Bradford. (Telegs.: "Dynamo, Bradford." Teleph. No. 952.) London office: 17, Victoria-st., S.W. (Telegs.: "Phedyna, London." Teleph. No. 1061, Victoria.)

Phœnix Electric Heating Co., Ltd., electric heating apparatus makers, 17, Morwell-st., Tottenham Court-rd., W.C. (Telegs.: "Phœnixyne, London." Teleph. No. 8939, Gerrard.)

Phœnix Motor Co., motor builders & electrical engineers, Oakfield-rd., Altrincham, Cheshire. (Telegs.: "Motors, Altrincham." Teleph. No. 163.)

Phœnix Motors, Ltd., electro- & nickel-platers, Blundell-st., Caledonian-rd., London, N. (Telegrams: "Pacemakers, London." Telephone No. 264, North.)

Phosphor-Bronze Co., Ltd., makers of metallic alloys rods, strips, ingots & castings, 87, Sumner-st., London, S.E. (Telegs.: "Phosbronze, London." Teleph. Hop 557.)

Physical Review (ann. sub. $5), Macmillan & Co., London; & 66, 5th-ave., New York, U.S.A.

Physical Society of Glasgow University. President, Prof. Gray, LL.D., F.R.S.; Vice-President, R. A. Houstoun, M.A., B.SC., PH.D.; Secretary, J. Jackson; Treasurer, Margaret B. Moir; Physical Laboratory, University, Glasgow.

Physical Society of London, Royal College of Science, South Kensington, London, S.W. President; C. Chree, SC.D., F.R.S. Vice-presidents who have filled the office of president: Prof. G. C. Foster, F.R.S.; Prof. W. G. Adams, M.A., F.R.S.; The Lord Kelvin, D.C.L., LL.D., F.R.S. (deceased December, 1907); Prof. R. B. Clifton, M.A., F.R.S.; Prof. A. W. Reinold, M.A., F.R.S.; Principal Sir Arthur W. Rücker, M.A., F.R.S.; Sir W. de W. Abney, R.E., K.C.B., D.C.L., F.R.S.; Shelford Bidwell, M.A., SC.D., LL.B., F.R.S.; Principal Sir Oliver J. Lodge, D.SC., F.R.S.; Prof. S. P. Thompson, D.SC., F.R.S.; R. T. Glazebrook, D.SC., F.R.S.; Prof. J. H. Poynting, F.R.S.; Prof. J. Perry, F.R.S. Vice-presidents: W. Duddell, F.R.S.; Prof. A. Schuster, PH.D., F.R.S.; S. Skinner, M.A.; W. Watson, D.SC., F.R.S. Secretaries: W. R. Cooper, M.A.; & S. W. J. Smith, M.A., D.SC. Foreign secretary: Prof. S. P. Thompson, D.SC., F.R.S. Treasurer: Prof. H. L. Callendar, M.A., F.R.S. Librarian: W. Watson, D.SC., F.R.S. Other members of Council: A. Campbell, B.A.; W. H. Eccles, D.SC.; A. Griffiths, D.SC.; J. A. Harker, D.SC.; T. Mather, F.R.S.; A. Russell, M.A., D.SC.; Prof. C. H. Lees, DS.C., F.R.S.; Prof. E. Rutherford, D.SC., F.R.S.; F. E. Smith; R. S. Whipple.

Picard, Henri, & Frere, telegraph apparatus factors, 24, St. Bride-st., London, E.C. (Telegs.: "Dracip, London." Teleph. No. 522, Holborn.)

Pickard, F. Hattersley, & Co., electric fan makers, Phœnix Engineering Works, Meanwood-rd., Leeds. (Telegs.: "Pickard, 22, Meanwood-rd., Leeds." A.B.C. 4th ed. Code. Teleph. No. 1731.)

Pickerings, Ltd., electric lifts, cranes, pulleys, &c., Stockton-on-Tees; & 46, King William-st., London, E.C. (Telegrams: "Pickerings, Stockton-on-Tees." Telephone Nos.: 44, Nat.; & 21, P.O.)

Pickersgill, A., A.M.I.E.E., engineer, Urban District Council Electricity Works & Tramways, Cleckheaton, Yorks. (Teleph. No. 16, Cleckheaton.)

Pickett, H. A., A.M.I.E.E., E. C. C. Temporary Office, City & South London Railway, Angel Station, London, N.

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Pickstone, M. S., director Dunfermline & District Tramways Co., Ltd., 37, Castle-st., Edinburgh.

Pickvance, W. G., A.M.I.MECH.E., borough electrical engineer, Wrexham.

Pickworth, C. N., mechanical & electrical engineer, 38, Lorne-grove, Fallowfield, Manchester.

Pidduck, George & Co., special combined "Kratos Asbestos & Silicon-Paper," non-conducting boiler composition manufacturers, 2, Bury-st., St. Mary Axe, E.C. Works: Victoria Docks, London, E.

Pidgeon, Randell, M.A., A.I.E.E., Lynsted Lodge, St. Edmund's-ter., Regent's Park, N.W.

Pidgeon, W. R., A.I.E.E., Lynsted Lodge, St. Edmund's-ter., Regent's Park, London, N.W.

Pierce, J. F., A.M.I.E.E., electrical engineer, 67, Chalfont-rd., Oxford. (Teleph. No. 129 X.)

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Pierce & Co., electrical engineers, Alexander-st., Cardiff.

Piercy & Co., makers of steam engines, pumping machinery, &c., 53-54, Broad-st., Birmingham. (Telegs.: "Piercy, Birmingham." Teleph. Midland 20.)

Pierson, M., director Sheppey Water & Lighting Co., Ltd., 4, Edward-st., Sheerness.

Pigg, Jas., M.I.E.E., "Glendyn," Hawthorn-gdns., Monkseaton, Northumberland.

Piggott, Geo. E., A.M.I.E.E., electrical engineer, 24, New Bridge-st., London, E.C. (Telegs.: "Enticeable, London." Teleph. Holborn 2208.)

Piggott Bros. & Co., Ltd., jointers' tents, 57, 58, 59, Bishopsgate-st. Without, London, E.C. (Telegs.: "Piggott, London." Teleph. No. 4850, London Wall (2 lines).)

PIGGOTT ELECTRICAL CO., electrical engineers' suppliers & valuers, 24, New Bridge-st., London, E.C. Publishers of *Electrical Progress & Monthly Register*. Sole London agents for "Turner" electric lifts (passengers & goods); Isaac Griffiths & Sons enamelled & galvanized steel conduits; also cables & wires, & "V.E.C." large power plants. (Telegs.: "Enticeable, London." Teleph. Holborn 2208.)

Piggott, Thomas, & Co., Ltd., steel tubes, Western-rd., Springhill, Birmingham. (Telegs.: "Atlas, Birmingham." Teleph. Nos. 3027 & 3028.)

Piggott, T., & Co., Ltd., engineers, 63, Queen Victoria-st., London, E.C. (Telegrams: "Intersection, London." Telephone No. 5265, Bank.)

Pilcher, O. A., A.M.I.E.E., L.C.C. Tramway Generating Works, Greenwich.

Pilditch, G. F., M.I.E.E., resident engineer, Rathmines & Rathgar Urban District Council Electricity Works, Rathmines, co. Dublin.

Pilkington, Basil A., electrical contractor, 13, Melville-pl., Queensferry-st., Edinburgh. (Tel. No. 5832.)

Pilkington, Lieut.-Col. Sir T. E., Bart., director of some of the Associated Cos. of The British Electric Traction Co., Ltd., Electrical Federation Offices, Kingsway, London, W.C.; director Yorkshire (Woollen District) Tramways, Ltd.

Pilkington, S., A.I.E.E., 1, Upper Tichbourne-st., Leicester.

Pilkington Bros., Ltd., makers of glass cells for accumulators, St. Helens, Lancs. (Telegs.: "Pilkington, St. Helens." Teleph. No. 3.)

Pilkington & Co., patentees & sole makers of acid-resisting asphalte, Deptford Wharf, 190-192, Creek-rd., Deptford, S.E. (Telegs.: "Polonceau, London" Teleph. Deptford 1102 (2 lines).)

Pilkington & Gibbs, Ltd., electrical & mechanical engineers, Glover's-ct., Preston.

Pilling, F. S., M.I.M.E., 75, Beoley-rd., Redditch. (Teleph. No. 47.)

Pilling, J., M.I.E.E., borough electrical engineer, King's Lynn. (Teleph. No. 2.)

Pillischer, J., scientific instrument maker, 88, New Bond-st., London, W. (Teleph. No. 4418, Gerrard.)

Pim, Francis H., A.C.A., director Dublin & Central Ireland Power Synd., Ltd., 36, College Green, Dublin.

Pim, W. M., Bessbrook. Director Bessbrook & Newry Tramway Co.

Pimp, Chas., electrical engineer, Nydd, Leeds.

Pinchbeck Bros., lamp holder & electrolier manufacturers, 71, Queen-st., E.C. (Telegrams: "Pincheries, London." Telephone No. 988, Bank.)

Pinchin, Johnson & Co., Ltd., selling agents for Standard Insulating Varnish, 26, Bevis Marks, London, E.C. (Teleph. Wall 4541.)

Pinching, E. L., electrical engineer, 52, Cannon-st., London, E.C.

Pinching, Wm. B., A.M.I.E.E., Blue Knoll Wood, Cranham, Stroud, Glos.

Pinching & Walton, electrical agents, 52, Cannon-st., London, E.C.

Pincott, E., & Co., practical electrical & mechanical engineers, 14, Alphington-st., Exeter. (Tel. 539.)

Pinkerton, G. M., electrical contractor, Lloyd's-ave. House, Lloyd's-ave., London, E.C.

Pinn, W. C., chief assistant engineer, Electricity Works, Derby.

Pintner, Walter, A.M.I.E.E., 69, Shandwick-pl., Edinburgh.

Pioneer Complete Furnishing Stores, electric lighting contractors, 9–19, Bold-st., Liverpool. (Telegs.: "Sideboards, Liverpool." Teleph. Royal 2871.)

Pioneer Electric Light & Power Co. for Japan, Ltd., New Broad-st. House, New Broad-st., London, E.C. Registered Feb. 23, 1899, with a capital of £3000 in £1 shares, of which seven have been taken up.

Pipkin, W., manager, Switchboard & Accessories Department, Veritys, Ltd., Aston, Birmingham.

Pirelli, Ltd., wire & cable manufacturers, 45, Basinghall-st., London, E.C. (Telegs.: "Pirellicon, London." Teleph. Central 4062 & 7342.)

Pirrie, Rt. Hon. Lord, K.P., P.C., director Eastern Telegraph Co., Ltd., Electra House, Finsbury Pavement, London, E.C.

PITKIN, JAMES, & CO., electrical instrument & portable electric hand-lamp makers, 56, Red Lion-st., London, E.C. (Telegrams: "Barograph, London." Telephone No. 11273, Central.)

Pitman, P., mfr. of Pelton water wheels & turbines, Bosbury, Ledbury. (Telegs.: "Pitman, Bosbury.")

Pitman & Son, electric light contractors, 30, Newgate-st., London, E.C.

Pitt, A. J., electrical engineer, 5, College-cres., Swiss Cottage, N.W. (P.O. Teleph. Hampstead 1644.)

Pitt, P. S., A.M.I.E.E., 132, Dora-rd., Wimbledon, S.W.

Place, John, M.I.MECH.E., A.M.I.E.E., Wheatley Kirk, Price & Co., 46, Watling-st., London, E.C. (Telegs.: "Indices, London." Teleph. No. 5077, Bank); Manchester; & Newcastle-on-Tyne.

Plank, H. E., secretary African Direct Telegraph Co., Ltd., Electra House, Finsbury Pavement, E.C.

Plate, Geo., Bremen. Director Indo-European Telegraph Co., Ltd.

Plating Co., Ltd., nickel & silver platers & gilders, 10, Kirby-st., Hatton Garden, London, E.C. (Telegs.: "Plateresco, London." Teleph. No. 1522, Holborn.)

Platt, E. C., director & treasurer Commercial Cable Co., 23, Royal Exchange, London, E.C.

Platt, F. C., junior assistant engineer, Corporation Electricity Works, Wolverhampton.

Platt, Jas., director Southport Tramways Co., Ltd., 1, Post Office-ave., Southport.

Platt, Joseph, A.M.I.E.E., 34, Waverley-rd., Astley Bridge, Bolton.

Platt & Bleasdale, electric light & power engineers, Albion Electrical Works, Bolton. Offices & showrooms: 45 & 47, Victoria-sq., Bolton. (Telephone No. 27 X.)

Platt, Samuel, Ltd., engineers & shafting makers, King's Hill, Wednesbury. (Telegs.: "Platt, Wednesbury." Teleph. No. 60, Wednesbury.)

Player & Mitchell, electric light fittings manufacturers, Cambridge-st., Birmingham. (Telegrams: "Baynton, Birmingham." Telephone No. 1584.)

Player, W. & J., mechanical engineers, Smithfield Works, Sherlock-st., Birmingham. (Telegs.: "Method, Birmingham." Teleph. No. 1310.)

Plenderleith, F. A., assistant electrical engineer, Corporation Electricity Works, Ripon-rd., Harrogate, Yorks.

Plenty & Son, Ltd., engineers & boiler makers, Eagle Iron Works, Newbury, Berks. (Telegrams: "Plenty, Newbury." Telephone No. 7.)

Pletts, J. St. Vincent, A.I.E.E., Ivanhoe, Clarence-rd., Teddington.

Plowright, T. H., chief assistant engineer, Windsor Electrical Installation Co., Ltd., Windsor. (Teleph. No. 29B, Windsor.)

Plucknett, Jas., A.M.I.E.E., 76, Queen-st., Edinburgh.

Plucknett, C. J., & Co., electricians, 29, Poland-st., London, W. (Telegs.: "Smooth, London." Teleph. No. 2590, Gerrard.)

Plummer, F. S., electric light & bell fitter, Ipswich-st., Stowmarket.

Plummer, T., A.M.I.E.E., assistant superintending engineer, North Wales District, G.P.O., Liverpool.

PLUMPTON, GEORGE, manufacturer of all kinds of telegraphic & electrical tools, including pliers, telegraph vices, draw tongs, &c., Albion Works, Warrington. (Telegs.: "Tools, Warrington." Teleph. No. 572.) Established 1860. (Illustrated Catalogue upon application.)

Plumpton, Herbert, Ltd., makers of telegraph & electricians' tools, Excelsior Tool Works, Warrington, Lancs. (Telegs.: "Herbert Plumpton, Warrington.")

Plumtree, John S., A.M.I.E.E., Union Electric Co., Ltd., 53-57, Park-st., Southwark, London, S.E.

Plunket, A. J. L., district superintendent, County of Durham Electrical Power Distribution Co., Ltd., Jarrow-on-Tyne.

Plunkett, M. P., A.M.I.E.E., resident electrical engineer, Tonbridge.

Plutte, Scheele & Co., Ltd., agents, 18-19, Queenhithe, London, E.C.

Plymouth Corporation Electricity Works, Prince Rock, Plymouth. E. G. Okell, M.I.E.E., borough electrical engineer.

Plymouth Municipal Technical School, Plymouth. *See* SCHOOLS, CLASSIFIED SECTION.

Plymouth, Stonehouse & Devonport Tramways Co., Plymouth. (Telephone No. 53.) John Glenn, chief engineer; G. H. Moreton, manager.

Pochin, E. A. N., M.I.E.E., B.A., Westbrooke, Chelmsford.

Pochin, E. Arnold, & Bro., machine-cut gearing manufacturers, Trafford Park, Manchester. (Teleph. No. 34, Trafford Park.)

Pochin, H. D., & Co., Ltd., manufacturers of sulphate of alumina, Willington-quay, Newcastle.

Pocklington, A. W., & Co., electrical engineers, 47, York-st., Buckingham Gate, Westminster, S.W. (Telegs.: "Poklington, London." Teleph. Victoria 2051.)

Pockson, Melville J. H., A.M.I.E.E., Newcastle-on-Tyne Electric Supply Co., Ltd., & "Kenilworth," East-ave., Benton, nr. Newcastle-on-Tyne.

Pohl, Robt., A.M.I.E.E., electrical engineer, Thornbury Works, Bradford, Yorks.

Polden, F. C., A.M.I.E.E., A.M.I.MECH.E., 78 & 80, Queen Victoria-st., London, E.C.

Polesworth Electrical Appliances Co., Ltd., The Mill, Market-st., Polesworth, Warwick.

Polglase & Co., manufacturing chemists, Tyne Vale Chemical Works, Skinnerburn-rd., Forth Banks, Newcastle-on-Tyne.

Polkey Automobile Electric Lighting Syndicate, Ltd., 126, Pitsford-st., Birmingham. Registered March 31, 1909. Nominal capital: £2000 in £1 shares.

Pollard, A. F. C., A.M.I.E.E., c/o Siemens Bros. Dynamo Works, Stafford.

Polley, James W., electrical engineer, D. Hulett & Co., Ltd., 55/56, High Holborn, W.C.; & 23, Grange Park-rd., Leyton.

Pollit & Wigzell, Ltd., mechanical engineers, Sowerby-bridge, Yorkshire. (Telegrams: "Prow, Sowerby-bridge." Telephone No. 523.)

Pollock, H., electrical inspector, British Engine, Boiler & Electrical Insurance Co., Ltd., 12, King-st., Manchester.

Pollock & Macnab, Ltd., machine tool makers, Britannia Machine Tool Works, Bredbury, Manchester. (Telegs.: "Macnab, Woodley." Teleph. No. 289, Stockport.)

Pollock, S., & Sons, gas engine makers, Williamsburgh, Paisley, N.B.

Pollock, Whyte & Waddell, gas engine makers, Johnstone, N.B.

Polyblank, H. S., A.M.I.E.E., lecturer in engineering, City of Bradford Technical College, Bradford.

Polyblank, W. J., electrical engineer, 14, Grove Park-ter., Chiswick, W. (Teleph. No. 460, Chiswick.)

Polytechnic, The, courses in electrical engineering, magnetism & electricity, sound, light & heat, theoretical & practical physics, held day & evening, 307, 309 & 311, Regent-st., London, W. (Telegrams: "Polytechnic, London." Telephone No. 3747, Gerrard.) *See* SCHOOLS.

Pond, T. A., electrical engineer, County of London Electric Supply Co., Ltd., Vine-yard, Marshalsea-rd., London, S.E. (Teleph. No. 1062.)

Pontifex, Beaumont, A.M I.E.E., Victor Coates & Co., 2, Norfolk-st., Strand, London, W.C.

Pontifex & Wood, iron founders & general engineers, 176, Salisbury House, London Wall, London, E.C. (Telegrams: "Ponfex, London." Telephone Nos.: 862, London Wall; & 5198, Central.)

Pontypool Electric Light & Power Co., Ltd., Club-chambers, Pontypool, Mon. (P.O. Teleph. No. 18.) Directors: P. B. Ford, Esq. (chairman); Mrs. Clara A. Pegler; W. T. Jones, Esq.; W. Pegler, jun., Esq.; John Wather, Esq. Secretary, A. H. Watkins; consulting engineer, J. C. Howell; resident engineer, J. G. Webb. Nominal capital: £10,000 in £5 shares. 1143 shares have been taken up; £5 has been called on each of 669 of these & £4 on each of the 474 remaining. The total received is £5241. 4 per cent. mortgage debentures secured by trust deed, £5000. Dividends: 1903 & 1904, 5 per cent.; 1908, 4 per cent.

Pontypridd Urban District Council Electricity Works, Pontypridd, Glam. Engineer & manager, J. E. Teasdel, A.M.I.E.E. (Nat. Teleph. Nos.: 33, Office; 33, Works.)

Poole, H. C., wiring contractor, 21, Springbridge-rd., Ealing, London, W. (Tel. No. 731, P.O. Ealing.)

Poole, Joseph, A.M.I.E.E., 7, Spencer-ave., Bowes Park, London, N.

Poole, T. G., electrical engineer, c/o Veritys, Ltd., Hardman-st., Deansgate, Manchester.

Poole, H., & Co., electrical engineers, 58, Castle-st. East, London, W. (Teleph. No. 3884, Central.)

Pooley, F., M.I.E.E., electrical engineer, 25, Victoria-st., Westminster, S.W. (Telegs.: "Octopede, London." Teleph. No. 3373, Victoria.)

Pooley, Hubert, A.M.I.C.E., engineer & manager, Corporation Gas & Electricity Department, Stafford. (Telegrams: "Pooley, Stafford." Nat. Telephone No. 8.)

Pooley & Austin, electrical engineers & agents, 25, Victoria-st., London, S.W. (Telegs.: "Octopede, London." Teleph. No. 3373, Victoria. A.B.C. & Engineering Codes.)

Poore, Mark S., A.I.E.E., managing director J. Lovibond & Sons, Ltd., Greenwich, S.E.

Pope, A., A.M.I.E.E., Hatherden, Temple Drive, Swinton, Manchester.

Pope, Ed., St. Stephen's-chbrs., Telegraph-st., E.C. Director Kalgoorlie Electric Power & Lighting Corporation, Ltd.

Pope, Edwyn L., A.M.I.E.E., c/o London County Council Tramways Department, 303, Camberwell New-rd., London, S.E. (Teleph. Hop 3310.)

Pope, P. C., A.M.I.E.E., electrical engineer, Wembley House, Hale, Altrincham.

Pope, Prof. W. J., M.A., F.R.S., professor of chemistry, University of Cambridge.

Pope, T., & Co., name plates, 109 & 110, Livery-st., Birmingham.

Pope, W., & Son, Ltd., general engineers, steam injectors, Gotha Iron Works, Slough. (Telegrams: "Gotha, Slough." Telephone No. 7.)

POPE'S ELECTRIC LAMP CO., LTD., manufacturers of incandescent lamps. Works: Hythe-rd., Willesden, N.W. (Telegs.: "Planetary, London." Teleph. Harlesden 70); 5, Arthur-st., New Oxford-st., London, W.C. (Telegs.: "Duramentum, London." Teleph. Gerrard 3000); & 21, Manesty's-lane, Liverpool. (Telegs.: "Duramentum, Liverpool." Teleph. Royal 427.) *See* INCANDESCENT LAMP MANUFACTURERS—ELECTRIC.

Popkiss, R., director Perth Electric Tramways, Ltd., 30 & 31, St. Swithin's-lane, London, E.C.

Poplar Borough Electricity Works, Glaucus-st., Bromley-by-Bow, E. (Teleph. Eastern 424.) Engineer, J. H. Bowden, A.M.I.E.E.

Popper, Otto, insulating material manufacturer, 24, Railway Approach, London Bridge, London, S.E. (Teleph. No. 2137, Hop.)

Porcher, H., electrical engineer, 19, Clyde-rd., & 55, Beaconsfield-rd., Brighton. (Teleph. P.O. 550.)

Port of Chicoutimi Co., Ltd., 8A, Rumford-pl., Liverpool. Registered Jan. 30, 1906. Nominal capital: 10,000 ordinary shares of £1 each & 10,000 7 per cent. cumulative preference shares of £1 each. Directors: E. Pyke, Esq.; F. Becker, Esq.; J. E. A. Dubue, Esq.; H. Tyrer, Esq.; C. Pyke, Esq.

Port-Dundas Pottery Co., Ltd., manufacturers of stoneware electrical apparatus, Bishop-st., Port-Dundas, Glasgow. (Telegrams: "Pottery, Glasgow." Telephone No. 3054.)

Portable Searchlight & Signalling Co., Ltd., 148, Edmund-st., Birmingham. (Telegs.: "Signalling, Birmingham." Teleph. Central 5461.)

Porte, A. E., M.I.E.E., consulting engineer, 43, Dawson-st., Dublin (Teleph. No. 51 Y.); & Ocean-bldgs., Donegall-sq. East, Belfast. (Teleph. No. 1645.)

Porte, Frank C., A.M.I.E.E., electrical engineer, 27, Marlborough-st., Cork. (Telegs.: "Electrical, Cork." Telephone No. 118 X.)

Porte, F. C., & Co., electrical, mechanical & general engineers & contractors, 27, Marlborough-st., Cork. (Telegs.: "Electrical, Cork." Teleph. No. 118 X.)

Porter, A., resident electrical engineer, Corporation Electricity Works, Worthing.

Porter, Adolphus R. Z., A.M.I.C.E., A.M.I.E.E., 38, Deansgate, Manchester.

Porter, C. V., A.I.E.E., electric bell manufacturer & contractor, 108, Pemberton-rd., Harringay, London, N.

Porter, E. C., electrical contractor, 221, High-rd., Ilford.

Porter, G., A.M.I.C.E., borough electrical engineer, Worthing.

Porter, George, electrical engineer, 31, Lime-st., London, E.C.

Porter, G. L., A.M.I.E.E., 48, Falmouth-rd., Heaton, Newcastle-on-Tyne.

Porter & Co., iron lamp post manufacturers, Gowts Bridge, Lincoln. (Telegs.: "Porter, Lincoln." Teleph. No. 47.)

Porter, H., & Co., electrical engineers, 8, Northumberland Alley, Fenchurch-st., London, E.C.

Portheim, Roland S., M.I.E.E., c/o Aluminium Corporation, Ltd., 54, Parliament-st., London, S.W.

Portmadoc Slate Co., The, slate turners, Portmadoc, North Wales.

Portpatrick Electric Supply Co., Ltd., Dunskey Estates Office, Portpatrick. Registered June 25, 1903. Nominal capital: £2000 in £1 shares, of which 1550 have been issued. Directors: Major-Gen. Chas. Fergusson of Kilkerran, Bart., M.V.O., D.S.O.; The Right Hon. Viscount Kelburne; & the Right Hon. Lady Augusta Orr Ewing. Secretary, Jas. Purves.

Portsdown & Horndean Light Railway Co., Ltd., Moorgate Station-chbrs., London, E.C.; & Cosham, Hants. (Telegs.: "Tramways, Gosport." Teleph. Nos.: Nat. 3; Corp., Gosport 16.) Consulting engineer, J. Glenn, C.E.; resident engineer & manager, J. Fereday Glenn.

Portsmouth Corporation Electric Tramways. (Telephone No. 690, Corp.) V. G. Lironi, M.I.M.E., A.M.I.E.E., engineer.

Portsmouth Corporation Electricity Supply. (Telegrams: "Lighting, Portsmouth." Nat. & Municipal Teleph. No. 231.) W. S. Foale, engineer & manager.

Portsmouth Corporation Telephone Department, Town Hall, Portsmouth. A. R. Bennett, consulting engineer; H. J. Andrews, engineer & manager.

Portsmouth Municipal Technical School, Portsmouth. *See* SCHOOLS, CLASSIFIED SECTION.

Posenheim, A., & Sons, electrical engineers, 112, Commercial-rd. East, London, E.

Possmann, J., M.I.E.E., c/o Grindlay & Co., 54, Parliament-st., London, S.W.

Post Office Telegraphs. Headquarters: St. Martin's-le-Grand, E.C. For Officials, *see* CLASSIFIED SECTION.

Postal Telegraph Factory, Mount Pleasant, Clerkenwell, London, E.C. (Teleph. Central 9906; & Official 95.) W. Milner, superintendent.

Postal Telegraph Schools, L. D. Barclay, assistant superintendent in charge, G.P.O. West, London, E.C.

Postlethwaite & Stacey, electric lighting contractors, Printing Office-st., Doncaster. (Nat. Tel. No. 0188.)

Poth, Hille & Co., Ltd., ozokerite & paraffin wax manufacturers, 6, Lloyd's-ave., London, E.C. (Telegs.: "Pothaska, London." A.B.C. Code, 4th & 5th Editions. Teleph. Avenue 5856.)

Poths, H., & Co., importers of chemical glass, &c., 4, 5 & 6, Bury-ct., St. Mary Axe, London, E.C. (Telegs.: "Poths, London." Teleph. No. 3365, London Wall.)

Pott, Arthur H., M.I.C.E., M.I.E.E., A.M.AM.I.E.E., chief engineer, Metropolitan Electric Tramways, Ltd., & North Metropolitan Tramways Co., Spencer House, South-pl., Finsbury Pavement, London, E.C. (Telegs.: "Lentiscus, London." Teleph. No. 17, London Wall.)

Pott, Cassels & Williamson, electric driven centrifugal machine manufacturers, Motherwell, nr. Glasgow. (Telegrams: "Pott, Motherwell.")

Potter, Douglas, A.M.I.E.E., "Glencoe," Clifton-rd., Rugby.

Potter, W. R., consulting engineer, Thomas Potter & Co., 1, St. Nicholas-bldgs., Newcastle-on-Tyne. (Nat. Teleph. No. 2928.)

Potter & Co., electric power contractors, 196A, St. Vincent-st., Glasgow. (Teleph. Nos.: 230 X. 7, Argyle; Nat., 3226, P.O.)

Potter, F. W., & Co., wire weavers, gauze dynamo brush manufacturers, Soar's patent & ordinary, Phipp-st., Great Eastern-st., London, E.C. (Telegrams: "Wirework, London." Telephone No. 1169, London Wall.)

Potter, Thomas, & Co., electrical engineers & agents, 1, St. Nicholas-bldgs., Newcastle-on-Tyne. (Nat. Teleph. No. 2928.)

Potter, Thomas, & Sons, Ltd., electrical, mechanical & general engineers, 44, S. Molton-st., London, S.W.

Potteries Electric Traction Co., Ltd., Electrical Federation Offices, Kingsway, W.C. (Telegs.: "Potteries, c/o Tramway, London"); & Tramways Depôt, Stoke-on-Trent. (Telegs.: "Tramways, Stoke-on-Trent." Teleph. No. 801, Potteries.) Registered June 28, 1898. Nominal capital: £300,000 in £1 ordinary shares & £300,000 in £1 5 per cent. cumulative preference shares, & £300,000 in debenture stock, £245,000 of which has been issued. 245,000 ordinary & 245,000 preference shares have been issued, & fully paid up. Directors: G. Cornwallis West, Esq. (chairman); S. Mear, Esq.; Lieut.-Col. Sir T. E. Pilkington, Bart.; J. Vincent Kitchener, Esq.; F. W. Chanter, Esq. General manager & engineer, Wm. Thom, M.I.E.E., A.I.C.E.; power superintendent, F. J. Chapple; secretary, W. Fisher Herring. Dividends on ordinary shares: 1902–1904, 5 per cent.; 1905, 1906 & 1907, 4 per cent.; 1908, *nil*.

Potts, Cuthbert, consulting engineer, 64, Fawcett-st., Sunderland. (Telegrams: "Cuthbert, Sunderland." Telephone No. 748.)

Potts, J. G., A.M.I.E.E., Power House, Cwm Dyli, Beddgelert, N. Wales.

Pounder, P. E., installation contractor, 43, Milton-rd., West Hartlepool.

Povey, S. E., A.M.I.E.E., "Rivington," Raven Meols-lane, Formby, Liverpool.

Powell, C. H., A.R.S.M., A.I.E.E., 219, Peckham Rye, London, S.E.

Powell, David, electrical engineer, Gorseinon Electric Light Co., Gorseinon.

Powell, D. T., A.I.E.E., 40, Harcourt-terrace, London, S.W.

Powell, Dr. J., director Newcastle-Emlyn & District Electric Supply Co., Ltd., Newcastle-Emlyn.

Powell, Ed., Llwyncelyn-rd., Gwaun Cae, Gurwen. Director Brynamman & District Electric Supply Co., Ltd.

Powell, E., electric light & power contractor, 41, High-st., Tunbridge Wells. (Telegs.: "Powell, Electrician, Tunbridge Wells." Teleph. No. 138.)

Powell, F. J., director & secretary Egham & District Electric Light Co., Ltd., The Elms, Egham.

Powell, F. S., wire draw-plate & gauge manufacturer, The Elms, Egham, nr. London. Director Egham & District Electric Lighting Co., Ltd.

Powell, Frank, M.I.E.E., Electric Department, G.N.R. Plant Works; & 10, Auckland-rd., Doncaster.

Powell, J. R., consulting engineer, Royal Stuart-bldgs., Docks, Cardiff.

Powell, Legh S., M.I.E.E., The Old Manor House, Ashley, Stockbridge, R.S.O., Hants.

Powell, Percival H., A.M.I.E.E., 101, Neusham Drive, Neusham Park, Liverpool.

Powell & Co., jewel-hole makers, 17, Poland-st., W. (Telephone No. 35,459.)

Powell, James, & Son, glass manufacturers, 26, Tudor-st., London, E.C. (Teleph. No. 1996, Central.)

Powell-Williams, F., A.M.I.E.E., electrical engineer, Tower House, Bromley, Kent.

Powells, Ltd., wire manufacturers, Rolling & Wire Mills, Vauxhall, Birmingham. (Telegs.: "Powells, Pitney-st., Birmingham." Teleph. No. 83, East.)

Power, Herbert, wholesale factor of electrical goods, Leeds (Teleph. No. 59 Y.); also Bradford & Shipley, Yorks.

Power Appliances Co., electric fittings manufacturers, 81, West Regent-st., Glasgow.

Power Engineers, Ltd., electrical & mechanical engineers, Bank-bldgs., Kingsway, London, W.C. (Telegs.: "Powerwork, London." Teleph. Holborn 2168.)

Power, F. A., & Son, wire manufacturers, Midland Wire Mills, Saltley, Birmingham. (Telegs.: "Ingot, Birmingham." Teleph. No. 45, East.)

Power House (*Canadian*) (monthly, single copies, 6*d.*; ann. sub., 4*s.* 6*d.*), 88, Fleet-st., London, E.C.

POWER PLANT CO., LTD., sole manufacturers of patent machine-cut double helical wheels & patent lift gears, Temple Bar House, Fleet-st., London, E.C. (Telegs.: "Biceps, London." Teleph. No. 10968, Central.) Works: West Drayton. (Telegs.: "Roc, West Drayton." Teleph. No. 22, Yiewsley.)

Power & Traction, Ltd., electricians & electric railway engineers, &c., 79, Palace-chbrs., Westminster, London, S.W. (Telegrams: "Emissivity, London." Telephone No. 3195, Gerrard.) Registered Nov. 8, 1897. Capital: £10,000 in £1 shares, 5000 of which are issued & fully paid, & £3000 debentures, issued & paid. Directors: J. Browne Martin, Esq. (chairman); A. Greenwood, Esq.; H. C. Walker, Esq.; R. A. Smith, Esq., M.I.E.E. (managing, & secretary *pro tem.*).

Powles, Walter, A.I.E.E., electrician, 249–251, Kensal-rd., London, W. (Teleph. Western 653.)

Pownall, J. E., A.M.I.E.E., A.M.I.MECH.E., assistant engineer, Hampstead Electricity Works, London, N.W. (Teleph. No. 2911, P.O.)

Poynder, H. Bryan, A.M.I.E.E., 51, Huron-rd., Balham, S.W.

Poynter, James F., director The Maxim Lamp Works, Ltd., Shernhall-st., Walthamstow.

Poynter, John, Son & Macdonalds, manufacturing chemists, 72, Great Clyde-st., Glasgow. (Telegrams: "Poynter, Glasgow." Telephone No. 533.)

Poynting, J. H., D.SC., F.R.S., professor of physics, The University, Edgbaston, Birmingham. (Teleph. Selly Oak 81.)

Poynton, W. A., A.I.E.E., chief engineer, Hotel Cecil, Strand, London, W.C.

Practical Electrician's Pocket Book & Diary. Published annually about Oct.—Nov. Established 1898. Net price: cloth, 1*s.*; leather, 1*s.* 6*d.* Publishers: S. Rentell & Co., Ltd., 36, Maiden-lane, London, W.C. (Teleph. Central 3287.)

Practical Engineer (weekly, price 2*d.*), 55 & 56, Chancery-lane, W.C. (Telegs.: "Tepucol, London.' Teleph. City 2817); & Manchester.

"*Practical Engineer*" *Electrical Pocket Book & Diary*, Technical Publishing Co., Ltd., 55 & 56, Chancery-lane, London, W.C. (Telegs.: "Tepucol, London.")

Praeger, W., director African Concessions Synd., Ltd., 701, Salisbury House, London Wall, London, E.C.

Prance, H. Waymouth, A.I.E.E., consulting automobile engineer, 39, Westbourne-gdns., London, W. (Teleph. No. 3737, Western.)

Praugnell, Norman Wm., A.M.I.E.E., 40, Chepstow-pl., London, W.

Pratt, Arthur, electrical engineer, 6, Nelson-ter., Tottenham-lane, Hornsey, London, N. (Teleph. Hornsey 87.) Works: 45A, Gordon-rd., Hornsey.

Pratt Bros., electrical contractors, 109, Dalry-rd., Edinburgh.

Pratt, C., & Sons, electric light contractors, North Parade, Bradford, Yorks. (Teleph. No. 298.)

Pratt, James Jerram, & Son, antimony refiners, 79, Queen-street, London, E.C.

Pratt & Keith, electrical engineers, 161, Union-st., Aberdeen. (Telegs.: "Palace, Aberdeen." Teleph. No. 234.) Jas. Thomson, electrical engineer.

Precision Engineering Co., Ltd., electrical & mechanical engineers, press tool makers & metal stampers, 143, 145 & 147, Rosebery-ave., London, E.C. (Telegs.: "Precengico, London." Tel. Central 12382.)

Preece, Arthur H., M.I.C.E., M.I.E.E., 8, Queen Anne's Gate, Westminster, S.W. (Teleph. No. 5908, Westminster.)

Preece, Frank H., A.M.I.C.E., A.M.I.E.E., 27, Clements-lane, London, E.C. (Telegs.: "Inbrake, London." Teleph. No. 15133, Central.)

Preece, Geo. G. L., A.M.I.E.E., M.I.M.E., electrical engineer, W. T. Glover & Co., Ltd., Trafford Park, Manchester.

Preece, J. R., C.M.G., M.I.E.E., 1, St. Jame's-pl., Pall Mall, London, S.W.

Preece, Sir W. H., K.C.B., F.R.S., M.I.E.E., PAST PRES.I.C.E., 8, Queen Anne's Gate, Westminster, London, S.W. (Telegs.: "Creephole, London." Teleph. No. 5908, Westminster.) Director London Electric Supply Corporation, Ltd.

Preece, William Llewellyn, M.I.C.E., M.I.E.E., 8, Queen Anne's Gate, Westminster, S.W. (Teleph. No. 5908, Westminster.)

Preece & Cardew, consulting electrical engineers, 8, Queen Anne's Gate, Westminster, S.W. (Telegrams: "Creephole, London." Teleph. No. 5908, Westminster (2 lines).)

Preller, C. du Riche, M.A., PH.D., A.M.I.C.E., M.I.E.E., F.R.S.E., 61, Melville-st., Edinburgh.

Premier Accumulator Co., Ltd., Cattle Market-rd., Northampton. (Telegs.: "Battery, Northampton." Teleph. No. 82.) *See advt. under* ACCUMULATORS.

Premier Electric Control, Ltd., motor starting switch manufacturers, 11, Red Lion-st., Clerkenwell, E.C.

Premier Electric Heaters, Ltd., 27, Ashley-st., Birmingham. (Telegs.: "Fahrenheit, Birmingham." Teleph. No. 981, Midland.)

Premier Engineering Co., electrical & mechanical engineers, St. Mary's-rd., Sheffield.

Premier Gas Engine Co., Ltd., gas engine makers, Sandiacre, nr. Nottingham. (Telegs.: "Premier, Sandiacre." Teleph. No. 39, Long Eaton.)

Premier Lighting & Engineering Co., Ltd., 4, Lloyd's-ave., Fenchurch-st., London, E.C.

Prendergast, A. M., chief engineer, Junior Army & Navy Stores, York House, Regent-st., London, S.W.

Prentice, J., resident engineer, Kelvinside Station, Kelvinside, Glasgow.

Prentice, Napier, A.I.E.E., consulting engineer, Stowmarket, Suffolk. (Telegs.: "Napier Prentice, Stowmarket.") Managing director Suffolk Electricity Supply Co., Ltd.

Prescot Electricity Works (British Insulated & Helsby Cables, Ltd.). (Telegs.: "Insulator, Prescot." Teleph. No. 8, Prescot.) Resident engineer, R. P. Nash.

Prescott, George, A.M.I.E.E., 9, Merrion-row, Dublin.

Prescott, T., chartered patent agent, 4, St. Anne's-sq., Manchester.

Prescott, G. H., & Co., electrical & mechanical engineers, 71, Carlton-st., West Hartlepool.

Press Association, Ltd., Telegraphic News Agency, 14, New Bridge-st., London, E.C. (Telegs.: "Press Association, London." Teleph. P.O. Central 6130; & Nat. Holborn 2740 (10 lines).) Manager, E. Robbins.

Pressland, W. T., electrical engineer, Broad Sanctuary-chbrs., Westminster, S.W. (Telegs.: "Pressland, London." Teleph. Westminster 5026.) Director Isle of Wight Electric Light & Power Co., Ltd.; Newmarket Electric Light Co., Ltd.; National Provincial Electricity Corporation, Ltd.; St. Austell & District Electric Lighting & Power Co., Ltd.; Ramsgate & District Electric Supply Co., Ltd.; Penzance & District Electric Supply, Ltd.; North Wales & District Light Railway & Electric Power Syndicate, Ltd.; Ashford & District Electric Supply Co., Ltd.; Western Electric Distributing Corporation, Ltd.; Bridgwater & District Electric Supply & Traction Co., Ltd.; Farnham & District Electric Supply Co., Ltd.; director Ilfracombe Electric Light & Power Co., Ltd.

Prest, S. F., maker of steam engines for electrical purposes, 2, Suffolk-lane, London, E.C. (Telegrams: "Presteza, London.")

Prested Miners' Gas Indicating Electric Lamp Co., Mansion House-chbrs., London, E.C. (Telegs.: "Pestedora, London." Teleph. No. 3738, Central.) Works: Elthorne-rd., Holloway-rd., N.

Preston, E., wiring contractor, 42, Grange-rd. West, Birkenhead.

Preston, F. Kennerley, A.M.I.E.E., Thorpe-rd., Melton Mowbray.

Preston, G. F. L., M.I.E.E., general manager Post Office London Telephone Service, G.P.O. South, Carter-lane, London, E.C.

Preston Corporation Tramways, Preston, Lancs. (Telegrams: "Tramways, Preston." Nat. Telephone No. 273.) Engineer & manager, J. F. Simpson, M.I.E.E.

PRESTON ELECTRIC CO., LTD., electrical engineers & contractors. Offices: Warwick-chbrs., Corporation-st., Birmingham. (Telegs.: "Practical, Birmingham." Teleph. Central 6052.) Registered June 25, 1896.

Preston Electricity Works. National Electric Supply Co., Ltd., proprietors. Engineer, J. H. Tonge, M.I.E.E., A.M.I.C.E.

Prestwich, R. H., Holmleigh, Park-lane, Higher Broughton, nr. Manchester. Director Blackpool & Fleetwood Electric Tramroad Co.

Prestwich & Burt, Ltd., electrical & mechanical engineers, Caxton House, Westminster, London, S.W. (Telegs.: "Prestabur, London." Teleph. Victoria 3135); & South-lane, Kingston-on-Thames. (P.O. Teleph. No. 19.)

Pretty, W., & Co., Ltd., electrical engineers, Osmondeston Works, Scole, Norfolk.

Price, Bernard, M.I.E.E., electrical engineer, 6, Woodbine-ave., Gosforth, Newcastle-on-Tyne.

Price, Hugh, telegraph engineeer, engineering department, Postal Telegraphs, Cardiff.

Price, J. P., engineer, Post Office Telegraphs & Telephones, Central Metropolitan District, 57 & 59, Long Acre, London, W.C. (Teleph. Central 1064 & 1066.)

Price, Leonard, local manager National Telephone Co., Leicester. (Telephone No. 210, Leicester.)

Price, S. L. R., A.M.I.E.E., resident electrical engineer, Electricity Works, Pembroke, Dublin. (Teleph. No. 1289.)

Price, W. F., A.M.I.M.E., A.M.I.E.E., c/o Callender's Cable & Construction Co., Milburn House, Dean-st., Newcastle-on-Tyne.

Price & Belsham, civil & mechanical engineers, 52, Queen Victoria-street, London, E.C. (Telegrams: "Belsham, London." Telephone No. 6003, Central.)

Price, C., & Co., oil merchants & refiners, Castle Baynard, 12 & 13, Upper Thames-st., London, E.C. (Teleph. No. 779, Bank); Regent's Wharf, West Ferry-rd., Poplar, E. (Teleph. No. 227, Eastern.) Works: Belvedere, Kent. (Telegs.: "Montezuma, London." Teleph. No. 13, Woolwich.)

Price, Friend & Co., electrical contractors, Stiles Brewery Yard, Bridgend, Glam.; & 6, St. John's-sq., Cardiff.

Price, Philip, & Co., installation contractors, 115, Lawrence Hill, Bristol.

PRICE, POWELL & CO., manufacturers of Porcelain Stoneware Insulators, Battery Jars, Porous Cells, &c., Potteries, BRISTOL. (Telegs.: "Pottery, Bristol." Nat. Teleph. No. 279.)

Price's Patent Candle Co., Ltd., manufacturers of oil for engines & dynamos, Battersea, London, S.W.; & Liverpool. (Telegrams: "Belmont, London." Telephone No. 91, Battersea.)

Price-Hughes, H. A., A.M.I.E.E., 23, Cromwell-rd., Rugby.

Prichard, M. St. B., director Western Electric Railways Development Co., Ltd., 4, Broad-st.-pl., London, E.C.

Prideaux, Hugh, A.M.I.E.E., 44, Prah-rd., Finsbury, N.

Prieger, E., director Buenos Aires, Ltd., 62, London Wall, London, E.C.; director Chilian Tramway & Light Co., Ltd.

Priest, Rowland, pulley block maker, Cradley Heath. (Telegrams: "Hydraulic, Cradley Heath.")

Priestly, Percy, engineer & manager, Mexborough & Swinton Tramways Co., Rawmarsh, Yorks.

Priestman, F., chairman Priestman Power Co., Ltd., Milburn House, Newcastle-on-Tyne.

Priestman Bros., Ltd., manufacturers of petroleum engines, Holderness Foundry, Hull. (Telephone No. 81.) London office: 3, Laurence Pountney Hill, E.C. (Telegrams: "Priestman, London." Telephone No. 901, Bank.)

Priestman Power Co., Ltd., Milburn House, St. Nicholas Churchyard, Newcastle-on-Tyne. (Telegs.: "Priestman, Newcastle-on-Tyne." Teleph. Nos.: 533, 534, Nat.; & 121, P.O.) Registered Nov. 26, 1903. Nominal capital: £40,000 in £1 shares. Issued: £20,000, fully paid. Directors: F. Priestman, Esq. (chairman); J. H. B. Noble, Esq.; J. T. Merz, Esq.; H. Peile, Esq.; S. J. Leybourne, Esq.; J. H. Armstrong, Esq. Secretary, N. Merz.

Primavesi Bros., electricians, Wellington House, Bournemouth. (Telephone No. 45.)

Prime, A., electrician, Willoughby-rd., Kingston-on-Thames.

Primitiva Gas & Electric Lighting Co. of Buenos Aires, Ltd., 153, Leadenhall-st., London, E.C. (Telegs.: "Primgaco, London." Teleph. No. 1730, Central.) Registered Jan. 25, 1901. Nominal capital: £400,000 in £5 ordinary shares, £800,000 in £5 preference shares & £600,000 debentures. Issued: £399,900 ordinary shares, £799,800 preference shares & £600,000 (£50,000 is held by Co. as an investment) debentures, all fully paid. Debentures redeemed to Dec. 31, 1908, £41,900. Directors: H. E. Jones, Esq. (chairman); W. W. Phipps, Esq.; C. H. Sanford, Esq. Secretary, J. H. Bouwer, sen. Dividends: 1905 & 1906, 5 per cent. on preference, 7 per cent. on ordinary; 1907 & 1908, 7 per cent. on ordinary.

Primrose & Primrose, electrical engineers, 199, Bath-st., Glasgow.

Princess Art Metal Works Co., electric light fittings & lightning conductor manufacturers & erectors, 183 & 185, Princess-st., Manchester. (Telephone No. 2275, Nat.)

Pringle, J. S., A.C.G.I., A.M.I.E.E., electrical engineer, Admiralty, London, S.W.

Pringle, Major Geo., The Cedars, Benges, Hertford. Director River Plate Electricity Co., Ltd.

Pringle, P. J., M.I.E.E., M.I.M.E., borough electrical engineer & tramways manager, Corporation Electricity Supply, Burton-on-Trent. (Teleph. No. 202.)

Pringle, J., & Co., electric light contractors, 61–63, Westow-st., Norwood, London, S.E. (Telephone No. 89, Sydenham.)

Pringle, R., & Sons, dealers in platinum scrap, 40 & 42, Clerkenwell-rd., London, E.C. (Telegrams: "Wilderness, London." Telephone No. 1929, Holborn.)

Prior, H. L., J.P., director Windsor Electrical Installation Co., Ltd., Peascod-st., Windsor. Chairman Slough & Datchet Electric Supply Co., Ltd.

Prismatic Shade Co., West Bridge, Leicester.

Pritchard, Green & Co., consulting engineers, 37, Waterloo-st., Birmingham. (Telegs.: "Pritchard, Birmingham." Teleph. No. 4450, Central.)

Pritchett, C. R. D., electrical engineer, 58, Victoria-st., Westminster, S.W.

Pritchett, G. E., A.I.E.E., Oak Hall, Bishop's Stortford, Herts.

Pritchett, G. E. B., Feltham, Middlesex. Chairman Pritchetts & Gold, Ltd.

Pritchett, T. W., A.I.E.E., Uplands, Feltham, Middlesex.

PRITCHETTS & GOLD, LTD., manufacturers of storage batteries, 58, Victoria-st., Westminster, S.W. (Telegs.: "Acidulated, London." Teleph. No. 3181, Victoria.) Works: Feltham, Middlesex. (Telegs.: "Pritchetts, Feltham." Teleph. No. 63, Hounslow.) *See* BATTERIES—STORAGE.

Private Telephone Co., Ltd., telephone engineers & contractors, 27, Chancery-lane, London, W.C. (Telegs.: "Atrimont, London." Teleph. No. 1276, City.)

Privett, Percy A. D., electrician, West End, Melksham, Wilts.

Probert, I., A.I.E.E., 58, Palewell Park, East Sheen, Mortlake.

Probert, W., & Son, brass founders & electric fittings makers, Boulton Works, South-rd., Hockley, Birmingham.

Probyn, Lieut.-Col. Clifford, D.L., J.P., 55, Grosvenor-st., W. Director Metropolitan Railway Co.

Probyn, Sir Lesley, 79, Onslow-sq., S.W. Director Great Northern, Piccadilly & Brompton Railway Co.; deputy-chairman Great Northern Railway Co.

Proceedings of the Royal Society (irregular), Harrison & Sons, 45-47, St. Martin's-lane, London, W.C.

Prockter & Kenyon, Ltd., mechanical & electrical engineers, Star Life-bldg., 30, Cross-st., Manchester.

Proctor, C. Faraday, M.I.E.E., M.I.M.E., electrical engineer, Edison & Swan United Electric Light Co., Ltd. Works: Benwell, Newcastle-on-Tyne, & 44, Simonside-ter., Heaton, Newcastle-on-Tyne.

Proctor, H. Faraday, M.I.C.E., M.I.E.E., past president Incorporated Municipal Electrical Association, city electrical engineer, Temple Back, Bristol. (Telegs.: "Faraday, Bristol." Teleph. No. 746; Private, 726.)

Proctor, J., Ltd., makers of the Proctor mechanical stoker, Hammerton-st. Iron Works, Burnley. (Telegrams: "Proctor, Burnley." Telephone No. 212.)

Proger, J. G., & Sons, electrical engineers, Trinity-st., Cardiff.

Projects Ltd., London, S.W. Registered April 28, 1905. Nominal capital: £2000 in £1 shares. Issued: 616 ordinary shares, fully paid. Directors: H. L. Godden, Esq.; R. H. Pearson, Esq.; Major R. W. M'Kay. Secretary, P. M. Holloway.

Protheroe, D., director Rhymney Valley & General Electric Supply Co., Ltd., Bank-chbrs., Bargoed.

Prout, T. A., A.I.E.E., telephone engineer, 19, Courtenay-rd., Waterloo, Liverpool. (Tel. No. 400, Waterloo.)

Proven, G., consulting engineer, 2, Commercial-st., Leith. (Telegs.: "Survey, Leith." Teleph. No. 33 Y.)

Provincial Tramways Co., Ltd., Moorgate Station-chbrs., London, E.C. Registered July 10, 1872. Nominal capital: £400,000 in 30,000 ordinary shares of £10 each & 10,000 6 per cent. preference shares of £10 each. Issued: in 24,912 ordinary & 10,000 preference shares, £349,120 fully paid, 5 per cent. debenture stock: £175,000, secured by trust deed, dated Jan. 24, 1908. Directors: A. Beattie, Esq., D.L., J.P.; S. Hern, Esq.; J. Barber Glenn, Esq. (managing & secretary). Consulting engineer, John Glenn. Dividends: 1903, 3 per cent.; 1904, 3 per cent.; 1905 & 1906, 3½ per cent.; 1907, 4 per cent.; 1908 & 1909, 3½ per cent.

Prusmann, C. A. L., A.M.I.M.E., M.I.E.E., engineer, Corporation Electricity Supply Department, Swansea. (Teleph. No. 399, Docks.)

Pryce, H. J., locomotive & telegraph superintendent, North London Railway Co., Bow-road Works, London, E.

Pryor, M. R., Sun Life Assurance Office, 63, Threadneedle-st., E.C. Director St. James' & Pall Mall Electric Light Co., Ltd.

Public Undertakings, Ltd., 28, Victoria-st., Westminster. (Teleph. No. 5008, Westminster.) Registered July 12, 1904. Nominal capital: £10,000 in £1 preference shares & 7 ordinary shares of £1 each, & £10,000 4 per cent. debenture stock. Debenture stock issued: £4685. Directors: Capt. L. A. Bagshawe; G. E. S. Venner, Esq., F.I.D., F.C.I.S. (secretary). Dividends: 1907, 1908 & first half of 1909, *nil*.

Pudan, T. A., A.M.I.E.E., 1, Crossflat-ter., Paisley, N.B.

Pudney, C. C., & Co., electrical engineers, 11, Guildhall-st., Bury St. Edmunds. (Telegs.: "Pudney, Bury St. Edmunds." Teleph. No. 90.)

Pudsey Corporation Electricity Works, Pudsey, Yorks. (Teleph. No. 69, Stanningley.) Resident engineer, E. Denton.

Puebla Tramway, Light & Power Co., 47, Parliament-st., London, S.W. Registered in Canada on Aug. 13, 1903. Capital: $6,500,000.

Pulford, Egerton G., A.M.I.E.E., consulting electrical engineer, 108, Whitechapel, Liverpool.

Pulford Brothers, Ltd., engineers & electricians, 108 & 110, Whitechapel, Liverpool. (Telegs.: "Personal, Liverpool." Teleph. No. 1495-6, Royal.) Registered Sept. 8, 1899. Capital: £3000 in £1 shares, 1623 of which are issued & are fully paid, & £500 debentures. Managing directors: Egerton G. Pulford, Esq., A.M.I.E.E.; J. Macleod, Esq.

Pullan, Chas., electrical engineer & contractor, 51 & 52, King's Arcade, Market-st., Bradford. (Teleph. No. 1912.)

Pullar, J., & Co., electric bell fitters, West Wynd, Dundee. (Telephone No. 836.)

Pulleine, Capt. H. P., Sandford House, Richmond, Yorks. Director Northern Counties Electricity Supply Co., Ltd.

Pullen, A. E., A.M.I.E.E., chief assistant electrical engineer, Electricity Works, Ealing.

Pullen, W. J., engineer & electrician, The Garage, Park-rd., Sittingbourne. (Telegs.: "Pullen, Sittingbourne." Teleph. No. 19.)

Pullin, Jas. H., & Co., slate merchants, 8, Union-court, Old Broad-st., London, E.C. (Telegs.: "Pullinus, London." Teleph. Nos.: 1960, London Wall; & 5040, Central.)

Pullman, E. E., Llanaway, Godalming. Director Guildford Electricity Supply Co., Ltd.

Pullon, J. T., "Rowangarth," North Park-rd., Roundhay, Leeds. Director Cumberland Power Syndicate, Ltd.

Pulsford, G. E., manufacturer of "Pulsford" incandescent lamps, 25, Coleman-st., London, E.C. (Telegrams: "Etoile, London." Telephone No. 9975, London Wall); & 10, rue Taitbout, Paris.

PULSOMETER ENGINEERING CO., LTD., makers of vacuum pumps, general pumping machinery & ice & refrigerating machinery, Nine Elms Iron Works, Reading, Berks. (Telegs.: "Pulsometer, Reading." Teleph. No. 583.) London offices & show-rooms: 61 & 63, Queen Victoria-st., E.C. *See* VACUUM PUMPS.

Pulteney, K., St. Austin's, Lymington. Chairman Lymington Electric Light & Power Co., Ltd.

Pulvermacher, M., A.M.I.E.E., Dilwyn, Brondesbury Park, Willesden Green, London, N.W.

Pummell, Wm., A.I.E.E., Waverley, Brockley Rise, London, S.E.

Puplett, Henry, engineers' agent, 47, Victoria-st., London, S.W. (Telegs.: "Puplett, London." Teleph. No. 5423, Westminster.)

Purcell, E., electrical apparatus maker, Gravesend, Kent.

Purcell & Nobbs, electrical engineers & manufacturers of "Electroyl" Radiators, 87 & 89, Cleveland-st., Fitzroy-sq., London, W. (Telegs.: "Nobilified, London." Teleph. No. 4637, Gerrard.)

Purrett, John, A.M.I.E.E., Lancashire E. P. Co., 196, Deansgate, Manchester.

Purse, Frederick Walter, A.M.I.E.E., A.M.I.M.E., chief electrical engineer, U.D.C. Electricity Works, Watford.

Pursell, D., & Co., ironfounders, makers of castings & forgings for electricians, Dalkeith, Midlothian, Scotland.

Purser, G. & W., electric bell manufacturers, Trafalgar Works, Palmer-st., Birmingham. (Telegrams: "Rubber, Birmingham." Telephone No. 17.)

Pursey, C. I., 99, Dover-rd., Folkestone. Director Folkestone Electricity Supply Co., Ltd.

Purslow, Edward J., manager & engineer, Birmingham Installation Co., Coleshill-st. Electrical Works, Birmingham.

Purton, F. J., electrical engineer, 4, Hardman-rd., Old Charlton, London, S.E.

Purves, Thos. F., A.M.I.E.E., 1st class staff engineer, General Post Office, London, E.C.; & 21, Windmill-rd., Wandsworth Common, S.W.

Purves, J. & W., consulting electrical engineers, 13, Albany-st., Edinburgh (Teleph. No. 1259); & 11, Bedford Circus, Exeter. (Teleph. No. 623.)

Purvis, John, A.I.E.E., 120, Durant's-rd., Ponder's End, London, N.

Putland, E. E., A.M.I.E.E., 178, Algernon-rd., Lewisham, S.E.

Putz, F. R., Bell's Asbestos Co., Ltd., 8 & 9, South Parade, Manchester (Telegrams: "Putz, Manchester"); & at 19 & 20, Strand-st., Liverpool.

Putz, Curphey & Co., electrical supplies dealers, 19 & 20, Strand-st., Liverpool.

Pyatt, J. V., & Co., installation contractors, 44, Salisbury-st., Moss Side, Manchester.

Pybus Bros., electrical engineers, 7, Marriott's-ct., Manchester (Teleph. No. 5702); & City Works, 29, Back Hampson-st., Blackfriars-rd., Salford.

Pye, Wm. B., A.M.I.E.E., 58, Hawkshead-st., Southport.

Pye, W. G., & Co., electrical & scientific instrument makers, Granta Works, Mill-lane, Cambridge. (Telegs.: "Pye, Cambridge." Local Teleph. No. 314.)

Pyke, E., J.P., director National Electric Supply Co., Ltd., 119A, Fishergate, Preston.

Pyke, L., M.I.E.E., A.M.I.C.E., F.C.S., consulting electrical & mechanical engineer, Albany-bldgs., 39, Victoria-st., London, S.W. (Telegs.: "Synchronize, London." Teleph. No. 13, Westminster.)

Pyle & Blaina Works, Ltd., manganese merchants, 17, Gracechurch-st., London, E.C. (Telephone No. 4022, Avenue.)

Pyle, Henry, & Co., electric bell fitters & dealers, 196, Poplar High-st., London, E. (Telephone Eastern 188.)

Pynegar, Henry, electrical engineer, 5, Dowgate-hill, London, E.C. (Telegrams: "Pynegar, London." A.B.C. & A1 Codes used. Telephone No. 281, Bank.)

Pyrenees Electrical Society, Ltd., Parliament Mansions, Victoria-st., London, S.W.
Pyrophone Co., automatic fire detection, 52, Queen Victoria-st., E.C.

Quartermaine, H., electric lighting contractor, Chertsey-rd., Woking. (Telegs.: "Quartermaine, Woking." Teleph. No. 178.)
Quebec & Lake Huron Construction Co., Ltd. Registered Dec. 18, 1906. Nominal capital: £99,500 in £1 ordinary shares & £500 in deferred shares of 1s. each.
Queen's College, Belfast. (Telephone No. 171.) *See* SCHOOLS, &c.
Queen's College, Galway. *See* SCHOOLS, &c.
Queenstown Electricity Works, Queenstown, Ireland. (Telegrams: "Tramways, Queenstown." Telephone No. 22.) Cork Electric Tramways & Lighting Co., Ltd., proprietors. Engineer, W. H. Joyce.
Quelch, Robert James, M.I.C.E., M.I.N.A., consulting engineer & naval architect, 20, Billiter-bldgs., London, E.C. (Telegrams: "Quelch, London.")
Quick, A. C., Church-sq., Guernsey. Director Guernsey Railway Co., Ltd. (States Teleph. No. 466.)
Quick, James, M.I.E.E., Technical Institute, Folkestone. (Teleph. No. 28 T.)
Quicke, Chas. F., M.I.E.E., mechanical, electrical & consulting engineer, 315, Euston-rd., London, N.W.
Quicke, Chas. F., & Co., electrical agents, 315, Euston-rd., London, N.W. (Telegrams: "Quicongo, London." Telephone No. 4226, Gerrard.)
Quilter, Eustace C., The Woodlands, Mildenhall, Suffolk. Director Altrinchan Electric Supply, Ltd.
Quilter, H. J., A.M.I.E.E., G.P.O., 8, King Edward-st., London, E.C.
Quilter, Sir W. Cuthbert, Bart., 14, Gt. Swan-alley, London, E.C. Director National Telephone Co., Ltd.
Quirk, Barton & Co., pig lead, litharge & tin & lead-foil for electrical purposes, 102, Bishopsgate-st. Within, London, E.C. (Telegs.: "Plumbum, London." Teleph. London Wall 5410.)
Quitmann, Carl, arc globes, shades, special heat-resisting glass, &c., 3, Cloth-st., Long-lane, London, E.C. (Telegs.: "Karlus, London." Teleph. Nos.: 415, Holborn; & 11424, Central.)

Raalte, M. van, director La Plata Synd., Ltd., 52, Moorgate-st., London, E.C.
Radcliffe, F. R. Y., K.C., 1, Mitre-ct.-bldgs., Temple, E.C. (Teleph. No. 10871, Central.) Director Spanish Teleph. Co., Ltd.
Radcliffe & Creasey, electrical engineers & telephone contractors, 24, Bride-lane, Fleet-st., London, E.C.
Radcliffe Urban District Council Electricity Works, Radcliffe, Lancs. Engineer, H. Wilkinson.
Raden, H. W. van, maker of woven glass accumulators, volt & ampere meters, &c., 2, Regent-st., Coventry.
Radford, A. L., Bovey Hall, Beer, Devon. Chairman Northwood Electric Light & Power Co., Ltd.: chairman Uxbridge & District Electric Supply Co., Ltd.
Radford, F. W. A., electrical engineer, Peto & Radford, Ltd., 100, Hatton Garden, London, E.C. (Teleph. No. 1660, Holborn.)
Radford, R. Heber, Son & Squire, consulting engineers & valuers, 15, St. James's-row, Sheffield. (Telegrams: "Radford, Sheffield." Telephone No. 425.)
Radio & Electric Power Co., Ltd., automatic telegraph & telephone apparatus makers, 102, Fenchurch-st., London, E.C.
Radyr Electric Co., Ltd., electric light contractors, Radyr, Glamorgan. (Telegs.: "Electric Co., Radyr." Nat. Teleph. No. 9.)
Rae, B. G., A.M.I.E.E., assistant engineer, Corporation Electricity Works, Exeter.
Rae Bros., electrical & scientific instrument makers, 77, Renfield-st., Glasgow.
Ragosine & Co., Ltd., oil, paint & varnish manufacturers, Albion Wharf, Bow, London, E. (Telegs.: "Ragosine, London." Teleph. No. 487, East. A1 Code used.)
Railing, M., M.I.E.E., "Newlyn," Driffold, Sutton Coldfield, Warwick.
Railless Electric Traction Co., Ltd., 56, Moorgate-st., London, E.C. (Telegs.: "Raillesly, London." Teleph. City 2367.)
Railway Audible Signal Co., Ltd., 31, Budge-row, Cannon-st., London, E.C.
Railway Construction & General Development Co. (Tasmania), Ltd. Registered Oct. 30, 1900. Nominal capital: £100,000 in £1 shares. Issued: 81,378 shares, 55,000 of them as paid. Directors: R. E. Middleton, Esq. (chairman); W. H. Palmer, Esq.; W. H. Glazier, Esq.; W. Lewis, Esq. Secretary, G. H. Deeks.
Railway Electrical Fog Signal Syndicate, St. Peter's Church-walk, Nottingham.
Railway Gazette (weekly; ann. sub., 21s.; foreign, 32s.), Queen Anne's-chbrs., Westminster.
Railway & General Engineering Co., Ltd., engineers & dynamo makers, Midland Engineering Works, Meadow-lane, Nottingham.
Railway Lighting, Ltd., 67, Mosley-st., Manchester. (Teleph. City 715.) Registered Nov. 9, 1897. Capital: £75,000 in 50,000 £1 ordinary shares & 25,000 deferred shares of £1 each. Issued: 38,405 ordinary & 25,000 deferred shares. Mortgages & charges, £56,000. Directors: W. H. Collier, Esq. (chairman); J. C. Willson, Esq.; E. E. Johnson, Esq. Secretary, H. S. Johnson.
Railway Signal Co., Ltd., Caxton House, Westminster, London, S.W. (Telegs.: "Snalig, London." Teleph. Gerrard 787); & Fazakerley, Liverpool. (Telegs.: "Sigco, Liverpool." Teleph. Walton 15.)

Railway Supplies Co., Ltd., Palace-chbrs., 9, Bridge-st., Westminster, London, S.W.

Railway Telegraph Superintendents' & Engineers' Conference. G. A. Neale, hon. secretary, H. & B. Railway, Hull. (Telegs.: "Neale, Junction, Hall." Nat. Teleph. No. 232 X.)

RAILWAY TIMES, THE (ann. sub., 25*s.*), 12, Norfolk-st., London, W.C. (Telegs.: "Altimetry, London." Teleph. No. 2948, Gerrard.)

Railway & Tramway Development Co., Ltd., 5, London Wall-bldgs., London, E.C. Registered Sept. 16, 1908. Nominal capital: £50,000 in £1 shares. Directors: Rt. Hon. Lord Teynham A. Docker, Esq.

Railway & Tramway Trust, Ltd., 14, Howick-pl., Victoria-st., Westminster, London, S.W. Registered July 28, 1906. Nominal capital: £1000 in 10*s.* shares, all taken up & paid.

RAILWAY WORLD. See (*Tramway & Railway World*).

Rainbow, E. H., A.I.E.E., "Lyndhurst," Stanley-ave., Alperton.

Raine, A. D., A.I.E.E., electrical engineer, Telegraph Works, Silvertown, London, E.

Rainforth, W., & Sons, Britannia Iron Works, Lincoln. (Telegs.: "Rainforths, Lincoln." Teleph. No. 4.)

Rainsford & Lynes, Ltd., electric light engineers, 113, Emily-st., Birmingham.

Ralli, P., Ashstead Park, Surrey. Chairman Leatherhead & District Electricity Co., Ltd.

Ralph, Geo., M.I.E.E., c/o J. H. Holmes & Co., Portland-rd., Newcastle-on-Tyne.

Ram, Gilbert Scott, M.I.E.E., electrical inspector of Factories & Workshops, Home Office, London, S.W.

Ramage, P. A., A.M.I.E.E., Park Works, Manchester. (Telegs.: "Ramage, c/o Sprinkler, Manchester." Teleph. Nos. 5661–5663.)

Ramsay, Sir William, K.C.B., PH.D., F.R.S., professor of chemistry, University College, Gower-st., W.C.

Ramsay Bros., mechanical & electrical engineers, Phœnix Works, Whitehaven; & Carlisle.

RAMSDEN, CAMM & CO., LTD., manufacturers of telegraph wire of high conductivity, Brighouse, Yorkshire. (Telegs.: "Ramsden, Brighouse." Teleph. No. 5.) *See* WIRE MANUFACTURERS—COPPER.

Ramsgate & District Electric Supply Co., Ltd., Broad Sanctuary-chbrs., Westminster, S.W.; & Ramsgate. (Teleph. Nos. 27 & 51, Ramsgate.) Registered Dec. 21, 1903. Nominal capital: £30,000 in £5 ordinary shares. Issued: 84 shares, fully paid. Directors: F. E. Gripper, Esq.; J. C. Wigham, Esq.; W. T. Pressland, Esq. Engineer & manager, C. E. Hume; secretary, C. H. Jones.

Ramuz, F. R., director Sheppey Water & Lighting Co., Ltd., 4, Edward-st., Sheerness, Kent.

Ramuz, G. F., director Sheppey Water & Lighting Co., Ltd., 4, Edward-st., Sheerness.

Randall, Alex Brodribb, M.I.E.E., engineer, Salisbury Electric Light Co., Town Mill, Salisbury.

Randall, J. Holmes, electric bell fitter & contractor, Station-rd., Holt, Norfolk.

Randall, R. L., electrician, 21, Mount-st., Cromer.

Randall Bros., installation contractors, St. Mary's, Bedford.

Randolph, A. M., electrical engineer, British Westinghouse Co., Trafford Park, Manchester.

Rands, Paul W., electrical engineer, Caxton House, Westminster, London, S.W.

Rangoon Electric Tramway & Supply Co., Ltd. Registered office: 14, Dale-st., Liverpool. (Telegs.: "Nabob, Liverpool." Teleph. No. 6698, Central.) Registered Dec. 20, 1905. Nominal capital: £500,000 in 50,000 6 per cent. cumulative preference shares of £5 (75 rupees) each & 250,000 ordinary shares of £1 (15 rupees) each & £250,000 debenture stock. Issued: 50,000 preference shares & 177,001 ordinary shares, all fully paid, & £150,000 debentures, secured by trust deed, dated Feb. 1, 1906, & supplemental trust deed, dated Dec. 22, 1908. Directors: Frank Tobin, Esq. (chairman); S. Balthazar, Esq.; Jas. Taylor, Esq.; Jas. Halliday, Esq.; J. W. W. Danson, Esq.; J. W. Darwood, Esq. Secretary, F. J. Wilson.

Ranken, A. W., A.M.I.C.E., M.I.E.E., 39, Victoria-st., Westminster, London, S.W. (Telegs.: "Motorpathy, London." Teleph. No. 5118, Westminster.)

Rankin, A., engineer, Limavady Power & Light Works, Limavady, Ireland.

Rankin, J. H., electrical engineer & contractor, 66, St. Thomas-st., Weymouth. (Teleph. No. 9 Y 1.)

Rankin, Robert, B.SC., A.G.T.C., electrical engineer, Electrical Co., Manchester.

Rankin, T. T., C.E., B.SC., M.I.M.M., M.I.M.E., instructor in electrical engineering, Mining & Technical College, Wigan. (Teleph. No. 255.)

RANKINE PATENT FEED WATER FILTER CO., LTD., manufacturers, 14, Water-st., Liverpool. (Telegrams: "Percolate, Liverpool." Telephone No. 1933.) London office: Aldermary House, 60, Watling-st., E.C. (Telegrams: "Ricto, London." Telephone No. 497, Bank.)

Ranking, Harvey, 28, Westbourne-ter., Hyde Park, W. Director City & South London Railway Co., Ltd.

Ransom, Sidney, A.M.I.E.E., 12, East Parade, Harrogate.

Ransome, F. S., A.M.I.C.E., A.I.E.E., c/o Schill Seebohm & Co., Ltd., 117, Portland-st., Manchester. (Telegs.: "c/o Schill, Manchester." Teleph. No. 7351.)

Ransomes & Rapier, Ltd., electric cranes, 32, Victoria-st., Westminster, S.W.; & Waterside Iron Works, Ipswich. (Telegrams: "Waterside, Ipswich;" "Ransomes Rapier, London." Telephone Nos.: 49, Ipswich; 891 & 892, Westminster.)

Ransomes, Sims & Jefferies, Ltd., mechanical engineers, high-speed engine makers, Orwell Works, Ipswich (Telegs.: "Ransomes, Ipswich." Teleph. No. 12); & 9, Gracechurch-st., London, E.C. (Telegs.: "Anglia, London." Teleph. No. 10817, Central.)

Raphael, F. C., electrical consulting engineer, 203-6, Temple-chbrs., Temple-ave., London, E.C. (Telegs.: "Circling, London." Teleph. Holborn 5509.)

Rapid Magnetting Machine Co., Ltd., 18, The Crescent, Birmingham. (Telegs.: "Borings, Birmingham." Teleph. No. 1842, Central.)

Rasecki-Morton, E., A.M.I.E.E., 43, Muswell-rd., Muswell Hill, London, N.

RASHLEIGH PHIPPS & CO., electric lighting engineers & contractors, artistic electric light fittings, RASHLEIGH Electric Lamps, all voltages, 10*s.* 6*d.* per dozen, 147, Oxford-st., London, W. (Telegs.: "Diffuser, London." Teleph. Nos.: 3973, Gerrard; & 12155, Central.)

Rasmussen, Webb & Co., precision turning & screw cutting lathes, 11, Charterhouse-bldgs., London, E.C. (Telegrams: "Rasmussen, London." Telephone No. 1815, P.O. Central.)

Ratcliff, H. A., A.M.I.E.E., electrical engineer, 15, Filey-rd., Fallowfield, Manchester.

Ratcliff Bros., agents, 8, Mason's-ave., London, E.C.

Ratcliff, G. F., & Co., electric light & power engineers, 43, Baker-st., London, W. (Telegs.: "Lumineux, London." Teleph. No. 69, Paddington.)

Ratcliff, Joseph, & Sons, brazing solder manufacturers, Pritchett-st., Birmingham. (Telegs.: "Ratcliffs, Birmingham." Teleph. Nos. 6485 & 6486, Central.)

Rathenau, E., Friedrich Carl Ufer 2-4, Berlin, N.W. Director The Victoria Falls Power Co., Ltd.

Rathmines & Rathgar U.D.C. Electricity Works, Rathmines, co. Dublin. G. F. Pilditch, M.I.E.E., engr.

Rathmore, Rt. Hon. Lord, The Oaks, Wimbledon. Director Central London Railway Co.

RAUSCHERT, PAUL, PORCELAIN WORKS, HUETTENGRUND-HUETTENSTEINACH, THUR., GERMANY. (TELEGS.: "RAUSCHERTS, HUETTENGRUND-HUETTENSTEINACH." TELEPH. NOS. 55 (8 LINES) & 210, SONNEBERG.) LONDON OFFICE: 47, MILTON-ST., E.C. (TELEPH. LONDON WALL 8086.) *See advts. under* INSULATORS & PORCELAIN & CHINA FITTINGS MAKERS.

Ravenshaw, H. W., A.M.I.C.E., consulting electrical engineer, Rutland House, Hanwell, W. (Teleph. No. 735, P.O., Ealing.)

Rawlings, A. L., A.M.I.E.E., 187, Corporation-st., Birmingham.

Rawlings, H. S., A.I.E.E., 131, High-rd., Chiswick, W.

Rawlings, W. R., A.M.I.E.E., "Lakeside," Wimbledon Park, S.W. (P.O. Teleph. No. 732, Wimbledon.)

Rawlings Bros., Ltd., electrical engineers, 82, Gloucester-rd., South Kensington, S.W. (Teleph. Kensington 3370 (3 lines)); & Pembroke Works, Halkin-st., S.W. (Teleph. Kensington 2738.)

Rawlins, W., A.I.E.E., 45, King William-st., London, E.C.

Rawlinson, Geo., manager Electrical Dept., Baxendale & Co., Miller-st., Manchester; & 26, Deyne-ave., Prestwich, Manchester.

Rawlinson, J., electrical engineer, Burnley.

Rawlinson, S., & Sons, cable drums, Audley Range & Baker-st., Blackburn. (Telegrams: "Rawlinson, Audley, Blackburn." Telephone No. 15Y.)

Rawlinsons, Ltd., electric lifts, Hope Works, Kirkstall-rd., Leeds. (Telegs.: "Rawlinsons, Leeds." Teleph. No. 1487.)

Raworth, Alfred, A.M.I.E.E., Helvetia, Wood-lane, Timperley.

Raworth, B. A., editor, *Engineering*, 35 & 36, Bedford-st., Strand, London, W.C.

RAWORTH, JOHN ERNEST, A.I.E.E., F.C.I.P.A., Queen Anne's-chbrs., 30, The Broadway, Westminster, S.W. (Telegs.: "Raworthic, London." Teleph. Victoria 2025.)

Raworth, John S., M.I.C.E., M.I.E.E., director British Electric Traction Co., Ltd.; director Devonport & District Tramways Co.; director Southport Tramways Co., Ltd.; director General Electric Tramways Co., Ltd.; chairman Birkdale District Electric Supply Co., Ltd.; director North Staffordshire Tramways Co., Ltd.; director Yorkshire (Woollen District) Electric Tramways, Ltd.

Raworth's Traction Patents, Ltd., electric car contractors, 22, Cooper-st., Manchester. (Telegs.: "Jayessar, Manchester." Teleph. Central 5892.)

Rawson, Frederick L., M.I.E.E., A.M.I.C.E., Cross Keys House, 56, Moorgate-st., London, E.C. (Teleph. No. 1777, London Wall.)

Rawson, W. Stepney, M.A., M.I.E.E., consulting electrical engineer, 23, Fitzroy-sq., London, W. (Telegs.: "Maborlim, London." Teleph. No. 8368, Gerrard.)

Rawtenstall Corporation Electricity Works & Tramways, Rawtenstall, Lancs. Engr., C. L. E. Stewart.

Rawtenstall Technical School, Rawtenstall, Lancs. *See* SCHOOLS.

Ray Electric Co., electrical supplies, 339, High-st. North, East Ham.

Ray, J. W., & Co., electricians, 17, South Castle-st., Liverpool.

Ray Motor Co., electrical engineers, Boulters Island, Maidenhead.

Raybould, E. J., & Co., Ltd., general & constructional engineers, Workington.

Rayleigh, the Right Hon. Lord, O.M., F.R.S., M.A., D.C.L., LL.D., F.R.A.S., F.R.G.S. (Hon. Professor of Natural Philosophy at the Royal Institution, & scientific adviser to the Trinity House), Terling-pl., Witham, Essex.

Rayment, Arthur John, A.I.E.E., Eversfield, Somerset-rd., New Barnet.

Raymond-Barker, E., M.I.E.E., India Rubber, Gutta Percha & Telegraph Works Co., Ltd., Silvertown, London, E.; & 12, Edge Hill, Wimbledon.

Rayner, Edward, A.M.I.E.E., Chillington Tool Works, Wolverhampton.

Rayner, Edwin H., M.A., A.M.I.E.E., Tiviot Dale, Gloucester-rd., Teddington. (P.O. Telephone Kingston 1140.)

Rayner, E. S., A.M.I.E.E., borough electrical engineer & tramways manager, Doncaster. (Teleph. Nos. 43 & 94.)

Rayner, F. W., A.I.E.E., South View, Chesterfield-rd., Ashford, Middlesex.

Rayner, G. T., A.I.E.E., Railway Clearing House, 163, Seymour-st., Euston-sq., London, N.W.

Rayner, W. A. B., assistant engineer, Corporation Electricity Works, Exeter.

Rayner & Co., patent agents, 37, Chancery-lane, London, W.C. (Telegrams: "Segment, London.")

Raynor, W. H., & Sons, electrical engineers & contractors, Perseverance Works, 164, London-rd., Nottingham. (Teleph. Nos. 862 & 1788.)

Read, C. M., electrical engineer, Stockwell, Silverton, Devon.

Read, H. J., A.M.I.E.E., Broad Sanctuary-chbrs., Westminster, London, S.W. (Telephone Nos.: 14, Westminster; & 3474, Gerrard.)

Read, John, & Sons, dealers in all kinds of electrical goods, Railway-st., Malton.

Reade, Francis, & Co., elec. engineers & contractors, The Broadway, Church End, Finchley, London, N.

Reade, Jackson & Parry, civil engineers, 26, Bedford-row, London, W.C.

Reader, Chas. L. De W., A.M.I.E.E., Electric Light & Power Station, Hursley, nr. Winchester.

Reader, T., A.M.I.E.E., elec. engineer, Hindhead & District Elec. Light Co., Ltd., Hindhead, Surrey.

Reader, E., & Son, Ltd., engineers, Nottingham.

Reading Corporation Tramways, Mill-lane, Reading. General manager & engineer, W. Binns. (Telegrams: "Tramways, manager, Reading." Nat. Telephone No. 330.)

Reading Electric Supply Co., Ltd., electric supply engineers, Vastern-rd., Reading. (Teleph. Nos. 140 & 142.) Registered Jan. 2, 1892. Nominal capital: £150,000 in ordinary £5 shares. Issued: £147,425, fully paid. Directors: Henry Collins, Esq. (chairman); F. W. Albury, Esq.; John May, Esq.; Wm. May, Esq.; W. Pole Routh, Esq. Engineer & manager, E. Rowley Hill, A.M.I.E.E.; secretary, W. Barnes, F.C.I.S. Dividends: 1901–1905, 5 per cent.; 1906 & 1907, 4 per cent.; 1908, *nil.*

Readman, G., 9, Moray-pl., Edinburgh. Director Blackpool & Fleetwood Electric Tramroad Co.; director City of Carlisle Electric Tramways Co., Ltd.

Readman & Gemmell, consulting chemists, 4, Lindsay-pl., Edinburgh. (Telegs.: "Readman, Edinburgh.")

Reason Manufacturing Co., Ltd., engineers & electricians. Offices & works: Lewes-rd., Brighton. (Telegs.: "Reason, Brighton.")

Reavell Bros., electric lighting contractors, Alnwick. (Teleph. No. 099.)

Reavell & Co., Ltd., steam & oil engine builders & air compressor makers, Ipswich.

Rebman, Ltd., publishers of *Archives of the Roentgen Ray & Allied Phenomena*, 129, Shaftesbury-ave., London, W.C. (Telegs.: "Squama, London." Teleph. No. 2026, Gerrard.)

Record, J. W., A.M.I.E.E., electrical engineer, Meter Dept., General Electric Co., Peel Works, Adelphi, Salford, Manchester.

Reddaway, F., & Co., Ltd., makers of the Camel brand belting, 50 & 51, Lime-st., London, E.C. Mills: Pendleton, Manchester; & Halifax. (Telegrams: "Reddaway, London;" "Sphincter, London.")

Redditch Urban District Council Electricity Works. (Teleph. No. 53.) Engineer, W. J. Ferguson. Chairman of Committee, F. C. Dolphin, Park-rd.

Redfern, A., chief assistant, Corporation Electricity Works & Tramways, Darlington.

Redfern, E. M., Ltd., electrical engineers, 9, Ethel-st., New-st., Birmingham. (Teleph. Midland 1930.)

Redfern, G. F., & Co., chartered patent agents (established 1830), 4, South-st., Finsbury, London, E.C. (Telegs.: "Invention, London." Teleph. No. 4492, Central.)

Redgrave, Wm. Bramley, A.M.I.E.E., 18, Oakcroft-rd., Blackheath, S.E.

Redman, S. G., electrical engineer, 15, Osborne-ter., Gosforth, Newcastle-on-Tyne.

Redman, W., assistant engineer, Electricity Works, Shipley, Yorks.

Redmond, D. D., M.D., consulting electrician, 126, Sandford-road, Dublin.

Redruth Electricity Works (Urban Electric Supply Co., Ltd., proprietors), Carn Brea, R.S.O., Cornwall. Engineer, L. A. Hards, A.I.E.E.

Redruth School of Mines & Art, Redruth. *See* SCHOOLS.

Redwood & De Hailes, analytical chemists, 15, Red Lion-square, London, W.C.

Reed, A. H., consulting engineer, 64, Mark-lane, London, E.C. (Telegrams: "Wagon, London.")

Reed, C. A., director New Rottingdean Electricity Co., Ltd., Rottingdean.

Reed, Ch., electric bell manufacturer, 65, Cardiff-street, Aberdare.

Reed, George H., electrical engineer, Chagford & Devon Electric Light Co., Chagford.

Reed, C. G., & Sons, Ltd., electric light engineers, 26, North-st., Brighton. (Teleph. No. 26.)

Reed & Foggin, consulting electrical engineers, 1, St. Nicholas-bldgs., Newcastle-on-Tyne.

Reed, W. H., & Son, electric silk shade makers, 180, Wardour-st., London, W. (Teleph. No. 8547, Central.)

Reedtz-Thott, Baron, director Great Northern Telegraph Co., Ltd., of Denmark, 26, Kongens Nytorv, Copenhagen, Denmark.

Reeks & Hughes, analytical chemists, 106, Queen Victoria-st., London, E.C. (Teleph. Central 11485.)

Rees, Brinley, electrical & mechanical engineer, Albert-chbrs., High-st., Cardiff.

Rees, D. Sims, mining engineer, Glanllyuvi House, Maesteg. (Telegrams: "Sims Rees, Maesteg." Telephone No. 18, P.O. Maesteg.)

Rees, E. S. G., engineer, managing director Rees Roturbo Manufacturing Co., Ltd., Wolverhampton. (Telegs.: "Rees, c/o Hydroturbo, Wolverhampton." Teleph. No. 34.)

Rees, J. D., C.I.E., M.P., director Kolar Mines Power Station, Ltd., 6, Queen-st.-pl., London, E.C.

Rees, J. M. G., A.M.I.E.E., 30, Christ Church-rd., Doncaster.

Rees & Co., electrical engineers & contractors, Swansea. (Telegs.: "Consulting, Swansea." Teleph. No. 256, Docks.)

Rees & Morgan, electrical engineers, De la Beche-st., Swansea.

REES ROTURBO MANUFACTURING CO., LTD., electrical, hydraulic & general engineers, Wednesfield-rd., Wolverhampton. (Telegs.: "Hydroturbo, Wolverhampton." Teleph. No. 34. A1 & A.B.C. Codes used.) Directors: C. T. Mander, Esq. (chairman); J. E. Underhill, Esq.; W. Armistead, Esq.; G. Balfour, Esq.; J. H. Keep, Esq.; E. S. G. Rees, Esq. (managing). Secretary & commercial manager, C. H. Iles. Nominal capital: £125,000 in ordinary shares & £125,000 in preference shares of £1 each.

Reeve, George, electrician, 59, Snowdon-rd., Eccles.

Reeves, A. R., M.I.M.E., consulting engineer, 46, Queen Victoria-st., London, E.C.

Reeves, E. H., director Chagford & Devon Electric Light Co., Ltd., Chagford, Devon.

Reeves, F. H., manager & secretary Cable Accessories Co., Ltd., Britannia-st., Tividale, Tipton.

Reeves, F. R., electrical engineer (financial adviser Crompton & Co., Ltd.; & managing director & secretary Hove Electric Lighting Co., Ltd.; secretary Calcutta Electric Supply Corporation, Ltd.; Auxiliary Electrical Co., Ltd.; & Madras Electric Supply Corporation), Salisbury House, London Wall, London, E.C. Chairman Chagford & Devon Electric Light Co., Ltd.; director Electric Supply Corporation, Ltd.

Reeves, J. H., M.A., A.I.E.E., 2, Penywern-rd., S.W.

Reeves Patent Filters Co., Ltd., feed-water filter manufacturers, 9 & 11, Fenchurch-ave., London, E.C.

Regent Electric Co., Ltd., electrical engineers, 46, Irongate Wharf-rd., Paddington, London, W.

Reich, S., & Co., glass manufacturers for electrical purposes, 23, Aldermanbury, London, E.C.

Reichwald, August, steel, iron, metal & mineral merchant, Finsbury Pavement House, Finsbury Pavement, London, E.C.; & Exchange-bldgs., Lombard-st., Newcastle-on-Tyne. (Telegs.: "Reichwald, London;" "Reichwald, Newcastle-on-Tyne." Teleph. London Wall 2612.)

Reid, David, M.I.E.E., 18, Cambridge-st., Glasgow.

Reid, Edwin J., M.I.E.E., 12, Wharf-rd., London, N. (Telegrams: "Supra, London." Telephone No. 12249.)

Reid, E. S., A M.I.E.E., engineer, National Conduit & Cable Co., Ltd., Oxford-ct., Cannon-st., London, E.C.

Reid, H. A., electrical engineer, Siemens Bros. Dynamo Works, Ltd., 196, Deansgate, Manchester.

Reid, Irvine, engineer, Fort William Electric Light Co., Fort William.

Reid, James, M.I.E.E., A.I.C.E., 12, Wharf-rd., City-rd., London, N. (Telegs.: "Supra, London." Teleph. No. 12249.)

Reid, W. D., electrical engineer, Callender's Cable & Construction Co., Ltd., Hamilton House, Victoria Embankment, London, E.C.; & 3, Balmoral-pl., Stirling, N.B. (Teleph. No. 125, Stirling.)

REID BROTHERS, manufacturers of electric light apparatus, electric alarms, electric lamps (arc & incandescent), lightning conductors, telegraph insulators, & dynamo magneto & electric machines, 12, Wharf-rd., London, N. (Telegrams: "Supra, London." Telephone No. 12249, Central.) *See* ENGINEERS—ELECTRICAL MANUFACTURING.

Reid & Co., brass founders, coppersmiths, electrical engineers & factors, 108, High-st., Ayr, N.B. (Telegrams: "Reid, Brassfounders, Ayr." Nat. Telephone No. 69.)

Reid, F., Ferens & Co., electrical engineers, Orchard-st.-bldgs., Orchard-st., Newcastle-on-Tyne; & 56, John-st., Sunderland. (G.P.O. Teleph. No. Newcastle, 529.)

REID GEAR CO., THE, Linwood, nr. Paisley. (Telegs.: "Reid, Linwood." Teleph. No. 4 X., Johnstone.)

Reid, W., & Co., steam reducing valve makers, 112, Fenchurch-st., London, E.C. (Telegrams: "Reidwill, London." A1 Code used. Telephone No. 351, Avenue.)

Reidy, R. J., M.I.E.E., Constitutional Club, Northumberland-ave., London, W.C.

Reigate Corporation Electricity Works. (Teleph. No. 134, Redhill.) Engineer, W. S. Ross.

Reilly, Walter, A.M.I.E.E., electrical & mechanical engineer, Elmhurst, Lichfield-rd., Four Oaks, Sutton Coldfield, nr. Birmingham.

Reinold, Prof. A. W., M.A., F.R.S., professor of physics, Royal Naval College, Greenwich, S.E.

Reiss, F. E., electrical engineer, Swyncombe, Henley-on-Thames.

Reliance Electrical Wire Co., manufacturers of covered wires of all descriptions, 36, Spital-sq., Bishopsgate, London, E.C. (Nat. Teleph. No. 9212, London Wall.)

Reliance Lubricating Oil Co., oil manufacturers, 19 & 20, Water-lane, Great Tower-st., London, E.C. (Telegrams: "Subastral, London." Telephone No. 5891, Avenue.)

Relton, T. H., A.M.I.E.E., 11, Cranford-ave., Sale, Manchester.
Remington, Chas., M.I.E.E., district manager, National Telephone Co., 14, Astley Gate, Blackburn.
Remote Control Switch Co., 5, Montpelier-st., Brompton, London, S.W. (Teleph. No. 287, Western.)
Renard (India) Transport Corp., Ltd., 82, Victoria-st., London, S.W.
Rendell & Sons, electrical engineers & contractors, 16, St. Thomas-st., Weymouth. (Teleph. No. 416 N.)
Renfree, Thomas Rolls, A.M.I.C.E., A.I.E.E., British Electric Transformer Co., Ltd., Hayes, Middlesex; & 20, Byron-rd., Ealing, W.
Renfrew, Robert S., electrician, 136 & 140, North-st., Glasgow. (Teleph. Nos.: P.O., 2254; & 218, Charing Cross.)
Rennie, John, M.I.E.E., electrician, Board of Trade Electrical Standards Laboratory, 8, Richmond-ter., Whitehall, London, S.W.
Rennies' Steel Casting Co., steel castings, Tollcross, Glasgow. (Telegs.: "Casteel, Tollcross." Teleph. Nos.: 3135, Bridgeton, Nat.; & Y378, Corp.)
Rennison, J. C., electric bell fitter, Bondgate, Darlington. (Teleph. No. 0447.)
Renny, S., Jock's Lodge, Arbroath. Director Arbroath Electric Light & Power Co., Ltd.
Renold, Hans, Ltd., driving chain makers (steel), Progress Works, Brook-st., Manchester, S.E. (Telegs.: "Driving, Manchester." Teleph. No. 7134.)
Renshaw, W. R., & Co., Ltd., boiler makers, &c., Phœnix Works, Stoke-on-Trent. (Telegrams: "Renshaw, Stoke-on-Trent." Telephone No. 58.)
Rentell, Sidney, A.M.I.E.E. (editor of *Electricity*), 36, Maiden-lane, Strand, London, W.C. (Teleph. No. 3287, Central); & Haroldene, Clarence-rd., Harpenden, Herts.
Rentell, S., & Co., Ltd., proprietors of *Electricity* & publishers of electrical books, &c., 36, Maiden-lane, Strand, London, W.C. (Teleph. No. 3287, Central.)
Renton, George Henry, & Co., timber & slate merchants, 110, Cannon-st., London, E.C. (Telegrams: "Timbertree, London." Telephone Nos. 5471 & 5472, Bank.)
Renwick, H. B., A.I.E.E., general manager & secretary County of London Electric Supply Co., Ltd., Moorgate-ct., Moorgate-pl., London, E.C. (Telegs.: "Partnership, London." Teleph. Nos.: 2681 & 2682, London Wall; & 7492, P.O., Central); general manager & secretary Richmond (Surrey) Electric Light & Power Co., Ltd.; managing director Coatbridge & Airdrie Electric Supply Co., Ltd.; & Burnham, Roehampton, S.W.
Renzi, A. J. C. De, engineer, Corporation Electricity Works, Newcastle, Staffs.
Reside & Co., Ltd., electrical engineers, Brighouse.
Restler, J. D. K., A.M.I.E.E., Rickmansworth & U.V. Water Co., Batchworth, Rickmansworth.
Rettie, Charles, jun., electrical engineer & contractor, 75, Upper Hill-st., Liverpool.
Reuter's Telegram Co., Ltd. London offices: 24, Old Jewry, E.C. (Telegrams: "Reuter, London." Telephone No. 23, Bank.) Mr. Walter F. Bradshaw, secretary. Directors: Admiral the Right Hon. Sir John C. Dalrymple Hay, Bart., G.C.B. (chairman); Hon. Mark F. Napier; Baron de Reuter; Frederick J. Griffiths, Esq. The company was established in 1865. The capital is £100,000 in fully paid up shares of £8; 11,839 have been taken up, the full amount called & paid. The accounts are made up annually to December 31, & submitted in June. Dividends: 1895 to 1908, 5 per cent. per annum.
Revel, Frank, & Co., installation contractors, King-st., South Shields. (Telephone No. 148.)
Revue de l'Ingenieur et Index Technique (monthly; ann. sub., 10*s.* 6*d.*; card-indexing edition, 16*s.*), 51, rue de l'Aurore, Brussels; & 88, Chancery-lane, London, W.C.
Revy, Phillips & Co., Ltd., general & electrical engineers, 181, Queen Victoria-st., London, E.C.
Reynolds, Ernest Arthur, M.A., A.I.E.E., Beaks Hill-rd., King's Norton.
Reynolds, F. W., J.P., A.I.E.E., Edward-st., Blackfriars, London, S.E. (Telegs.: "Excellence, London." Teleph. No. 720, Hop.) Chairman Richmond (Surrey) Electric Light & Power Co., Ltd.; director County of London Electric Supply Co., Ltd.; director City of London Electric Lighting Co., Ltd.; director Bournemouth & Poole Electricity Supply Co., Ltd.; director Brentford Electric Supply Co., Ltd.; director Hayward's Heath Electric Supply Co., Ltd.; director Camberley Electric Supply Co., Ltd.
Reynolds, H. H., M.I.E.E., c/o Kilburn Brown & Co., Orient House, New Broad-st., London, E.C.
Reynolds, John F. J., A.M.I.C.E., A.I.E.E., Caxton House, Westminster, London, S.W. (Telegs.: "Argano, London." Teleph. No. 5053, Westminster.)
Reynolds, J. H., Principal of the Municipal School of Technology, Manchester. (Telegs.: "Technology, Manchester." Nat. Teleph. Central 397.)
Reynolds, Prof. O., M.A., LL.D., F.R.S., M.I.C.E., professor of civil & mechanical engineering, Owens College, Manchester.
Reynolds, Robt. W., electrician, 62, Sarsfeld-rd., Balham, London, S.W.
Reynolds & Bradwell, electrical engineers, 134, Edmund-st., Birmingham.
Reynolds & Branson, Ltd., manufacturers of electrical apparatus, 14, Commercial-st., Leeds. (Telegrams: "Reynolds, Leeds." Telephone No. 1000.)
Reynolds Bros., electrical engrs., Tudor Works, Daventry. (Telegs.: "Garage, Daventry." Tel. No. 16.)
Reynolds, T., & Co., electrical & general engineers, 19, High-st., Coventry. (Teleph. No. 338.)

Reynolds & Wadsworth, electrical accessories, Market Hill, Barnsley. (Telephone No. 27.)

REYROLLE, A., & CO., LTD., manufacturing electrical & general engineers. Works: Hebburn-on-Tyne. (Telegs.: "Reyrolle, Hebburn." Teleph. No. 220, Gateshead.) London depôt: 8, Howland Mews West, Fitzroy-sq., W. (Teleph. No. 7763, Gerrard.)

Rheinische Westfalische Kupferwerke (Schwarte & Hammer), copper wire manufacturers, 6, Lime-st., E.C.

Rhenish Rubber & Celluloid Co. (1908), Ltd., celluloid manufacturers for electrical purposes, 68, Basinghall-st., London, E.C. (Telegs.: "Klavehn, London." Teleph. No. 611, London Wall.)

Rhodes, A. L., electrical engineer & managing director Rhodes Motors, Ltd., Riverside Works, Doncaster.

Rhodes, Chas., local director Auckland Electric Tramways Co., Ltd., Electrical Federation Offices, Kingsway, W.C.

Rhodes, F. W., electrical engineer, Commercial-st., Morley.

Rhodes, J. Fredk., magnet manufacturer, 161, Newhall-st., Birmingham.

Rhodes, T. C., local manager National Telephone Co., Ltd., Bedford. (Teleph. No. 10.)

Rhodes, T. C., electrical engineer & electrician, 31, Earl's Court-sq., London, S.W.

Rhodes, Wm. Gould, D.SC., M.I.E.E., consulting electrical & mechanical engineer, Adelphi-chbrs., Brown-st., Manchester.

Rhodes, Gill & Co., elec. & mechanical engineers, Primitive-st., Wellington-st., Leeds. (Tel. No. 3568.)

Rhodes, Joseph, & Sons, Ltd., sheet metal working machinery makers, Wakefield. (Telegs.: "Rhodes, Wakefield." Teleph. No. 52.)

Rhodes Motors, Ltd., Riverside Works, Doncaster (Telegs.: "Rhodique, Doncaster." Teleph. No. 113); & 90, Charing Cross-rd., London, W.C.

Rhondda Tramways Co., Ltd., Queen Anne's-chbrs., Westminster, London, S.W. Registered April 14, 1906. Nominal capital: £200,000 in ordinary shares of 5*s.* each & 150,000 5½ per cent. cumulative preference shares of £1 each. Issued: 2 ordinary shares with nothing paid & 1500 preference shares fully paid. Directors: L. B. Schlesinger, Esq.; W. B. Cownie, Esq.; J. T. Jervis, Esq.; J. Carr Saunders, Esq.; W. S. de Winton, Esq. Secretary, L. D. H. Jacobs. *The capital of the Co. will in due course be issued to the shareholders of the Rhondda Tramways Construction Synd. in exchange for their holding in that Synd.*

Rhondda Tramways Construction Syndicate, Ltd., Queen Anne's-chbrs., Westminster, London, S.W. Registered Feb. 28, 1906. Nominal capital: £250,000 in 2500 shares of £100 each, all issued & fully paid. Directors: L. B. Schlesinger, Esq.; B. Bernheim, Esq.; J. Carr Saunders, Esq. Sec., L. D. H. Jacobs. Dividends: second half of 1908, 3 per cent.; & first half of 1909, 3 per cent.

Rhondda Tramways Electric Supply Co., Ltd., Queen Anne's-chbrs., Westminster, London, S.W. Registered Aug. 2, 1907. Nominal capital: £100 in £1 shares. £44,000 debentures, secured by trust deed, dated Aug. 8, 1907, & £26,000 debentures. Issued: 7 shares, £44,000 debentures, & £5000 debentures. Directors: L. B. Schlesinger, Esq. (chairman); B. Bernheim, Esq.; J. Carr Saunders, Esq. Engineer, H. J. Nisbett; secretary, L. D. H. Jacobs.

Rhyl Urban District Council Electricity Works. (Telephone No. 39.) Engineer, E. H. Wright.

Rhymney Valley & General Electric Supply Co., Ltd., Bank-chbrs., Bargoed. Registered July 6, 1906. Nominal capital: £5000 in £1 ordinary shares fully paid & £1250 debentures. Directors: W. B. Lloyd, Esq. (chairman); D. Protheroe, Esq.; Herbert Lewis, Esq. Engineers, Lewis & Fletcher; secretary, A. I. Clark.

Ribblesdale, Lord, 32, Green-st., W. Director Kolar Mines Power Station, Ltd.

Rice, Arthur, Lieut., R.N., H.M.S. "Vernon," Portsmouth.

Rice, John, consulting engineer, 11, Queen Victoria-st., London, E.C.

Rice, Percy Richard, A.I.E.E., 110, St. Martin's-lane, London, W.C. (Telephone No. 1588, Central.)

Rice, Thos. S., M.I.M.E., agent Rankine Patent Feed Water Filter Co., Ltd., Aldermary House, 60, Watling-st., London, E.C.

Rich, Theodore, A.M.I.C.E., A.M.I.E.E., 104, St. George's-sq., London, S.W.

Richard, Jules (agents, C. F. Casella & Co.), 11–15, Rochester-row, S.W. (Telegs.: "Escutcheon.")

Richards, A. F. W., A.I.E.E., W. T. Glover & Co., Trafford Park, Manchester.

Richards, C. P., A.M.I.E.E., 100, Radford-rd., Leamington Spa.

Richards, David, electrician, 44, Wern-road, Landore, near Swansea, S. Wales.

Richards, D. J., M.A., lecturer in mathematics & physical science, St. David's College, Lampeter.

Richards, John, electrical engineer, High-st., Burton-on-Trent (Telegs.: "Electricity, Burton-on-Trent." Teleph. No. 5 Y.); 60, St. Edward-st., Leek, Staffs. (Teleph. No. 1 Y.); & 11, Commerce-st., Longton, Staffs. (Teleph. No. 41 Y.)

Richards, John David, A.I.E.E., 11, James-st., Docks, Cardiff.

Richards, S., electrical engineer, 36, Polwarth-gdns., Hyndland, Glasgow.

Richards, A. W., & Co., electrical engineers, 70–71, Bishopsgate-st. Within, London, E.C. (Telegs.: "Richards, Ethelburga House, London.")

Richards, Geo., & Co., Ltd., pulley makers, Broadheath, near Manchester. (Telegrams: "Richards, Altrincham." Telephone No. 14, Altrincham.)

Richards, Rupert, & Co., electricians, 60, Huntley-st., Tottenham Court-rd., London, W.C.

Richardson, Albert, A.M.I.E.E., Corporation Power Station, Manors, Newcastle-on-Tyne.

Richardson, A. W., patentee & manufacturer of arc lamps & boiler feed pumps, Skew Bridge Works, Patricroft, Manchester. (Telegrams: "Richardson, engineer, Patricroft.")

Richardson, C., electric light fittings maker, 214, Vauxhall Bridge-rd., London, S.W.

Richardson, C. H., Donegall-sq., Belfast. Director Bessbrook & Newry Tramway Co.

Richardson, Chas., A.M.I.E.E., electrical engineer, Romily, nr. Stockport. (Telegs.: "Richardson, Electrician, Romiley.")

Richardson, Chas. W., consulting electrical engineer, 159, Worsley-rd., Winton, Eccles, Lancs.

Richardson, E. J., director Johnson Secret Wireless Telegraph & Telephone Testing Synd., Ltd., 40, King-st., Cheapside, E.C. (Teleph. No. 5385, Gerrard.)

Richardson, F. W., A.I.E.E., electrical engineer, 402, High-st., West Bromwich.

Richardson, G., A.M.I.E.E., 27, Murray-rd., Rugby.

Richardson, G., director Metropolitan Electric Tramways, Ltd.; director North Metropolitan Electric Power Supply Co.; chairman Blackpool & Fleetwood Tramroad Co.

Richardson, H., M.I.E.E., Corporation Electricity Works, Dudhope Crescent-rd., Dundee.

Richardson, J. C., electrician & electro-chemical engineer, 19, Claremont-sq., London, N.

Richardson, J. N., Mount Caulfield, Bessbrook, co. Armagh. Chairman Bessbrook & Newry Tramway Co.

Richardson, J. T. H., lamp, gas & electric glass shade manufacturer, Hatton, Burton-on-Trent. (Telegrams: "Richardson, Tutbury.")

Richardson, Oliver A., F.S.I., A.M.I.E.E., Sun Fire Office, Threadneedle-st., E.C. (Teleph. Central 9346.)

Richardson, R. J., electric light & power contractor, Baskerville-pl., Broad-st., Birmingham. (Telegrams: "Pulsometer, Birmingham." Telephone No. 3271.)

Richardson, Robert, chief engineer, Wemyss & District Tramways Co., Ltd., Aberhill, Methil, Fife.

Richardson, S. S., B.SC., ASSOC.R.C.SC., Head of Physics Dept., Municipal Technical School, Liverpool.

Richardson, Spencer W., D.SC., principal & professor of physics, Hartley College, Southampton.

Richardson, T., local manager, National Telephone Co., 100, High-st., Elgin, N.B.

Richardson, T., electrician, 62, High-st., Loftus, R.S.O., Yorks.

Richardson, Thos. Green, A.I.E.E., 15, Bridge-st., Bradford.

Richardson, T. K., generating engineer, St. Marylebone Borough Council, 19 & 20, York-pl., London, W.

Richardson, A. & W. T., slate turners, Brunswick-wharf, Vauxhall, S.W.

Richardson Brothers, copper & metal merchants, Cathedral-bldgs., Newcastle-on-Tyne. (Telegrams: "Rex, Newcastle Tync." Nat. Telephone No. 1133.)

Richardson & Carlmark, electrical & mechanical engineers, 402, High-st., West Bromwich. (Teleph. No. 10 X., West Bromwich.)

Richardson & Co., manufacturing electrical engineers, Nelson-st., Stretford-rd., Manchester. (Telegs.: "Fuses, Manchester." Teleph. City 6468, Manchester.)

Richardson Electrical Co., Ltd., electrical & mechanical engineers, 16, Dorset-st., Baker-st., London, W. (Telegs.: "Richarical, London.")

RICHARDSON, HERBERT G., & CO., manufacturing electrical engineers, Shaw-st., Walsall. (Teleph. No. 400.)

Richardson, H. G., & Sons, electric shade manufacturers, Wordsley, near Stourbridge. (Telegrams: "Richardson, Wordsley.")

Richardson, John, & Co. (Leicester), Ltd., manufacturing chemists, Friar-lane, Leicester. (Telegrams: "Antizyme, Leicester." Telephone No. 107.)

Richardson, Koolman & Isger, electrotypers, St. Bride-st., E.C.

Richardson, Wm., & Co., electric light apparatus & fittings manufacturers, 18, Brownlow-st., High Holborn, W.C.; & Summers Town, Tooting, S.W. (Teleph. Central 12224.)

RICHARDSONS, WESTGARTH & CO., LTD., marine, electrical & turbine engineers, Hartlepool Engine Works, Hartlepool, Durham (Telegs.: "Richardsons, Hartlepool." Teleph. No. 247 (West), Hartlepool. Correspondence Hartlepool); & 17, Victoria-st., Westminster, London, S.W.

Riches, G. T., & Co., Ltd., magneto repairers, 19, Store-st., Tottenham Court-rd., London, W.C. (Telegs.: "Plaxinesco, London." Teleph. No. 2754, Gerrard.)

Richmond, A., engineer-in-charge, Corporation Electricity Works, Morley, nr. Leeds.

Richmond, G. S., electrical engineer, Llanelly, Carmarthenshire.

Richmond, Joseph, M.I.E.E., 30, Kirby-st., Hatton Garden, London, E.C.; & The Nook, Billericay, Essex.

Richmond, W. Pearson, A.M.I.E.E., A.M.I.MECH.E., electrical engineer, Green Bank, Colne.

Richmond, D., & Co., Ltd., iron & steel tube manufacturers, City Tube Works, 35, Rose-st., Glasgow. (Telegrams: "City, Glasgow." Telephone No. 1502.)

Richmond (Surrey) Electric Light & Power Co., Ltd., Moorgate-court, Moorgate-pl., E.C. (Telegs.: "Partnership, London"); & Electric Lighting Station, Richmond, Surrey. (Nat. Teleph. Richmond 111.) Registered July 8, 1892. Nominal capital: £50,000 in £5 shares. 6266 have been taken up & the full amount called & paid, & £1000 in 5 per cent. debentures, & £6000 5 per cent. first mortgage debentures, of which the whole have been issued. Directors: F. W. Reynolds, Esq. (chairman); F. E. Savory, Esq.; A. H. Sanderson, Esq.; R. Percy Sellon, Esq. Consulting engineer, C. P. Sparks, M.I.C.E.; engineer, L. C. B. Trimnell, A.M.I.E.E., A.M.I.MECH.E.; general manager & secretary, H. B. Renwick. Dividends: 1901, 6 per cent.; 1902–1907, 7 per cent.; 1908, 5 per cent.

Rickard, William, Ltd., electrical wire & cable manufacturers, &c., Ashbourne-rd. Mills, Derby. (Telegrams: "Rickard, Derby." Telephone No. 18.) *See advt. facing title page.*

Ridd, P. J., electrician, Nat. Telephone Co., Salisbury House, London Wall, London, E.C. (Teleph. No. 101, London Wall.)

Riddell, H. G., electrician, Cuthbert's-bldgs., Clayton-sq., Liverpool. (Teleph. No. 773 X., Royal.)

Riddell, Wm., & Co., wire drawers (fine) of brass, bronze, copper, aluminium, &c., &c., 636, Springfield-rd., Glasgow. (Telegs.: "Riddell, Parkhead." Teleph. Bridgeton 3148.)

Rider, Alfred, A.M.I.E.E., 61, Donkin-ter., North Shields.

Rider, John H., M.I.C.E., M.I.E.E., M.I.M.E., electrical engineer, L.C.C. Tramways, 62, Finsbury Pavement, London, E.C.

Ridgways, Ltd., earthenware manufacturers, Bedford Works, Bedford-rd., Shelton, Staffs.

Ridley, E., electrical & mechanical engineer, Fire Brigade Department, London County Council, 149, Southwark Bridge-rd., London, S.E.

Ridley, Eustace, A.M.I.E.E., "Morden," Burcott-rd., Purley, Surrey.

Ridley, Herbert W., A.M.I.E.E., electrical engineer, "Cleeve," Foxley Hill-rd., Purley, Surrey.

Ridley, Percy Edward, A.I.E.E., "Abinger," Burcott-rd., Purley, Surrey.

Ridout & Co., electrical engineers, 6, Park-rd., Regent's Park, London, N.W.

Ridpath, Wm. H., engineer & manager, Ridpath & Wells, 20, Bath-st., Ilkeston, Derby.

Ridpath & Wells, electrical engineers & contractors, 20, Bath-st., Ilkeston, Derby. (Teleph. No. 70.)

Rigby, A. B., A.M.I.C.E., A.M.I.E.E., 24, Queen Anne-st., London, W.

Rigby, F., Groundstow, Tittensor, Staffs. Director North-Western Electricity & Power Gas Syndicate, Ltd.; director North-Western Electricity & Power Gas Co.

Rigby, John, & Sons, Ltd., iron, steel & brass wire manufacturers, Parkhouse Mill, Low Moor, Bradford. (Telephone No. 21, Low Moor.)

Rigg, Arthur, Pelton impulse wheels, 42, Old Broad-st., London, E.C.

Rigg, Rd., A.I.E.E., Grange Hotel, Grange-over-Sands, Lancs.

Rigg, Richard, Windermere Hotel, Windermere. Director Windermere & District Electricity Supply Co., Ltd.; director Keswick Electric Lighting Co., Ltd.

Riggs, Walter, A.M.I.E.E., 52, Radnor-rd., Harrow-on-the-Hill.

Riley, Edward, Marlow. Director Windsor Electrical Installation Co., Ltd.

Riley, T. N., A.M.I.E.E., Technical School, Tavistock-rd., Plymouth.

Riley, Wm., A.M.I.E.E., 7, Blenheim-cres., South Croydon.

Rimington, E. C., A.I.E.E., consulting elcctrical engineer, 85, Church-rd., Norwood, S.E.

Rimington, F. C., Colaba Causeway, Bombay. Managing director Bombay Elec. Supply & Trwys. Co., Ltd.

Rimmer, G. F., & Co., Ltd., electrical engineers, 3 & 5, Brownlow Hill, Liverpool.

Rinder, R. H., superintendent of electric tramway construction, South Lancashire Tramway Co. & Lancashire United Tramways, Atherton, Lancs.

Ringrose, C. E. L., director Northallerton Electric Light & Power Co., Ltd., Northallerton, Yorks.

Rio de Janeiro Tramway, Light & Power Co., Ltd. London office: 28/31, Bishopsgate-st. Within, E.C. For particulars, *see* COLONIAL SECTION *under* CANADA.

Ripley, Sir F., Hanley Castle, Worcester. Director West Riding Tramways & Electricity Supply Co., Ltd.

RIPPINGILLE MANUFACTURING CO., LTD., general manufacturers to the electrical trades of watertight fittings, conduit fittings, wirework & castings brass or iron, Plume-st., Aston, Birmingham. (Telegs.: "Rip, Birmingham." Teleph. No. 2650.) *See inset advt.*, FITTINGS.

Rippon, Frank Harold, A.I.E.E., electrical engineer & contractor, City-chbrs., Gandy-st., Exeter.

Rippon, Joseph, M.I.E.E., general manager Halifax & Bermudas Cable Co., Ltd.; Direct West India Cable Co., Ltd., 33, Old Broad-st., London, E.C.

Risch, G. H. C., M.I.E.E., c/o Dr. Gordon-Wilson, 1, Philbeach-gdns. South Kensington, London, S.W.

Riseley, H. L., M.I.E.E., M.I.M.E., engineer, Royal Exchange-bldgs. (Newcastle Electric Supply Co., Ltd.), Newcastle-on-Tyne. (Telegs.: "Supply, Newcastle." Teleph. Nos.: Nat. 882-3-4-5 & 6; & P.O. 530.)

Ristori, E., C.E., J.P., A.M.I.C.E., consulting engineer, 54, Parliament-st., London, S.W. (Telegs.: "Ristori, London." Teleph. No. 1910, Victoria.)

Ritchie, J. A., electrician, 14 & 15, Station Parade, Muswell Hill, London, N. (Telegs.: "Ritchie, Muswell Hill." Teleph. Hornsey 403.)

Ritchie, Robert Ord, M.I.E.E., "Tollgates," Battle, Sussex.

Ritchie, T. E., A.M.I.E.E., A.M.I.MECH.E., A.AM.I.E.E., electrical engineer & business manager of Royce, Ltd., Manchester; & 179, Barton-rd., Stretford, Manchester.

Ritchie, W. A., A.M.I.E.E. resident engineer, Electric Supply Corp., Ltd., Dumbarton, Scotland.

Ritchie, W. G., assistant manager & engineer, Mexborough & Swindon Trams, Sheffield.

Ritson, T., mechanical & electrical engineer & machinery merchant, Redheugh Bridge-rd., Gateshead-on-Tyne.

Ritson & Co., electric light contractors, Redheugh Bridge-rd., Gateshead-on-Tyne.

Ritter, E. J. S., engineer, Light & Power Works, Limavady. (Telegs.: "Ritter, Limavady.")

River Plate Electricity Co., Ltd., Capel House, 62, New Broad-st., London, E.C. (Telegs.: "Luciente, London." Teleph. No. 1309, London Wall.) Registered Nov. 28, 1902. Nominal capital: £150,000 in £1 ordinary shares, £150,000 in £1 preference shares & £250,000 debentures, secured by trust deed registered Jan. 8, 1903. Issued: 120,000 ordinary & £125,000 preference shares, & £200,000 debenture stock. Directors: M. W. Mattinson, Esq., K.C. (chairman); R. Miller, Esq.; Major Geo. Pringle. Engineer, Vernon Lindop; secretary, T. S. Hamilton. Dividends on ordinary shares: 1906, 2½ per cent.; 1907, 6 per cent.; 1908, 8 per cent.

River Plate Telegraph Co., Ltd. (E. Steer Hodson, secretary), Electra House, Finsbury Pavement, London, E.C. (Telegs.: "Amulet, London." Teleph. No. 1129, London Wall); & 142, St. Vincent-st., Glasgow. (Telegs.: "Mannca, Glasgow." Teleph. No. 1368.)

Rivers-Smith, Eric, electrical engineer, 13A, Heath-st., Hampstead, London, N.W.

Rivett, E. S., mains superintendent, Corporation Electricity Works, Southend-on-Sea.

Riviera Syndicate, Ltd., railway & tramway constructors, 195, Palmerston House, London, E.C.

Robb, Edward E., A.I.E.E., 79–82, Temple-chbrs., Temple-ave., London, E.C.

Robb, G. C., managing director, electrical engineer & secretary James Carrick & Sons, Ltd., Dalry Iron Works, Edinburgh. (Telegrams: "Derrick, Edinburgh." Telephone No. 1515, Central.)

Robb, John McLorinan, M.I.E.E., superintending engineer, P.O., Newcastle-on-Tyne.

Robb, J. M., station superintendent, Electric Works, Cheltenham.

Robb, Walter, electric light contractor, 11, Drury-lane, Wakefield.

Robbins, Stanley T., electrical & motor engineer, 320, Clapham-rd., S.W. (Teleph. No. 460, Brixton.)

Robert Bros., electric light contractors, Leigh, Lancs.

Robert Gordon's College, Schoolhill, Aberdeen.

Roberts, D. E., M.I.C.E., M.I.E.E., 59, Queen-st., Cardiff.

ROBERTS, ERNEST, A.M.I.E.E., electrical engineer & dealer in electrical supplies, 3, Holborn-pl., London, W.C. (Telegrams: "Roborant, London." Telephone No. 1642, Holborn.)

Roberts, F. A., J.P., The Common, Windermere. Director Windermere & District Electricity Supply Co., Ltd.; director Keswick Electric Lighting Co., Ltd.; director East India Construction Synd., Ltd.

Roberts, F. H., electrician, South Parade, Pudsey, Leeds.

Roberts, G. A., A.M.I.E.E., chief assistant, Corporation Electricity Works, Doncaster.

Roberts, J., director Penmachno, Corwen & Bettws-y-Coed Light Railway Co., c/o Gill, Archer, Naples & Dun, 14, Cook-st., Liverpool.

Roberts, James, M.A., LL.B., A.I.E.E., 3, Temple-gdns., Temple, E.C.

Roberts, J. A., chief inspector, Electric Tramways, Lowestoft.

Roberts, J. E., A.M.I.E.E., electrical engineer, Phœnix Dynamo Manufacturing Co., 29, Trafalgar-ter., Swansea.

Roberts, J. Kitto, Fore-st., Mevagissey. Director Mevagissey Electric Lighting Co., Ltd.

Roberts, Martin F., M.I.C.E., F.C.S., M.I.E.E., civil engineer, Mabshill, Epsom. (P.O. Teleph. No. 333.)

Roberts, R. H., electric bell fitter, 15, High-st., Bala.

Roberts, R. L. W., A.M.I.E.E., 11, Sussex-pl., South Kensington, London, S.W.

Roberts, R. W., resident engineer, Kensington & Knightsbridge Co., Chapel-pl. Central Station, Brompton-rd., London, S.W.

Roberts, A., & Co., Ltd., electric lighting contractors, 74, Earl's Court-rd., Kensington, London, W. (Teleph. No. 3338, Western.)

Roberts, Adlard & Co., slate turners for electrical purposes, 25 & 26, Bermondsey-wall, S.E. (Telegs.: "Dralda, London." Teleph. No. 87, Hop); & Queen-st., Cheapside, London, E.C.

Roberts Bros., electrical engineers, 3, Nutter-pl., North Parade, Bradford. (Teleph. No. 2982.)

Roberts Bros., fuel economiser & machine tool makers, Dukinfield, Manchester. (Telegrams "Roberts Bros., Dukinfield." Telephone No. 11, Ashton-under-Lyne.)

Roberts Bros., electrical engineers, 1, Silk-st., Leigh, Lancs.

Roberts, C. P., & Co., electric light & power contractors, 138, St. Paul's-rd., London, N. (Teleph. No. 1881, North.)

Roberts, Cornford & Co., electrical engineers, 8A, City-rd., London, E.C. (Tel. No. 7478, London Wall.)

Roberts, Frederick A., Ltd., patent experts, electrical, mechanical & general engineers, 49, King William-st., London, E.C. (Telegs.: "Arital, London." Teleph. No. 2697, London Wall.)

Roberts, T. R., Ltd., electric light contractors, 216–219, 225 & 228, Upper-st., Islington, London, N. (Telegs.: "Roberts, North London." Teleph. North 3333-4.)

Roberts, T., & Son, electricians, Juniper-st., Bankhall, Liverpool. (Telegrams: "Thomas, Liverpool." Telephone No. 2662.)

Roberts, W., & Co., Garston, Ltd., manufacturers of copper sheets, &c., Crown Copper Mills, Garston, Liverpool. (Telegs.: "Strebor, Liverpool." Teleph. No. 2743.)

Roberts-Wray, T. H., A.M.I.E.E., Crompton & Co., Ltd., Salisbury House, London Wall, London, E.C.

Robertson, A. B., jun., A.I.E.E., 260, Union-st., Aberdeen.

Robertson, Alexander Paterson, A.M.I.E.E., 8, Clydeford Drive, Uddingston, S.O., Lanark.

Robertson, D., B.SC., A.M.I.E.E., professor of electrical engineering in the University of Bristol, Merchant Venturers' Technical College, Bristol. (Teleph. No. 407.)

Robertson, F. S., A.M.I.E.E., demonstrator of electrical engineering, Siemens Laboratory, King's College, London, W.C.

Robertson, Geo., station superintendent, Electricity Supply Works, South Shields.

Robertson, Geo., jun., A.M.I.E.E., electrical engineer, Snawdoun Works, 55, Back Sneddon-st., Paisley, Scotland.

Robertson, Geo. H., Plas Newydd, Llangollen. Director Liverpool Overhead Railway Co., Ltd.; director National Telephone Co., Ltd.; chairman British L. M. Ericsson Manufacturing Co., Ltd.

Robertson, J. A., M.I.E.E., burgh electrical engineer, Corporation Electricity Works, Greenock. (Telegs.: "Energy, Greenock." Teleph. No. 330.)

Robertson, J. C., assistant-in-charge, Dewar-pl. Works, Edinburgh.

Robertson, J. D., director Gloucestershire Electric Power Co., 5, Rowcroft, Stroud, Glos.; director Gloucestershire Electric Power Syndicate, Ltd.

Robertson, J. I., electrical inspector, British Engine, Boiler & Electrical Insurance Co., Ltd., 12, King-st., Manchester.

Robertson, Leslie S., M.I.C.E., consulting engineer, 28, Victoria-st., London, S.W. (Telegs.: "Eyebolts, London." Teleph. No. 128, Westminster.)

Robertson, Robert, B.SC.EDIN., M.I.C.E., M.I.E.E., 154, West George-st., Glasgow, N.B. (Telegs.: "Strain, Glasgow." Teleph. No. 740, Argyle.)

Robertson, Robert, A.I.E.E., 53, Bothwell-st., Glasgow.

Robertson, R. S., resident engineer, Urban Electric Supply Co., Ltd., Godalming. (Telegrams: "Electricity, Godalming." Telephone No. 8, Godalming.)

Robertson, W., Benachie, Comely Park-pl., Dunfermline. Director Fife Electric Power Co., Ltd.

Robertson, A. B., & Son, installation work, 260, Union-st., Aberdeen. (Telephone No. 398.)

Robertson & Adams, consulting engineers & electricians, 52, St. Enoch's-sq., Glasgow. (Telegs.: "Impetus, Glasgow." Nat. Teleph. Royal 5532.)

Robertson & Co., makers of electrical specialities, 95, Bath-st., Glasgow.

Robertson & Co., electrical engineers, 55, Back Sneddon-st., Paisley. (Telegrams: "Robertson, Sneddon, Paisley." Telephone No. 2.)

ROBERTSON ELECTRIC LAMPS, LTD., lamp makers, 31, Copthall-ave., E.C.; & Brook Green Works, Hammersmith, W. (Telegs.: "Voltamento, London." Teleph. Hammersmith 27.) Manufacturers of lamps for all purposes, including fancy battery heater lamps, &c. Nominal capital: £100,000 in 10,000 shares of £10 each, & £10,000 debentures. Issued: 6750 shares, fully paid. Secretary, L. Dummere; manager, C. Wilson. *See* INCANDESCENT LAMP MANUFACTURERS—ELECTRIC.

Robertson, George, & Sons, electricians, 55, Back Sneddon, Paisley. (Teleph. No. 2.)

Robertson & Hogg, electrical engineers, 31, Nicholson-st., Edinburgh. (Teleph. No. 644, Central.)

Robertson, H. T., & Co., electric lighting contractors, 12, Harvie-st., Glasgow. (Telegs.: "Conqueror, Glasgow." Teleph. Ibrox 432.)

Robertson, J. C., & Co., electricians, 10, Wemyss-pl., Glasgow. (Telegs.: "Footlight, Glasgow." Teleph. Nos.: 249, Douglas; & Corp. 2893.)

Robertson, J. C., & Son, wiring contractors, 15, Preston-st., Exeter.

Robertson, J. W., & Co., dealers in platinum scrap, 94, Aldersgate-st., London, E.C.

Robertson & Orchar, engineers, Wallace Foundry, Dundee.

Robertson & Outram, consulting engineers, 28, Victoria-st., London, S.W. (Telegs.: "Eyebolts, London." Teleph. No. 128, West.)

Robertson, W. H. A., & Co., Ltd., mechanical & electrical engineers, Lynton Works, Bedford. (Telegs.: "Wharco, Bedford." Teleph. No. 750, Bedford.)

Robey & Co., Ltd., steam engine & boiler manufacturers, Globe Works, Lincoln (Telegs.: "Robey, Lincoln." Teleph. No. 3. A.B.C., A1, Moreing's, Lieber's, Engineering & W.U. Codes used); & 79, Queen Victoria-st., London, E.C. (Teleph. No. 505, Bank.)

Robinow, F., 4, Mount-st., Mayfair, W. Director Lisbon Electric Tramways, Ltd.; director Cape Electric Tramways, Ltd.; director Loch Leven Water & Electric Power Co.

Robinson, A. C., superintendent Direct Spanish Telegraph Co., Ltd., Falmouth.

Robinson, Alex. Hunter, A.M.I.E.E., consulting electrical engineer, 14, Tithebarn-st., Liverpool (Teleph. Nos.: 116, Wavertree, Old Swan; & 6166, Central); & Claremont, Sandown Park, Wavertree, Liverpool.

Robinson, Clifton, superintendent London United Tramways (1901), Ltd., Chiswick.

Robinson, E. G., Lieut. R.N., A.M.I.E.E., H.M.S. "Hindustan," Portsmouth.

Robinson, F. Foley, A.M.I.C.E., M.I.E.E., electrical engineer, 1, Telford-ave., Streatham Hill, London, S.W.

Robinson, F. L., secretary Pacific & European Telegraph Co., Ltd.; secretary West Coast of America Telegraph Co., Ltd., Electra House, Finsbury Pavement, E.C. (Telegrams: "Woolpack, London.")

Robinson, H. A., electrical engineer, Union of London & Smith's Bank, 2, Prince's-st., London, E.C.

Robinson, John, mechanical & electrical engineer, Regent-st., Kingswood, nr. Bristol.

Robinson, John Albert, A.I.E.E., 13, Lethbridge-rd., Southport.

Robinson, J. H., 31, Percy-gdns., Tynemouth. Director Tynemouth & District Electric Traction Co., Ltd.

Robinson, J. R., electrical inspector, British Engine, Boiler & Electrical Insurance Co., Ltd., 12, King-st., Manchester.

Robinson, J. W., director Hexham & District Electric Supply Co., Ltd., Market-pl., Hexham.

Robinson, Keith, A.M.I.C.E., A.M.I.E.E., Parliament Mansions, Victoria-st., London, S.W.

Robinson, Leigh, A.M.I.C.E., A.M.I.E.E., Parliament Mansions, Victoria-st., Westminster, London, S.W.

Robinson, Lionel, electrical engineer, 3, Staple Inn, Holborn, London, W.C.

Robinson, L. L., A.M.I.C.E., M.I.E.E., M.I.MECH.E., borough electrical engineer, Hackney Electricity Works, Millfields-rd., Clapton, N.E. (Teleph. No. 126, Dalston); & Clapton Common, N.E. (Teleph. No. 408, Dalston.)

Robinson, Mark, J.P., M.I.C.E., M.I.M.E., M.I.E.E., M.I.N.A., Parliament-chbrs., Westminster, S.W.

Robinson, Norman, electrical engineer, Star Life-bldgs., Dublin.

Robinson, O. M., electrical engineer, c/o Woodhouse Bros., 66, Scotland-rd., Liverpool.

Robinson, Percival Jas., A.M.I.E.E., 7, Wood-grove, Edge-lane, Liverpool.

Robinson, Prof. Henry, M.I.C.E., M.I.E.E., Parliament Mansions, Victoria-st., London, S.W.

Robinson, R., A.M.I.E.E., 51, Shield-st., Shieldfield, Newcastle-on-Tyne.

Robinson, Sir Clifton, A.I.C.E., M.I.E.E., managing director & engineer London United Tramways, Ltd.; director & engineer-in-chief Bristol Tramways & Carriage Co., Ltd.; managing director & engineer Imperial Tramways Co., Ltd.; director Metropolitan District Railway; director Underground Electric Railways of London, Ltd.; managing director Corris Railways, 15, Cockspur-st., Charing Cross, London, S.W.

Robinson, S. T., A.I.E.E., electrical engineer, 27, South King-st., Dublin.

Robinson, William, M.E., M.I.C.E., M.I.E.E., M.I.M.E., professor of engineering, University College, Nottingham. (Telephone No. 776.)

Robinson, Wm. Mosse, A.I.E.E., 24, Kensington Park-rd., W.

Robinson, A. E. & H., & Co., hot air motor, oil & gas engine manufacturers, Church-st., Beswick, Manchester. (Telegs.: "Thermo, Manchester." Nat. Teleph. Openshaw 668.)

Robinson & Carter, electrical & mechanical engineers, Castle Works, 5, Thomas-st., Liverpool.

Robinson, E. T., & Co., electrical engineers, 17A, St. Andrew-st., Dublin.

Robinson & Emerson, electrical engineers, 222, Victoria-st., Great Grimsby.

Robinson & Hands Electrical Co., Ltd., manufacturers of electrical fittings & accessories, 54, Barwick-st., Birmingham.

Robinson, Howard Farrar, Co., Ltd., electrical engineers, Egypt House, New Broad-st., London, E.C. (Telegs.: "Afralgoa, London." Teleph. London Wall 1116.)

Robinson, J., & Co., Ltd., manufacturing chemists, Huddersfield. (Telegrams: "Robinson, Huddersfield." Telephone No. 304.)

Robinson, J., & Co., machines for insulating wires, Springfield Iron Works, Salford, Manchester. (Telegrams: "Opal, Manchester." Telephone No. 783.)

Robinson, J. & T., electrical engineers, 51, George-st., Croydon, Surrey. (P.O. Teleph. No. 421.)

Robinson & Jones, electrical engineers, 21, Collingwood-st., Newcastle-on-Tyne.

Robinson & Mulliner, consulting electrical engineers, 14, Tithebarn-st., Liverpool. (Teleph. No. 6166, Central.)

Robinson, Wm., & Co., Ltd., enamelled electric light shades, reflectors, casings, &c., in stamped steel, Stafford-st., Wolverhampton. (Telegrams: "Enamel, Wolverhampton." Telephone No. 264.)

Robisher, J., electrician, 60, Vine-street, Higher Openshaw, near Manchester.

Robison, John W., electrical engineer, Highfield Works, Feltham, Middlesex.

Robson, A. S., electric light fittings & electrical engineer, 347 & 349, Lord-st., Southport. (Tel. No. 124.)

Robson, H., assistant electrical engineer, Tramway Power Station, Osborne-st., Hull.

Robson, John, maker of the "Shipley" gas engine, Ives-st., Shipley.

Robson, R. E., A.M.I.E.E., Haymarket-lane, Newcastle-on-Tyne. (Telegs.: "Coleman, Newcastle-on-Tyne." Teleph. Nos.: 616, Central; & 221, City.)

Robson, W. H., 6, Booth-st., Manchester. Director North Wales & District Light Railway & Electric Power Syndicate, Ltd.

Robson, W. T., electrical engineer, Station-rd., Bexhill-on-Sea. (Telegs.: "Robson, Bexhill." Teleph. No. 0451.)

Robson, Wm. Tuke, A.M.I.E.E., Tramway Offices, Alfred Gelder-st., Hull.

Robson & Coleman, electrical engineers, Haymarket-lane, Newcastle-on-Tyne. (Telegs.: "Coleman, Newcastle-on-Tyne." Teleph. Nos.: 616, Central; & 221, City.)

Robson, W., & Sons, electric & gas engineers, 226, Westminster-rd., Liverpool. (Teleph. No. 470, Bootle.)

Roburine Co., insulating material manufacturers, 15, Victoria-st., London, S.W. (Telegs.: "Gabionage, London." Teleph. No. 5223, Westminster.)

Roburite Explosives Co., Ltd., makers of electric fuses, &c., 103, Cannon-st., London, E.C. (Telegrams: "Roburite, London." Telephone No. 141, Bank); & (Works) Gathurst, nr. Wigan.

Rochdale Corporation Electricity Works & Electric Tramways, Rochdale, Lancs. (Telephone Nos.: 176, Office; & 179, Works.) Electrical engineer, C. Claremont Atchison, M.I.E.E.

Rochdale Electric Co., Ltd., makers of penny-in-the-slot electric meters, electric fans, dynamos & motors, Shawclough, Rochdale. (Nat. Teleph. No. 281.) Registered Jan. 31, 1898. Directors: Thos. Snape, Esq. (chairman); Wm. D. Watson, Esq. (managing); Walter Scott, Esq. Electrical engineer, Thos. Humphreys, A.M.I.E.E.; secretary, Harold S. Henderson. Nominal capital: £6000 in ordinary shares & £500 debentures. Issued: £5000, fully paid, of which £1000 is agreed as paid.

Rochdale Municipal Technical School, Rochdale. (Telephone No. 164.)

Roche, E. C., A.I.E.E., electrician, Polytechnic, 309, Regent-st.; & 8A, Durham-pl., Campden Hill, Kensington, London, W.

Roche, Joseph J., & Co., armature & field coil winders, &c., 83, Queen Victoria-st., London, E.C. (Telephone No. 8007, Bank.) Works: 13, Little Trinity-lane, E.C.

Rock, A. F., M.I.E.E., electrical engineer & superintendent, North Staffordshire Railway, Stoke-on-Trent. (Telegs.: "Rock, Stoke-on-Trent Rail." Teleph. No. 802, Potteries.)

Rockley, C., publicity manager & editor, *West Ham Electrical Bulletin*, Corporation Electricity Department, West Ham. (Teleph. East 1320–12.)

Rodd, R. J., electrical engineer & contractor, Church-st., Walton-on-Thames. (Telegs.: "Rodd, Walton-on-Thames." Teleph. No. 6.)

Rodgers, Chas., B.SC., B.ENG., A.M.I.E.E., 3, Talbot-rd., Wembley, Middlesex.

Rodgers, J. T., electrical engineer, 34, College-st., Rotherham.

Roebuck, J., electrical engineer, 5, Clifton-st., Blackpool.

Roffey, A. F., electrical engineer, 268, Vauxhall Bridge-rd., London, S.W. (Teleph. No. 901, Victoria.)

Roffey, M. H., A.M.I.E.E., Littlecot, Hornchurch, Essex.

Rogers, A., superintendent Western Union Telegraph Co., Bristol. (Telephone No. 309.)

Rogers, A. J., electrician, 41, Smith-st., Warwick.

Rogers, D., electrical & general engineer, 2, Jackson-rd., Holloway, London, N. (Teleph. North 1071.)

Rogers, Francis M., F.C.S., M.I.E.E. (established 1878), consulting engineer, electrician & patent agent, 21, Finsbury-pavement, London, E.C. (Telegrams: "Invaluable, London.")

Rogers, F. W., electric bell manufacturer, New-st., Cromer, Norfolk.

Rogers, Hubert Edward, A.M.I.E.E., 10, Hazel-st., Leicester.

Rogers, H. I., A.M.I.E.E., electrical engineer, Thrissell-st., Bristol. (Telegs.: "c/o Brecknell, Bristol." Teleph. Nos. 3137 & 3138.)

Rogers, H. J., M.I.M.E., A.M.I.E.E., electrical & general engineer, Watford Engineering Works, Watford, Herts. (Telegrams: "Mechanical, Watford." Telephone No. 35.)

Rogers, J., J.P., Newquay. Director Newquay Electric Light & Power Co., Ltd.

Rogers, R. B., M.A., A.M.I.C.E., consulting electrical engineer, Hexworthy, Launceston.

Rogers, W. E., chief assistant electrical engineer, Electricity Works, Dewsbury.

Rogers, W. R., chief electrician, Felling Electricity Works, Pelaw-on-Tyne. (P.O. Tel. No. 20, Felling.)

Rogers Brothers, importers & dealers in mica & talc, 221, Bradford-street, Birmingham.

Rogers & Gowlett, electricians, High-st., Watford.

Rogers, Stewart & Co., telegraph contractors, 5, Great Winchester-st., London, E.C. (Telegrams: "Impact, London." Telephone No. 1762, London Wall.)

Rogerson, W. M., M.I.E.E., tramways general manager & boro' electrical engineer, Halifax. (Teleph. 36.)

Rogerson, John, & Co., Ltd., manufacturers of electrical steel castings & forgings, Stanners Closes Steel Works, Wolsingham, S.O., Durham. (Telegs.: "Steelworks, Wolsingham." Teleph. Durham 58.)

Roget, S. R., M.A., A.M.I.C.E., A.M.I.E.E., electrical engineer, 13, Phillimore-gdns., Kensington, London, W.

Roles, Thos., city electrical engineer & manager, Town Hall, Bradford.

Roles, Wm., & Sons, electric bell fitters, Bell-st. & Newton-lane, Romsey, Hants. (Telegs.: "Roles, Romsey.")

Rolf, George, A.I.E.E., Midland-chbrs., 17, Westgate-rd., Newcastle-on-Tyne. (Nat. Teleph. No. 2906.)

Rolland, M'Kirdy & Co., manufacturers of electric light fittings, 22, St. James-sq.; & 7 & 9, Elder-st., Edinburgh. (Telegrams: "Brass, Edinburgh." Telephone No. 1087.)

Rollason & Slater, Ltd., Mitre Wire & Rivet Works, Richard-st., Birmingham. *In voluntary liquidation.* Liquidator, T. H. Gough, 267, Castle-st., Dudley.

Rolleston, Sir J., 54, Curzon-st., W. Director Leicestershire & Warwickshire Electric Power Co.

Rollet, H., & Co., brass, steel & iron rods, brass & copper tubes, wire, &c., 12 & 13, Coldbath-sq., Rosebery-ave., London, E.C. (Telegs.: "Anterior, London." Teleph. Holborn 4674.)

Rollit, Sir Albert K., 3, Mincing-lane, London, E.C. Director National Telephone Co., Ltd.

Rolls-Royce, Ltd., motor car manufacturers, Osmaston-rd., Derby.

Rolph, W. Mair, A.M.I.E.E., Gordon-chbrs., 20, Jermyn-st., London, S.W.

Roman, L., electrical contractor, 78, Mallinson-rd., Clapham Common, London, S.W.

Rommel, W. B., director Cape Electric Tramways, Ltd.; director Lisbon Electric Tramways, Ltd., 1, London Wall-bldgs., E.C.

Ronald Manufacturing Co., electrical engineers, Milner Works, Barnsbury-st., London, N. (Telegs.: "Percomis, London." Teleph. North 2288.)

Ronketti, Joseph, scientific instrument maker, 25, Northampton-road, London, E.C.

Röntgen Society (C. E. S. Phillips, F.R.S. Edin., president; F. H. Low, M.B., hon. secretary), 2, Henrietta-st., Cavendish-sq., London, W. (Teleph. Mayfair 522.)

Rook, T., A.M.I.C.E., 13, Victoria-st., Westminster, London, S.W.

Rook, T., & Co., electrical engineers, Workington.

Rook, T., & Co., electrical contractors, Grainger-st., Newcastle-on-Tyne.

Rooper, Walter Osmond, M.I.C.E., M.I.E.E., Victoria Works, Stafford (Telegs.: "Rooper, Stafford." Teleph. No. 73); & 26, Victoria-st., Westminster, London, S.W. (Telegs.: "Cowcatcher, London." Teleph. No. 1038, Victoria.)

Rooper, W. O., & Co. (Partners, W. O. Rooper & J. Cecil G. McFerran), electrical engineers & contractors, Victoria Works, Stafford. (Telegs.: "Rooper, Stafford." Teleph. No. 73, Stafford.) Branch office: 26, Victoria-st., Westminster, S.W. (Telegs.: "Cowcatcher, London." Teleph. No. 1038, Victoria.)

Root Steam Boiler Co., patent water tube steam boilers, 11, Queen Victoria-street, London, E.C.

Roothaan, Jan, A.M.I.E.E., Ferranti Ltd., Hollinwood, Oldham.

Roper, W. L., electrical engineer, Siemens Bros. Dynamo Works, Ltd., 196, Deansgate, Manchester.

Rorke, Edwin, A.I.E.E., Thames Bank Electrical Works, Barnes, London, S.W.

Rorke, T. J., M.I.E.E., electrical engineer, Thames Bank Electrical Works, Barnes, London, S.W.

Rorke Bros., electrical engineers, Thames Bank Electrical Works, Barnes, S.W. (Telegs.: "Rorcual, London." Teleph. No. 449, Putney.)

Rosario & District Railway Syndicate, Ltd. Nominal capital: £60,000 in £1 shares. Registered Aug. 21, 1908, by Goddard & Co., St. Michael's Alley, Cornhill, E.C.

Rosario Electric Co., Ltd., 52, Moorgate-st., London, E.C. (Telegs.: "Radioso, London." Teleph. London Wall 9617.) Registered April 24, 1902. Nominal capital: £260,000 in 13,797 £5 ordinary shares, 20,000 6 per cent. cumulative preference shares of £5 each, £18,203 second cumulative 6 per cent. preference shares of £5 each, convertible into ordinary shares up to Jan. 1, 1917. Issued: all the ordinary as paid, £100,000 preference with £5 per share paid, & £18,203 second preference with £5 per share paid. Directors: W. T. Western, Esq. (chairman); A. Wright, Esq.; W. F. Leese, Esq.; A. E. Hadley, Esq. Electrical engineer, A. H. Unwin; secretary, H. E. Benthall. Dividends on ordinary shares: 1907 & 1908, 8 per cent.; & first half of 1909, 3 per cent.

Roscoe, P. H., assistant electrical engineer, Corporation Tramways Department, Portsmouth.

Roscoe, Sir Henry Enfield, P.C., B.A., PH.D., LL.D., D.C.L., F.R.S., F.C.S., 10, Bramham-gardens, London, S.W.; & Woodcote, West Horsley, Leatherhead.

Rose, A. H., electrical engineer, 38 & 39, Beech-st., Barbican, London, E.C. (Telegs.: "Cryselco, London." Teleph. Central 7043.)

Rose, S. A. M., A.M.I.E.E., 14, Abchurch-lane, London, E.C. (Teleph. No. 5132, Bank.)

Rose, Thomas A., M.I.E.E., electrical engineer, 38 & 39, Beech-st., Barbican, London, E.C. (Telegs.: "Cryselco, London." Teleph. Central 7043); & Osaka, Genesta-rd., Westcliff-on-Sea.

Rose, T. K., D.SC., chemist & assayer, Royal Mint, London, E.

Rose Bros., electrical engineers & agents, 38 & 39, Beech-st., Barbican, London, E.C. (Telegs.: "Cryselco, London." Teleph. Central 7043.)

Rose & Co., engineers & electric light contractors, James-st. Docks, Cardiff. (Telegrams: "Machinery, Cardiff." Telephone No. 25.)

Rose, Downs & Thompson, Ltd., mechanical engineers & boiler makers, Old Foundry, Cannon-st., Hull (Telegrams: "Rose, Hull." Telephone No. 344); & 12, Mark-lane, London, E.C. (Telegrams: "Arroser, London." Telephone No. 6255, Avenue.)

Rose, Sir W. A., & Co., oil refiners & grease manufacturers, 66, Upper Thames-st., London, E.C.; & Rose's Wharf, Millwall, London, E. (Telegs.: "Warose, London." Teleph. No. 6970, Central.)

Rose Street Foundry & Engineering Co., Ltd., contractors motors or wiring, Inverness. (Telegs.: "Ironworks, Inverness." Nat. Teleph. No. 62.)

Rose Vacuum Pump, Ltd., 38 & 39, Beech-st., Barbican, London, E.C. (Telegs.: "Cryselco, London." Teleph. Central 7043.)

Rose, William, & Co., fire extinguishing apparatus manufacturers, Salford, Manchester. (Telegrams: "Metropolitan, Manchester." Telephone No. 812A, Nat.)

Roseblade, S. J., A.I.E.E., 7, Gill-st., Nottingham.

Rosenberg, Dr. E., chief electrical engineer, British Westinghouse Co., Trafford Park, Manchester.

Rosenberg, A., & Co., electricians & scientific instrument makers, 259, High Holborn, Lomdon, W.C. (Teleph. Holborn 1073.)

Rosenbusch, Gilbert, A.M.I.C.E., M.AM.I.E.E., Queen Anne's-chbrs., Westminster, London, S.W. (Telegs.: "Rosenbusch, London." Teleph. No. 5258, Westminster.)

Rosenheim, E. A., B.SC., A.I.E.E., 43, Palace Gardens-ter., Kensington, London, W.

Rosenthal, J. H., M.I.E.E., director Babcock & Wilcox, Ltd., Oriel House, 30, Farringdon-st., London, E.C.

Roseveare, Leonard, A.M.I.E.E., County of London Electrical Supply Co., Ltd., Canal Basin, City-rd., London, E.C.

Roseveare, Stuart, A.M.I.E.E., 108, Basingstoke-rd., Reading.

Rosevere, Gerald Rhodes, A.I.E.E., Adderbury, Bristol-rd., Northfield, nr. Birmingham.

Rosher, N. B., A.M.I.E.E., A.M.I.M.E., consulting & inspecting engineer, Moffet & Rosher, Union-chbrs., Temple Row, Birmingham. (Telegs.: "Muscular, Birmingham." Teleph. No. 6227, Central.)

Ross, Alex., engineer, Great Northern Railway Co., King's Cross. (Telegs.: "Tractrix, London." Nat. Teleph. North 3200.)

Ross, Chas., electrical engineer & contractor, 21, Leicester-st., Walsall. (Teleph. No. 1 X. 4.)

Ross, S. J., engineer & electrician, Public Baths, Hackney, London, N.E.

Ross, W. S., borough electrical engineer, Electricity Works, Reigate, Surrey.

Ross & Co., electric bells & telephones & agents for electric light cables & general supplies, 62, Robertson-st., Glasgow. (Telephone Nos.: Nat., 2021, Argyle; & Corp., 2910, Central.)

Ross Electric Light & Power Co., Ltd., Bank Offices, Ross, Hereford. (P.O. Teleph. No. 46.) Registered Nov. 16, 1900. Nominal capital: £4000 in £1 ordinary shares & £4000 in £1 4 per cent. cumulative preference shares & £2845 debentures. Issued: 1735 ordinary shares, 1110 preference shares & £1500 4 per cent. debentures. Directors: J. Mitchell, Esq., J.P. (chairman); E. C. Gurney, Esq.; N. H. Matthews, Esq.; C. L. Llewellyn, Esq.; Hy. Southall, Esq. Consulting engineer, John Parker; electrical engineer, C. E. Gray; secretary, F. W. Wintle.

Ross, Ltd., projection arc lamps & optical lantern makers, 111, New Bond-st., London, W. (Telegs.: "Rossano, London." Teleph. No. 3540, Gerrard.)

Ross & Morrison, electricians, 9, Killermont-st., Glasgow. (Telephone No. 2807, Corp.)

Ross, R. G., & Son, speed reducing gear for motors, Greenhead, Glasgow. (Telegs.: "Glenros, Glasgow." Teleph. Nos.: 2663, Bridgeton, Nat.; & Y. 89, P.O.)

Ross, William, & Co. (London), Ltd., iron & steel merchants, Horse-shoe Wharves, Malt-st., Old Kent-rd., London, S.E. (Telegrams: "Slipshoes, London." Telephone No. 1986, Hop.)

Rossendale Valley Tramways Co., Ltd., 61, Gracechurch-st., London, E.C. *In voluntary liquidation.* Liquidators, A. R. Abbott & J. V. Kitchener.

Rosser & Russell, engineers, 22, Charing Cross, London, S.W. (Telegrams: "Lesorus, London." Telephone No. 5210, Gerrard.)

Rossignol, A. Le, 10, Austin Friars, London, E.C. Director United River Plate Telephone Co., Ltd.

Rossignol, Alfred Ernest Le, M.I.E.E., electrical engineer, 27, Great George-st., Westminster, S.W.; & 7, Gliddon-rd., West Kensington, W.

Rossiter, A. E., A.I.E.E., 45, Parliament-hill-rd., Hampstead, London, N.W.

Rossiter, J. T., M.I.E.E., consulting engineer, Westlands, Bolton-rd., Chiswick.

Roth, S. B., A.I.E.E., electrical engineer, 51, Vanbrugh-park, Blackheath, London, S.E.

Roth, Schmidt & Co., insulating wax (cable wax) manufacturers, 20, Great St. Helens, London, E.C.

Rotherham Electrical Engineering Co., electrical engineers, Hunter's-bldgs., High-st., Rotherham.

Rotherham Municipal Electricity Works & Tramways. (Telephone No. 138.) E. Cross, borough electrical engineer.

Rothesay Electricity Works. Engineer, E. B. Stiven.

Rothesay Tramways Co., Ltd., Point House, Rothesay, N.B. (Nat. Teleph. No. 176); & Electrical Federation Offices, Kingsway, London, W.C. (Teleph. Holborn 2686.) Nominal capital: £90,000 in £1 ordinary shares, £10,000 in 5 per cent. cumulative preference shares of £1 each & £50,000 4 per cent. debentures. Issued: 63,875 ordinary shares, fully paid, & all the debentures. Directors: A. C. Miles, Esq. (chairman); H. S. Day, Esq.; C. S. Hilton, Esq. Engineer, H. H. Hill; manager, A. Robertson; secretary, W. F. Herring. Dividends: 1903, 1904 & 1905, *nil;* 1906 & 1907, 2 per cent.

Rottenburg, L., electrical engineer, 11, Hartington-st., Barrow-in-Furness.

Rouch, A. E., consulting electrical engineer, 2, Merchant's-rd., Clifton; & 17, Prince-st., Bristol. (Telegs.: "Rouch, Bristol." Teleph. No. 2946, Nat.)

Rouch & Penny, electrical engineers & contractors, 17, Prince-st., Bristol. (Teleph. No. 2946.)

Roumieu, G. F., Bethune House, Farnham. Chairman & managing director Farnham & District Electricity Supply Co., Ltd. (Teleph. No. 195.)

Roundhay & District Electric Lighting Co., Ltd., 34, Albion-st., Leeds. Registered June 22, 1900. Nominal capital: £20,000 in 1200 ordinary & 800 preference £10 shares. Issued: 800 ordinary £10 shares & 225 preference. Directors: W. Penrose Green, Esq. (chairman); M. Kitchen, Esq.; J. E. Whiting, Esq.; A. G. Lupton, Esq.; W. Miers, Esq. Engineer, H. Fox; secretary, Walter Smith.

Rouse, F. R. C., electrical engineer, 53, St. George's-rd., Regent's Park, London, N.W.

Rouse Bros., installation contractors, 576, Streatham High-rd., London, S.W.

Routh, W. Pole, A.M.I.C.E., M.I.MECH.E., Oakfield, Reading. Director Reading Electric Supply Co., Ltd.

Routledge, L. G. F., A.M.I.E.E., Barber, Walker & Co., Eastwood Collieries, nr. Nottingham.

Routledge, T., director Northallerton Electric Light & Power Co., Ltd., Northallerton.

Routledge, Wm., A.M.I.E.E., Blaydon Iron Works, Blaydon-on-Tyne.

Roux, A. A., director South American Cable Co., Ltd., 106, Cannon-st., E.C.

Rowan, N. C., electrical engineer, Cleveland & Durham Electric Power, Ltd., Middlesbrough.

Rowarth, Ernest, A.M.I.E.E., Battersea Polytechnic, London, S.W.

Rowden, W. T., B.SC., consulting engineer & professor of mechanical engineering, Glasgow & West of Scotland Technical College, Glasgow.

Rowe Bros. & Co., Ltd., lead manufacturers, High-st., Exeter; Canon's Marsh, Bristol; Berkley-st., Birmingham; Pall Mall, Liverpool; Old Quay Lead Works, Runcorn; & Burry Port, R.S.O., South Wales. (Telegs.: "Rowe, Exeter;" "Rowe, Bristol;" "Rowe, Birmingham;" "Roboro, Liverpool;" "Roboro, Runcorn;" & "Rowe, Burry Port." Teleph. Nos.: Exeter 29 & 30; Bristol 673 & 674; Birmingham 4111 & 4112; Liverpool 8190 (2 lines); Runcorn 85; & Burry Port 10.)

Rowell, Jones & Co., Ltd., electrical & mechanical engineers, 27-8, Broad-st.-ave., London, E.C.

Rowell, J., & Sons, electrical engineers, 57, High Friar-st., Newcastle-on-Tyne.

Rowland, R., A.M.I.E.E., engineer, District Council Electricity Works, Stretford, Lancs. (Teleph. No. 56, Docks, Manchester.)

Rowland, Wm., A.M.I.E.E., 23, Wellington-rd., Charlton.

Rowland, W. E. A., works engineer, St. James' & Pall Mall Electric Light Co., Ltd., Carnaby-st., Golden-sq., London, W.

Rowland, B. R., & Co., Ltd., makers of the Morrin patent "Climax" water tube steam boilers, "Climax" Works, Reddish, nr. Manchester. (Telegrams: "Heroic, Reddish." Telephone No. 47, Heaton Moor.)

Rowland & Hulton, Ltd., electrical engineers & contractors, 62, King William-st., London, E.C. (Teleph. London Wall 4438.)

Rowlandson, C. A., engineer-in-chief, Great Central Railway (Engineer's Office), Marylebone Station, London, N.W. (Nat. Teleph. No. 66, Paddington.)

Rowlandson, Wm., electrical engineer, 67, Lord-st., Liverpool, W. (Telephone No. 1824.)

Rowner-Muriel & Co., accumulator & portable electric lamp makers, Dulwich Electrical Works, Colwell-rd., S.E.; & 170, Lordship-lane, London, S.E.

Rowney, G., & Co., mathematical instrument makers, 10 & 11, Percy-st., W.; & 9, 10 & 11, Diana-pl., Euston-rd., London, N.W. (Telegs.: "George Rowney, London." Teleph. No. 4893, Gerrard.)

Roy, A. W., maker of small Manchester type, Overtype, &c., dynamos, armature stampings, slotted or plain rings & drums, &c., 151, Shields-rd., Heaton, Newcastle-on-Tyne.

Roy, W. H., & Co., water cooling apparatus, Tower-chbrs., 30, Spring-gdns., Manchester. (Telegs.: "Exhaust, Manchester." Teleph. City 2389.)

Royal Albert Memorial College, Exeter. *See* SCHOOLS.

Royal Astronomical Society, Burlington House, Piccadilly, London, W.

Royal College of Science, South Kensington, London, S.W. (Telegrams: "Scientist, London.")

Royal College of Science for Ireland, Dublin, lectures & laboratory practice on experimental physics, including applied electricity. *See* SCHOOLS.

Royal Electrical Engineering Co., electric light & power contractors, Town Hall-sq., Bradford.

Royal Engineers Institute, Chatham. (Telegrams: "Sapper, Chatham.")

Royal Geographical Society, 1, Savile-row, Burlington-gdns., London, W. (Telegs.: "Geographical Society, London." Teleph. No. 57, Mayfair.)

Royal Institution of Great Britain, for the promotion, diffusion, & extension of science & of useful knowledge. President, The Duke of Northumberland, K.G., D.C.L., F.R.S.; Lord Rayleigh, O.M., D.C.L., F.R.S., hon. professor of natural philosophy; Prof. J. J. Thomson, LL.D., D.SC., F.R.S., professor of natural philosophy; Prof. Sir James Dewar, LL.D., D.SC., F.R.S., Fullerian professor of chemistry. Hon. sec., Sir William Crookes, D.SC., F.R.S., 21, Albemarle-st., London, W. (Telegs.: "Royal Institution, London." Teleph. No. 3669, Gerrard.)

Royal Institution Laboratory, 79A, Princess-st., Manchester (Crace-Calvert & Thomson).

Royal Insurance Co., Ltd., 28, Lombard-st., E.C. (Telegs.: "Princely." Teleph. London Wall 4590.)

Royal Laboratory, Royal Arsenal, Woolwich, London, S.E.

Royal Meteorological Society (W. Marriott, secretary), 70, Victoria-st., Westminster, London, S.W. (Teleph. No. 2721, Victoria.)

Royal Microscopical Society, 20, Hanover-square, London, W.

Royal Naval College, Greenwich. (Telegs.: "College, Greenwich." Tel. 24, Deptford.) *See* SCHOOLS, &c.

Royal Observatory, Greenwich, London, S.E.

Royal Physical Society, India-bldgs., Edinburgh.

Royal Scottish Society of Arts, 117, George-st., Edinburgh.

Royal Society, Burlington House, Piccadilly, London, W. (Telegrams: "Royal Society, London." P.O. Telephone No. 905, Mayfair.)

Royal Society of Arts (Royal Society for the encouragement of arts, manufactures & commerce, Sir Henry Trueman Wood, M.A., secretary; G. K. Menzies, M.A., assistant secretary), 18 & 19, John-st., Adelphi, London, W.C. (Telegs.: "Praxiteles, London." Teleph. Gerrard 5610.)

Royal Society of Arts Journal (price 6*d*.), 18 & 19, John-st., Adelphi, London, W.C.

Royal Statistical Society, 9, Adelphi-terrace, Strand, London, W.C.

Royal Technical Institute, Salford. *See* SCHOOLS.

Royal University of Ireland, Dublin. *See* SCHOOLS, &c.

Royal-Dawson, W. G., A.M.I.E.E., electrical engineer, 40, Creffield-rd., Ealing, London, W. (Teleph. No. 344, Ealing, P.O.)

Royce, F. H., M.I.E.E., M.I.MECH.E., electrical engineer, Royce, Ltd., Manchester; & The Knowle, Quarndon, Derby.

Royce, Ltd., makers of electrically-driven Cranes, Controllers, &c., Trafford Park, Manchester. (Telegs.: "Switch, Manchester." Cablegrams: "Switch, Manchester, England." Nat. Teleph. No. 4831.) Registered Oct. 17, 1899. Nominal capital: £100,000 in £1 ordinary & £70,000 in £1 preference shares. 72,487 ordinary & 34,955 preference have been issued. Both preference & ordinary are fully paid. Debentures issued: £13,000. Directors: E. A. Claremont, Esq. (chairman); R. D. Hulley, Esq.; F. H. Royce, Esq. Secretary, Wm. Kenyon, A.C.I.S.

Royle, John, Northwood, Wilmslow. Director Alderley & Wilmslow Electric Supply, Ltd.

Royles, Ltd., feed-water heater makers, Irlam, nr. Manchester. (Telegs.: "Elyor, Cadishead." Teleph. Manchester 6718; & Urmston 68.)

Royse, S. W., & Co., chemical, mineral & metal merchants, 20, Albert-sq., Manchester. (Telegs.: "Roys, Manchester." Teleph. Nos. 6175, 6176 & 6177.)

Royston, J., Son & Co., Ltd., iron & steel manufacturers & galvanizers, Shrogg's Mills, Halifax. (Telegs.: "Royston, Halifax." Nat. Teleph. No. 52.)

Royston & Shaw, wood workers for electrical purposes, 54A, King's-rd., Camden Town, London, N.W. (P.O. Teleph. No. 5, Hampstead.)

Ruberoid Co., Ltd., 81–83, Knightrider-st., Queen Victoria-st., London, E.C. (Telegs.: "Ruberoid, London." Teleph. No. 1480, Central.)

Ruck, R. M., Brigadier-General, R.E., M.I.E.E., 44, Thurloe-sq., London, S.W.

Rücker, Sir Arthur W., M.A., D.SC., LL.D., F.R.S., M.I.E.E., Everington House, Newbury, Berks.

Rudd, F. H., A.I.E.E., Electricity Works, Rochdale, Lancs.

Rudd, J. A., M.I.E.E., 68, Gordon-st., Glasgow.

Rudd, J. A., & Co., electrical engineers & merchants, 68, Gordon-st., Glasgow. (Telegs.: "Thorough, Glasgow." Teleph. Nos.: Nat., 812, Argyle; P.O., 812.)

Ruddle, Mark, M.I.E.E., M.I.C.E.I., city electrical engineer, Dublin Corporation, Central Station; & 7, Lansdowne-ter., Dublin.

Ruddock, A. E., A.M.I.E.E., district manager for Potteries district, National Telephone Co., Ltd., Hanley (Telegs.: "National Telephone, Hanley." Teleph. No. 131); & Barlaston, Stoke-on-Trent.

Ruddock, Ernest N., A.I.E.E., "Stockland," 23, Palace-rd., Streatham Hill, London, S.W.

Rudge, E., electrician, 1, New Bond-st.-pl., Bath.

Rudge, Edwin Ross, A.M.I.E.E., 28, Trinity-rd., Tulse Hill, London, S.W.

Rüffer, E., 39, Lombard-st., London, E.C. Chairman Spanish Telephone Co., Ltd.

Rüffer, H., 53, Temple-chbrs., Temple-ave., E.C. Director Derbyshire & Nottinghamshire Electric Power Co.; director Lothians Electric Power Co.; director Scottish Central Electric Power Co.

Rugby Electrical Co, electrical engineers & contractors, Henry-st., Rugby.

RUGBY LAMP CO., LTD., THE, electrical engineers & manufacturers of incandescent electric lamps, 92, Lower Hillmorton-rd., Rugby. (Telegs.: "Lamps, Rugby." Teleph. No. 89, Rugby.) London office & stores: J. L. Cateaux & Co., 10, Bush-lane, E.C. *See advt.* METALLIC FILAMENT LAMPS.

Rugby School Electric Lighting Co., Ltd., Dunchurch-rd., Rugby, Warwick. Nominal capital: £5500 in £50 shares. 90 shares have been taken up & are fully paid. Chairman, Rev. H. A. James, D.D., electrical engineer, A. E. Lee; honorary secretary, A. E. Donkin, Esq. Dividends: 1900, 4 per cent.; 1901, 5 per cent.; 1902, 6 per cent.

Rugby Urban District Council Electricity Works. (Teleph. No. 116.) Engineer, T. S. Shenton.

Rühl, O., patent cable troughing agent, 6 & 7, Redcross-st., London, E.C. (Telegs.: "Notochord, London." A.B.C. Code, 5th edit. Teleph. No. 9086, Central.)

Rumball, F. G., director Canada Electric Traction Co., Ltd., 13, St. Helen's-pl., London, E.C.

Rumney & Rumney, electrical supplies, 125, Strand, London, W.C.

Runcorn Technical Institute, Runcorn. *See* SCHOOLS.

Rungay, T., A.M.I.E.E., Blenheim Palace, Woodstock.

Rupprecht, A. A., & Co., Ltd., mechanical, electrical & general engineers, Carlton House, Regent-st., London, S.W.

Ruscoe, John, & Co., Ltd., cable drum carriages, Albion Works, Hyde, Manchester. (Telegs.: "Ruscoe, Hyde." Teleph. No. 75, Hyde.)

Rusett, Chas. H. de, A.I.E.E., British Buffalo Marine Motor Co., Ltd., Strand-on-the-Green, London, W.

Rushforth, S., & Son, electrical engineers, Eldon-st., Barnsley.

Rushton, J. L., director Lancashire Power Construction Co., Ltd., 196, Deansgate, Manchester. Director Lancashire Electric Power Co.

Rushton Bros., boiler makers, Gas-st. Foundry, Bolton, Lancs.

Rushworth & Co., engineers' tools, Sowerby Bridge, Yorks. (Telegrams: "Rushworth, Sowerbybridge.")

Russ, Stanley C., electrical engineer, Bassishaw House, Basinghall-st., London, E.C. (Telegs.: "Stanlorio, London." Teleph. Central 13894; & City 206.)

Russell, A., M.A., D.SC., M.I.E.E., principal of Faraday House, 66–70, Southampton Row, London, W.C. (Telegs.: "Standardizing, London." Teleph. Central 9999.)

Russell, C. Newton, M.I.E.E., A.M.I.C.E., borough electrical engineer, Borough Electricity Supply Works, Shoreditch, N. (Teleph. Nos.: 1157, London Wall; & 202, P.O., Hornsey.)

Russell, D., Inchdarnie, 2, St. Andrew-sq., Edinburgh. Director Scottish Central Electric Power Co., Ltd.; director Lothians Electric Power Co.

Russell, Earl, M.I.E.E., electrical engineer, Telegraph House, Chichester.

Russell, George, M.I.E.E., telegraph superintendent, Glasgow & South-Western Railway Co., St. Enoch Station, Glasgow.

Russell, H., M.I.E.E., 40, Sackville-st., Piccadilly, W.

Russell, Herbert S., B.SC., M.I.E.E., 225, Gresham House, Old Broad-st., E.C. (Teleph. London Wall 5675.)

Russell, J. A. Gow, engineer, Electric Supply Corp., Ltd., Dalkeith, Midlothian.

Russell, Louis, electrical engineer, Station-rd., Bexhill-on-Sea.

Russell, R., Cadham, Markinch. Chairman Fife Electric Power Co.

Russell, Stuart A., M.I.E.E., electrical engineer, India Rubber, Gutta Percha & Telegraph Works Co., Ltd., Silvertown, Essex.

Russell, S. G. C., F.E.S., M.I.E.E., electrical adviser to Phœnix Assurance Co., 19, Lombard-st., E.C. (Teleph. Central 8157–8.)

Russell, S. G. Castle, M.I.E.E., consulting electrical engineer, 19, Lombard-st., London, E.C.; & The Corner House, Sunbury-on-Thames.

Russell, Walter H., A.M.I.E.E., 26, Davies-lane, Leytonstone, Essex.

Russell, Wm. Edward, A.I.E.E., electrical engineer, Wood-st., St. Anne's-on-the-Sea. (Telegs.: "Russell's, St. Anne's-on-Sea." Teleph. No. 3 X.)

Russell & Co., Ltd., wiring contractors, St. Anne's-on-Sea.

Russell & Erwin Manufacturing Co., manufacturers of bells & push buttons, Brooks Wharf, Upper Thames-st., London, E.C.

Russell, George, & Co., Ltd., electric cranebuilders, Alpha Works, Motherwell, N.B. (Telegrams: "Russell, Motherwell." Telephone No. 4.)

Russell, John, & Co., Ltd., iron tube manufacturers, Alma Tube Works, Walsall (Telegs.: "Alma, Walsall." Tel. No. 34); 145, Queen Victoria-st., London, E.C. (Telegs.: "Anchor, London." Tel. Bank 315 & 316); Colston-st., Bristol (Telegs.: "Alma, Bristol." Tel. No. 218); London-rd., Manchester (Telegs.: "Alma, Manchester." Tel. Nos. 7316 & 7317); & 15, Wellington-st., Leeds, (Telegs.: "Alma, Leeds." Tel. No. 223.)

Russell, J., & Sons, electricians, 4, Mile End-rd., London, E.

Russell, James, & Sons, Ltd., iron telegraph pole manufacturers, Crown Tube Works, Wednesbury. (Telegs.: "Russell, Wednesbury." Teleph. Nos. 2 & 107.)

Russell, Samuel, & Co., Ltd., malleable iron founders, Northcote-st. Foundry, Walsall. (Telegs.: "Lorn, Walsall." Teleph. No. 296.)

Russell & Son, wire drawers, 73, Stibbington-street, Oakley-square, London, S.W.

Russell & Wardrop, electrical engineers & contractors, Pritchard-st., Chorlton-on-Medlock, Manchester. (Telegs.: "Armature, Manchester." Teleph. No. 6031.)

Russian Public Works & Construction Co., Ltd., 47, Victoria-st., London, S.W. Registered Feb. 12, 1909. Nominal capital: £10,000 in £1 shares.

Rust, H., A.M.I.E.E., electrical engineer, 238, Ashton Old-rd., Openshaw, Manchester; & 14, Oldfield-rd., Sale, Cheshire.

Ruston, F. T., & Son, dealers in electrical sundries, St. Ives (Telegs.: "Ruston, St. Ives." Teleph. No. 3 Y.); & Huntingdon. (Telegs.: "Ruston, Huntingdon." Teleph. No. 2 Y.)

Ruston, Proctor & Co., Ltd., mechanical engineers, Sheaf Iron Works, Lincoln (Teleph. No. 381); & 46, Queen Victoria-st., London, E.C. (Telegs.: "Ruston, Lincoln;" "Ruston, London." Tel. Bank 5148.)

Rutherford, Adam, A.M.I.E.E., 353, West Prince's-st., Glasgow, N.B.

Rutherford, A. P., M.I.E.E., borough electrical engineer, Leith.

Rutherford, George, electrical engineer, 104, Clarence Drive, Glasgow, W.

Rutherford, Robert, A.M.I.E.E., Mainsforth, Ferry Hill, co. Durham.

Rutherford, W., M.I.E.E., assistant managing director Dick, Kerr & Co., Ltd., Abchurch-yard, Cannon-st., London, E.C.

Rutherford, A., & Co., electrical engineers, Bridge-st. & Cleveland-st., Birkenhead. (Telegrams: "Neptune, Birkenhead." Telephone No. 104, Birkenhead.)

Rutherford College, Newcastle-on-Tyne. (Telephone No. 2301.) *See* SCHOOLS, &c.

Ryan, A. J., A.M.I.E.E., chief assistant & deputy borough electrical engineer, Corporation Electricity Works, Gillingham, Kent (Teleph. No. 22); & 481, Canterbury-rd., Gillingham.

Ryan, Frederick, A.I.E.E., c/o Electrician-in-Chief, Eastern Telegraph Co., Electra House, Finsbury Pavement, London, E.C.

Ryan, J. H., M.A., M.I.C.E., consulting engineer, 22, Nassau-st., Dublin (Telegs.: "Mice, Dublin"); & 10, Coleman-st., London.

Ryan, Prof. John, D.SC., M.A., LL.M., expert adviser to City Council, Dublin.

Ryan, Valentine, electrical engineer, Kerry Electric Supply Co., Ltd., Killarney; & 38, Northumberland-rd., Dublin.

Ryan, W. A., B.A., B.L., Whaley Abbey, Rathdrum, co. Wicklow, Ireland. Director Kerry Electric Supply Co., Ltd.

Ryan, Wm., & Son, electric light contractors, 59, Bulwer-rd., Leytonstone. (Teleph. No. 683, Wanstead.)
Rycroft, P. E., A.M.I.E.E., engineer & manager, Heston & Isleworth Urban District Council, Bridge-rd., Hounslow, W.; & Collingwood, The Grove, Isleworth.
Ryde Pier Co. & Electric Railway, Ryde, Isle of Wight. W. D. Stanney, manager.
Ryde & St. Helens Electricity Works (Isle of Wight Electric Light & Power Co.), Ryde, Isle of Wight. Engineer & manager, A. E. Mayes, A.M.I.E.E.; assistant, H. Groome.
Ryder, Thos., & Son, lathes, forging machines, &c., Turner Bridge, Bolton, Lancs. (Telegs.: "Rider, Bolton." Teleph. No. 206.)
Rye, A. N., A.M.I.E.E., resident engineer, Urban Electric Supply Co., Ltd., Hawick (Telegs.: "Urban Co., Hawick." Teleph. No. 407, Hawick); & 1, East Stewartfield, Hawick.
Rye & Co., electric wiring contractors, Faringdon-st., Swindon. (Telegs.: "Rye, New Swindon.")
Rylands, W. A., assistant superintendent, Telegraph Factory, Mount Pleasant, London, E.C. (Teleph. Central 9906; & Official 95.)
Rylands Brothers, Ltd., Wire Mills, Wire-rope, Wire-netting & Galvanizing Works, Warrington. (Telegs.: "Wire, Warrington." Teleph. Nos. 11 & 211.)
Ryley, J. A., maker of accumulators & coils, 23½, Martineau-st., Birmingham.
Ryman, Fredk., & Co., manufacturing electrical engineers, Cox-st., St. Paul's-sq., Birmingham. (Teleph. No. 4358, Central.)
Rymer-Jones, J., M.I.E.E., 91, Blackheath Hill, Blackheath, S.E.

S. M. F. Synd., Ltd., 21, Liverpool-st., London, E.C. Registered May 21, 1909. Nominal capital: £8000 in £10 shares.
S. M. H. Tramway Syndicate, Ltd., 13, St. Helen's-pl., London, E.C. Registered May 17, 1905. Nominal capital: £2000 in £1 shares. Directors: S. A. Chambers, Esq.; C. W. Nicholl, Esq. Engineers, Harper Bros. & Co. & D. Balfour & Son.
S. P. (Suchostawer) Patents Syndicate, Ltd., mechanical & electrical engineers, 88, Fenchurch-st., London, E.C.
Saaler, J. W., district manager, Bruce Peebles & Co., Ltd., 30, Cross-st., Manchester. (Telegs.: "Peebles, Manchester." Teleph. Central 5759.)
Sabine, A., secretary, Messrs. Siemens Bros. & Co., Ltd., Caxton House, Westminster, London, S.W.
Sabine, W. H., electrical engineer, Fratton-rd., Landport, Portsmouth.
Sachs, Carl J., electrician-in-charge British Museum, Great Russell-street, Bloomsbury, London, W.C.
Sadler, A. H., electrical engineer, Electric Construction Co., Wolverhampton.
Sadler, Hastings V., A.I.E.E., Electrical Co., Ltd., Charing Cross-rd., W.C.; & 53, Haydon Park-rd., Wimbledon, S.W.
Sadler, M., manufacturing electrician, 19, Aston-street, Birmingham.
Sadler & Co., Ltd., manufacturing chemists, Cleveland Chemical Works, Middlesbrough. (Telegrams: "Alizarine, Middlesbrough." Telephone Nos. 29 & 180.)
Safety Tread Syndicate, Ltd., makers of electric light cover boxes, steel spring washers, &c., 15, Barbican, London, E.C. (Telegs.: "Unslipping, London." Teleph. No. 3219, Wall.)
Sage, Ernest, electrical engineer, 9 & 21, Elnathan-mews, Formosa-st., London, W.
Sage, Frederick, & Co., installation contractors, 58–62, Gray's Inn-rd., London, W.C. (Telegrams: "Sage, London." Telephone No. 64, Holborn.)
Saggerson, T., & Co., makers of gears & pinions, West-st., Prescot, Lancs.
Sainsbury, A. W., electric light & power contractor, 89, Arundel-st., Sheffield. (Telegrams: "Sainsbury, Sheffield." Telephone No. 2797.)
St. Albans & Luton Motor Co., Ltd., motor car manufacturers, London-rd., St. Albans, Herts.
St. Aldwyn, Viscount, P.C., Coln St. Aldwyn, Fairford, Glos.; & 81, Eaton-pl., London, S.W. (Telegs.: "Coln St. Aldwyn.") Director Central London Railway Co.
St. Andrews Electricity Works, St. Andrews, Scotland. Electric Supply Corporation, Ltd., props. Resident engineer, H. Dixon.
St. Anne's-on-the-Sea U.D.C. Electricity Works. (Teleph. No. 12.) Engineer & manager, J. H. Clothier, A.M.I.E.E.
St. Austell & District Electric Lighting & Power Co., Ltd., 118, Queen Victoria-st., London, E.C.; & St. Austell, Cornwall. Registered June 27, 1901. Nominal capital: £10,000 in £1 shares. Issued: 4887 ordinary shares, fully paid, & 3000 preference shares, fully paid, £2000 5 per cent. debentures & £1400 second debentures. Directors: E. W. Oakley, Esq. (chairman); W. L. Machell, Esq.; J. W. Drew, Esq.; W. T. Pressland, Esq.; A. West, Esq. Engineer, T. Hill; secretary, W. J. Moggridge.
St. David's College, Lampeter, South Wales. *See* SCHOOLS, &c.
St. George's Iron Works, Ltd., makers of wheels & pulleys, Hulme, Manchester. (Telegs.: "Ormerod Grierson, Manchester." Teleph. Central 229.)

ST. HELENS CABLE & RUBBER CO., LTD., electric cables & general rubber goods, Warrington (Telegs.: "Dialite, Warrington." Teleph. Nos. 202 & 228); & 174, King's Cross-rd., London, W.C. (Teleph. Central 11167.)

St. Helen's Copper Co., Ltd., copper merchants, Ravenhead, St. Helens. (Telegs.: "Copper, St. Helen's.")

St. Helen's Corporation Electric Power Station & Tramways, Cropper's Hill, St. Helens. (Telegs.: "Electricity Works, St. Helens." Teleph. No. 212.) Engineer, E. M. Hollingsworth.

St. Helen's Electric Lighting Co., Ltd. Registered office: Electricity Works, Ventnor; & St. Helen's, Isle of Wight. (Teleph. Ryde 42.) Registered Nov., 1900. Nominal capital: 2000 shares of £5 each. Issued: £525 fully paid. Directors: F. E. Gripper, Esq. (chairman); Capt. R. M. Alexander; W. T. Pressland, Esq.; Lieut.-Col. J. F. C. Hamilton; J. C. Wigham, Esq. Engineer, A. E. Mayes, A.M.I.E.E.; secretary, H. E. Corner. Dividends: 1907, 1908 & first half of 1909, *nil.*

St. James' & Pall Mall Electric Light Co., Ltd. Offices: Carnaby-st., Golden-sq., W. Central Stations: Carnaby-st., W.; & Mason's-yard, Duke-st., St. James', London, S.W. (Telegs.: "Licensable, London." Teleph. Nos.: 5082, Gerrard; 9383, Central; Engineers' Dept., 633, Gerrard.) Registered March 2, 1888. Nominal capital: £200,000 in £5 ordinary shares, £100,000 7 per cent. preference shares of £5 each, & £150,000 in 3½ per cent. debenture stock, all issued & fully paid. Frederic J. Walker, general manager & secretary; S. T. Dobson, M.I.C.E., chief engineer. Directors: Walter Leaf, Esq. (chairman); Col. E. J. A. Balfour; Sir John H. Morris, K.C.S.I.; Bennett Fitch, Esq., M.I.C.E.; M. R. Pryor Esq. Dividends on ordinary shares: 1907 & 1908, 10 per cent.; & first half of 1909, at rate of 10 per cent. per ann.

St. John-Dixon, A. O., electrical engineer, Callender's Cable & Construction Co., Ltd., Hamilton House, Victoria Embankment, London, E.C.

St. Marylebone, Borough of, Electric Supply, 19 & 20, York-pl., London, W. (Teleph. Paddington 771.) General manager, A. Hugh Seabrook; generating engineer, T. K. Richardson; mains engineer, C. H. Smyth.

St. Pancras Electricity & Public Lighting Department. Offices: 57, Pratt-st., St. Pancras, London, N.W. (Teleph. Nos. 512 & 513, Mayfair.) Central Stations: 47, Stanhope-st., N.W., & King's-rd., N.W. Chief clerk, A. E. Pycraft; chief engineer, Sydney W. Baynes; resident engineer, J. T. Baron. Present loan capital, £506,095.

St. Pancras Ironwork Co., Ltd., engineers, 171, Pancras-rd., London, N.W. (Telegrams: "Equitation, London." Telephone No. 519, North.)

Salanson, H., & Co., electricians & scientific instrument makers, 20, High-st., Bristol (Teleph. No. 2326 Y.); 4, High-st., Cardiff (Teleph. No. 0930); & 100, Northgate-st., Gloucester.

Saldanha Bay Harbour & Railway Co., Ltd., 20, Copthall-ave., London, E.C. (Telegs.: "Phigger, London." Teleph. London Wall 2668.) Registered Jan. 11, 1907. Nominal capital: £157,500 in 150,000 ordinary shares of £1 each & 150,000 deferred shares of 1s. each, & £25,000 debentures. Issued: £106,007 ordinary shares, all the deferred shares & £19,790 debentures. Directors: R. W. Wallace, Esq., K.C.; H. Mann, Esq.; E. W. Stanyforth, Esq., J.P.; Sir Jas. Heath. Secretary, F. A. Baird.

Sale, David, electrical engineer, 63, Fore-st., Devonport.

Sale, H. Bernard, A.M.I.E.E., resident electrical engineer, North Metropolitan Electrical Power Distribution Co., Ltd., Electricity Works, High Barnet, Herts. (Telegs.: "Sale, Electricity Works, Barnet." Teleph. No. 33.)

Sale, M. T., Col., R.E., C.M.G., M.I.E.E., The Grange, Belvedere, Kent.

Sale Electrical Installation Co., electrical engineers, 54, School-rd., Sale, Cheshire.

Sale Urban District Council Electricity Works, Sale, Cheshire. Resident engineer, C. J. Wood.

Salford Corporation Electricity Works (light & traction), Frederick-rd., Salford. (Teleph. Central 6201 & 6202.) Engr., Victor A. H. McCowen, M.I.E.E., M.I.MECH.E.; deputy engr., H. J. Hawkins, A.M.I.E.E.

Salford Royal Technical Institute, Salford. *See* SCHOOLS, CLASSIFIED SECTION.

Salis, H. R. de, J.P., A.M.I.C.E., A.M.I.M.E., A.I.E.E., "Ivy Lodge," Iver Heath, Bucks. Director Windsor Electrical Installation Co., Ltd.; director Slough & Datchet Electric Supply Co., Ltd.

Salisbury, Albert Edward, A.I.E.E., 64, Pemberton Gardens, Highgate, London, N.

Salisbury Electric Light & Supply Co., Ltd., The Close, Salisbury. (Teleph. No. 35.) Registered June 21, 1894. Directors: W. M. Hammick, Esq. (chairman); F. E. Gripper, Esq.; A. C. Bothams, Esq.; C. J. Woodrow, Esq. Electrical engineer, A. B. Randall, M.I.E.E.; secretary, A. R. Malden. Nominal capital: £50,000 in £1 shares & 500 debentures of £100 each. Issued: 35,000 shares have been taken up, £35,000 has been paid, & £31,900 debentures, secured by trust deed of Jan. 1, 1899. Dividends: 1904, 1905, 1906 & 1907, 5½ per cent.; & first half of 1908, 4 per cent.

Salisbury Electrical Engineering Co., Ltd., 143, New Kent-rd., London, S.E. (Teleph. No. 2066, Central.)

Salmon, H., engineer, Wadebridge & District Electric Supply Co., Wadebridge, Cornwall.

Salmon, J., & Son, scientific instrument makers, 169, Hampstead-road, London, N.W.

Salmony, H. M., electrical engineer, 70, Canfield Gardens, Finchley-rd., London, N.W.

Salomons, Sir David, Bart., M.A., M.I.E.E., Broomhill, Tunbridge Wells, Kent (Telephone No. 52); & 49, Grosvenor-st., London, W. (Telephone No. 1052.)

Salopian Pottery Co., earthenware tubes & insulators of all kinds, &c., Broseley, Salop.

Salt, C. W., assistant electrical engineer, Electricity Department, Town Hall, Bradford.

Saltburn-by-the-Sea Electricity Works, Saltburn-by-the-Sea (owned by Cleveland Trust, Ltd.). Engineer & manager, C. W. Thompson, A.M.I.E.E.; electrician, A. Fowler.

Salter, A. J., A.M.I.C.E., electric traction engineer, Suffolk House, Laurence Pountney Hill, Cannon-st., London, E.C.

Salter, Glynn, engineer & manager Electric Light & Power Co., Ltd., Lymington.

Salter, J. R., M.I.E.E., general manager, Lancashire United Tramways, Ltd., Atherton, Lancs. Managing director New St. Helen's & District Tramways Co., Ltd.

Salter Bros., electric launch, &c., builders, Folly Bridge, Oxford. (Telegs.: "Salter, Oxford." Teleph. No. 121, Nat.)

Salter & Co., model makers, 149, Pentonville-rd., London, N.

Salter, G., & Co., steam gauge & spring makers, 101, Leadenhall-st., E.C. (Telegrams: "Springbalance, London." Telephone No. 1573, Avenue.) Works: West Bromwich. (Telegrams "Salters, West Bromwich." Telephone No. 16.)

Salthouse, E., A.M.I.E.E., 23, Lansdowne Grove, Neasden, N.W.

Salton, A. L., A.M.I.E.E., 39, Dudley Drive, Hyndland, Glasgow.

Saltren-Willett, Major A. J., R.G.A., A.I.E.E., 2, Osborne-pl., The Hoe, Plymouth.

Saltrick, W. R., electrical engineer, Vulcan Works, 72A, St. Thomas-st., London, S.E.

Sambidge, James, A.M.I.E.E., electrical engineer, "Aysgarth," Pollard's Hill East, Norbury.

Sambidge, J., & Co., electrical & mechanical engineers, 17, Victoria-st., London, S.W. (Telegs.: "Prefix, London." Teleph. No. 530, Victoria.)

Sample, W S., manager, Sterling Varnish Co., Brougham-st., Blackfriars-rd., Manchester.

Sampson, Brook, director Northampton Electric Light & Power Co., Ltd., 25, Bridge-st., Northampton.

Sampson, T. W., A.M.I.E.E., manufacturing electrician, 130, Hanover-st., Sheffield. (Teleph. No. 2358.)

Sampson & Co., Ltd., manufacturers of Sampson's patent leather driving belts, Patent Belt Works, Stroud, Gloucestershire. (Telegs.: "Sampsons, Stroud." Teleph. No. 14. A.B.C. Code, 4th edit.)

Samuel, Wm. H., & Co., motor spirit & lubricants manufacturers, Highfield Works, Leeds-st., Liverpool. (Telegs.: "Machinery, Liverpool." Teleph. No. 882.)

Samuelson, F., engineer, Turbine Department, British Thomson-Houston Co., Ltd., Rugby.

Samuelson, Godfrey B., M.I.E.E., director W. T. Glover & Co., Ltd., Parliament Mansions, Victoria-st., Westminster, S.W. Director Howard Asphalt Troughing Co., Ltd.

Samuelson & Co., Ltd., ironfounders, engineers & machinery manufacturers, Britannia Works, Banbury, Oxon. (Telegs.: "Samuelson, Banbury." P.O. Teleph. No. 17.)

Sandberg, C. P., M.I.C.E., consulting engineer, Palace-chbrs., 9, Bridge-st., Westminster, S.W. (Telegrams: "Sandberg, London.")

Sandberg, O. F. A., A.I.E.E., Palace-chbrs., 9, Bridge-st., London, S.W.

Sandell, J. W. O., A.M.I.E.E., The Wigwam, Boreham Wood, Herts.

Sandeman, Lieut.-Colonel John Glas, M.V.O., F.S.A., A.I.E.E., Whin-Hurst, Hayling Island (Teleph. No. 11 Y.); & Engine-ct., St. James' Palace, London, S.W.

Sander, E. J., A.M.I.E.E., electrician, 80, Manor-rd., Stoke Newington, London, N.

Sanders, Alexander Gilbert, M.I.E.E., The Birches, Cheltenham.

Sanders, R. M. D., director Dundalk Electric Tramway Co., Ltd., 118, Grafton-st., Dublin.

Sanders, T., ship fittings for electric lighting, 71, Queen-st., London, E.C.

Sanders, W. R., installation contractor, Rutland-chbrs., Spring Gardens, Buxton.

Sanders & Co., motor car engineers & electric lighting contractors, 22, Clarence-st., Cheltenham. (Telegrams: "Motors, Cheltenham." Telephone No. 199, Cheltenham.)

Sanders, W., & Co., specialists in the manufacture of all types of switchboards & switch & fuse boards in iron & wood cases, Falcon Electrical Works, Wednesbury. (Telegs.: "Sanders, Wednesbury." Teleph. No. 65.)

Sanderson, Aymor H., Darfield, Cranborne-rd., Bournemouth. Director County of London Electric Supply Co., Ltd.; chairman Bournemouth & Poole Electricity Supply Co., Ltd.; director Richmond (Surrey) Electric Light & Power Co., Ltd.; director Swanage Electricity Supply Co., Ltd.

Sanderson, C. L., electric light engineer, 8, Valley Bridge, Scarborough. (Teleph. No. 21 X.)

Sanderson, K., director Dumbarton Burgh & County Tramways Co., Ltd., 23, Rutland-st., Edinburgh.

Sanderson, W., engineer, Broxburn & Uphall Lighting Committee, Broxburn, N.B.

Sanderson, C. J., & Sons, electricians & electric bell fitters, 30, Featherstone-st., City-rd., London, E.C.

Sanderson & Robinson, Ltd., engineers & founders, Mansfield, Notts. (Telegrams: "Sandersons, Mansfield." Nat. Telephone No. 35.)

Sandford, P. P., A.M.I.E.E., c/o Mitchell & Dewar, 144, St. Vincent-st., Glasgow.

Sands, S. H., Huncote, Carlisle-rd., Eastbourne, Sussex. Vice-president National Telephone Co., Ltd.

Sands, Geo., & Son, electrical & general engineers, Colwick, Notts. (Teleph. Nottingham 977.)

Sandycroft Foundry Co., Ltd., The, makers of electrical machinery, Chester (Telegrams: "Sandycroft, Hawarden"); & 6, Queen-st.-pl., London, E.C. (Telephone No. 815, Bank.)

Saner, H., M.D., director Cie. Generale d'Electricité de Lourenço Marques, 408-423, Salisbury House, London Wall, E.C.

Saner, J. A., M.I.C.E., Highfield, Northwich. (Nat. Teleph. No. 78.) Chairman Northwich Electric Supply Co., Ltd.

Sanford, C. H., 62, Gresham House, Old Broad-st., London, E.C. Director Anglo-Argentine Tramways Co., Ltd.; director Primitiva Gas & Electric Lighting Co. of Buenos Ayres, Ltd.

Sang, E. J. W., 29, Walsingham-rd., Hove. Director Brighton & Rottingdean Seashore Electric Tramroad Co.

Sangster, J., vulcanite manufacturer, 34, Moorfields, London, E.C. (Telegs.: "Centuplico, London." Teleph. No. 7918, London Wall.)

Sanitas Electrical Co., Ltd., X-Ray & electro-medical apparatus, 61, New Cavendish-st., London, W. (Telegs.: "Lumignons, London." Nat. Teleph. No. 4971, Paddington.)

Sankey, B., A.M.I.E.E., A.M.I.MECH.E., borough electrical engineer, Corporation Electricity Works, Whitehaven.

Sankey, Capt. H. R., R.E. (ret.), M.I.C.E., M.I.M.E., M.I.E.E., A.I.N.A., consulting engineer, Palace-chbrs., 9, Bridge-st., Westminster, London, S.W. (Telegs.: "Fusible, London." Teleph. Nos.: Westminster 5943; Gerrard 3195; & P.O., Ealing 998.) Director Dublin & Central Ireland Power Syndicate, Ltd.; Marconi's Wireless Telegraph Co., Ltd.

Sankey, Percy W., A.M.I.E.E., 7, Eversleigh-gdns., Loughton, Essex.

SANKEY, JOSEPH, & SONS, LTD., of Bilston (R. Jenkins, agent), stampings & sheets for electrical purposes, 88, Bishopsgate-st. Within, London, E.C. (Telegs.: "Permeable, London." Teleph. No. 8205, Central.) Sole manufacturers of the special "low loss" brand "Stalloy." *See advt. under* STAMPINGS FOR ARMATURES, TRANSFORMERS, &c.

Sansom, C. I., electrical engineer, St. James's Gate Brewery, Dublin.

Santler, C., & Co., electrical & general engineers & motor car manufacturers, Malvern. (Telegrams: "Santler, Malvern Link.")

Santoni Arc Lamp & Engineering Co., Ltd., 11, Farringdon-ave., E.C. *In voluntary liquidation.* Liquidator, W. M. Whyte.

Santonna, T. F., A.I.E.E., electrician, 34, Sidbury, Worcester.

Sanzen-Baker, G. R., electrical engineer & contractor, 52, Stowell Park, Newcastle-on-Tyne.

Sao Paulo Tramway Light & Power Co., Ltd. British Empire Trust Co., registrars & general secretaries, 34, Nicholas-lane, London, E.C. (Telegs.: "Betrust, London." Teleph. Central 14724.) *For further particulars see under* CANADA.

Sarney, Geo. Gladman, A.M.I.E.E., 62, Gassiot-rd., Tooting, S.W.

Sarson, Fred, Ryecroft, Paignton. Director Paignton Electric Light & Power Co., Ltd.

Sassoon, Sir Ed., Bart., M.P., 12, Leadenhall-st., London, E.C. Chairman Bombay Electric Supply & Tramways Co., Ltd.

Satterthwaite, T., resident engineer, Dudley, Stourbridge & District Electric Traction Co., Ltd., Hart's Hill, Brierley Hill, Staffs.

Saunders, B. R., assistant engineer, Corporation Electricity Works, Hamilton, Scotland.

Saunders, E. S., A.I.E.E., Foster's-bldgs., High-st., Sheffield.

Saunders, F. F., A.M.I.E.E., Tramway Offices, Mill-st., Maidstone.

Saunders, H. A. C., M.I.E.E., consulting electrician, Eastern Telegraph Co., Ltd.; Eastern & South African Telegraph Co., Ltd., Electra House, Finsbury Pavement, London, E.C.

Saunders, H. S., 15, Great St. Helen's, E.C. Director Marconi's Wireless Telegraph Co., Ltd.; director Marconi International Marine Communication Co., Ltd.

Saunders, J. Carr, Milton Heath, Dorking. Director Metropolitan Electric Supply Co., Ltd.; director Uxbridge & District Electric Supply Co., Ltd.; director National Electric Construction Co., Ltd.; director Rhondda Tramways Co., Ltd.; director Rhondda Tramways Construction Synd., Ltd.; director Folkestone, Sandgate & Hythe Tramways Co.

Saunders, Wm., electrician, 205, St. George's-rd., Bolton.

Saunders, E. J., & Co., electricians, 81, Albany-st., Regent's Park, London, N.W. (Teleph. No. 45, King's Cross.)

Saunders, J. B., & Co., electrical engineers & electric light contractors, White Mansion, 91, York-st., Westminster, S.W.; & at Cardiff, Brecon, Welshpool, Swindon, Builth, Portmadoc, Barrow-in-Furness, Barnstaple & Isle of Wight. (Telegrams: "Lightable, London." Teleph. No. 961, Victoria.)

Saunders, Todd & Co., iron, metal, & chemical merchants, exporters, &c., Maritime-bldgs., King-st., Newcastle-on-Tyne. (Telegs.: "Trio, Newcastle, Tyne." Nat. Teleph. No. 2198.)

Saunderson, F., A.M.I.C.E., 8, Finch-rd., Douglas, Isle of Man.

Saunderson, Llewellyn, electrician, Kingstown, co. Dublin.

Savage, C. E., borough electrical engineer, Corporation Electricity Works, Dudley.

Savage, Henry, A.M.I.E.E., A.AM.I.E.E., W. T. Henley's Telegraph Works Co., Ltd., 13-14, Blomfield-st., London Wall, E.C.; & 14, Nadine-st., Charlton, Kent.

Savage, J., electrical engineer, 114, Westfield-st., St. Helens.

Savage Bros., electrical engineers & contractors, 100, High-st., Putney, London, S.W. (Teleph. Putney 292.)

Savage Bros., Ltd., engineers, King's Lynn.

Savill, Arthur G., A.I.E.E., Boleyn, Braintree.

Saville, J. J., & Co., Ltd., makers of magnet steels, tool steel, files, &c., Triumph Steel Works, Shoreham-st., Sheffield. (Telegrams: "Saville, Sheffield." Telephone No. 163, Nat.)

Savory, F. E., Bourne, Farnham, Surrey. Director Richmond (Surrey) Electric Light & Power Co., Ltd.; director County of London Electric Supply Co., Ltd.; director Coatbridge & Airdrie Electric Supply Co., Ltd.; director Bournemouth & Poole Electricity Supply Co., Ltd.

Savory, Reginald, A.I.E.E., 51, Horsford-rd., Brixton, London, S.W.

Saw, G. B. D. C., A.M.I.E.E., Burnedge House, Lees, Oldham.

Sawers, N. C., A.I.E.E., c/o India Rubber, Gutta Percha & Telegraph Works Co., Ltd., 100-106, Cannon-st., London, E.C.

Sawers, Robert, A.M.I.E.E., 47, Leith Mansions, Maida Vale, London, W.

Sawrey, J. S., 20, Bucklersbury, London, E.C. Director Bright's Light & Power, Ltd.

Sawyer, E. E., M.A., M.I.C.E., director Loch Leven Water & Electric Power Co., 109, Queen Victoria-st., London, E.C.

Sax, Julius, & Co., Ltd., electrical engineers & manufacturing electricians, 100, Charing Cross-rd., London, W.C. (Telegs.: "Saxatile, London." Teleph. No. 3266, Gerrard.)

Saxby & Farmer, Ltd., railway signal manufacturers, 53, Victoria-st., Westminster, London, S.W. (Telegrams: "Signalmen, London.")

Saxby & Farmer (India), Ltd., 53, Victoria-st., London, S.W.

Saxon Engineering Co., Ltd., consulting & general engineers, Fenton, Stoke-on-Trent. (Telegs.: "Saxon, Stoke-on-Trent." A.B.C. Code.)

SAXONIA ELECTRICAL WIRE CO., LTD., insulated wires, Roan Works, Roan-st., Greenwich, S.E. (Telegs.: "Saxonist, London." Nat. Teleph. No. 463, Deptford.)

Saye, K. N., A.M.I.M.E., station supervisor, H.M. Dockyard, Portsmouth.

Sayer, E., A.M.I.E.E., chief assistant electrical engineer, Central Electric Light Station, Hampstead, London, N.W.

Sayer, G. H., A.M.I.E.E., 12, Upperton-gdns., Eastbourne.

Sayers, H. M., M.I.E.E., consulting engineer, 39, Victoria-st., Westminster, London, S.W. (Teleph. No. 1063, Victoria.)

Sayers, Josiah, M.I.E.E., electrical engineer & telegraph superintendent, Midland Railway, Derby. (Teleph. Derby 44A.)

Sayers, J. E., M.I.E.E., consulting engineer & electrician, 190, West George-st., Glasgow.

Sayers, R. M., A.M.I.C.E., A.I.E.E., telegraph engineer, 49, Palace Mansions, Addison Bridge, London, W.

Sayers, W. B., M.I.E.E., engineer & electrician, 189, St. Vincent-st., Glasgow. (Telegs.: "Winding, Glasgow." Nat. Teleph. No. 166, Argyle; & P.O. No. 3 Red.)

Sayers, J., & Sons, electrical engineers, 94, North-rd., Brighton.

Sayers, James E., & Caldwell, consulting engineers & electricians, 190, West George-st., Glasgow. (Telegs.: "Schedule, Glasgow." Teleph. No. 471, Argyle.)

Scarborough Electric Supply Co., Ltd. Office: 6, York-pl.; works: Seamer-rd., Scarborough. (Telegs.: "Electricity Works, Scarborough." Teleph. Nos.: 77, Office; 252, Works.) Nominal capital: £100,000 in £10 shares. All the shares have been taken up, fully paid. Directors: G. Alderson-Smith, Esq., D.L. (chairman); George Lord Beeforth, Esq., J.P.; John Bell Simpson, Esq., J.P.; Hon. C. A. Parsons, C.B., F.R.S.; H. T. Ellis, Esq., M.A.; A. A. Campbell Swinton, Esq. (managing director). F. G. Holden, resident engineer; J. Hall, secretary. Dividends: 1904, 6 per cent.; 1905, 5 per cent.; 1906, 4½ per cent.; 1907, 4 per cent.; 1908, 3 per cent.

Scarborough Tramways Co., Scalby-rd., Scarborough. (Teleph. No. 294.) Authorized capital: £96,000 in shares, £32,000 loans. Directors: Dr. F. Dale; Ald. V. Fowler; F. E. Gripper, Esq.; M. T. Whittaker, Esq.; J. C. Wigham, Esq. Consulting engineers, A. A. Campbell Swinton & J. E. Waller; general manager, W. E. Nicoll.

Scarf, I. S., head of Electricity & Magnetism Department, City of London College, White-st., Moorfields, E.C.

Scargill, S., A.I.E.E., electrical engineer, Corrie House, Thornton, Bradford.

Scattergood, B. P., M.A., M.I.E.E., Scattergood & Johnson, 7 & 9, Cookridge-st., Leeds. (Telegs.: "Scatter, Leeds." Teleph. Nos. 3500 & 3501.)

Schaefer, Carl W., A.M.I.E.E., electrician, c/o Eastern Telegraph Co., Ltd., Electra House, Moorgate, London, E.C.

Schaefer, Oscar, consulting electric cable engineer & expert, The "Crest," Kenley, Surrey.

Schäffer & Budenberg, Ltd., steam & pressure gauges, speed indicators & tachometers, 31, Whitworth-st., Manchester. (Telegs.: "Manometer, Manchester." Teleph. Nos. 899 & 899T.)

Schall, Karl, electro-medical instrument maker, 75, New Cavendish-st., London, W. (Telegrams: "Schall, London." Telephone No. 1212, Mayfair.)

Schanschieff, A., C.E., consulting electrician, 138, Wellesley-rd., Chiswick, London, W.

Scharina, W. E. H., M.I.E.E., 163, Hope-st., Glasgow.

Schattner, E. B., A.M.I.E.E., 11, Manville-rd., Upper Tooting, S.W.

Schenk, E., 1, London Wall-bldgs., London Wall, London, E.C. Director Manx Electric Railway Co., Ltd.; director Smithfield Markets Electric Supply Co., Ltd.; director Yorkshire (West Riding) Electric Tramways Co., Ltd.

Schiller, F. W., M.I.E.E., M.I.MECH.E., Butterhill, Stafford.

Schlesinger, L. B., 21, Cornhill, London, E.C. Chairman National Electric Construction Co., Ltd.; chairman Musselburgh & District Electric Light & Traction Co., Ltd.; director Rhondda Tramways Co., Ltd.; director Rhondda Tramways Construction Syndicate, Ltd.; chairman Rhondda Tramways Electric Supply Co., Ltd.; chairman Mexborough & Rawmarsh Construction Syndicate, Ltd.; chairman Mexborough & Swinton Tramways Co.; director Torquay Tramways Co., Ltd.; director Folkestone, Sandgate & Hythe Tramways Co.; director Torquay Tramways Construction Synd., Ltd.

Schmahl, W., managing director Armorduct Manufacturing Co., Ltd., Creek House, Broom Water, Teddington-on-Thames. (P.O. Teleph. No. 686, Kingston.)

Schmidt's Superheating Co., Ltd., 6, Duke-st., London Bridge, S.E.

Schneider, Adolph, M.A., M.I.E.E., manager Evershed & Vignoles, Ltd., Acton Lane Works, Chiswick, W.

Schoen Bros., agents & importers of electrical accessories, 29/30, Cock-lane, Snow Hill, London, E.C. (Telegs.: "Schoen, Cock-lane, London." Teleph. Central 13530.)

Schofield, B., maker of electric pushes & pulls, Diggle, near Oldham.

Schofield, J. E., A.M.I.E.E., 3, Oxford-rd., Dewsbury.

Schofield, S. D., M.I.E.E., A.M.I.MECH.E., electrical engineer to the District Council, Shipley. (Telephone No. 190, Shipley.)

Schofield & Taylor, engineers, Turnbridge, Huddersfield. (Telephone No. 120.)

Scholefield, A., 17, Sandhill, Newcastle-on-Tyne. Director Newcastle & District Elec. Lighting Co., Ltd.

Scholes, George H., A.M.I.E.E., Blantyre-st., Hulme, Manchester.

Scholes, Wm., electrical engineer & contractor, 3, Willan-rd., Eccles.

Scholes & Co., electrical engineers, 3, Willan-rd., Eccles.

Scholes, George H., & Co., electrical engineers & contractors, Blantyre-st., Manchester. (Telegrams: "Kilowatt, Manchester." Telephone No. 4061, Nat.)

Scholey, Harry, A.I.E.E., Dick, Kerr & Co., Ltd., Abchurch Yard, Cannon-st., London, E.C.

Scholey, V. C., wiring contractor, 94, High-st., Hythe, Kent. (Telegs.: "Scholey, Hythe.")

Schonfield, A., & Co., Ltd., electric lighting & power engineers, 21, Hope-st., Glasgow. (Telegs.: "Schonfield, Glasgow." Nat. Teleph. Argyle 1479; P.O. 1478.)

Schontheil, Theodore, M.I.E.E., M.I.MECH.E., Western Mail-chbrs., Cardiff. (Telegs.: "Thor, Cardiff." Teleph. P.O. 606; & Nat. 678.)

SCHOOLS, COLLEGES, UNIVERSITIES, &c.—For Professors, *see* CLASSIFIED SECTION.

Schorch Electrical Co., 35, Basinghall-st., London, E.C.

Schram, Harker & Co., air compressor makers, Cannon-st. House, Cannon-st., London, E.C. (Telegs.: "Schram, London." Teleph. Central 3139.)

Schreiber Electric Battery Co., Ltd., 25, Brewer-st., Regent-st., London, W.

Schreiber & Neffen (Vienna), electric light shade makers; agents, Kiesow & Co., 25, Fore-street-avenue, London, E.C. (Telegrams: "Kiesows, London." Telephone No. 1871, London Wall.)

Schultz, A. H., A.M.I.E.E., British Insulated & Helsby Cables, Ltd., Eccleston Park, Prescot.

Schultz, George, A.M.I.E.E., engineer & manager, Notting-hill Electric Lighting Co., Ltd., 140, High-st., Notting-hill, London, W.

Schultz, W. A., J.P., director Milford-on-Sea Electric Supply Co., Ltd., Milford-on-Sea.

Schultz, G., & Co., electrical engineering material, 10, Bush-lane, London, E.C. (Telegs.: "Steelhead, London." Teleph. No. 5931, Bank.)

Schuster, A., PH.D., SC.D., F.R.S., F.R.A.S., M.I.E.E., Victoria Park, Manchester. (Teleph. Rusholme 1192.)

Schuster, Hans, Dresdner Bank, Berlin. Director The Victoria Falls Power Co., Ltd.

Schuster, W. S. L., 6, Curzon-st., Mayfair, W. Director S. Staffordshire Tramways (Lessee) Co., Ltd.

Schwarte & Hammer, electrical copper wire manufacturers, 3, East India-ave., Leadenhall-st., London, E.C. (Telegrams: "Schwartham, London." Telephone No. 4030, Avenue.)

Schwartz, Alfred, A.K.C., A.M.I.C.E., M.I.E.E., M.SC.TECH., professor of elec. engineering, Victoria University, & professor of physics & elec. engineering, Municipal School of Technology, Manchester.

Science Abstracts (price 30*s.* post free per annum), Institution of Electrical Engineers, Victoria Embankment, London, W.C. (Telegs.: "Voltampere, London." Teleph. Victoria 911.)

Science Siftings, The Inventor's Mart, a popular journal of scientific invention & progress (weekly, 1*d.*), 123, 124 & 125, Fleet-st., London, E.C. (Telephone No. 194, Holborn.)

Scientific Appliance Manufacturing Co., electro-medical apparatus manufacturers, 15, New Oxford-st., London, W.C. (Teleph. No. 15030, Central.)

Sclater, A. W., A.M.I.C.E., M.I.E.E., electrical engineer, 182, Oxford-st., London, W. (Telegrams: "Eniteo, London." Telephone No. 5239, Central.)

Sclater, Guy Lutley, Captain R.N., M.I.E.E., Odiham Close, Winchfield, Hants.

Scorer, Arthur B., A.M.I.E.E., Coombe Hurst, Lincoln.

Scorey, Alfred T., A.M.I.E.E., 51, South-st., Park-lane, London, W.

Scotcher & Sons, electrical engineers, High-st., Hampton Wick.

Scott, Alexander, M.A., D.SC., F.R.S., superintendent of the Davy-Faraday Research Laboratory of the Royal Institution, 20, Albemarle-st., London, W.

Scott, Arthur, electrical engineer, 37 & 38, Haven-green, Ealing; & 15 & 17, The Avenue, West Ealing. (Telegs.: "Scott, Ironmonger, Ealing." P.O. Teleph. No. 724.)

Scott, A. W., M.A., professor of physical science, St. David's College, Lampeter.

Scott, C. J. Cater, 109, Leadenhall-st., London, E.C. Chairman London United Tramways, Ltd.; director Underground Electric Railways Co. of London, Ltd.

Scott, C. J., Hilgay, Claredon-rd., Guildford. Director Great Northern, Piccadilly & Brompton Railway Co.

Scott, Col. Sir Buchanan, K.C.I.E., 14, Parkston-gdns., S.W. Chairman Delhi Electric Tramways & Lighting Co., Ltd.

Scott, E. Kilburn, M.I.E.E., A.M.I.C.E., Vale House, Burnt Ash-lane, Bromley, Kent.

Scott, Ernest, A.N.A., engineer & director Ernest Scott & Mountain, Ltd., Close Works, Gateshead-on-Tyne.

Scott, Ernest Morris Outram, A.M.I.E.E., 38, West Cromwell-rd., London, S.W.

Scott, F. M. C., mechanical draughtsman & patent agent, 89, Victoria-street, Liverpool, W.

Scott, G. A., Brechin. Director North of Scotland Electric Light & Power Co., Ltd.

Scott, John, assistant provincial superintendent, National Telephone Co., Ltd., Telephone-bldgs., 19, Newhall-st., Birmingham. (Telegrams: "National Telephone, Birmingham." Telephone Central 777.)

Scott, J., secretary to the Cuba Submarine Telegraph Co., Ltd., 58, Old Broad-st., London, E.C.

Scott, Jas., A.I.E.E., 248, Primrose-rd., Bootle, Liverpool.

Scott, John, wiring contractor, 128, Main-st., Stirling.

Scott, John F. S., A.M.I.E.E., 3, Bellevue-ter., Edinburgh.

Scott, John Gray, M.I.E.E., 53, Woodland-gdns., Highgate, London, N.

Scott, J. T., A.I.E.E., 28, Heathwood Gardens, Charlton, S.E.

Scott, J. W. P., A.I.E.E., 11, Grantly-gdns., Shawlands, Glasgow.

Scott, Prof. A. W., M.A., professor of physical science, St. David's College, Lampeter, South Wales.

Scott, R. F., M.A., director Cambridge Electric Supply Co., Ltd., Thompson's-lane, Cambridge.

Scott, R. T., Belfast. Director Bessbrook & Newry Tramway Co.

Scott, Sir B., Colonel, R.E., K.C.I.E., A.I.E.E., 14, Barkston-gdns., South Kensington, London, S.W.

Scott, T. Laidlaw, A.M.I.M.E., Thomas L. Scott & Co., Ltd., Martin's-chbrs., 28, Martin's-lane, Cannon-st., London, E.C.

Scott, W. A., A.M.I.E.E., 102, St. Mary-st., Cardiff.

Scott, W. A., A.M.I.E.E., assistant works manager, c/o Bruce Peebles & Co., Edinburgh.

Scott, Wm., electrical engineer, 76, Stratford-st., Glasgow.

Scott, Wm., scientific instrument maker, 3, Bateman's-ct., High Skellgate, Ripon.

Scott, William, electrical engineer, agent for W. T. Glover & Co., Ltd., D. P. Battery Co., Ltd., & The Howard Asphalt Troughing Co., Ltd., 196, St. Vincent-st., Glasgow. (Telegs.: "Conductors, Glasgow." Nat. Teleph. Argyle 956; P.O. 1174.)

Scott, Wm. Bellhouse, A.I.E.E., Eversley Cottage, Middleton, near Manchester.

Scott, W. H., resident engineer, Dumfries Electricity Supply Co., Ltd., Dumfries, N.B.

Scott, W. H., M.I.E.E., electrical engineer & director of Laurence, Scott & Co., Ltd., Gothic Works, Norwich.

Scott, W. P., A.M.I.E.E., Room 101, Old-bldg., Admiralty, Whitehall, S.W.

Scott, Ernest, & Mountain, Ltd., manufacturing electrical engineers (dynamos, &c.), Close Works, Gateshead-on-Tyne; 49, Queen Victoria-st., London, E.C. (Telegs.: "Esco, Gateshead-on-Tyne." Nat. Teleph. Nos. 311–312. Telegs.: "Escamotur, London.") Nominal capital: £150,000 in £1 shares & £75,000 debentures. 97,790 ordinary shares have been taken up & are fully paid, & 29,800 preferred ordinary shares fully paid. There are also £39,600 4½ per cent. first mortgage debenture stock & £16,100 5 per cent. second debentures issued. Directors: Claude W. Atkinson, Esq. (chairman); W. C. Mountain, Esq. (managing); E. Scott, Esq.; J. E. Hodgkin, Esq.; O. W. Ellis, Esq.; G. E. Henderson, Esq.; & W. R. Stobart, Esq. Secretary, R. M. Petrie. Dividends: 1904, 3 per cent.; 1905, 1906, 1907. 1908 & first half of 1909, *nil*.

Scott & Hodgson, Ltd., engine makers, Guide-bridge Ironworks, Guide Bridge, nr. Manchester. (Telegrams: "Engines, Hooley-hill." Telephone No. 67, Ashton-under-Lyne.)

Scott, Hugh J., & Co., dynamo & motor manufacturers, Ravenhill-ave., Belfast. (Teleph. No. 1600.)

Scott, James, Ltd., electrical & mechanical engineers, Knowsley Electrical Works, Bootle, nr. Liverpool. (Teleph. No. 322, Bootle.)

Scott & Leggat, consulting engineers, 102, St. Mary-st., Cardiff.

Scott & Scott, electric light contractors, Poole-rd., Westbourne, Bournemouth. (Teleph. No. 912.)

Scott, Thomas L., & Co., Ltd., electrical & mechanical engineers, Martin's-chbrs., 28, Martin's-lane, Cannon-st., London, E.C.

Scott, Walter, & Co. (Edinburgh), Ltd., electrical & mechanical engineers, 148, Rose-st., Edinburgh.

Scott, Walter, Ltd., Leeds Steel Works, manufacturers of girders, channels, rails, &c., Leeds. (Telegrams: "Bessemer, Leeds." Telephone No. 510.)

Scott-Moncrieff, K. A., M.I.E.E., Electric Supply Corporation, Salisbury House, London Wall, London, E.C. Managing director Hendon Electric Supply Co., Ltd.

Scott-Moncrieff, K. M., engineer, The Electric Supply Corporation, Ltd., Dollar, N.B.

Scott-Russell, Norman, 39, Coleman-st., London, E.C. Director North-West London Railway Co.; director Lancashire Electric Power Co.

Scottish Central Electric Power Co., 25, Frederick-st., Edinburgh; & Commercial Bank-bldgs., Kirk Wynd, Falkirk. (Telegs.: "Farad, Falkirk." Teleph. No. 286, Falkirk.) Station at Bonnybridge. (Telegs.: "Unit, Bonnybridge." Teleph. No. 14, Bonnybridge.) Incorporated 1903. Nominal capital: £600,000 in £10 shares. Borrowing powers: £200,000. Directors: J. A. Hood, Esq. (chairman); D. Russell, Esq.; J. H. Annandale, Esq.; C. H. McEuen, Esq.; W. Lyon Mackenzie, Esq.; Henry Rüffer, Esq.; A. R. Holland, Esq. General manager, E. C. Churchward; secretary, Jas. Walker, C.A.

Scottish Electrical Luminiscriptor Co., Ltd., 180, Hope-st., Glasgow.

Scottish Electro-Medical Institute, Ltd., 24, Blytheswood-sq., Glasgow.

Scottish Indiarubber Co., electric cables & indiarubber goods, 9, Howard-st., Glasgow. (Telegs.: "Proof, Glasgow." Nat. Teleph. No. 690; & P.O. 2602.)

Scottish Wireless Electric Synd., Ltd., electrical instrument manufacturers, 53, Bothwell-st., Glasgow.

Scoular Haywood & Co. (The Omega Electric Lamp Co., Ltd.), Palace Works, Crab Tree-lane, Hammersmith, London, W. (Telegs.: "Scoularite, London." Teleph. Western 4872.)

"Scout" Motors, Ltd., motor manufacturers, Salisbury. (Telegs.: "Scout, Salisbury." Teleph. No. 48.)

Scovell Bros., electricians, 6, Thavies Inn, London, E.C.; & at Manor Park, E.

Scratchley, P. A., director Larne Electric Light Works, Ltd., Suffolk House, Laurence Pountney Hill, E.C.

Scriven & Co., machine tool makers, Leeds Old Foundry, Mill-st., Leeds. (Telegs.: "Scriven, Leeds." Teleph. No. 1819.)

Scruby, R., A.I.E.E., British L. M. Ericsson Manufacturing Co., Ltd., Beeston, Notts.

Scupham & Wood, Ltd., wood blocks & turnings for electric work, Mill-st. Turning Mills, Leeds. (Telegs.: "Scuphams, Leeds." Teleph. Nos. 4110 & 4111.)

Seabrook, Arthur Hugh, M.I.E.E., M.I.MECH.E., general manager, St. Marylebone Borough Council Electricity Works, 19 & 20, York-pl., London, W.

Seabrook Bros., batteries, electrical specialties & apparatus, 32–34, Featherstone-st., City-rd., E.C. (Telegs.: "Seabrook, London." A.B.C., 4th edit., & Premier Codes. Teleph. No. 4134, Central.)

Seage, A., & Co., manufacturing electrical engineers, Cambridge Works, Cambridge-rd., Hammersmith, W. (Teleph. No. 610, Chiswick.)

Seager, F. P., A.M.I.E.E., Oakhurst, Abbeydale Rise, nr. Sheffield.

Seager, J. A., A.M.I.C.E., A.I.E.E., electrical engineer, Emerson-chbrs., Blackett-st., Newcastle-on-Tyne. (Nat. Teleph. No. 760, Central.)

Seager, Laurance, electric light & telephone contractor, London-rd., Sittingbourne, Kent. Director Sheppey Water & Lighting Co., Ltd.

Seagers, Ltd., electrical & general engineers, Dartford. (Telegs.: "Seagers, Dartford." Nat. Teleph. Dartford 26.)

Seal, Walter, & Co., dealers in electrical supplies, 22, Church-st. & Lynn-st., West Hartlepool. (Telephone No. 198.)

Seale, H. J., A.M.I.E.E., Woodporte, Farnborough.

Seale, Austen & Barnes, Ltd., electric light & power contractors, 86, High-st., Tonbridge.

Seaman, Arthur G., M.I.E.E., The Narrows, Altrincham, Cheshire.

Searle, W., & Co., tachometers, 27, Noel-st., Oxford-st., London, W. (Telegs.: "Electrauto, London." Teleph. Gerrard 8763.)

Sears, Arthur Holroyd, A.M.I.E.E., 57, Lee-ter., Blackheath, S.E.

Seaton, A. E., consulting engineer, 32, Victoria-st., London, S.W. (Telegrams: "Seaquake, London." Telephone No. 207, Victoria.)

Seaton, E. P., consulting elec. engineer, 8, Prince's-st., Westminster, S.W. (Teleph. No. 627, Westminster.)

Seaton, W. Sharpey, A.M.I.C.E., consulting electrical engineer, Montague House, Richmond, Surrey.

Seddon, Edwin, assistant station superintendent, Corporation Electricity Works, West Ham, London, E.

Seddon, R., installation contractor, 296, Ashton New-rd., Manchester.

Seeck, Max, electrical accessories manufacturer, 6, Henrietta-st., Covent Garden, London, W.C. (Telegs.: "Seeck, London." Teleph. No. 11401, Central.)

Sefton-Jones, H., chartered patent agent, 285, High Holborn, London, E.C.; & at Dublin & Belfast. (Telegrams: "Discovery, London." Telephone No. 823, Holborn.)

Segundo, E. C. de, M.I.MECH.E., A.M.I.C.E., M.I.E.E., 231–233, Dashwood House, New Broad-st., E.C. (Telegs.: "Awesome, London." Teleph. No. 2686, Central.)

Selby, A. L., M.A., professor of physics, University College of South Wales & Monmouthshire, Cardiff.

Selby-Bigge, D. L., A.I.E.E., 27, Mosley-street, Newcastle.

Selden & Son, electrical engineers & wholesale ironmongers, 180, King-st., Hammersmith, London, W. (Telegrams: "Selden, Hammersmith." Telephone No. 33, Hammersmith.)

Selig, Sonnenthal & Co., engineers' tool makers, 85, Queen Victoria-st., London, E.C. (Telegs.: "Selig, London." Teleph. Nos.: 341, Bank; & 11779, Central.) Works: Coventry. *See advt. under* MACHINE TOOL MAKERS.

Selinger, M., manufacturers of lamp shades, 8, Nicholas-st., Mile End-rd., London, E.

Selkirk, A. A., manager Wm. McGeoch & Co., Ltd., 90, Charing Cross-rd., London, W.C. (Telegs.: "McGeoch, London." Teleph. Gerrard 1505.)

Selkirk, David B., A.I.E.E., "Norwood," Milngavie, N.B.

Selkirk, D. B., & Co., electro-medical apparatus, 100, Bath-st., Glasgow. (Teleph. Douglas 347; & P.O. Central 1347.)

Sellens, F. C., A.M.I.E.E., 16, Jessica-rd., Wandsworth Common, S.W.

Seller, Frank Russell, A.I.E.E., Hamilton House, Victoria Embankment, London, E.C.

Sellon, Ernest M., M.I.E.E., 36, Victoria-st., Westminster, London, S.W. (Telegs.: "Altedel, London." P.O. Teleph. No. 457, Victoria.)

Sellon, John S., M.I.E.E., 78, Hatton Garden, London, E.C.

Sellon, R. Percy, M.I.E.E., Mansion House-bldgs., 4, Queen Victoria-st., London, E.C. (Telegs.: "Sellon, c/o Eminencies, London." Teleph. No. 12321, Central.) Director County of London Electric Supply Co., Ltd.; director Melbourne Electric Supply Co., Ltd. (managing); director Bournemouth & Poole Electricity Supply Co., Ltd.; & director Richmond (Surrey) Electric Light & Power Co., Ltd.

Sellon, Stephen, M.INST.C.E., 36, Victoria-st., Westminster, London, S.W. (Telegs.: "Altedel, London." P.O. Teleph. No. 457, Victoria.) Director Wemyss & District Tramways Co., Ltd.; director Llandudno & Colwyn Bay Electric Railway, Ltd.

Sellon, Stephen, & Partners, consulting engineers, 36, Victoria-st., Westminster, London, S.W. (Telegs.: "Altedel, London." P.O. Teleph. No. 457, Victoria.)

Sells, Fred., A.I.E.E., General Electric Co., Ltd., Victoria Bridge, Manchester.

Selvey, Wm. M., A.I.E.E., electrical engineer, c/o C. H. Merz, Collingwood-bldgs., Newcastle-on-Tyne.

Selwyn Electrical Engineering Co., 220, Walworth-rd., London, S.E. (Teleph. Hop. 97.)

Sendall, W. F., & Co., electric lighting contractors, 18, East-st., Horsham. (Telegs.: "Sendalls, Horsham." Teleph. No. 7 X., G.P.O.)

Senier, Alfred, PH.D., M.D., D.SC., F.I.C., F.C.S., M.R.I.A., professor of chemistry, University College, Galway.

Senior, J., A.M.I.E.E., electrical engineer, Urban District Council, Mexborough, Yorks.

Sesal Co., electric sign makers, 232, Shaftesbury-ave., London, W.C. (Teleph. Gerrard 280.)

SESSIONS & SONS, LTD., Slate & Marble Works, Gloucester; & at Cardiff. *See advt.*, SLATE TURNERS.

Severs, J., A.M.I.E.E., electrical engineer, G.N. & City Railway, Drayton Park, London, N.

Seville Sulphur & Copper Co., Ltd., 30, George-sq., Glasgow. (Telegs.: "Seville, Glasgow." Teleph. Nos.: 966, Royal, Nat.; & 966, Central, P.O.)

Seward, A., & Co., wiring contractors, Market-st., Lancaster.

Sewell, T., A.M.I.E.E., teacher in electricity, Polytechnic Institute, 309 & 311, Regent's-st., W.; & 60, Cromwell-rd., Wimbledon, S.W.

Sewell & Varley, electrical engineers, 23, Lloyd-st., Manchester. (Teleph. No. 6164.)

Sewill, J., ships' telegraph manufacturer & optician, 61, South Castle-st., Liverpool. (Telegrams: "Time, Liverpool." Telephone No. 658.)

Sexton, C. E., A.M.I.E.E., Cofield, Redhill, Surrey.

Sexton, Prof. A. Humboldt, F.I.C., F.C.S., professor of metallurgy, Glasgow & West of Scotland Technical College, 204, George-st., Glasgow.

Seymour, G. E., A.M.I.E.E., Sir W. G. Armstrong, Whitworth & Co., Elswick Works, Newcastle-on-Tyne.

Seymour & Co., electrical case fittings manufacturers, 1, St. James' Walk, Clerkenwell, London, E.C. (Telephone No. 11432, Central.)

Seymour Motor Co., 34, Slater-st., Liverpool.

Seymour, W., Ltd., electricians, &c., 1 & 7, Ellis-st., Sloane-st., London, S.W.; & Ballards-lane, Church End, Finchley, N. (Teleph. No. 2593, Kensington.)

Seymour-Jones, A., Pendower, Wrexham. Director North-Western Electricity & Power Gas Syndicate, Ltd.

Seys, P. G., district representative Simplex Conduits, Ltd., 72A, Waterloo-st., Glasgow.

Shackleton, J. M., A.M.I.E.E., National Telephone Co., Salisbury House, London Wall, London, E.C.

Shackleton, John F., & Son, conduit makers, &c., Goole, Yorks. (Telegs.: "Shackleton, Goole." Teleph. No. 13.)

Shalders & Davis, electrical engineers & contractors, 17, High-st., Southampton. (Telephone No. 6.)

Shallcross, G. P., A.M.I.E.E., chief assistant engineer, Electricity Works, Birkenhead.

Shanahan, H. F., electrical engineer, Corporation Electricity Works, Blackpool. (Teleph. No. 240.)

Shanan, C. H., A.M.I.C.E., A.M.I.MECH.E., A.I.E.E., 142, Great Mersey-st., Liverpool.

Shand, Mason & Co., makers of steam & manual fire engines & all fire appliances, also steam boilers, &c., 75, Upper Ground-st., Blackfriars-rd., London, S.E. (Telegs.: "Shand, London." A.B.C. Code.)

Shanghai Electric Construction Co., Ltd., Basildon House, London, E.C. (Telegs.: "Retexo, London." Teleph. No. 3920, London Wall.) Registered Dec. 9, 1905. Nominal capital: £320,000 in £10 shares, all issued & fully paid. Directors: Sir Alfred Dent (chairman); Col. A. Thys; E. Francqui, Esq.; R. S. Portheim, Esq.; J. S. Haskell, Esq. Consulting engineers, Harper Bros. & Co.; secretary, L. W. Hawkins. Dividends: 1906, *nil*. *Tramways opened in March*, 1908.

Shanklin Electricity Works. Isle of Wight Electric Light & Power Co., Ltd., proprietors. Engineer, A. E. Mayes, A.M.I.E.E.

Shanks, David, A.I.E.E., electrical engineer, 40, Great Charles-st., Birmingham. (Telegrams: "Illumine, Birmingham." Telephone No. 3093.)

Shanks, James, consulting engineer, 79, Mark-lane, London, E.C. (Telegrams: "Beriberi, London.")

Shanks, Alexander, & Son, Ltd., engineers, Arbroath; & Bush Lane House, Bush Lane, London, E.C. (Telegrams Shankson, London." Telephone No. 670, Bank.)

Shanks, Thos., & Co., tool makers, Johnstone, N.B.

Shannon, Ltd., makers of portable electric lamps, &c., Ropemaker-st., London, E.C.

Shapley, Arthur Robert, A.M.I.E.E., Corporation Electricity Works, Bath.

Shardlow, C., & Co., Ltd., mechanical & electrical engineers, Britannia Foundry, St. Peter's-lane, Leicester.

Sharer & Young, Ltd., marine & electrical engineers, Alloa, N.B. (Telegs.: "Marmot, Alloa." Teleph. No. 91.)

Sharman, Philip A., consulting engineer, 113, Cannon-st., London, E.C. (Telegrams: "Graftonian, London." Telephone No. 1147, Central.)

Sharman Bros., model makers, 6, Free-school-lane, Leicester.

Sharp, D., chief assistant engineer, Electricity Works, Falkirk, N.B.

Sharp, E. E., A.M.I.E.E., Venner & Co., 6, Old Queen-st., Westminster, London, S.W.; & 43, Lillieshall-rd., Clapham, S.W.

Sharp, Geo., electrician, Tinsley Car Sheds, Sheffield.

Sharp, Sidney, M.I.MECH.E., M.I.E.E., consulting engineer, 13, Victoria-st., Westminster, London, S.W. (Telegs.: "Vivax, London.")

Sharp, Jones & Co., stoneware conduit makers, Parkstone, Dorset.

Sharpe, Arthur H., speciality: forgings for dynamos, 8, Eastcheap, London, E.C. (Telegrams: "Fossicker, London." Telephone No. 2640, Avenue.)

Sharpe, J. W., electrician, Woodroffe, Portarlington-rd., Bournemouth.

Sharpe, W., electrical engineer, 2A, Fernshaw-rd., Chelsea, London, S.W. (Teleph. Western 2865.)

Sharpe & Son, electrical contractors, Huntley Grove, Peterborough.

Sharpe, Wm., & Son, Ltd., electrical apparatus manufacturers, 3, Bucklersbury, London, E.C.

Sharples, Hill & Co., electrical engineers & contractors, 24, Brazennose-st., Manchester. (Teleph. No. 3775.)

Shatford, Ernest E., A.M.I.E.E., 29, Sussex-st., Rochdale.

Shaw, A., installation contractor, 16, Story-st., Hull.

Shaw, Arthur, tile manufacturer, Shelton Tile Works, Hanley, Staffs. (Teleph. No. 129.)

Shaw, A. H., M.I.E.E., A.M.I.MECH.E., electrical engineer, Electricity Works, Ley-st., Ilford. (Teleph. No. 32.)

Shaw, Cecil R., A.M.I.E.E., 109, Widmore-rd., Bromley, Kent.

Shaw, Cyril M., A.M.I.E.E., city electrical engineer, Worcester.

Shaw, F. H., electrical engineer to the Lincoln County Hospital, Lincoln.

Shaw, Henry, A.M.I.E.E., 33, Johnson-st., Cheetham, Manchester.

Shaw, J., M.I.C.E., M.I.E.E., general manager & engineer, Mersey Railway Co., Central Station, Birkenhead.

Shaw, John, M.I.E.E., consulting electrical engineer, Glenavon, Combe Martin, R.S.O., Devon; & 2, Parsonage, Blackfriars, Manchester.

Shaw, John, A.M.I.E.E., Superintending Electrical Engineers' Department, The Admiralty, Whitehall, S.W.

Shaw, Joseph, 36, Bryanston-sq., W. Director County of London Electric Supply Co., Ltd.

Shaw, J. B., A.R.C.SC., engineering lecturer, Battersea Polytechnic, London, S.W.

Shaw, J. S., director Llangollen & District Electric Light & Power Co., Ltd., Bridge-st., Llangollen.

Shaw, Robert, A.I.E.E., "Lynnwood," Ashton-on-Mersey.

Shaw, R., electrical engineer, British Insulated & Helsby Cables, Ltd., 2, Parsonage, Blackfriars, Manchester. (Telegrams: "Vigorous, Manchester." Telephone No. 2044.)

Shaw, Robert J., A.M.I.E.E., 14, Kells-gdns., Low Fell, Gateshead.

Shaw, W., A.M.I.E.E., consulting electrical engineer, 105, Colmore-row, Birmingham. (Teleph. No. 10x, Central.)

Shaw, W. Bolton, M.SC., A.M.I.E.E., c/o J. Musgrave & Sons, Ltd., Globe Iron Works, Bolton.

Shaw, W. H., A.M.I.E.E., 39, Duncan-ave., Scotstoun, Glasgow.

Shaw, E. J., & Co., electric light globe & shade manufacturers, Astral Works, Hatherton-st., Walsall.

Shaw, Giles, & Co., electric bell fitters, Manchester-st., Oldham.

Shaw, G. H., & Son, electricians, Town Hall-st., Blackburn. (Teleph. No. 0840.)

Shaw, H., & Son, magnet & ship compass needle manufacturers, 45 & 47, Monmouth-street, Sheffield.

Shaw, John, & Co., iron founders, Maryhill Iron Works, Glasgow. (Telegs.: "Shaw, Glasgow." Nat. & P.O. Teleph. Nos. 27, Maryhill.)

Shaw, J., & Sons, installation contractors, Wellington-st. Works, Manchester.

Shaw, Joseph, & Son, Ltd., steam valve manufacturers, Albert Works, Huddersfield. (Telegs.: "Governor, Huddersfield." Teleph. Huddersfield 1201.)

Shaw, R., & Sons, electrical engineers, Bridge-st., Worksop.
Shaw, Wm. A., & Co., electric light & telephone contractors, 10–16, Warren-st., Stockport. (Tel. No. 131.)
Shaw-Browne, W. D., local manager Pulsometer Engineering Co., Ltd., 2, Strand-st., Liverpool. (Telegs.: "Pulsometer, Liverpool." Teleph. Bank 4184.)
Shawcross, R. E., A.M.I.C.E., A.I.E.E., demonstrator in electrical engineering, King's College, Strand, W.C. & Coningbury, Hollycroft-ave., Hampstead, London, N.W.
Shawfield, C. E. C., A.M.I.E.E., M.I.MECH.E., borough electrical & tramways engineer, Wolverhampton.
Sheardown, P. S., M.I.E.E., electrical engineer, Dublin United Tramway Co., Ringsend, Dublin.
Shearer, A. G., A.I.E.E., A.AM.I.E.E., Newcastle-on-Tyne E. S. Co., Carville Power Station, Wallsend-on-T.
Shearer, Robert, electrical engineer, 30, Gower-place, Gower-street, London, E.C.
Shearer, Wm., A.M.I.E.E., A.M.I.MECH.E., 53, Thistle-st,, Edinburgh. Director Fife Synd., Ltd.
Shearing, G., A.M.I.E.E., 7, Beversbrook-rd., Tufnell Park, N.
Shearn, C. H., electrical engineer, Midsomer Norton.
SHEARS & SON, ELECTRICAL ENGINEERS & CONTRACTORS, EAST CENTRAL WORKS, BOURNEMOUTH. (TELEGRAMS: "SHEARS, BOURNEMOUTH." TELEPH. NO. 163.)
Sheerness & District Electric Power & Traction Co., Ltd., Sheerness (Telegs.: "Tramways, Sheerness." Teleph. No. 45, Sheerness); & Electrical Federation Offices, Kingsway, London, W.C. (Telegs.: "Sheerness, c/o Tramways, London." Teleph. No. 2686, Holborn (6 lines).) Registered April 24, 1900, as the County of Kent Electrical Power Distribution Co., Ltd. Nominal capital: £50,000 in £10 shares, all issued & fully paid, & £25,000 debentures. 4½ per cent. debentures issued: £15,000. Directors: W. L. Madgen, Esq. (chairman); Geo. Offor, Esq.; G. J. Somerville, Esq. P. N. Gray, secretary; G. L. Kirk, managing engineer; F. H. Whiteford, chief assistant engineer.
Sheffield Corporation Electric Supply Department. Office: Commercial-st., Sheffield. S. E. Fedden, M.I.C.E., M.I.M.E., general manager & engineer. (Telegs.: "Electricity, Sheffield." Tel. No. 1909.)
Sheffield Corporation Electric Tramways. (Telegs.: "Tramways Manager, Sheffield." Teleph. Sheffield 2470 & 3552.) General manager, A. R. Fearnley; chief engineer, H. E. Yerbury, M.I.MECH.E., M.I.E.E.
Sheffield Electrical Engineering Co., installation contractors & manufacturers, 99, Rockingham-lane, Sheffield. (Telegs.: "Dynamo, Sheffield." Teleph. No. 741.)
Sheffield Nickel & Silver Plating Co. (E. G. Draper & Co.), Globe Works, Penistone-road, Sheffield. (Telegs.: "Draper, Globe Works, Sheffield." Teleph. No. 109 Y. 4.)
Sheffield Patent Office (Robert F. Drury), Rectory-chbrs., 24, Norfolk-row, Sheffield.
Sheffield Smelting Co., Ltd., platinum refiners & dealers, 1, Berry-st., Clerkenwell-rd., London, E.C. (Telegrams: "Cupelling, London." Telephone No. 590, Holborn); & at Sheffield & Birmingham.
Sheffield Wire Co., manufacturers of steel wire & springs, Arundel-st., Sheffield. (Telephone No. 714.)
Shelby Manufacturing Co., oil filter manufacturers, Rye Works, Hanover-st., London, S.E. (Telegs.: "Sheldaple, London.")
Sheldon, R. A., A.M.I.E.E., senior lecturer in electrical engineering, University College, Nottingham.
Sheldon Bush & Patent Shot Co., lead smelters & tin, zinc, solder, lead tubes, & chemical lead manufacturers, Cheese-lane, Bristol. (Telegrams: "Sheldon, Bristol." Telephone No. 347.)
Sheldon, Melloy & Co., electrotypers, 280, High Holborn, W.C. (Teleph. No. 5640, Holborn.)
Sheldrick, E., & Co., installation contractors, 19, Thurlestone-rd., West Norwood, London, S.E. (Teleph. No. 460, Streatham.)
Shenton, T. S., A.M.I.E.E., resident electrical engineer, Electricity Dept., Benn-bldgs., High-st., Rugby.
Shephard, D. G., A.M.I.E.E., chief engineer, Otis Elevator Co., Ltd., 4, Queen Victoria-st., E.C.
Shephard, W. H., A.I.E.E., 3, Crown-ct., Old Broad-st., London, E.C. (Teleph. No. 2369, London Wall.)
Shepheard, Hubert B., A.I.E.E., 24, Grange-rd., Ealing, W.
Shepherd, A., director Fort William Electric Lighting Co., Ltd., Fort William.
Shepherd, C. W., general manager, Edinburgh & District Tramways Co., Ltd., Edinburgh. (Telegs.: "Cable, Edinburgh." Teleph. No. 1851.)
Shepherd, Cresswell Wm., A.M.I.E.E., Royal Holloway College, Englefield Green S.O., Surrey.
Shepherd, F., A.I.E.E., electrical engineer, 23, Thornbury-rd., Clapham Park, London, S.W.
Shepherd, J., M.I.E.E., A.M.I.C.E., assistant electrical engineer, L.C.C. Tramways, 62, Finsbury Pavement, London, E.C.; & 41, Killieser-ave., Streatham, S.W.
Shepherd, Jas. H., manager, Dundee, Broughty Ferry & District Tramways Co., Ltd., 4, High-st., Dundee.
Shepherd, R., A.M.I.E.E., 22, The Temple, Liverpool.
Shepherd, Wm., Leven. Director Wemyss & District Tramways Co., Ltd.
Shepherd & Haward, electrical metal trades valuers, 369, Birkbeck Bank-chbrs., Holborn, London, W.C. (Telegs.: "Justifico, London." Teleph. No. 4825, Holborn.)
Shepherd & Watney, mechanical & electrical engineers, Greek Street-chbrs., Leeds. (Telegs.: "Energy, Leeds." Teleph. No. 2229.)
Sheppard, D., A.I.E.E., 31, Camphill-ave., Langside, Glasgow.
Sheppard, E., A.I.E.E., works manager, Simplex Conduits, Ltd., Garrison-lane, Birmingham; & 50, Alcester-rd., Moseley, Birmingham.
Sheppard, E. G., A.M.I.E.E., electrical engineer, 72, Deodar-rd., London, S.W.
Sheppard, S. G., 57, Old Broad-st., E.C. Director Mersey Railway Co.

Sheppard Bros., electric light contractors, Snakes-lane, Woodford Green. (Telegs.: "Sheppard Bros., Woodford Green." Teleph. Woodford 510.)

Sheppard & Co., electricians, 5, Grocers' Hall-ct., Poultry, London, E.C. (Telephone No. 7427, Central.)

Sheppee, Col. F. F., J.P., Holly Spring, Bracknell, Berks. Chairman Exchange Telegraph Co., Ltd.

Shepperd, A. H., A.I.E.E., Engineer in Chief's Office, G.P.O., London, E.C.

Sheppey Water & Lighting Co., Ltd., 4, Edward-st., Sheerness. Registered July 16, 1902. Nominal capital: £12,000 in £1 shares, 6100 of which have been issued. Directors: F. R. Ramuz, Esq.; G. H. Wills, Esq. (manager); L. Seager, Esq.; M. Pierson, Esq.; W. A. Benson, Esq.; G. F. Ramuz, Esq. Secretary, J. S. Bills.

Sheridan, Phillip, electrical engineer, Monalee, 43, Harder's-rd., Peckham, London, S.E.

Sherley-Price, Ernest A., M.I.S.I., A.I.E.E., Wheatley Kirk, Price & Co., 46, Watling-st., London, E.C. (Telegs.: "Indices, London." Teleph. Bank 5077); Manchester; & Newcastle-on-Tyne.

Sherley-Price, Henry, M.I.MECH.E., M.I.E.E., &c. (of Wheatley Kirk, Price & Co., electrical & mechanical auctioneers, arbitrators & valuers), 46, Watling-st., London, E.C.; & Manchester & Newcastle-on-Tyne.

Sherwood, F. G., A.M.I.E.E., electrical engineer & contractor, 78, Botanic-rd., Dublin. (Teleph. No. 1400.)

Shield, James B., A.I.E.E., director & secretary, Anderson, Boyes & Co., Ltd., Flemington Electrical Works, Motherwell, N.B.

Shields Construction Syndicate, Ltd., electrical engineers & contractors, 62, London Wall, London, E.C.

Shiels, R. J., electric lighting contractor, sundries & tools, 34, Upton-lane, Forest Gate, London, E.

Shildon Electricity Works, Shildon, Durham. (Telegs.: "Electric, Shildon." P.O. Teleph. No. 5.) Northern Counties Electricity Supply Co., Ltd., props. Engineer, T. Heron; electrician, S. Jago.

Shill, P. Richardson, & Co., Bassishaw House, 70A, Basinghall-st., London, E.C.

Shilston, T. P., B.SC., A.M.I.E.E., 46, Cameron-rd., Ilford.

Ship Carbons, Ltd., carbon makers, 67, Aldersgate-st., London, E.C. (Telegs.: "Gloriole, London.")

Shipley, Sir W., River Bank, Datchet, Bucks. Director Slough & Datchet Electric Supply Co., Ltd.; chairman Windsor Electrical Installation Co., Ltd.

Shipley Fan Co., electric & belt-driven fan makers, Well Croft, Shipley. (Telegs.: "Fan Co., Shipley." Nat. Teleph. No. 48 X., Shipley.)

Shipley Urban District Council Electricity Works. Engineer, S. D. Schofield, M.I.E.E., A.M.I.MECH.E. (Telegs.: "Electricity Works, Shipley." Teleph. No. 190, Shipley.)

Shipman, J., & Co., telegraph wire manufacturers, Attercliffe Steel Wire Works, Wire Mills, Sheffield. (Telegrams: "Shipman, Sheffield." National Telephone No. 465.)

Shippey Bros., American importers & electrical supply stores, 13 & 14, King-st., London, E.C.

Shiras, Oliver, A.M.I.E.E., electrical engineer, 2, Norfolk-st., London, W.C. (Telegrams: "Shiras, Multiphase, London." Telephone No. 3261, Gerrard.)

Shirley, F. C., electric lighting contractor, 10, Nightingale-parade, Blandfields-st., Balham, London, S.W.

Shirley & Co., designers & metal workers, 2, Percy-st., London, W. (Teleph. No. 4475, Central.)

Shirras, Laing & Co., Ltd., electrical engineers, 46, Schoolhill, Aberdeen. (Telegrams: "Lamps, Aberdeen." Telephone No. 176.)

Shone, R., & Co., electrical engineers, 24, Fenwick-st., Liverpool.

Shoolbred, H. G., A.M.I.E.E., "Homelyn," Moor-st., Luton.

Shoolbred, W., St. Ann's, Bridge-st., Chepstow. Director Chepstow Electric Lighting & Power Co., Ltd.

Shoolbred & Connell, installation contractors, Thanet House, 231, Strand, London, W.C. (Teleph. No. 5315, Central); & 11, Cheapside, Luton. (Teleph. No. 249 Y. 3.)

Shoolbred, J., & Co., electric light engineers, 151–156, Tottenham Court-rd., London, W. (Telegrams: "Shoolbred, London." Telephone Nos.: 1956 & 1957, Gerrard; & 720, Bank.)

Shore & Co., electrical engineers, Mawdesley-st., Bolton.

Shore & Son, engineers, Albion Foundry, Etruria, Hanley.

Shoreditch Borough Electricity Supply Works & Refuse Destructor, Coronet-st., Pitfield-st., London, N. (Teleph. No. 1157, London Wall); & Power Station, Whiston-st., Haggerston, N.E. (Teleph. No. 1941, Dalston.) Borough electrical engineer, C. Newton Russell, A.M.I.C.E., M.I.E.E.; electrician, W. Weekes.

Shoreditch Technical Institute, London County Council, Pitfield-st., Hoxton, N. J. E. Tapley, secretary.

Shorrock, L., A.I.E.E., Low-hill, Darwen, Lancashire.

Shorrocks, F. W., A.M.I.E.E., 35, Whitefriars-st., London, E.C.

Short, Edward A., A.M.I.E.E., 75, Onslow-sq., London, S.W.

Short, Ernest W., A.M.I.E.E., 20, Woodlands-rd., Harrow.

Short, J., & Co., lightning conductor erectors, 46, East Crawford-street, Glasgow.

Shorter, W., electrician-in-charge, Borough Electricity Works, Hornsey, Middlesex.

Shorthouse, Joseph, & Sons, manufacturing chemists, 48, Great Charles-st., Birmingham. (Telegrams: "Lacquer, Birmingham.")

Shotts Iron Co., Ltd., lamp post manufacturers, 130, George-st., Edinburgh. (Telegrams: "Shotts, Edinburgh." Telephone No. 383.)

Shoults, E. S., A.M.I.E.E., Rowsley, North Finchley, N.

Shrewsbury Corp. Electricity Supply Works, Shrewsbury. (Telegs.: "Johnston, Electrical Engineer, Shrewsbury." Teleph. Nos. 36E & 37E.) C. M. Johnston, M.I.E.E., M.I.MECH.E., borough elec. & con. engr.

Shrivell, W., electrical engineer, 49 & 50, George-st., Brighton.

SHROPSHIRE IRON CO., LTD., telegraph wire manufacturers, Hadley, near Wellington, Salop. (Telegs.: "Sun, Wellington, Salop." Teleph. No. 11, Wellington, Salop.) *See advt. under* WIRE MANUFACTURERS—TELEGRAPH.

Shropshire, Worcestershire & Staffordshire Electric Power Co., Electrical Federation Offices, Kingsway, W.C. Capital authorized: £900,000 in £5 shares & £300,000 loans. £300,000 issued. Directors: E. Garcke, Esq.; C. S. B. Hilton, Esq.; J. A. Lycett, Esq. Secretary, B. Kingsford.

Shurlock, F. W., B.A., B.SC., principal Technical College, Derby. (Teleph. No. 327.)

Shuttleworth, H., electrical contractor, Cross-ct., Briggate, Leeds. (Nat. Teleph. No. 187 Y.)

Shuttleworth, W. S., A.M.I.E.E., 61, Beverley-rd., Hull.

Sibbering, G. T., M.I.C.E., engineer, Taff Vale Railway Co., Cardiff. (Teleph. Nos.: 540, Nat.; & 566, P.O.)

Sibley, C. H., district manager, National Telephone Co., Telephone-bldgs., George-st., Nottingham.

Sibun, R. A., & Co., electrical engineers, 3, Mulgrave-rd., Sutton, Surrey.

Siddeley, Herbert C., A.I.E.E., The Croft, Purley; & 28, Victoria-st., S.W. (Telegs.: "Umformer, London." Teleph. No. 839, Westminster.)

Siebe, Gorman & Co., Ltd., submarine & electrical engineers, 187, Westminster Bridge-rd., London, S.E. (Telegs.: "Siebe, London." Teleph. No. 251, Hop.)

Siemens, Alexander, M.I.C.E., M.I.E.E., Caxton House, Westminster, London, S.W. (Telegs.: "Siemens, London." Teleph. Gerrard 860.) Director Siemens Bros. & Co., Ltd.; director Siemens Bros. Dynamo Works, Ltd.

SIEMENS BROS. & CO., LTD., electrical engineers & contractors, Caxton House, Westminster, London, S.W. (Telegs.: "Siemens, London." Teleph. Gerrard 860.) Registered Dec. 28, 1880. The subscribed capital is £600,000 in shares of £5, fully paid, & £150,000 debentures secured by trust deed, dated July 27, 1900. A. Sabine, secretary. Directors: Arnold W. von Siemens, Esq. (chairman); Sir Walter Roper Lawrence, Bart., G.C.I.E.; Alex. Siemens, Esq.; G. W. von Siemens, Esq.; C. F. von Siemens, Esq.; G. von Chauvin, Esq. (managing). The accounts are made up annually to Dec. 31 & submitted in or about May. Dividends: 1906, 1907 & 1908, 4 per cent. *See advt. under* ENGINEERS—ELECTRICAL MANUFACTURING.

SIEMENS BROS. DYNAMO WORKS LTD., electrical engineers & contractors, Caxton House, Westminster, London, S.W. (Telegs.: "Siembralos, London." Teleph. Gerrard 860.) Registered May 25, 1906. Nominal capital: £300,000 in shares of £10 each. Issued: £200,000, fully paid. £200,000 debenture stock secured by trust deed, dated June 10, 1907. Directors: G. von Chauvin, Esq. (chairman); Alex. Siemens, Esq.; C. F. von Siemens, Esq.; Dr. A. Berliner; H. Natalis, Esq.; Sir W. R. Lawrence, Bart., G.C.I.E.; C. Koettgen, Esq. (managing). Secretary, A. D. Hunter. The accounts are made up annually to Dec. 31 & submitted in or about May.

Sierwald, W., electrician, 73, Corporation-rd., Middlesbrough. (Teleph. No. 0726.)

Silcock, Charles, electrician, Atlas Carbon & Battery Co., Ltd., 19, Ewer-st., Southwark, London, S.E.

Silcock, E. J., M.I.C.E., F.G.S., A.I.E.E., consulting electrical engineer, &c., 10, Park-row, Leeds. (Telegrams: "Theodolite, Leeds." Telephone No. 2135, Leeds.)

Silcox, H., wiring contractor, Fountain-bldgs., Bath.

Silica Syndicate, Ltd., manufacturers of transparent fused silica apparatus, 82, Hatton Garden, E.C.

Silicate Paint Co. (J. B. Orr & Co., Ltd.), manufacturers of insulating material, 46, Cannon-street, E.C.; & Charlton, London, S.E. (Telegrams: "Orr, London." Telephone No. 1948, Bank.)

Silico-Bitumen Co., Ltd., bitumen manufacturers & merchants, 13, Walbrook, London, E.C.

Sill, G., wiring contractor, Market-pl., Yarmouth.

Sillar, Alfred R., M.I.E.E., M.I.MECH.E., borough electrical engineer, Electricity Works, Colchester. (Teleph. No. 87.)

Sillar, Arthur Molyneux, M.I.C.E., M.I.E.E., M.I.MECH.E., Iddesleigh Mansions, Caxton-st., Westminster, London, S.W. (Teleph. Victoria 76.)

Sillar, G. C., M.I.E.E., 35, Poolbeg-st., Dublin. (Telegs.: "Resolute, Dublin." Teleph. No. 35.)

Sillar, H. McK., A.M.I.E.E., mains engineer, Yorkshire Electric Power Co., Thornhill, near Dewsbury, Yorkshire.

Sillem, Wm., A.M.I.C.E., 116, Great Portland-st., London, W.

Sillery, W., A.M.I.E.E., burgh electrical engineer, Partick, Scotland. (Teleph. Nos.: 1264, Office; & 560, House.)

Silva, A. da, director Lisbon Electric Tramways, Ltd., 1, London Wall-bldgs., London, E.C.

Silver, H. Christopher, A.M.I.E.E., 66, Southampton-row, London, W.C.

Silvester, Harry, B.SC., F.I.C., metallurgical chemist, Paradise-bldgs., Paradise-st., Birmingham.

Silvester, Fred., & Co., electric & general engineers, Castle-hill Works, Newcastle, Staffs.

Simkins, A. R. M., M.I.E.E., electrical engineer, works manager Marconi's Wireless Telegraph Co., Ltd., Dalston, London, N.E.

SIMMONDS BROS., LTD., makers of couplings, 4, 6 & 8, Newton-st., High Holborn, W.C. (Telegs.: "Niphon, London." Teleph. Gerrard 2600; & Central 12061.) *See advt. under* WALL PLUGS, SOCKETS, &c.

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Simpkin, Marshall, Hamilton, Kent & Co., Ltd., publishers, 4, Stationers'-hall-court, E.C. (Telegs.: "Simpkin Marshall, London"); 31 & 32, Paternoster-row (Telegs.: "Vitrixa, London"); 23, Paternoster Row; 14, Ave-Maria-lane, E.C.; & 16, James-st., Haymarket, W.C. (Telegs.: "Catapult, London.")

Simpkin, Wilkinson & Gibson, manufacturing electrical engineers & contractors, Standard Works, 66, Kirkstall-rd., Leeds. (Telegrams: "Generator, Leeds." Telephone No. 471.)

SIMPLEX CONDUITS, LTD. Head office: Garrison-lane, Birmingham; & Works: Maxstoke-st., Birmingham (Telegs.: "Economy, Birmingham." Teleph. Victoria 35, 36 & 37); & at 113, 115, 117, Charing Cross-rd., London, W.C. (Telegs.: "Audiphone, London." Teleph. Central 8101 (2 lines)); 16, Corporation-st., Manchester (Telegs.: "Economical, Manchester." Teleph. No. 4870); 72A, Waterloo-st., Glasgow (Telegs.: "Simplex, Glasgow." Corp. Teleph. No. 5177); 37, Moorfields, Liverpool; 60, Pilgrim-st., Newcastle-on-Tyne; & 11, Denmark-st., Bristol. Registered April 4, 1906. Nominal capital: £100,000 in 10,000 6 per cent. cumulative preference shares of £5 each, & 50,000 ordinary shares of £1 each. L. M. Waterhouse, Esq., A.M.I.C.E., M.I.E.E., managing director; D. G. Brooks, A.I.E.E., secretary & sales manager. *See inset advt.*, CONDUIT SYSTEMS OF HOUSE WIRING.

Simplex Gas Engine Starter, Ltd., 23, King's-chbrs., Angel-st., Sheffield; & Hampden-bldgs., 11, South Castle-st., Liverpool.

Simpson, A. P., 2, Princes-st., E.C. Director Indian Electric Supply & Traction Co., Ltd.

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Simpson, James, & Sons, manufacturers of bolts, nuts, rivets, &c., Darlaston, Staffs. (Telegs.: "Simpson, Darlaston." Teleph. No. 2.)

Simpson, Strickland & Co., Ltd., makers of electric light engines, high pressure & condensing, Dartmouth, South Devon. (Telegrams: "Engineers, Dartmouth." Telephone No. 2.)

Simpson & Webb, electrical contractors, Loughborough.

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Sinclair, Geo., & Sons, boiler makers, Leith. (Telegs.: "Sinclair, Leith." Teleph. No. 537.)
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Singapore Electric Tramways, Ltd., 19, St. Swithin's-lane, E.C. Registered March 29, 1905. Nominal capital: £400,000 in £1 shares, all issued & fully paid, & £350,000 5 per cent. first mortgage debentures, secured by trust deed, dated Nov. 30, 1906. Directors: Sir Frank Swettenham, K.C.M.G. (chairman); J. Anderson, Esq.; Edmund Davis, Esq.; D. C. Ellis, Esq.; Sir Chas. Petric, J.P.; Fredk. Baynes, Esq. Secretary, J. Coltman.
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Singer, J. W., & Sons, Ltd., manufacturers of electric light fittings, Frome (Telegs.: "Singers, Frome." Teleph. No. 10); & Effingham House, Arundel-st., Strand, W.C. (Telegs.: "Metallifacture, London." Teleph. City 335.)
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Sloan Electrical Co., Ltd., agents for Conradty's carbons, 15 & 11, Fore-st.-ave., London, E.C. (Telegs.: "Conradtys, London." Teleph. Nos.: 11812, Central; & 858, London Wall.)

Sloan & Lloyd Barnes, chartered patent agents, consulting electrical engineers, 34, Castle-st., Liverpool. (Telegrams: "Technical, Liverpool." Telephone No. 6080.)

Sloper, Chas., & Son, electric bell & telephone fitters, 11, 12, 14 & 15, Brittox, Devizes. (Telegrams: "Charles Sloper, Devizes." Telephone No. 22.)

Slough & Datchet Electric Supply Co., Ltd., Windsor. (Telegs.: "Electric, Windsor." Teleph. No. 29, Windsor.) Works: Chalvey, nr. Slough, Bucks. (Teleph. No. 22, Slough.) Registered Aug. 12, 1902. Nominal capital: £50,000 in £1 shares. Issued: 35,000 shares, fully paid, & 13,000 with 17*s.* 6*d.* per share paid. Directors: H. L. Prior, Esq., J.P. (chairman); A. A. Somerville, Esq., M.A.; Sir W. Shipley; C. J. Jackaman, Esq.; H. R. de Salis, Esq.; R. A. Bosanquet, Esq. Engineer, A. E. Farrow, A.M.I.E.E.; secretary, R. G. Rawkins, F.C.I.S. Dividends: 1906, 4 per cent.; 1907, 3½ per cent.; 1908, 4 per cent.

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Small Power Dynamo & Motor Co., Ltd., dynamo & motor manufacturers, Old-lane, Higher Openshaw, Manchester. (Telegs.: "Small Power, nr. Openshaw, Manchester." Nat. Teleph. Openshaw 135.)

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Smith, W., manager Peterborough Electric Traction Co., The Depôt, Peterborough.
Smith, Wm., electrical engineer, Municipal Technical School, Birmingham.
Smith, W. A., 6, Hanover-st., Glasgow. Director National Telephone Co., Ltd.
Smith, W. A. C., maker of & dealer in bells, switches, ammeters, voltmeters, dynamos, motors. Electrical & mechanical repairs, 236, Argyle-st., Glasgow. (P.O. Teleph. No. 1313.)
Smith, W. B., electrical engineer & secretary, Harrington Electric Light Co., Ltd., Long Eaton, Derbyshire.
Smith, Wm. B., electrical engineer, Corporation Electricity Department, Greenock, N.B.
Smith, W. F., 16, Camp-lane, Sheffield. Director Cumberland Power Syndicate, Ltd.
Smith, Wm. G., A.I.E.E., 19, Mayfield-rd., Sanderstead, Croydon.
Smith, W. H., electric bell fitter, 28, Queen-st., Gravesend.
Smith, W. H., electrical engineer, Eccleston-yd., Eccleston-pl., S.W.
Smith, Wm. H., A.M.I.E.E., Grossmith & Co., Southsea; & 3, Marmion-rd., Palmerston-rd., Southsea.
Smith, W. J., electrical engineer, 16, John Dalton-st., Manchester.
Smith, Wm. O., M.I.E.E., Elliott Bros., Century Works, Lewisham; & 36, Leicester-sq., London, W.C. (Telegrams: "Ohm, London." Telephone No. 218, Deptford.)
Smith, W. S., B.SC., M.I.E.E., 12, Hyde Park-pl., London, W.
Smith, Willoughby S., Gutta-percha Co., Wharf-rd., City-rd., N.
Smith, Walter T., A.M.I.E.E., electrical engineer (Thos. Smith & Sons), Steam & Electric Crane Works, Rodley, nr. Leeds.
Smith, Alex., & Son, indiarubbber & electric cable agents, 9, Howard-st., Glasgow. (Telegs.: "Proof, Glasgow." Teleph. Nos.: 690, Nat.; & 2602, P.O.)
Smith, A. W., & Co., electric light engineers, London-rd., Barking.
Smith, B. A., & Co., chemical merchants & agents, 4, Church-row, Aldgate, London, E.C. (Telegs.: "Santoninic, London." Teleph. No. 6696, Central.)
Smith Bros., lamp post manufacturers, Abbey-street, Derby.
Smith Bros., Rotherham, Ltd., electrical engineers, 14, High-st., Rotherham. (Teleph. No. 114.)
Smith & Christie, incandescent lamp makers, 115–127, James-st., Bridgeton, Glasgow. (Telegs.: "Machinery, Glasgow." Teleph. Nos.: Nat., 2555, Bridgeton; Y. 487.)
Smith & Clarke, electrical engineers, 10, Vine-st., Grantham.

Smith & Co., electrical engineers, 25, Lower Clapton-rd., Hackney, London, N.E. Works: Oriel-rd., Homerton, N.E.

Smith & Coventry, Ltd., lathe & tool makers, Ordsal-lane, Salford, Manchester (Telegrams: "Gresley, Manchester." Telephone No. 564); & 5, Laurence Pountney-hill, London, E.C. (Telegrams: "Bevilways, London.")

Smith & Croft, electrical engineers & contractors, 3, Colonnade, Westgate, Bradford. (Teleph. No. 2399.)

Smith, E. A., & Co., Ltd., steel wire manufacturers & wire drawers, Phœnix Works, Cleckheaton.

Smith, E. J., & Co., electrical contractors, 58, Nunhead-lane, Peckham, London, S.E.

SMITH, FREDERICK, & CO., INCORPORATED IN THE LONDON ELECTRIC WIRE CO. & SMITHS, LTD., wire manufacturers, Anaconda Works, Salford, Manchester. (Telegs.: "Anaconda, Manchester.") Copper wire, hard-drawn H.C., long lengths copper wire, plain soft, tinned & strips for all electrical purposes. Tape & strand for lightning conductors. Silicium bronze wire, "Cog-wheel Brand." Phosphor bronze spring wire, aluminum wire & strips. *See* WIRE MANUFACTURERS—COPPER.

SMITH, FREDERICK, & CO., WIRE MANUFACTURERS, LTD., telegraph line wire, Caledonia Works, Halifax. (Telegs.: "Smith, Halifax." Teleph. No. 31.) Registered March 17, 1897. Directors: George Henry Smith; G. P. Smith; Frederic Smith. Secretary, J. E. Cox. *See* WIRE MANUFACTURERS.

Smith, Frederick T., & Co., buyers of old electric lamps, lamp ends, &c., &c., 2, Ranelagh-rd., East Ham, London, E. (Telegs.: "Lamentop, London." Teleph. No. 555, Barking.)

Smith, F. W., & Co. (1907), Ltd., electrical engineers & contractors, 12, Tib-lane, Cross-st., Manchester (Telegs.: "Trolley, Manchester." Teleph. City 5300); & 128, Lord-st., Southport. (Telegs.: "Dynamo, Southport." Teleph. No. 408.)

Smith & Grace Screw Boss Pulley Co., Ltd., pulley makers, Thrapston (Telegs.: "Grace, Thrapstone." P.O. Teleph. No. 19); & 35, Queen Victoria-st., London, E.C. (Teleph. Bank 152.)

Smith, Herbert, & Co., motor makers & agents, 10, South-st., Finsbury, London, E.C.

Smith, H. W., & Co., electrical wire & cable manufacturers, Lydbrook, Glos.

Smith, J., & Co., gear cutters, Carshalton, Surrey. (Telegrams: "Smith, Engineers, Carshalton." Telephone No. 56, Sutton.)

Smith, J., & Co. (Derby), Ltd., brass finishers, Cotton-lane, Derby. (Telegrams: "Ottewell, Derby." Telephone No. 51.)

Smith, J. F., & Co., electrical engineers, 10, Edmund-st., Birmingham.

Smith, J. J., & Co., electric light fittings manufacturers & hardware merchants, 46A, Holborn Viaduct, E.C. (Telegs.: "Repousse, London." Tel. No. 151, Holborn.) Works: Farm-st., Birmingham.

Smith, J., & Son, electric light engineers, 33 & 34, North-rd., Brighton. (Telephone No. 332.)

Smith, J. & W. B., makers of glass globes for electric lighting, 17–23, Farringdon-rd., London, E.C. (Telegrams: "Glassware, London." Telephone Nos.: 1736, Holborn; & 2269, Central.)

Smith, Major, & Stevens, Ltd., electrical engineers & lift & hoist makers, Janus Works, Queen's-rd., Battersea, London, S.W. (Telegs.: "Hydraulics, London." Teleph. Battersea 156.)

Smith, Parfrey & Co., Ltd., electric welders, Rannoch-st., Fulham Palace-rd., Hammersmith, London, W. (Telegs.: "Wheelworks, London." Teleph. No. 148, Hammersmith.)

Smith & Payne, electrical engineers, Wellingborough.

Smith & Sons, brass & German-silver merchants, brassfounders, &c., 42, 44, 46, 47, 50 & 52, St. John's-sq., London, E.C.

Smith, Sydney, & Sons, Ltd., brass founders & manufacturers of gun-metal boiler mountings, steam gauges, Basford Brass Works, Nottingham. (Telegs.: "Smiths, Nottingham." Teleph. No. 1537.)

Smith, T., & Co., electro-platers, 10, Percival-st., Clerkenwell, London, E.C. (Telephone No. 1608, Central.)

Smith, T. E., & Co., Ltd., electrical contractors, Cavendish-st., Keighley. (Teleph. No. 386.)

Smith, T. H., & Co., electrical engineers, 8, East-parade, Leeds; Harrogate; & Knaresborough.

Smith, Thomas, & Sons, electric crane engineers, Steam & Electric Crane Works, Old Foundry, Rodley, Leeds. (Telegrams: "Smith, Rodley." Telephone Nos. 18 & 12, Stanningley.) London office: 9, Victoria-st., S.W. (Telegrams: "Accrocher, London." P.O. Telephone No. 64, Victoria.)

Smith, T., & Sons, engineers, Cannon-st., Hanley, Staffs.

Smith, Warren & Co., electrical engineers, 66, College-st., Chelsea, London, S.W. (Telegs.: "Smuts, London." Nat. Teleph. No. 1108, Kensington.)

Smith, Wm., & Co. (Pendleton), Ltd., domestic electricians, dealers in electrical supplies, 243, Broad-st., Pendleton, Manchester. (Teleph. No. 96, Pendleton.)

Smith & Wilshaw, speciality in lathes, Kingston Works, Hopwood-lane, Halifax, Yorkshire.

Smith's Electrical Co., manufacturers of petrol engine sets, switchboards, &c., 271, High-st., Lincoln. (Nat. Teleph. No. 224.)

Smith-Saville, R. W., A.M.I.C.E., A.M.I.E.E., chief engineer & general manager, Corporation Tramways, Darwen. (Teleph. No. 122.)

Smithers, F. O., director South American Light & Power Co., Ltd, 6, Lloyd's-ave., London, E.C.

Smithers, T., electrician, 33, Borough-st., Brighton.

Smithfield Markets Electric Supply Co., Ltd., 57, Charterhouse-st., London, E.C. (Telephone No. 682, Holborn.) Registered July 16, 1897. Nominal capital: £100,000 in ordinary £5 shares, £46,700 4 per cent. debenture stock & £8000 5 per cent. 2nd mortgage debentures. Issued: 12,000 ordinary shares, fully paid, & all the 4 per cent. debenture stock & 5 per cent. 2nd mortgage debentures. Directors: H. S. Leon, Esq.; J. Browne Martin, Esq.; E. Schenk, Esq. Electrical engineer, E. Dowling; manager & secretary, G. M. Powell. Dividends: 1899, 1900 & 1901, *nil*; 1902, 2½ per cent.; 1903, 1904 & 1905, 4 per cent.; 1906, 1907, 1908 & first half of 1909, *nil*.

Smithson, H., electrical engineer, 18, Park-ave., Alexandra Park, Manchester.

Smithson, Sharpe & Co., arc lamp manufacturers, Sykes-st., Hulme, Manchester. (Teleph. Central 4987.)

Smout, Alan, A.M.I.E.E., 31, Connaught-st., Hyde Park, London, W.

Smyth, Alfred, A.I.E.E., 9, Hardman-ave., Sedgley Park, Prestwich.

Smyth, C. H., mains engineer, St. Marylebone Borough Council, 19 & 20, York-pl., London, W.

Smyth, J. M., A.M.I.C.E., M.I.E.E., borough electrical & tramways engineer, Keighley. (Nat. Tel. No. 13.)

Smyth, M. G., A.M.I.E.E., engineer & manager, Central Station, Larne, co. Antrim.

Smyth Bros., electric bell fitters, 56, Fore-st., Ipswich.

Smyth, J., & Sons, manufacturers of electric light fittings, 17, Wicklow-st., Dublin.

Snaefell Mountain Railway, Laxey, Isle of Man. *Owned by* Manx Electric Railway Co. F. Edmondson, A.M.I.E.E., gen. manager & engineer. (Telegs.: "Electric, Douglas, Man." Teleph. No. 61, Nat.)

Sneath, J. G., electrical engineer, 5, Wallwood-st., Limehouse, London, E.

Snell, Albion T., M.I.C.E., M.I.E.E., Suffolk House, Cannon-st., E.C. (Telegrams: "Illawarra, London." Telephone No. 8173, Bank.)

Snell, C. Scott, electrical engineer & electrician, 53, Victoria-st., Westminster, London, S.W.

Snell, John F. C., M.I.C.E., M.I.M.E., M.I.E.E., consulting engineer, Caxton House, Westminster. (Telegs.: "Sned, London." Teleph. No. 5194, Westminster.)

Snell & Moore Ede, consulting engineers, Caxton House, Westminster. (Telegs.: "Sned, London." Teleph. No. 5194, Westminster.)

Snell & Tinsley, telegraph & electrical engineers, Stanley House, Eldon Park, Norwood, S.E. (Nat. Teleph. Croydon 852.)

Snowball & Co., engineers & machinery valuers, Prudential-bldgs., Mosley-st., Newcastle-on-Tyne. (Telegs.: "Snowball, Newcastle-on-Tyne." Teleph. Nos.: 1781, Central, Nat.: & 419, City, G.P.O.)

Snowden, C., electrical engineer, 129, Arundel-st., Landport, Hants.

Snowden & Son, electrical engineers, Market-st., Barnsley.

Snowdon, Harry, M.I.E.E., West Ferry-rd., Millwall, London, E. (Telegs.: "Snowdrift, London." Teleph. East 433.)

Snowdon, Wm., consulting mechanical engineer, 24, Basinghall-st., Leeds.

Snowdon Mountain Tramroad & Hotels Co., Ltd., Llanberis, N. Wales. Registered Nov. 16, 1894. Issued capital: £70,000 in ordinary shares of £10 each, fully paid, & £19,000 debenture bonds of £100 each, fully paid. Directors: J. S. Harmood Banner, Esq., M.P. (chairman); A. H. Holme, Esq.; H. Clegg, Esq.; C. W. King, Esq. Engr., secretary & gen. manager, G. C. Aitchison, A.M.I.C.E.

Snowdon Sons & Co., Ltd., manufacturers of lubricants, Millwall, E. (Telegs.: "Snowdrift, London." Teleph. East 433 & 434.)

Soars, G. F., representative Veritys, Ltd., 3, Helen's-ave., Swansea.

Sobbe, Th. A. von, 3, Belvedere-rd., Liverpool. Director Liverpool District Lighting Co., Ltd.

Société Anonyme des Accumulateurs A.C.S. (Système de Sedneff), Ltd., 790–792, Salisbury House, E.C.

Société Centrale d'Electricité, incandescent lamp makers, 163, Wool Exchange, Coleman-st., London, E.C. Agent, Paul Mitton. (Telegs.: "Etoile, London." Teleph. No. 9975, London Wall.)

Société Electro-Industrielle (Electro-Industrielle Co.), Eagle Works, 1, Hercules-pl., Holloway, N. Registered in France on Feb. 13, 1906. Capital: Fr. 400,000.

Society of Chemical Industry (Ira Remsen, president; Charles G. Cresswell, secretary), 9, Bridge-st., Westminster, S.W. (Telegs.: "59, Palatable, London." Teleph. Victoria 715.)

Society of Engineers, 17, Victoria-st., London, S.W. (Teleph. No. 244, Victoria.) A. S. E. Ackermann, B.SC. (Eng.) London, A.M.I.C.E., secretary.

Society of Model Engineers, 37, Minard-rd., Hither Green, London, S.E.

Society of Motor Manufacturers & Traders, Ltd., Maxwell House, Arundel-st., Strand, London, W.C. (Telegs.: "Movendum, London." Teleph. No. 3570, Gerrard.)

Society of Power Company Officials. Hon. secretary, W. B. Woodhouse, Electric Power Station, Thornhill, nr. Dewsbury.

Solenoid Regulator Co., manufacturing electrical engineers, Geoffrey-bldgs., Severn-st., John Bright-st., Birmingham. (Telegs.: "Solenoid, Birmingham.")

Sollitt, H., chief assistant, Ross Electric Light & Power Co., Ltd., Ross, Hereford.

Solomon, H. G., A.M.I.E.E., electrical engineer, 5, Elgin-ct., Elgin-ave., Maida Vale, London, W.

Solomon, M., A.M.I.E.E., 45, Newhall-st., Birmingham.

Somerset & District Electric Power Co., Ltd. Directors: P. N. Miles, Esq.; F. Armstrong, Esq.; E. T. Glyn, Esq.; H. Conquest, Esq. Secretary, A. J. Fippard. Proposed capital: £750,000 in shares & £250,000 in loans.

Somerset Eccles & Co., electric light & power contractors, 22, Stanhope-st., London, N.W.

Somerville, A. A., M.A., Eton College. Director Windsor Electrical Installation Co., Ltd.; director Slough & Datchet Electric Supply Co., Ltd.

Somerville, G. J., A.I.E.E., director Associated Cos. The British Electric Traction Co., Ltd., Electrical Federation Offices, Kingsway, London, W.C.

Somerville, Geo. Wm., A.I.E.E., 68, Owen-st., Accrington.

Somerville, James, electric lighting contractor, 27 & 29, Helen-st., Govan, Glasgow. (Teleph. Nos.: 1 Y., Govan, Nat.; & 145, Red, P.O.)

Sommerville, Alfred, A.M.I.E.E., A.M.I.MECH.E., resident engineer, Corporation Tramways, Ayr.

Sommerville, Gordon, A.M.I.E.E., engineer, Corporation Electricity Works, Faversham, Kent.

Soper, H. E., M.A., A.I.E.E., 7, Cholmeley Villas, Highgate, London, N.

Sotheby, W. E., B.A., A.M.I.E.E., 12, Carey-st., Westminster, S.W. (Teleph. Westminster 379.)

Sotheby & Co., electrical engineers, 12, Carey-st., Westminster, London, S.W. (Teleph. Westminster 379.)

Souper & Callaghan, engineers & agents, 46, Grosvenor-chbrs., Deansgate, Manchester. (Telegs.: "Unequalled, Manchester." Teleph. Central 8125.)

Soutar, G., electrical engineer, Greyfriars Foundry, Elgin. (Teleph. No. 9 X. 4.)

Soutar, J. S., A.I.E.E., Greyfriars Foundry, Elgin.

South African Engineering (monthly, 6*d.*; ann. sub., 6*s.*), 392, Strand, W.C. (Teleph. No. 6341, Gerrard.)

South African Land & Railways Co., Ltd., 20, Copthall-ave., London, E.C. (Telegs.: "Plugger, London.") Registered Jan. 8, 1908. Nominal capital: £4500 in £1 "A" shares, & £15,500 in £1 "B" shares. Issued: 2407 "A" shares, 10*s.* called, & all the "B" shares. Directors: Rt. Hon. Sir West Ridgeway, G.C.M.G.; Jas. Jackson, Esq.; E. W. Stanyforth, Esq. Secretary, F. A. Baird.

South African Lighting Association, Ltd., 90, Cannon-st., London, E.C. (Telegs.: "Cashbook, London." Teleph. No. 937, Bank.) Registered Oct. 27, 1888. Directors: Sir Daniel F. Goddard, M.P., J.P. (chairman); A. L. Don, Esq.; H. Woodall, Esq.; Jas. Macalister, Esq. Engineers, Corbet Woodall & Son; secretary, W. Cash, F.C.A. Nominal capital: £100,000 in ordinary shares of £10 each, in addition to which there is £30,000 debentures in multiples of £10 & upwards. Issued: 9000 ordinary shares, all fully paid, & all the debentures. Reissue on May 24, 1905, of £400, & on May 31 of £1400 debentures, on Aug. 1 of £1000, & on Nov. 13 of £1200 debentures. Dividends: 1898 to 1907, 10 per cent. free of income-tax per ann. (in 1903, 1 per cent. bonus was paid); first half of 1908, 4 per cent.

South American Cable Co., Ltd. Offices: 106, Cannon-st., London, E.C. (Telegrams: "Relampago, London.") Registered July 4, 1891. Nominal capital: £500,000 in 50,000 ordinary shares of £10 each. Issued: £247,070, fully paid; & £300,000 debentures, paid off. Directors: Robert Kaye Gray, Esq., M.I.C.E. (chairman); A. A. Roux, Esq.; E. Karminski, Esq. Sec. & man., Jas. Jeffery.

South American Development & Construction Synd., Ltd., Dashwood House, 9, New Broad-st., London, E.C. Registered Aug. 7, 1906. Nominal capital: £20,000 in £1 shares. Issued: 10,000 shares with 1*s.* per share called up. Directors: S. Bibby, Esq.; Major A. G. Spilsbury, Esq.; Arturo Castono, Esq. Secretary, A. Cooper.

South American Light & Power Co., Ltd., 6, Lloyd's-ave., London, E.C. Registered July 24, 1902. Nominal capital: £150,000 in £1 shares. Issued: £128,500, & £50,000 in 5 per cent. debentures, £43,000 issued. A trust deed, dated March 11, 1903, to secure £100,000, has been registered. Directors: F. H. Jackson, Esq. (chairman); E. Charrington, Esq.; T. P. Gaskell, Esq.; F. O. Smithers, Esq. Secretary, H. E. Solly.

South American Railway Construction Co., Ltd., 17, Gracechurch-st., London, E.C. Registered Jan. 19, 1907. Nominal capital: £101,000 in 100,000 "A" shares of £1 each & 20,000 "B" shares of 1*s.* each.

South American Syndicate, Ltd. Registered June 17, 1901. Nominal capital: £1500 in £1 shares of which 50 are preference. Director: F. M. Crisp, Esq. Secretary, T. H. Evans.

South-Eastern Union of Scientific Societies. Dukinfield H. Scott, LL.D., F.R.S., P.L.S., president; Rev. R. Ashington Bullen, Woking, secretary.

South of England Development Co., Ltd., electrical engineers & contractors, 3, King's-ter., Southsea. Registered Aug. 20, 1901. Nominal capital: £1000 in £1 shares. Directors: J. M. Brown, Esq.; W. S. Brewer, Esq.; P. Gaskell, Esq.; P. H. Goodman, Esq.; J. F. Hooper, Esq.

South Lancashire Electric Supply Co., Ltd., Atherton, Lancs. Registered June 29, 1900. Nominal capital: £10,000 in £1 ordinary shares. Directors: Hon. Arthur Stanley, M.P. (chairman); J. M. Henderson, Esq., M.P.; A. Adam, Esq.; R. Watson, Esq., J.P.; J. S. Austen, Esq. Secretary, H. P. Conibear.

South London Electric Supply Corporation, Ltd., Bengeworth-rd., Loughborough Junction, London, S.E. (Telegrams: "Southerner, London." Telephone No. 1096, Hop.) Registered Dec. 4, 1896. Capital: £260,000 in £4 shares, all of which have been issued & paid, & £100,000 5 per cent. first mortgage debenture stock. Directors: J. Atherton, Esq. (chairman); J. M. Henderson, Esq., M.P.; Capt. E. Ironside Bax; Algernon Turnor, Esq., C.B.; F. J. Leslie, Esq. Chief engineer & manager, H. W. Sprunt; secretary, H. H. Boyer. Dividends: 1903, 3 per cent.; 1904 & 1905, 4 per cent.; 1906, 3 per cent.; 1907, 4 per cent.; 1908, 5 per cent.

South Metropolitan Electric Light & Power Co., Ltd., The. Registered office: 183 & 185, High-st., Lewisham, S.E. (Telegs.: "Powerhouse, London." Teleph. Lee Green 31.) Power House: Blackwall Point, East Greenwich, S.E. Registered May 11, 1896. Nominal capital: £500,000 (£250,000 in £1 ordinary shares, £150,000 in £1 7 per cent. cumulative first preference shares & £100,000 6 per cent. cumulative second preference shares), borrowing powers up to amount of issued & paid-up share capital. Issued: 123,000 ordinary & 142,968 7 per cent. first preference shares, fully paid, & 50,000 6 per cent. second preference shares. 4½ per cent. debentures issued: £224,520. Dates of trust deeds, Aug. 3, 1900, & June 3, 1904. Directors: H. St. J. Winkworth, Esq. (chairman); Hy. W. Bowden, Esq., M.I.C.E., M.I.E.E. (managing); W. May, Esq. Resident engineers, J. A. Constable (generating dept.) & W. J. Allbright (distribution dept.); secretary, G. Frederic Fox. Dividends: 7 per cent. per annum on preference shares; 1905, 1906 & 1907, 2½ per cent. on ordinary shares.

South Metropolitan Electric Tramways & Lighting Co., Ltd., Electrical Federation Offices, Kingsway, London, W.C. (Telegrams: "c/o Tramway, London.") Registered as the County of Surrey Electrical Power Distribution Co., Ltd., April 19, 1899. Capital: £200,000 in £1 ordinary shares, £200,000 in £1 6 per cent. cumulative preference shares & £200,000 debenture stock. Issued: 176,300 ordinary shares, fully paid, 169,570 preference (less one share forfeited), fully paid, & £150,000 4 per cent. debenture stock. Directors: C. G. Tegetmeier, Esq. (chairman); E. Garcke, Esq.; J. Devonshire, Esq.; Geo. Offor, Esq. General manager, A. V. Mason; secretary, S. J. Clements. Dividends: 1906 & 1907, 6 per cent. on preference shares; 1908, 3 per cent. on preference shares & £3000 to depreciation & reserve.

South Shields Corporation Electricity Works. Engineer, J. H. Cawthra, M.I.E.E., A.M.I.MECH.E. (Teleph. Nos.: 191, Works; 320, Office.)

South Staffordshire Tramway Co. (The), Electrical Federation Offices, Kingsway, W.C. (Telegs.: "Tramway, London.") Registered March 28, 1882. Formerly the South Staffordshire & Birmingham District Steam Tramways Co., Ltd., & title changed to present one in 1889. Directors: C. S. B. Hilton, Esq. (chairman); S. R. Blundstone Esq.; J. A. Lycett, Esq. Secretary, W. F. Cox. Nominal capital: £129,650 in ordinary stock, £86,580 in preference shares of £10 each. Issued: all the ordinary stock all paid, except £2004 7*s.* 3*d.* calls in arrears, & 7600 preference, all fully paid. Dividends on preference shares: 1906, *nil*; 1907, 3 per cent.; 1908, 2 per cent.

South Staffordshire Tramways (Lessee) Co., Ltd., Electrical Federation Offices, Kingsway, London, W.C. (Telegs.: "c/o Tramway, London." Teleph. No. 2686, Holborn (6 lines)); & Tramways Depôt, Darlaston; & Power Station, Downing-st., Smethwick, Staffs. Registered July 31, 1899. Nominal capital: 15,000 ordinary & 15,000 6 per cent. cumulative preference shares, both of £5 each, & 220,000 deferred shares of 5*s.* each. Issued: 10,000 ordinary shares, 10,000 preference & 147,293 deferred shares, all fully paid, & £42,267 debenture stock, less £553 brought in & cancelled. A trust deed, dated Nov. 1, 1904, to secure £54,700 debenture stock (with power to issue further stock ranking *pari passu* up to a total of £100,000), has been registered. Directors: E. Garcke, Esq.; W. S. L. Schuster, Esq.; S. R. Blundstone, Esq.; W. G. Bond, Esq.; J. A. Lycett, Esq. (managing). Secretary, B. Kingsford. Dividends: 1902, 7 per cent.; 1903, 5 per cent.; 1904, 1905, 1906, 1907 & 1908, *nil*.

South Wales Electrical Power Distribution Co., Royal-chbrs., Queen-st., Cardiff. (Telegs.: "Unit, Cardiff." Nat. Teleph. No. 1251.) Nominal capital: £750,000 in £10 ordinary shares, £1,000,000 in £10 preference shares & £250,000 debentures. Issued: £610,120, fully paid; £120,610 preference, fully paid; £200,000 debentures, fully paid. Directors: W. Gascoyne Dalziel, Esq. (chairman); W. Forster Brown, Esq.; J. W. Hutchinson, Esq.; John Andrews, Esq.; Thos. Griffiths, Esq.; W. L. Madgen, Esq.; G. T. Hutchinson, Esq.; T. O. Callender, Esq. General manager, W. A. Chamen; secretary, Geo. P. Tutcher. Generating stations: Pontypridd (Telegs.: "Unit, Treforest." Teleph. Pontypridd 28); & Cwmbran. (Telegs.: "Unit, Cwmbran." Teleph. Llantarnam 16.)

South Wales Glass Manufacturing Co., Ltd., manufacturers of glass battery jars, Crindau, Newport, Mon. (Telegrams: "Bottles, Newport." Telephone No. 270.)

South-Western Brass Foundry, Ltd., electric fittings & accessories, Mill-st. & Russell-st., Plymouth.

South-Western Polytechnic Institute, Manresa-rd., Chelsea, London, S.W. (Telegs.: "Polytechnic, Chelsea." Teleph. No. 899, Western.) *See* SCHOOLS.

South Yorkshire Glass Bottle Co., manufacturers of battery glass jars, &c., Swinton, near Rotherham, Yorks. (Telegrams: "Wilkinson, Swinton, Yorks.")

Southall, Hy., director Ross Electric Light & Power Co., Ltd., Bank Offices, Ross.

Southall Bros. & Barclay, manufacturers of electrical apparatus, Broad-st., Birmingham. (Telegrams: "Southall, Birmingham.")

Southam & Wood, Ltd., electrical engineers, 162, Oxford-st., London, W. (Teleph. City 2784.)

Southampton Corporation Electricity Department & Electric Tramways. (Telegs.: "Electricity Works, Southampton." Teleph. No. 178.) Borough electrical engineer, H. F. Street.

Southee, T. W., wiring contractor, 19, Brockman-rd., Folkestone.

Southend Corporation Pier Electric Railway, Southend. (Nat. Teleph. No. 91.) Engineer, C. R. Norton.

Southend Electrical Engineering Co., Weston-rd., Southend-on-Sea.

Southend-on-Sea & District Light Railways & Electricity Works, Southend-on-Sea. (Teleph. No. 96.) R. Birkett, A.I.E.E., engineer.

Southend-on-Sea Municipal Technical School. Principal, J. Hitchcock.

Southey, George, electric inspector, 156, Richmond-rd., Cardiff.

Southey, H. E., electrician & electrical engineer, 40, Crouch End-hill, London, N.

Southey, Jas., & Co., electrical engineers, 43, King's-rd., & 22, Russell-st., Southsea. (Telephone No. 176.)

Southgate, Hugh MacLellan, M.I.E.E., Trafford Park, Manchester.

Southport Corporation Electricity Supply, Eastbank-st., Southport. Works: Crowlands, Southport. Electrical engineer, A. S. Black. (Teleph. Nos.: Office, 264; Works, 366.)

Southport Electric Lighting Co., electrical contractors, 2, Bold-st., Southport. (Teleph. No. 235.)

Southport Tramways Co., Ltd., Electrical Federation Offices, Kingsway, London, W.C. (Telegs.: "Southport, c/o Tramway, London." Teleph. No. 2686, Holborn (6 lines).) Nominal capital: £50,000 in £5 ordinary shares, £50,000 in £5 preference shares & £50,000 debentures. Issued: £19,500 ordinary shares, fully paid, & £7500 debentures. Directors: C. Shirreff Hilton, Esq. (chairman); J. S. Raworth, Esq.; J. V. Kitchener, Esq.; J. Platt, Esq.; Lord Vaux of Harrowden. Electrical engineer, H. Bentham, A.M.I.E.E.; secretary, S. Neville Wells. Dividends: 1899, 4 per cent.; 1900–1908, *nil.*

Southwark Borough Electricity Works, Penrose-st., Walworth, S.E. (Telephone No. 2697, Hop.) Chief engineer & manager, D. M. Kinghorn, A.M.I.E.E., A.M.I.M.E.

Southwold Electricity Supply, Southwold, Suffolk. Coast Development Corp., Ltd., proprietors. F. R. Hunter, resident engineer.

Soutter, A. C., A.I.E.E., Erincote, Russell-ter., Leamington. (Nat. Teleph. 20 Y 4.)

Soutter, Wm., & Sons, Ltd., electroliers, brackets, &c., Farm-st., Hockley, Birmingham; & 46A, Holborn Viaduct, London, E.C.

Soward, A. W., A.I.E.E., 28, Therapia-rd., Honor Oak, London, S.E.

Sowden, David, & Sons, manufacturers of boxes & feeder pillars for electrical work, Shipley. (Telegs.: "Sowden, Shipley." A.B.C. Code, 5th ed. Teleph. No. 16, Shipley, Bradford.)

Sowerbutts & Rogers, electrical engineers & contractors, 3, Cambridge-ave., High-rd., Kilburn, London, N.W. (P.O. Teleph. Hampstead 1418.)

Sowter, W. J. U., M.I.E.E., chief engineer, Urban District Council Electricity Works, & 2, Bray Head-ter., Bray, Ireland.

Spagnoletti, C. E., M.I.C.E., M.I.E.E. (past president), 16, Frognal-lane, Hampstead, London, N.W.

Spagnoletti, J. E., M.I.E.E., Goldhawk Works, Shepherd's Bush, London, W.

SPAGNOLETTI, LTD., electrical & mechanical engineers & electric light contractors, Goldhawk Works, Goldhawk-rd., London, W. (Telegs.: "Isobar, London." Teleph. Hammersmith 181; & Western 2512.)

Spalding, P. A., A.M.I.C.E., A.M.I.E.E., engineer, Galway Electric Co., Ltd., Newtownsmyth, Galway; & 5, University-rd., Galway.

Spanish National Submarine Telegraph Co., Ltd. Office: 98, Cannon-st., London, E.C. (Telegrams: "Guanche, London.") Share capital: £500,000 in £10 shares, of which £237,190 are issued & fully paid. Directors: Robert Kaye Gray, Esq. (chairman); Major Leonard Darwin; Lt.-Col. A. Weston Jarvis, C.M.G.; Chas. H. Moore, Esq. E. March Webb, secretary.

Spanish Telephone Co., Ltd., 39, Lombard-st., London, E.C. Registered July 16, 1894. Directors: E. Rüffer, Esq. (chairman); F. R. Y. Radcliffe, Esq.; R. Wood, Esq. Electrical engineer, Señor Don Enrique Parellada, Barcelona; secretary, S. T. Treffry. Nominal capital: £36,000 in £10 ordinary shares, £25,000 in 5½ per cent. non-cumulative preference shares of £20 each & £60,440 5 per cent. debentures. Issued: all ordinary, £13,420 preference & £50,000 debentures. Dividends: May 31, 1906, & May 31, 1907, *nil;* May 31, 1908, 4 per cent. free of income tax; May 31, 1909, 5 per cent. free of income tax. Reserve funds, £6163 10*s.* 2*d.*

Spargo, A., manager, National Telephone Co., Stockport. (Teleph. No. 138.)

Spargo, E., consulting, civil & mining engineer, 3, Cable-st., Liverpool. (Telegrams: "Spargo, Liverpool.")

Spark, J. W., A.M.I.E.E., borough electrical engineer, Devonport.

Sparkes, Thomas, electrical engineer, 205, Rolfe-st., Smethwick, Birmingham.

Sparks, Charles P., M.I.E.E., M.I.C.E., consulting engineer, 49–53, Moorgate-ct., Moorgate-st., London, E.C. (Telegs.: "Sparkesque, London." Teleph. No. 10401, Central.) Engineer-in-chief, County of London Electric Supply Co., Ltd.

Sparks, Hubert Conrad, A.M.I.E.E., 49–53, Moorgate-ct., Moorgate-st., London, E.C.

Sparks, H. H., elec. engineer, 24, High-st., Cowes, Isle of Wight. (Telegs.: "Herbert Sparks, Cowes.")

Sparks, J. C., electric lighting contractor, 51, Waldegrave-rd., Brighton. (Nat. Teleph. No. 116 X.)

Sparks (Sheffield), Ltd., electrical & mechanical engineers, 11, Broomhall-st., Sheffield.

Speedy, Percy, A.M.I.E.E., electrical engineer, 3, Adelaide-st., Charing Cross, London, W.C.

Speedy, Eynon & Co., electrical engineers & contractors, 3, Adelaide-st., Charing Cross, London, W.C. (Telegs.: "Speedenon, London." Teleph. No. 8967, Central.)

Speight, J. W., M.I.E.E., A.M.I.MECH.E., consulting electrical & tramway engineer, The Elms, Lytham-rd., St. Annes-on-Sea.

Speight, J. W., A.M.I.E.E., station superintendent, Electricity Works, Cathall-rd., Leytonstone.

Speir, K. R. N., A.M.I.E.E., general superintendent's office, Midland Railway, Derby.

Speirs, C. W., M.I.E.E., c/o Morgan Crucible Co., Ltd., Battersea Works, Church-rd, Battersea, London, S.W.

Speirs, Morton & Murray, dealers in electric fittings, 16, Bucknall-st., New Oxford-st., London, W. (Telegs.: "Affremo, London." Teleph. No. 2152, Gerrard.)

Speke, J. W. & H., electricians, 177, Spencer-pl., Leeds. (Teleph. No. 8 X., Chapeltown.)

Spence, E. R., A.M.I.E.E., Western Electric Co., North Woolwich.

Spence, James, electrician, 17, Kensal-rd., Westbourne-park, London, W.

Spence, W. L., M.I.E.E., 14, St. Vincent-pl., Glasgow.

Spence & Ionides, consulting engineers, 14, St. Vincent-pl., Glasgow. (Telegs.: "Electrify, Glasgow." Teleph. No. 1500, Royal.)

Spence, John, & Sons, electric light contractors, Bellsdyke Works, Airdrie, N.B. (Telephone No. 3.)

Spence, John H., & Son, motors, 93, Elcho-st., Glasgow.

Spencer, C. J., A.M.I.E.E., general manager & engineer, City Tramways, Bradford. Central offices: 5 & 7, Hall Ings. (Telegs.: "Tramways, Bradford." Teleph. Nos. 2381 & 2382.)

Spencer, E. D., A.M.I.E.E., c/o W. P. Digby, 28, Victoria-st., London, S.W.

Spencer, F. B., M.I.E.E., Constitutional Club, Northumberland-ave., London, W.C.

Spencer, James T., electric bell fitter, 25, London-rd., Reading.

Spencer, S., director Ascot District Gas & Electricity Co., 50, Coleman-st., London, E.C.

Spencer, Sir E., director Associated Cos. The British Electric Traction Co., Ltd., Electrical Federation Offices, Kingsway, W.C. Deputy chairman Metropolitan Electric Tramways, Ltd.

Spencer, Wm., A.I.E.E., Balbedie, Twickenham Park, Middlesex.

Spencer, W. E. S. H., A.I.E.E., A.M.I.M.E., St. Margaret's, Hitchin.

Spencer, Wm. Harold, A.I.E.E., "Deepdale," Mansel-rd., Wimbledon, S.W.

Spencer & Co., Ltd., engineers, Melksham Foundry, Melksham, Wilts.

Spencer, Edward, & Co., makers of the Macdonald subway electrical conduits, 1, Aldgate, E.; & (works) Longfellow-rd., London, E. (Telegs.: "Spencer, London." Teleph. No. 4317, Avenue.)

Spencer, H., & Sons, electrical engineers, Lawkholme-lane, Keighley.

Spencer, James, & Co., makers of overhead travelling cranes, machine tools, &c., Chamber Iron Works, Hollinwood, Manchester (Telegrams: "Spencer, Hollinwood." Telephone No. 207, Oldham); & 5, Dowgate Hill, London, E.C. (Telegrams: "Pynegar, London." Telephone No. 281, Bank.)

Spencer, J. E. & S., tramway & telegraph pole makers, 14, Great St. Thomas Apostle, London, E.C. (Telegrams: "Tubes, London." Telephone No. 9720, Central.)

Spencer, John, Ltd., manufacturers of all kinds of tubes & fittings, arc lamps, poles, electric traction poles, telegraph & telephone poles, Globe Tube Works, Wednesbury (Teleph. Nos. 4 & 53); & 14, Great St. Thomas Apostle, London, E.C. (Telegs.: "Tubes, Wednesbury;" "Tubes, London." Teleph. No. 9720, Central.)

Spencer, John, & Sons, Ltd., steel castings for all purposes, Newburn Steel Works, Newcastle-on-Tyne. (Telegs.: "Newburn, Newcastle-on-Tyne.")

Spencer & Watson, chemical merchants, Ward's-bldgs., High Bridge, Newcastle-on-Tyne. (Telegs.: "Chemicals, Newcastle." Teleph. No. 237, Nat.)

Spendlove, S. W., A.M.I.E.E., 29, Bright-st., Skipton.

Spensers, Ltd., electrical engineers, Stratford-on-Avon.

Sperati, G. E., A.I.E.E., "Rosa Alba," Highbury Park, N.

Sperati, Joseph, electrical engineer, 12, Mortimer-st., London, W.

Sperling, R. K., Hotel Alexandra, Arosa, Switzerland. Director British Columbia Electric Railway Co., Ltd.

Sperryn & Co., Ltd., manufacturers of "Sperrynwood" accessories, brass brackets & pendants, Hospital-st., Birmingham. (Telegs.: "Sperryn, Birmingham." Teleph. Central 770.)

Speyer, The Rt. Hon. Sir Edgar, Bart., P.C., 7, Lothbury, London, E.C. Chairman Underground Electric Railways Co. of London, Ltd.

Speyer, Jas., 24, Pine-st., New York. Director Underground Electric Railways Co. of London, Ltd.

Sphere Electrical Co., 3, Unity-st., College Green, Bristol. (Teleph. No. 3299.)

Spicer Bros., Ltd., insulating materials, 19, New Bridge-st., London, E.C. (Telegs.: "Nykoping, London." Teleph. Nos. 2407, 2408 & 2409, Holborn.)

Spiers, F. S., B.SC., A.M.I.E.E., electro-metallurgist, 44 & 46, Eagle-st., Holborn, W.C. Secretary Faraday Society, 82, Victoria-st., S.W.

Spiers, P., assistant, Stratford-on-Avon Electricity Co., Ltd., Stratford-on-Avon.

Spiers & Pond Stores, dealers in electric light fittings, Queen Victoria-st., London, E.C. (Telegrams: "Spierpon, London." Telephone No. 2300, Holborn.)

Spir, A., dealer in electrical supplies, 416, Ecclesall-rd., Sheffield.

Spittle, T., Ltd., pipe founders, Cambrian Foundry, Newport. (Teleph. No. 84.)
Spokes, Oliver S., A.I.E.E., Municipal Science School, Londonderry.
Spon, Chas. Alfred, A.I.E.E., St. Olaves, Hall Place-gdns., St. Albans.
Spon, E. & F. N., Ltd., publishers of electrical & scientific books, 57, Haymarket, London, S.W. (Telegs.: "Fenspon, London." Teleph. No. 3450, Central.)
Spooner, A. F., chartered patent agent, 323, High Holborn, London, W.C. (Telegrams: "Improvably, London." Telephone No. 480, Holborn.)
Spooner, Henry J., M.I.M.E., A.M.I.C.E., consulting engineer, 309, Regent-st., London, W.
Sporborg, H. N., chief engineer, British Thomson-Houston Co., Ltd., Rugby. (Telegs.: "Sporborg, Asteroidal, Rugby." Teleph. Rugby 54.)
Spragg, W. C., electrician, Bockhampton-rd., Kingston-on-Thames.
Sprague, C. R., A.M.I.E.E., Chief Engineer's Office, Salt Union, Winsford, Cheshire.
SPRATT BROS. (branch of Houghtons, Ltd.), wood & metal workers for all electrical purposes, Ensign Works, Clifford-rd., Wood-st., Walthamstow, Essex. (Telegs.: "Rhamnus, London." Teleph. No. 80, Walthamstow.)
Spreadborough, L., electrical & mechanical engineer & contractor, 153, Norman-rd., Leytonstone, London, N.E.
Spreadbury, W. H., electric lighting contractor, St. Michael's-rd., Bournemouth. (Teleph. No. 145 Y.)
Springfield Steel Co., steel & malleable iron castings, 777, London-rd., Glasgow. (Telegrams: "Springfield, Glasgow." Telephone No. 2608.)
Sproates, H. G., electric light contractor, 104, Linthorpe-rd., Middlesbrough.
Sprunt, H. W., A.M.I.M.E., A.M.I.E.E., manager & engineer, South London Electric Supply Corporation, Bengeworth-rd., Loughborough Junction, London, S.E.
Spurgen, Alderman Geo., J.P., Folkestone. Chairman Folkestone Electricity Supply Co., Ltd.
Spurr, G. R., A.M.I.E.E., electrical engineer, Electricity Works, Priory-ave., Walthamstow.
Spurr, R. D., resident engineer, Derbyshire & Nottinghamshire Electric Power Co.'s Generating Station, Ilkeston.
Spurr, Inman & Co., Ltd., engineers & boiler makers for electric lighting plants, Calder Vale Boiler Works, Wakefield. (Telegrams: "Spurinman, Wakefield." Telephone No. 37.)
Squire, H., A.I.E.E., Chelsea Electricity Supply Co., Ltd., 19, Cadogan-gdns., Chelsea, S.W.
Squirrell & Co., Ltd., electrical engineers, &c., 4, Upper Station-rd., Bexhill.
Stacey, Francis S., A.I.E.E., 36, Pelham-rd., Wimbledon.
Stafford, Wm. Sedgwick, A.M.I.E.E., The Warren, Potten End, Berkhamsted.
Stafford & Co., electrical & general lighting engineers, 117, Oxton-rd., Birkenhead. (Teleph. No. 126Y, Birkenhead.)
Stafford Corporation. Engineer & manager to Gas & Electricity Department, H. Pooley, A.M.I.C.E.; electrician, R. E. Meade.
Stafford Municipal Technical School, Stafford. *See* SCHOOLS.
Staffordshire Tube Co., Ltd., iron & steel tube makers, 134, Edmund-st., Birmingham. (Telegs.: "Unbeaten, Birmingham." Teleph. No. 815.)
Staight, Mark Wray, A.M.I.E.E., c/o G. H. Lee, Holm Lodge, Livermead Hill, Torquay.
Staley, W., & Sons, makers of electric blocks & switchboards, 83, Headford-st., Sheffield.
Stallibrass, Edward, telegraph engineer, 27, Cumberland Mansions, Bryanston-sq., London, W.
Stallybrass, Leonard, manager Electrical Dept., Wallington, Jones & Co., 13, Crutched Friars, London, E.C. (Telegs.: "Altruistic, London." Teleph. No. 1065, Avenue.)
Stalybridge, Hyde, Mossley & Dukinfield Tramways & Electricity Board, Stalybridge. (Teleph. No. 338, Ashton.) Electrical engineer, R. Blackmore.
Stamford Electricity Works, Urban Electric Supply Co., Ltd., Stamford. Resident engineer, J. E. Edmundson, A.M.I.E.E. (Teleph. Stamford 0306.)
Stamm, W., 25, College Hill, Cannon-st., London, E.C. (Telephone No. 5483, Bank.) Sole agent for Great Britain & Ireland for Fried. Krupp Aktiengesellschaft Grusonwerk of Magdeburg-Buckau, Germany.
Stammwitz, S. A., A.I.E.E., Faraday House, Upper Richmond Hill, Putney, S.W.
Stamp, W. F., A.M.I.E.E., chief assistant electrical engineer, Corporation, Devonport.
Standard Cable Manufacturing Co., Ltd., electric wire & cable makers, 18 & 19, Queenhithe, London, E.C. (Telegs.: "Ocelbac, London." Teleph. London Wall 5915 & 5916.)
Standard Electric Co., installation contractors, Boundary-rd., Middlesbrough.
Standard Electric Co., Ltd., manufacturers of electric motors, 47, Victoria-st., S.W. Works: 123, Colvend-st., Rutherglen Bridge, Glasgow.
Standard Electrical Co., makers of fan motors, ventilating fans & blowers, Lowbridge Iron Works, Keighley, Yorks. (Telegs.: "Standard, Electrical, Keighley." Teleph. No. 95 X.)
Standard Engineering Co., Leeds, Ltd., electrical & hydraulic engineers, Imperial-bldgs., 28, Bond-st., Leeds; & Saynor-lane, Hunslet, Leeds. (Telegrams: "Triple, Leeds." Telephone Nos. 1105 & 197 X.)

Standard Foundry Co., electrical fittings merchants, 58 & 60, Paradise-st.,Liverpool. (Telegs.: "Classical, Liverpool." Teleph. No. 6651, Central.)

Standard Machine Works, Ltd., Dame Agnes-st., Nottingham. (Telegs.: "Crusoe, Nottingham." Teleph. No. 2012.)

Standard Manufacturing Co., electrical advertising novelty designers & manufacturers, Ye Olde Moot Hall, Irongate, Derby.

Standard Metal Engraving Co., name plate & dial manufacturers, Buchanan-bldgs., 24, Holborn, London, E.C. (Telegs.: "Unissued, London." Teleph. No. 1143, Central.)

Standard Motor Co., Ltd., Bishopsgate Green, Foleshill-rd., Coventry. (Telegs.: "Flywheel, Coventry." Teleph. No. 530.)

Standard Underground Cable Co., Dock House, Billiter-st., London, E.C. (Telegs.: "Gramercy, London." Teleph. Nos.: 1414, Avenue; & 1414, Central.)

STANDARD VARNISH WORKS, manufacturers of insulating materials, 27, Bevis Marks, London, E.C. (Telegs.: "Agitators, London." Teleph. No. 4596, Wall.) *See advt.*, INSULATING VARNISH.

Standard Wire Co., wire manufacturers, West Mills, Sowerby Bridge, Yorks. (Teleph. No. 557.)

Stanfield, Prof. R., WH.SC., F.R.S.E., M.I.C.E., professor of mechanical engineering, Heriot-Watt College, Edinburgh.

Stanger, R. H. Harry, civil engineer, Testing Works & Chemical Laboratories, 2, Broadway, Westminster, London, S.W. (Teleph. Westminster 192.)

Staniar, John, & Co., iron & steel wire, Manchester Wire Works, Manchester.

Staniland, Norman, M.I.E.E., borough electrical engineer, Electricity Works, Hornsey. (Tel. North 846.)

Stanley, A. H., director Underground Electric Railways Co. of London, Ltd., Electric Railway House, Broadway, Westminster, S.W.

Stanley, Frank E., A.M.I.E.E., chief engineer, National Electric Construction Co., Ltd., Queen Anne's-chbrs., Westminster; & 2, Victoria-ave., Surbiton. Director Wisbech Electric Light & Power Co., Ltd.

Stanley, Hon. Arthur, M.P., Knowsley, Prescot, Lancs.; & 33, St. James-sq., S.W. Chairman South Lancashire Tramways Co., & Lancashire Light Railways Co., Ltd.; director New St. Helen's & District Tramways Co., Ltd.; director Lancashire United Tramways, Ltd.; chairman Lancashire Power Construction Co., Ltd.; director South Lancashire Electric Supply Co., Ltd.; director Collieries Electric Power Development Synd., Ltd.

Stanley, J. E., electrical engineer & contractor, Walsall.

Stanley, Rupert, B.A., A.M.I.E.E., professor of physics & electrical engineering, Municipal Technical Institute, Belfast; & St. Michans, Deramore Park S., Belfast.

Stanley Bros., Ltd., underground conduits & culverts, Nuneaton. (Telegs.: "Stanleys, Nuneaton." Nat. Teleph. No. 101. A.B.C. Code, 5th Edition.) Branch works: Burslem, Staffs.; Willenhall, nr. Coventry.

Stanley, Popplewell & Co., chartered patent agents, 38, Chancery-lane, W.C. (Telegs.: "Notions, London." P.O. Teleph. No. 1763, Central.)

Stanley, W. F., & Co., Ltd., mathematical instrument makers, 5, Great Turnstile, Holborn, London, W.C. (Telegs.: "Turnstile, London." Teleph. No. 188, Holborn.)

Stannage, George, A.I.E.E., Postal Telegraphs, South Metropolitan District, 5, Pagnell-st., New Cross, London, S.E.

STANNAH, J., electrical engineer, Skin Market-pl., Bankside, London, S.E. (Telegs.: "Lifts, London." Teleph. Hop 1365.) *See advt.*, LIFTS—ELECTRIC.

Stannard & Co., electrical & mechanical engineers, Stowmarket.

Stanney, W. D., engineer, secretary & manager Ryde Pier (& Electric Railway) Co., Ryde.

Stansell & Son, electrical engineers, East-st. & Billett-st., Taunton.

Stansfield, H., B.SC., A.M.I.E.E., The University, Manchester; & 16, Lonsdale-rd., Fallowfield, Manchester.

Stansfield, Wm., A.M.I.E.E., 22, Platt-st., Moss Side, Manchester.

Stanton, A. L., A.M.I.E.E., 13, Hyde-st., King's-rd., Southsea.

Stanton, J. C. M., M.I.E.E., 66, Victoria-st., London, S.W.; & "Elmsleigh," Sutton, Surrey.

Stanton, Fredk. & Edwin, copper wire & cords for electric purposes, Silk Mills, Lewisham, London, S.E. (Telegs.: "Araneolus, London." Teleph. No. 84, Deptford.)

Stanwell, A., electric lighting & power contractor, 50, Kirkdale-rd., Liverpool. (Teleph. No. 3304, Royal.)

Staples, Henry J., A.I.E.E., Spondon, Derby.

Star Electric Light Co., 6, St. Swithins-lane, London, E.C. (Teleph. Wall 6397.)

Stark, A. Kennedy, & Co., electrical engineers, 163, W. Nile-st., Glasgow. (Teleph. No. 3001, Royal.)

Stark, W. B., & Co., Ltd., engineers, electricians, &c., Plymouth.

Starkey, T. H., dealer in electrical fittings & accessories, Rosebery-bldgs., 83, John Bright-st., Birmingham.

Starkey, W. J. S. Barber, A.I.E.E., Aldenham-park, Bridgnorth, Salop.

Starkie, J. E., A.M.I.E.E., A.M.I.MECH.E., borough electrical engineer, Electricity Works, Burnley.

Starkie, Jas., & Sons, Ltd., manufacturers of iron, steel, brass & copper wire gauze, Preston, Lancs. (Telegrams: "Starkie, Preston." Telephone No. 147.)

Starlight Electrical Engineering Co., installation contractors, 38, Alexandra-st., Southend-on-Sea; & 3, Victoria Parade, Leigh-rd., Westcliff-on-Sea.

Starling, F. H., A.I.E.E., managing director & secretary Blackburn, Starling & Co., Ltd., Gresham Works, Nottingham.

Starling, S. G., A.R.C.SC., B.SC., A.I.E.E., head of Physical Dept., Municipal Technical Institute, Romford-rd., West Ham.

Starr, David A., M.I.E.E., general manager, Clyde Valley Electrical Power Co., 53, Bothwell-st., Glasgow. (Telegs.: "Valley, Glasgow." Nat. Teleph. Nos. 1504 & 1891, Argyle.)

State of Bahia South-Western Railway Co., Ltd., 3, Salter's Hall-ct., Cannon-st., London, E.C. Registered Sept. 11, 1908. Nominal capital: £200,000 in £1 shares. Directors: Col. Paget P. Mosley; Hon. A. G. Brand; Baron de Oliveira; M. Ed. Fontaine de Lavelaye. Secretary, W. Stewart Lane.

State of Santa Catharina (Brazil) Development Corp., Ltd., 425–428, Moorgate Station-chbrs., Moorfields, E.C. Registered April 24, 1909. Nominal capital: £10,000 in 5000 ordinary £1 shares & 100,000 deferred shares of 1s. each.

Statham, H., & Co., indiarubber & gutta-percha manufacturers, 9, 10 & 11, Corporation-st., Manchester. (Telegs.: "Mahtats, Manchester." Teleph. City 1592.)

Statter, J. G., M.I.E.E., consulting electrical engineer, 2, Queen Anne's Gate, London, S.W.; & Wilfred-st., Sherborne-st., Birmingham.

Staveley, Alwyn W., electrical engineer, Gent & Co., Ltd., Faraday Works, Leicester. (Telegs.: "Lodestone, Leicester." Nat. Teleph. No. 151.)

Staveley Coal & Iron Co., Ltd., makers of cast iron pipes for cables, &c., Chesterfield, Derbyshire. (Telegs.: "Staviron, Barrow Hill." Teleph. No. 251.)

Stavers, John, electrician, 11, Charles-st., Knightsbridge, London, S.W. (Teleph. Kensington 3295.)

Stead, Wm., M.I.E.E., Yew-Tree Lodge, Eccles.

Steamship, The (price 6*d*.), a Scientific Journal for Marine Engineers, Shipbuilders, & Electricians. Offices: 2, Custom House-chambers, Leith. (Telegrams: "Lockie, Leith.")

Stearn, C. H., M.I.E.E., Avoca Lodge, Branstone-rd., Kew Gardens, S.W.

Stearn, Alfred, & Son, electric bell fitters & contractors, 21, Upper Brook-st., Ipswich. (Telegs.: "Stearn, Ipswich." Teleph. No. 74.)

STEARN ELECTRIC LAMP CO., LTD., THE, 47, Victoria-st., Westminster. Factory: Kew Gardens. Managing director, C. H. Stearn; secretary, C. E. Gordon Stuart. *See* INCANDESCENT LAMP MANUFACTURERS—ELECTRIC.

Stedman, Harold Geo. Ade, A.M.I.E.E., Cleveland & Durham Electric Power, Ltd., Hinton's-bldg., Middlesbrough.

Stedman, T., Hauteville, Guernsey. Director Guernsey Railway Co., Ltd.

Steel, C., Glasfryn, New Barnet, Herts. Deputy-chairman Great Northern & City Railway Co.; chairman Canadian Electric Traction Co., Ltd.

Steel, H. E., A.I.E.E., 105, High-st., Cheltenham. (Telegs.: "Steel, Electrician, Cheltenham." Teleph. No. 384.)

Steel, John, wiring contractor, 22, Murray-pl., Stirling.

Steel, Robert, A.I.E.E., 38, Bath-st., Glasgow.

Steel Barrel Co., Ltd., makers of patent electrically welded steel barrels, drums, tanks, &c., Uxbridge. (Telegs.: "Barrels, Uxbridge." Nat. Teleph. No. 53.)

Steel Conduit Co., Ltd., makers of conduits for electric wires, Conduit Works, Witton, Birmingham. (Teleph. No. 108, Aston.)

Steel, H. E., Ltd., installation contractors, High-st., Cheltenham (Telegs.: "Steel, Limited, Cheltenham." Teleph. No. 384); & Russell-st., Stroud, Glos. (Telegs.: "Steel Motors, Stroud." Telephone No. 132 X.)

Steel Nut, The, & Joseph Hampton, Ltd., makers of tramway castings, &c., Wednesbury. (Telegs.: "Franchise, Wednesbury." Teleph. No. 27 (2 lines).)

Steel, Peech & Tozer, Ltd., liquid starters & resistances manufacturers, Sheffield (Telegs.: "Phœnix, Rotherham." Teleph. Nos. 92, 99–1125, Sheffield); & 15, Victoria-st., Westminster, London, S.W. (Telegs.: "Praestans, London." Teleph. No. 418, Westminster.)

Steel, R. & A., cable drum makers, 85 & 87, James-st., Bethnal Green, London, N.E. (Teleph. East 348.)

Steel, R., & Co., electrical engineers, 12, Renfield-st., Glasgow.

Steel Sheet Co., Ltd., stamping sheet manufacturers, Phœnix Works, Walsall-st., Wolverhampton. (Telegrams: "Sheets, Wolverhampton." Telephone No. 0517.)

Steel Wings Wind Turbine Co., Ltd., St. Stephen's House, Victoria Embankment, Westminster, S.W.

Steele, J. G., station superintendent, Corporation Electricity Works, West Hartlepool. (Teleph. No. 378.)

Steele, Louis J., M.I.E.E., electrical engineer, H.M. Dockyard, Portsmouth.

Steen, J., & Co., Ltd., telegraph paper manufacturers, Wolverhampton. (Telephone No. 7057.)

Steggall, J. E. A., M.A., professor of pure & applied mathematics, University College, Dundee.

Stegmann, G., electrician & contractor, 10, North Side, Wandsworth Common, S.W. (Teleph. No. 618A, Battersea.)

Stegmann & Co., electrical & mechanical engineers, Brighton Railway Approach, Clapham Junction, London, S.W. (Telegrams: "Ampere, London." Telephone No. 618, Battersea.)

Stegner, Robt., & Co., electricians & engineers, 129, Tavistock-cres., London, W. (Teleph. No. 401, Western.)

Steiger, Alph., M.I.C.E., water power engineer, 28, Victoria-st., Westminster, S.W.

Stein, J. G., assistant, Corporation Tramways, Northampton.

Steinhoff, Sons & Muir, Ltd., makers of insulating compound, 6, Trinity-sq., Tower Hill, London, E.C. (Telegrams: "Ultramarine, London." Telephone No. 1283, Avenue.)

Steinitz, John Julius, M.I.E.E., joint general manager, Brush Electrical Engineering Co., Ltd., Loughborough. (Telegs.: "Falcon, Loughborough." Teleph. Nos. 624–5–6.)

Steinthal, W. P., M.Sc., A.M.I.E.E., 41, Piccadilly, Bradford, Yorks; & 1B, Cooper-st., Manchester.

Steinthal, G. A., & Boydell, Ltd., electrical contracts & supplies, 1B, Cooper-st., Manchester (Teleph. No. 3174); & 41, Piccadilly, Bradford. (Teleph. No. 83.)

Stelling, J. W., A.M.I.E.E., 30, Savile Parade, Halifax.

Stenner & Gunn, electrical & general engineers, Lowman Works, Tiverton, Devon. (Telegrams: "Stenner, Tiverton.")

Stephens, A. L., Charlton Pershore, Worcestershire. Director Fladbury Electric Light & Power Co., Ltd.

Stephens, G. T., director & secretary Fladbury E. L. & P. Co., Ltd., Fladbury, Worcestershire.

Stephens, H. G., A.M.I.E.E., 17, Florence-rd., Leicester.

Stephens, Hilliard, A.M.I.E.E., A.M.I.M.E., 39, Victoria-st., S.W. (Telegrams: "Stahlwerk, London." Telephone No. 1625, Victoria.)

Stephens, H. C. J., engineer, Central Electric Supply Co., Ltd., 3, Lodge-pl., St. John's Wood, London, N.W.

Stephens, J. Newton, A.M.I.E.E., electrical engineer, 40, Princes-sq., Hyde Park, London, W.

Stephens, Brain & Co., Ltd., electric light contractors, 9, High-st., Bideford. (Telegs.: "Stephens, Bideford." Teleph. No. 9.)

Stephens, Smith & Co., Ltd., manufacturing electrical engineers, 1, Cuba-st., Millwall, London, E. (Telegrams: "Reckenzaun, London." Telephone No. 3165, East.)

Stephenson, A. F., director Harwich Electric Lighting & Tramways Co., Ltd.

Stephenson, Sidney O., electrician, Claremont-rd., Forest-gate, London, E.

Stephenson, G. V., & Sons, ironmongers & practical electricians, 31, Blackburn-rd., Accrington. (Telephone No. 26x.)

Stephenson, R., & Co., Ltd., engine & boiler makers, Hebburn-on-Tyne. (Telegs.: "Stephenson, Hebburn." Nat. Teleph. Nos. 505, 606 & 2561; P.O. Telephone No. 229.)

Stepney Borough Council Electrical Works, 27, Osborn-st., London, E. (Teleph. Avenue 2949 (2 lines).) W. C. P. Tapper, A.M.I.E.E., engineer & manager.

STERLING TELEPHONE & ELECTRIC CO., LTD., THE, 200, Upper Thames-st., London, E.C. (Telegs.: "Cucumis, London." Teleph. Bank 6089; & Central 12716. A.B.C. Code, 5th edition.) Works: Dagenham, Essex.

Sterling Varnish Co., makers of Sterling Insulating Varnishes, Brougham-st., Blackfriars-rd., Manchester. (Telegrams: "Reduction, Manchester.")

Stern, H., director Anglo-Argentine Tramways Co., Ltd., 62, Gresham House, London, E.C.

Stern Sonneborn Oil Co., Ltd., oil & grease manufacturers & refiners, Royal London House, 16, Finsbury-sq., E.C. (Telegs.: "Centumvir, London." A.B.C. Code used. Teleph. Nos. 3797 & 3798, London Wall); & Jubilee-bldgs., 108, Hope-st., Glasgow.

Sterne, L., & Co., Ltd., makers of spiral springs, emery wheels & machines, The Crown Iron Works, Glasgow. (Telegs.: "Crown, Glasgow." Teleph. No. 691–2, Charing Cross.)

Steuart, Wm., A.M.I.E.E., 8, Anerley-rd., Upper Norwood, London, S.E.

Steven & Struthers, steam fittings, Anderston Brass Foundry, Glasgow. (Telegrams: "Bronze, Glasgow." Nat. Telephone Nos.: 133, Argyle; Corp., 1775.)

Stevens, Lieut. E. J., R.A., A.M.I.E.E., School of Signalling, Aldershot.

Stevens, O. W., district manager National Telephone Co., Ltd., Telephone-bldgs., Market-pl., Norwich. (Telegs.: "National Telephone, Norwich." Nat. Teleph. No. 201.)

Stevens, Theodore, E.M., A.M.I.C.E., M.I.E.E., electric traction engineer, British Thomson-Houston Co., Ltd., 83, Cannon-st., London, E.C. (Telegs.: "c/o Asteroidal, London." Teleph. No. 135, London Wall); & 26, Montalt-rd., Woodford Green, Essex.

Stevens, W. A., A.I.E.E., St. Peter-st., Maidstone.

Stevens, F. J., & Co., lightning conductor manufacturers, 348, St. Leonard's-rd., Poplar, London, E.

Stevens, Jas., & Son, makers of lenses for ships' lamps & all kinds of electrical glass supplies, Victoria Glass Works, Dartmouth-st., Birmingham. (Telegrams: "Lens, Birmingham." Telephone No. 455.)

Stevens Motor Manufacturing Co., combined petrol lighting sets, Wolverhampton.

Stevens, W. A., Ltd., electrical engineers, St. Peter-st., Maidstone. (Teleph. No. 262.)

Stevenson, A. D., M.I.E.E., Talbot & Stevenson, 26, Victoria-st., London, S.W.

Stevenson, A. F., A.I.E.E., Grappenhall, Warrington; & W. Rickard, Ltd., Derby.

Stevenson, Chas. A., B.Sc., M.I.C.E., A.I.E.E., F.R.S.E., electrical engineer, 84, George-st., Edinburgh.

Stevenson, Ed. Alf., electrician, Telegraph Construction & Maintenance Co., Ltd., Enderby's Wharf, East Greenwich.

Stevenson, George, electrical engineer, British Thomson-Houston Co., 91, Wellington-st., Glasgow.

Stevenson, H., general manager, Crompton & Co., Ltd., Salisbury House, London Wall, London, E.C.

Stevenson, J., electrician, 90, Garfield-rd., Radford, Notts.

Stevenson, Jno., electrical engineer & contractor, 11, Queen-st., Newcastle-on-Tyne. (Telegs.: "Unscreened, Newcastle-on-Tyne." Teleph. No. 1819.)

Stevenson, J. Ross, A.M.I.E.E., electrician, 7A, Young-st., Edinburgh.

Stevenson, Percy Ross, A.M.I.E.E., 17, India-st., Glasgow.

Stevenson, W., M.I.E.E., telegraph superintendent & electrical engineer, Caledonian Railway, Glasgow. (Telephone No. 808, Royal.)

Stevenson & Co., Ltd., engineers & boiler makers, Canal Foundry, Preston, Lancs. (Telegrams: "Stevenson, Preston." Telephone No. 57.)

Stevenson, D. & C., lighthouse engineers, 84, George-st., Edinburgh.

Stevenson, J. Ross, & Co., electricians, 7A, Young-st., Edinburgh. (Telegs.: "Pendant, Edinburgh." Teleph. No. 3474 X.)

Stevenson & McGuffie, consulting engineers, Caledonian-chbrs., 87, Union-st., Glasgow. (Telegs.: "Consultus, Glasgow." Teleph. Corp. 1178; & Royal 1278.)

Stevenson & Parry, engineers, 16, South Castle-st., Liverpool.

Stewart, A., Wormit, Fife. Chairman Tayside Electric & Gas Light Co., Ltd.

Stewart, Andrew, A.M.I.E.E., manager Electric Tool Department, Consolidated Pneumatic Tool Co., Ltd., Palace-chbrs., Bridge-st., Westminster, London, S.W.; & "Conway," Pope's-grove, Twickenham.

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Stewart, A. W., M.I.E.E., consulting engineer, 55, West Regent-st., Glasgow; & 8, Lancaster-cres., West Glasgow.

Stewart, B. G., A.M.I.E.E., electrical engineer, "Elstree," Ellesmere-rd., Chiswick, London, W.

Stewart, Chas., B.SC., A.M.I.E.E., c/o Johnson & Phillips, Ltd., Charlton, S.O., Kent.

Stewart, C. C., electrical inspector, British Engine, Boiler & Electrical Insurance Co., Ltd., 12, King-st., Manchester.

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Stewart, D., A.I.E.E., Blantyre-park, High Blantyre, N.B.

Stewart, D., superintending engineer, Postal Telegraphs, Glasgow.

Stewart, E. A., engineer & director Tayside Electric & Gas Light Co., Ltd., Electric Station-bldgs., Wormit-on-Tay.

Stewart, G. C. I., electrical engineer, 8, Dene-rd., Blaydon, Newcastle-on-Tyne.

Stewart, H. C., director Hooghley River Electric Power Co., Ltd.

Stewart, H. J. F., A.M.I.E.E., engineer & manager, Ilfracombe Electric Light & Power Co., Ltd., Ilfracombe, Devon. (Teleph. Nos. 29 & 43.)

Stewart, James, consulting engineer, Proctor House, Newcastle-on-Tyne. (Nat. Tel. No. 2340, Central.)

Stewart, J., electrical engineer, Murano-pl., Leith Walk, Edinburgh.

Stewart, James, district manager, National Telephone Co., Londonderry.

Stewart, J. A., electrical engineer, Boyle, Ireland.

Stewart, J. C., resident engineer, Yorkshire (West Riding) Electric Tramways Co., Ltd., Welldon-lane, Castleford.

Stewart, J. D. W., district manager Nat. Telephone Co., Ltd., Telephone-bldgs., Upper Queen-st., Belfast.

Stewart, J. E. M., A.M.I.E.E., superintendent, Corporation Electric Lighting Department, Millstone-lane, Leicester. (Telephone No. 787.)

Stewart, J. Graham, 41, Oswald-st., Glasgow. Chairman British Electric Plant Co., Alloa.

Stewart, Percy H., A.M.I.E.E., A. Guinness, Son & Co., St. James' Gate Brewery, Dublin.

Stewart, T. B., electrical & mining engineer (managing director Mid-Wales Mines, Ltd.), Wenlockhead, Abington, N.B. (Telegrams: "Silver, Wenlockhead.")

Stewart, W. J., electrical & mechanical engineer, 180, Shirland-rd., Paddington, London, W.

Stewart, W. Maxwell, A.M.I.E.E., consulting electrical engineer, Castle-chbrs., 55, West Regent-st., Glasgow. (Teleph. Nos. 1839, 1840 & 2219, Argyle.)

Stewart, W. N., electrical engineer, Electrocars, Ltd., Alderman's House, Alderman's Walk, E.C.

Stewart & Bucher, electrical engineers, 9, North St. Andrew-st., Edinburgh (Teleph. No. 72); & 187, Great Junction-st., Leith.

Stewart, C. & A., brass founders & pressure gauge makers, 14, Victoria-st., Glasgow.

Stewart & Co., electrical engineers & electric bell fitters, 79, Victoria-rd., Surbiton. (P.O. Teleph. Kingston 541.)

Stewart, D., & Co. (1902), Ltd., makers of gas engines, slow speed engines & condensing plants for power stations, London-rd. Iron Works, Glasgow. (Telegrams: "Stewart, Glasgow." Telephone Nos.: 3244, Bridgeton, Nat.; & Y 271, P.O.)

Stewart & McDonald, electrical engineers, 245, Buchan-st., Glasgow.

Stewart, T., & Sons, Ltd., electric bell & telephone fitters, Cross, Kilmarnock. (Telegs.: "Stewart." Teleph. No. 91.)

Stewart, W. J., & Co., electric lighting contractors, 15A, Little Queen-st., Edgware-rd., London, W.

Stewart, W. W., & Co., lightning conductor manufacturers & erectors, 365, Scotland-street, Glasgow.

Stewarts & Lloyds, Ltd., manufacturers of wrought iron & steel tubes, &c., Airdrie, Coatbridge, Mossend; 41, Oswald-st., Glasgow; Nile-st., Birmingham; Winchester House, Old Broad-st., London, E.C.; 63, Paradise-st., Liverpool; 42, Deansgate, Manchester; & 132, Bute-st., Cardiff. (Telegs.: "Lapweld, Glasgow;" "Lloyds, Birmingham;" "Lapweld, London;" "Tubes, Liverpool;" "Tubes, Manchester;" "Tubes, Cardiff." Teleph. Nos.: London, London Wall 5750; Liverpool, Royal 2098; Manchester 771; Cardiff 277; Glasgow, Argyle 2601/10 & Corp., 591.)

STIFF, JAMES, & SONS, vitrified stoneware insulators for telegraph & telephone, electric light & electric traction, also porous ware, London Pottery, Lambeth, London, S.E. (Telegrams: "Stiff, London." A.B.C. Code, 5th ed. Telephone No. 627, Hop.) *See advt., page* 10.

Still, A., A.M.I.C.E., M.I.E.E., electrical engineer, 13, Half Edge-lane, Eccles, Lancs.

Still, Percy, M.I.E.E., M.I.C.E., chief engineer, Chelsea Electricity Supply Co., 19, Cadogan-gdns., London, S.W. (Telegrams: "Still, c/o Economy, London." Telephone No. 363, Kensington.)

Still, Wm. A., A.I.E.E., 105, Bothwell-st., Glasgow.

Still, W. A,. & Co., electrical engineers & contractors, 105, Bothwell-st., Glasgow. (Teleph. No. 1375, Argyle.)

Still, W. M., & Sons, Ltd., metal spinners, 24, Charles-st., Hatton Garden, London, E.C. (Telegs.: "Metal Spinner, London." Teleph. No. 718, Holborn.)

Stillman, W. H., electrical engineer, 31, Mount Ephraim, Tunbridge Wells. (Teleph. No. 351.)

Stirk, John, & Sons, Ltd., mechanical & electrical engineers, 7, Turney-st., Ovenden-rd., Halifax.

Stirling, A. D., electrical engineer, 8, Ashley-ter., Edinburgh.

Stirling, Charles, A.M.I.E.E., c/o Cardwell & Boorman, Boswell-ct., Devonshire-st., London, W.C. (Telegs.: "Stirlingus, London." Teleph. No. 814, Holborn.)

Stirling Boiler Co., Ltd., The, makers of the "Stirling" water tube boiler. Head office: 25, Victoria-st., Westminster, London, S.W. (Teleph. Westminster 822); 17, St. Ann's-sq., Manchester; 10, East Parade, Leeds; Milburn House, Newcastle; 65, Pen-y-wain-rd., Roath Park, Cardiff; & 45, Hope-st., Glasgow. (Telegs.: "Stirlinico," London, Manchester, Leeds, Newcastle, Cardiff & Glasgow.)

Stirling Corporation Electricity Works, Stirling. (Telegs.: "Burgh Electrical Engineer, Stirling." Teleph. No. 75.) Engineer, J. W. Papworth.

Stirrat, W. B., Westmarch, Kilmacolm. Director Kilmacolm Electric Lighting Co., Ltd.

Stitt, J. Carlton, J.P., Kirkside, Croxteth Gate, Liverpool. Director Electric Supply Co. of Victoria, Ltd.; director Electric Supply Co. of West Australia, Ltd.; director British Insulated & Helsby Cables, Ltd.

Stiven, David R., consulting & inspecting engineer, 57, Meadowside, Dundee. (Telegrams: "Stiven, Engineer, Dundee.")

Stiven, E. B., engineer, Police Commissioners' Electricity Works, Rothesay.

Stobart, F., Biddick Hall, Fence Houses. Director Bankfoot Power Co., Ltd.

Stobart, S., & Co., electrical contractors, Laidlaws-ct., Newcastle-on-Tyne.

Stock, Sons & Taylors, Ltd., manufacturers of electric light fittings, Gas-st. & Berkeley-st., Birmingham.

Stockbridge, R., A.M.I.E.E., North View, Urmston-lane, Stretford, Manchester.

Stockens, E. E., district manager National Telephone Co., Ltd., Telephone House, Bon Accord-st., Aberdeen, N.B. (Teleph. No. 80.)

Stockport Corporation. Borough & tramways electrical engineer, R. Lomax.

Stockport Municipal Technical School, Stockport. *See* SCHOOLS.

Stocks & Co., engineers & exporters, 37, Deansgate Arcade, Manchester. (Telegs.: "Governor, Manchester." Teleph. Central 2251.)

Stockton-on-Tees Corporation Electric Lighting. Engineer, J. J. Smith. (Telephone No. 190.)

Stockwell, E. J., A.I.E.E., Fern Villa, 86, Genesta-rd., Plumstead, London, S.E.

Stockwell, P. H., first-class technical officer, General Post Office, London, E.C.

Stoddart, J. G., wiring contractor, Green-st., Sunderland.

Stoke Newington Borough Council Electricity Department, Electricity Station, Edwards-lane, Stoke Newington, London, N. (Teleph. No. 2012, Dalston.) Electrical engineer, S. Hann.

Stoke-on-Trent Corporation Electricity Works. (Teleph. No. 412.) Engineer, P. J. S. Tiddeman, M.I.E.E.

Stoker, T., director Llandudno & Colwyn Bay Electric Railway, Ltd., Basildon House, Moorgate-st., London, E.C.

Stokes, H., A.M.I.E.E., electrical engineer, 76, Ellerby-st., Fulham Park, London, S.W.

Stokes, Sydney, electrical engineer, 94, Sandford Grove-rd., Sheffield.

Stokes, A., & Co., machine screws, studs & small turned parts for telegraph engineers, &c., brass, iron & copper screw works, Green-st., Deritend, Birmingham. (Teleph. Midland 356.)

Stoltz Electrophone Co., 82-5, Fleet-st., London, E.C. Registered in Illinois on June 16, 1908. Capital: $25,000,000 in $10 shares.

Stolzenberg Patent File Co., 50-53, Bishopsgate-st. Without, London, E.C.

Stone, C., engineer, Electrical Contracts & Maintenance Co., Ltd., Caxton House, Westminster, S.W.

Stone, G. E. M., A.M.I.E.E., Cowley, via Chesterfield.

Stone, J., art metal worker, &c., 42, St. George's-rd., Southwark, London, S.E. (Teleph. No. 1420, Hop.)

Stone, J. G. B., 9, Draper's-gdns., E.C. Chairman Indian Electric Supply & Traction Co., Ltd.; director Madras Electric Supply Corp., Ltd.; director Calcutta Tramways Co., Ltd.; chairman Electric Supply Corp., Ltd.

Stone, V., Montrose. Director North of Scotland Electric Light & Power Co., Ltd.

Stone & Co., installation contractors, Plough Corner, Leigh-rd., Westcliff-on-Sea.

Stone, J., & Co., Ltd., electrical engineers, Deptford, London, S.E. (Telegrams: "Tostones, London." Telephone No. 2, Deptford.)

Stone, J. B., & Co., machine & belt fastener manufacturers & dealers, 135, Finsbury Pavement, E.C. (Telegs.: "Sightseer, London." Teleph. Central 1848.)

Stone, T. J., & Co., dealers in electrical supplies, 20, High-st., Marylebone, W.; & 46 & 48, James-st., Oxford-st., London, W.

Stoneham, A. H. P., chairman Kalgoorlie Electric Tramways, Ltd.; director Perth Electric Tramways, Ltd., 30, 31, St. Swithin's-lane, E.C.

Stoney, Gerald, B.E., M.I.E.E., M.I.C.E., engineer, Oakley, Heaton-rd., Newcastle-on-Tyne.

Stonham, W. F., electrical engineer, 11 & 13, Mount Ephraim, Tunbridge Wells.

Stonier, C. J., superintendent, Publicity, Consumers', Testing & Public Lighting Department, Corporation Electricity Works, Dudhope Crescent-rd., Dundee.

Stonier, F. & G. W., & Co., wire drawers & manufacturers & weavers in brass & copper, Harris-st., Strangeways, Manchester.

Stoodley Bros., electrical engineers, The Arcade, Aldershot.

Storer, David, & Sons (Wilkinson, Heywood & Clark, Ltd., proprietors), oil refiners, colour & varnish manufacturers, Storer's Wharf, Cubitt Town, London, E. (Telegs.: "Storson, London." Teleph. Eastern 1360 & 1361.)

Storey, P., M.I.M.E., A.M.I.E.E., borough electrical engineer, Corporation Electricity Works, Torquay. (Telephone No. 192.)

Storey, T. W., A.I.E.E., 21, Berkeley-rd., Crouch End, London, N.

Storey Institute & Municipal Technical School, Lancaster. Principal, W. French, M.A., F.I.C.

Storey, I., & Sons, anti-friction metal merchants, Cornbrook, Manchester.

Storier, D., electrician, Town Council Electricity Works, Broughty Ferry, Forfarshire.

Stormont, Jas., A.M.I.E.E., Electric Power Station, Rothesay Dock, Clydebank, N.B.

Storrie, J. H., district manager National Telephone Co., 211, High-st., Kirkcaldy, N.B. (Tel. 64.)

Story, W. H., A.M.I.E.E., 83, Alexandra-rd., S. Hampstead, N.W.

Stothert, J. K., A.I.E.E., 29, St. Vincent-pl., Glasgow.

Stothert & Pitt, Ltd., electric crane manufacturers, Bath.

Stott, J., resident electrical engineer, Corporation Electricity Works, Heywood.

Stott, J., & Co., electric fan makers, Vernon Works, Oldham.

Stott, James, & Co., electric fan manufacturers, 158, Queen Victoria-st., London, E.C. (Telegrams: "Gas Governor, London." Telephone No. 11, Bank.)

Stott & Sons, consulting electrical & mechanical engineers, 60, Hawarth's-bldgs., Cross-st., Manchester.

Stottner, J., M.I.E.E., engineer & contractor, Birkbeck Bank-chbrs., Holborn, London, W.C. (Telegs.: "Affluently, London." Teleph. Central 13636); & Weston House, Hendon, N.W.

Stout, Robert, A.I.E.E., postmaster, Lerwick, Shetland Isles.

Stowmarket Electricity Works, Stowmarket, Suffolk. (Telegrams: "Napier Prentice, Stowmarket.") Suffolk Electricity Supply Co., Ltd., proprietors. Engineer, N. Prentice.

Strachan & Henshaw, Ltd., mechanical & electrical engineers, Whitehall Iron Works, Whitehall, Bristol. (Telegs.: "Strashaw, Bristol." Nat. Teleph. No. 432.)

Strachan, Turner & Co., agents for electricians' tools, 37, Lime-st., E.C. (Telegs.: "Notador, London.")

Strafford, H., & Son, electrical engineers, 68, Mayfield-grove, Harrogate.

Strang, R., installation contractor, Montpellier Walk, Cheltenham.

Strang, R., & Sons, installation contractors, 17, Montpellier Walk, Cheltenham.

Strange, J. P., A.M.I.E.E., 34, London-rd., Tunbridge Wells.

Strange & Sons, Ltd., electric light & power contractors, 34, London-rd., Tunbridge Wells (Telegs.: "Joinery, Tunbridge Wells." Nat. Teleph. No. 54); & 55, South-st., Chichester. (Telegs.: "Strange, Chichester." Nat. Teleph. No. 0197.)

Stratford-Andrews, T. W., A.I.E.E., 18, Old Broad-st., London, E.C.; & Cecil House, Wimbledon Common, S.W. Managing director Indo-European Telegraph Co., Ltd.; director Black Sea Telegraph Co., Ltd.; director Delhi Electric Tramways & Lighting Co., Ltd.

Stratford-on-Avon Electricity Co., Ltd., Electricity Works, Arden-st., Stratford-on-Avon. (Nat. Teleph. No. 27.) Registered Nov. 16, 1905. Nominal capital: £15,000 in £1 shares. Issued: £7000. Mortgage: £3000. Directors: Geo. M. Bird, Esq. (chairman); O. F. Freeman, Esq.; S. A. Flower, Esq.; John Macgregor, Esq. Engineer, C. D. Falcke.

Strathclyde Electricity Supply Co., Ltd., 53, Bothwell-st., Glasgow. Registered June 22, 1905. Nominal capital: £1000 in £1 shares. Issued: 911 shares fully called. Directors: A. Bonar Law, Esq., M.P. (chairman); F. C. Gardiner, Esq.; C. M. King, Esq.; J. H. Lukach, Esq.; Newcomb Carlton, Esq.; Jas. Mackenzie, Esq. General manager, D. A. Starr; secretary, R. Robertson.

Strathcona & Mount Royal, Rt. Hon. Lord, G.C.M.G., 53, Cadogan-sq., S.W. Director Commercial Cable Co.

Strathpeffer & Dingwall Electric Co., Ltd., electrical engineers, Kildary, Ross-shire.

Stratton, G., engineer & manager, Sunderland & District Electric Tramways, Ltd., Philadelphia, nr. Fence Houses, co. Durham.

Straube, A. A. L., M.I.E.E., electrical engineer, 355, Caxton House, Tothill-st., Westminster, London, S.W.

Straubenzee, H. I. van, A.I.E.E., 13, Peacock's-bldgs., Park-row, Leeds.

STRAUS, G., & CO., LTD., manufacturers of lighting cables, electric bells, indicators, fuse boards, switches, lamp-holders, incandescent lamps, &c., 211, Upper Thames-st., London, E.C. (Telegrams: "Merriness, London." Telephone No. 5645, Bank.)

Streatfeild, Rev. R. H., M.I.E.E., A.M.I.C.E., Abingdon Lodge, Tunbridge Wells.

Street, A., assistant electrical engineer, Batley.

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Street, J. H., Ltd., electrical engineers, Unicorn Hill, Redditch.

Street Lighting Co., Ltd., mechanical & electrical engineers, Liverpool.

Street & Sons, electric lighting contractors, Christchurch-rd., Boscombe; & Castle-st., Christchurch.

Stretch, Chas. K., A.M.I.E.E., 10, Belvidere-rd., Prince's Park, Liverpool.

Stretford Urban District Council Electricity Works, Stretford, Lancs. (Teleph. No. 56, Docks, Manchester.) Engineer, R. Rowland, A.M.I.E.E.

Strode & Co., electric light engineers, 48, Osnaburgh-st., Regent's Park, London, N.W. (Teleph Gerrard 3807); & 67, St. Paul's Churchyard, E.C. (Teleph. Holborn 953). (Telegs.: "Strodes.")

Stroh, A., M.I.E.E., 98, Haverstock Hill, London, N.W.

Stroud, Prof. H., M.A., D.SC., M.I.E.E., professor of physics, Armstrong College, Newcastle-on-Tyne.

Strudwick, C., electrical engineer & contractor, Sidmouth, Devon.

Strutt, Denner J., A.I.E.E., British Thomson Houston Co., Ltd., & Eastfield, Hillmorton-rd., Rugby.

Strutt, The Hon. R. J., Terling Place, Witham, Essex. Director Manchester & Liverpool Electric Railway Syndicate, Ltd.

Stuart, A. M., Col. R.E., M.I.E.E., 14, Elliot-st., Liverpool.

Stuart, C. E. Gordon, secretary Stearn Electric Lamp Co., Ltd., 47, Victoria-st., London, S.W.

Stuart, C. M'D., Ballyhibistock, Dervock. Director Giants' Causeway, Portrush & Bush Valley Railway & Tramway Co.

Stuart, Dudley, A.I.E.E., Engineer-in-Chief's Office, The National Telephone Co., Ltd., Telephone House, Victoria Embankment, London. (Teleph. Nos. 61 & 62, Head Office.)

Stuart, J. N., Broomhill, Harrow. Chairman Harrow Electric Light & Power Co., Ltd.

Stuart, K. R., manager Electrical Co., Ltd., Prudential-bldgs., Pinstone-st., Sheffield. (Telegs.: "Circuit, Sheffield." Teleph. No. 3435.)

Stuart & Moore, electrical engineers, Victoria Works, Ealing, W. (Telegs.: "Burning, London." P.O. Teleph. Ealing 237.)

Stuart-Wortley, Rt. Hon. C. B., K.C., M.P., 7, Cheyne Walk, Chelsea, S.W. Chairman City & South London Railway Co., Ltd.

Stubbs, A. J., M.I.C.E., M.I.E.E., Assistant Engineer-in-Chief, General Post Office, London, E.C. (Teleph. Central 1002.)

Stubbs, Ernest, chief assistant electrical engineer, Corporation Electricity Works, Wolverhampton.

Stubbs, R. F., electrical engineer, London County Council's Electricity Department, 42, Cranbourn-st., Leicester-sq., W.C. (Telegrams: "Electrical, c/o Witan, London." Telephone No. 5378, Gerrard.)

Sturge, W. H., electrical engineer, c/o Chas. Joyner & Co., Icknield-sq., Birmingham.

Sturgeon, J., director Dublin & Central Ireland Power Synd., Ltd., 7, Westmoreland-st., Dublin.

Sturtevant & Co., Ltd, electro, gold, silver & nickel platers, 105–111, Euston-st., N.W. *See advt., page* 15.

Sturtevant Engineering Co., Ltd., electrical & mechanical engineers, 147, Queen Victoria-st., London, E.C. (Telegs.: "Sturtevant, London." Teleph. No. 7121, Central. Lieber's Code.)

Styles, Jas., & Son, electrical engineers & contractors, 2, Market-st., London, S.W. (Telegs.: "Exorno, London." Teleph. No. 3941, Gerrard.)

Submarine Cables Trust. Offices: Electra House, Finsbury Pavement, London, E.C. Capital: £308,300 in 3083 certificates of £100 each. Sidney Collett, secretary. Trustees: K. L. M. Anderson, Esq.; Sir A. J. Leppoc Cappel, K.C.I.E.; Sir J. Denison-Pender, K.C.M.G.; The Most Hon. The Marquis of Tweeddale, K.T.

Submarine Signal Co., Friar's House, New Broad-st., London, E.C. (Telegs.: "Submarinos, London." Teleph. City 2933.) Registered in U.S.A.

Suckling-Baron, A. I., M.I.E.E., General Electric Co., Ltd., 71, Queen Victoria-st., London, E.C.; & Barsham, Overton-rd., Sutton.

Sudall & Heap, installation contractors, Dean-st., South Shore, Blackpool.

Sudron, T., & Co., Ltd., makers of telegraph poles & masts, Imperial Boiler Works, Stockton-on-Tees. (Telephone No. 63.)

Suenson, Commodore E., D.R.N., chairman Great Northern Telegraph Co., Ltd., of Denmark, 26, Kongens Nytorv, Copenhagen.

Suffield, Lord, K.C.B., 4, Manchester-sq., London, W. Chairman Westminster Electric Supply Corp., Ltd.

Suffolk Electricity Supply Co., Ltd. (engineer & secretary, Napier Prentice), Stowmarket, Suffolk (Telegrams: "Napier Prentice, Stowmarket"); Felixstowe, Suffolk; & Diss, Norfolk. Registered Aug. 26, 1898. Nominal capital: £10,000 in 980 ordinary shares of £10 each & 200 founders' shares of £1 each. Issued: 877 ordinary & all the founders' shares. £10 per share has been called up on 550 ordinary & £1 per share on 17 founders' shares, resulting in the receipt of £6297. £2673 is considered as paid on 249 ordinary & 183 founders'. Mortgages & charges: £3875. Directors: P. C. N. Peddar, Esq. (chairman); Wm. Turner, Esq.; N. Prentice, Esq. (electrical engineer & secretary); C. G. Havell, Esq., M.D. Dividends: 1902, 3 per cent.; 1903, 4 per cent.; 1904, 1905 & 1906, 5 per cent.

Sugden, Arnold, A.I.E.E., electrical engineer, Woodfield, Brighouse, Yorks.

Sugden, James, A.M.I.E.E., 36, Woodlands Park-rd., King's Norton, Birmingham.

Sugg, H. G., resident engineer, St. James & Pall Mall Electric Light Co., Ltd., Carnaby-st., London, W.

Sugg, W., & Co., Ltd., electric apparatus manufacturers, Vincent Works, 67, Regency-st., Westminster, London, S.W. (Telegrams: "Sugg, London." Telephone No. 169, Westminster.)

Sullivan, Herbert W., M.I.E.E., telegraph engineer & electrician, 19, Great Winchester-st., London, E.C. (Telephone No. 2637, Central.) Works: Liverpool House, Middlesex-st., London, E.C. (Telegrams: "Deadbeat, London." Telephone No. 2637A, Central. A.B.C. Code, 5th edition.)

Sullivan & Co., Ltd., chromic acid, British Alkali Works, Widnes. (Telegrams: "Ubique, Widnes.")

Sullock, J., & Sons, electric light contractors, St. George's-rd., Wimbledon, London, S.W.

Sully, Herbert Thomas, M.I.E.E., consulting electrical engineer, Scottish Widows'-bldgs., Baldwin-st., Bristol. (Teleph. No. 2510 Y.)

Sulman & Picard, metallurgists & assayers, 44, London Wall, London, E.C. (Telegs.: "Blowpipe, London." Teleph. No. 1915, London Wall.)

Summer, G., lubricator maker, Rhodes Bank Lubricator Works, Oldham.

Summerhill, E. J., A.M.I.E.E., c/o British Westinghouse Co., 2, Norfolk-st., London, W.C.

Summers, Jas., A.M.I.E.E., 3, Sommerville-rd.-pl., Monteith-rd., Glasgow.

Summers, Jabez, & Son, electric fittings dealers, 169, London-rd., Kingston-on-Thames. (Telegs.: "Ironsides, Kingston-on-Thames." Teleph. Kingston 263.)

Summerscales, W., M.I.E.E., electrical engineer, managing director Morley Electrical Engineering Co., Ltd., Troy Works, Stanningley, nr. Leeds.

Summerside, J. W., engineer, Northern Counties Electricity Supply Co., Ltd., Alnwick, Northumberland.

Sumner, E. H., electrical engineer, 45, Osborne-rd., Forest Gate, London, E.

Sumpner, Dr. W. E., D.SC., M.I.E.E., principal Municipal Technical Schools, Birmingham.

Sumpter, Cecil Leslie, M.I.E.E., River Don Works, Sheffield; & Woodcot, Beauchief, Sheffield.

SUN ELECTRICAL CO., LTD., engineers & manufacturers, 118 & 120, Charing Cross-rd., W.C. (Telegrams: "Secabilis, London." Tel. Nos. 2291 & 2292, Gerrard.) *See advt.*, FITTINGS MAKERS—ELECTRIC.

Sun Insurance Office, 63, Threadneedle-st., London, E.C. (Telegs.: "Sun Fire, London." Teleph. No. 9346, Central.)

Sunbeam Lamp Co., Ltd., incandescent electric carbon & metal filament lamps, Gateshead-on-Tyne (Telegs.: "Sunbeam, Gateshead." Teleph. Gateshead 456); & 102, Charing Cross-rd., London, W. (Telegs.: "Outshine, London." Nat. Teleph. Gerrard 2855; P.O. Central 9339.) Newcastle depôt: 13, Northumberland-st. (Teleph. Central 2224.) Birmingham depôt: Burlington-chbrs., New-st. (Telegs.: "Outshine, Birmingham." Teleph. Midland 1927.) Manchester depôt: 10, Victoria-bldgs., St. Mary's Gate. (Telegs.: "Outshine, Manchester." Nat. Teleph. City 2608.) Registered Dec. 13, 1887. Nominal capital: £75,000 in £1 shares. 29,785 shares have been taken up & the full amount has been paid. There are also £10,000 debentures, all issued. Directors: Thos. Bowden, Esq., J.P. (chairman); Dr. J. T. Merz; Robt. Scope, Esq.; J. W. Edmundson, Esq. (managing director). Assistant manager, H. W. Edmundson; secretary & assistant manager, T. J. Grainger, A.I.E.E.

Sunderland, John, gear wheel maker, Fleece Mills, Keighley.

Sunderland, Leo, A.M.I.E.E., installation contractor, 39, Victoria-st., S.W. (Teleph. Westminster 41); & 31, Hill Rise, Richmond, Surrey.

Sunderland, R. F., electrician, 160, Gibbet-st., Halifax.

Sunderland Bros., electrical engineers, Halifax Old-rd., Huddersfield.

Sunderland Corporation Electric Tramways. General manager & resident electrical engineer, A. R. Dayson, M.I.E.E. (Teleph. No. 948.)

Sunderland Corporation Electricity Supply Works, Sunderland. A. S. Blackman, M.I.M.E., M.I.E.E., borough electrical engineer & manager. (Teleph. Nos.: 354, Dunning-st. Station; 937, Hylton-rd. Station; 949, Offices, Dunning-st.)

Sunderland District Electric Tramways, Ltd. Offices: 13, St. Helen's-pl., London, E.C. Registered Nov. 5, 1903. Nominal capital: £270,000 in 170,000 £1 ordinary shares & 100,000 6 per cent. cumulative preference shares of £1 each. Issued: 75,000 ordinary & 79,500 preference shares. Debentures issued: £140,900 in 5 per cent. first debentures of £100 each. Trust deed, dated Dec. 8, 1903, to secure £160,000 debentures (created Nov. 25, 1903), has been registered. Two charges, dated Dec. 29, 1905, to secure £2500 in each case, have been registered. A deed of charge, dated Dec. 14, 1906, to secure not more than £20,000, has been registered. A trust deed, dated May 29, 1908, to secure £20,000 5 per cent. prior lien debentures, has been registered. Directors: Sir R. Drummond Moncreiffe, Bart.; S. A. Chambers, Esq.; H. R. Hogg, Esq.; Hon. Reg. Parker. Engineers, D. Balfour & Son; Handcock & Dykes; Harper Bros. & Co. Secretary, E. H. Bullock.

Sunderland Forge & Engineering Co., Ltd., The, electrical & mechanical engineers & forgemasters, Sunderland. (Telegrams: "Marr, Sunderland." Telephone Nos.: Nat. 268; G.P.O. 42.)

Sunderland, J., & Co., electrical engineers & contractors, 183, Gibbet-st., Halifax. (Telegs.: "Sunderland, Halifax." Teleph. No. 463.)

Sunderland, Leo, & Co., installation contractors, 39, Victoria-st., London, S.W.

Sunderland Municipal Technical School, Sunderland. (Nat. Teleph. No. 959.) *See* SCHOOLS, CLASSIFIED SECTION.

Suppliers Construction Co., Ltd., 60, St. Martin's-lane, London, W.C. (Telephone Nos. 6826 & 6827, Gerrard.) Registered May 29, 1900. Nominal capital: £350,000 in £5 ordinary shares. Issued: £350,000 ordinary shares, fully paid. Directors: W. F. Fladgate, Esq. (chairman); G. H. Brougham Glasier, Esq.; R. Chadwick, Esq.; J. M. Gatti, Esq.; R. Gatti, Esq. Chief engineer, H. W. Kingston; secretary, E. W. Seale, F.C.I.S., M.L.S.

Supplies, Ltd., electric light contractors, Prescot, Lancs. (Telegs.: "Supplies, Ltd., Whiston." Teleph. Huyton 11.)

Surbiton Urban District Council Electricity Works, Surbiton. (Telephone No. 265, P.O., Kingston.) H. M. Gill, resident engineer & manager.

Surtees, E., wiring contractor, 64, King-st., South Shields.

Surveying & Civil Engineer, Newton-st., High Holborn, W.C.

Sutcliffe, G. G., A.R.C.SC.I., electrical engineer, Callender's Cable & Construction Co., Ltd., Hamilton House, Victoria Embankment, London, E.C.

Sutcliffe, Wm., A.M.I.E.E., 24, Dalziel Drive, Maxwell Park., Pollokshields, Glasgow.

Sutcliffe Bros., sole makers of the "Telluric" Cement for covering Boilers, Belting Cream, Leather, Hair & Cotton Belts, Laces, Belt Fasteners, Lubricants, Packings, Hose, Gauge Glasses, &c., Grosvenor Works, Godley, nr. Manchester. (Telegs.: "Sutcliffe Bros., Hyde." Tel. No. 70, Hyde.)

Sutcliffe & Sutcliffe, belting manufacturers, Magnet Works, Manchester. (Telegrams: "Integrity, Manchester." Telephone Nos.: 9y, Manchester; & 156, Ashton.)

Suter, T. W., electrician & manufacturers' agent, 107, The Parade, Bruce Grove, Tottenham, London, N.

Sutherland, D. G., electrical engineer (Mitchell, Graham & Son), 46, Buccleuch-st., Edinburgh. (Telegs.: "Pulley, Edinburgh." Teleph. No. 817, Central.)

Sutherland, Malcolm, burgh electrical engineer, Electricity Works, Oban, N.B.

Sutherland Technical Institute, Longton, Staffs. *See* SCHOOLS.

Sutton, George, M.I.E.E., managing director W. T. Henley's Telegraph Works Co., Ltd., Blomfield-st., London Wall, London, E.C. (Teleph. London Wall 4940 (3 lines); & Central 3596.) Director Kent Electric Power Co.

Sutton, H. E., A.M.I.E.E., 20, Queen's-ave., Whetstone, London, N.

Sutton & Ash, iron & steel merchants, 41, Snow-hill, Monument-lane, & Rotton Park-st., Birmingham.

Sutton Coldfield Corporation Electricity Works, Sutton Coldfield. (Telegs.: "Electricity Works, Sutton Coldfield." Teleph. No. 43, Sutton.) Engineer, Trevor Duesbury, A.M.I.E.E.

Sutton Electricity Works, Sutton, Surrey. (Telegs.: "Electricity Works, Sutton, Surrey." Teleph. office, Sutton 14; power house 24.) South Metropolitan Electric Tramways & Lighting Co., Ltd., proprietors. General manager, A. V. Mason.

Sutton & Howth Electric Tramway (Gt. Northern Railway Co. of Ireland), Sutton, co. Dublin. (Teleph. Sutton 16, Dublin.) Electrical engineer, A. W. Whieldon, M.I.E.E.

Swain, John, & Son, Ltd., general engravers, 89–90, Shoe-lane, Fleet-st., E.C. (Telegs.: "Isochromatic, London." Teleph. Holborn 2588 (2 lines).)

Swallow, M. G. S., A.I.E.E., manager Electrical Power Department, Richardsons, Westgarth & Co., Ltd., Engine Works, Hartlepool.

Swallow & Grey, mechanical & electrical engineers, 18, Grainger-st. W., Newcastle-on-Tyne.

Swan, J. K., engineer & manager, Buncrana Electric Supply Co., Buncrana, nr. Londonderry.

Swan, R. J. J., A.M.I.E.E., engineer & manager, Electricity Works, Chesham. (P.O. Telephone Chesham 44.)

Swan, Sir Joseph W., M.A., D.SC., F.R.S., Hon. M.I.E.E., electrical engineer, Overhill, Warlingham, Surrey. Director Edison & Swan U. E. L. Co., Ltd.; director Altrincham Electric Supply, Ltd.; director Notting Hill Electric Lighting Co., Ltd.

Swanage Electricity Supply Co., Ltd., Moorgate-st., London, E.C. Registered June 19, 1906. Nominal capital: £10,000 in £10 shares. Directors: A. H. Sanderson, Esq.; J. A. Hosker, Esq.; F. E. Savory, Esq. Secretary, H. B. Renwick.

Swansea Corporation Electricity Supply Department, Swansea. (Teleph. No. 399.) C. A. L. Prusmann, M.I.E.E., A.M.I.M.E., engineer.

Swansea Improvements & Tramways Co., Swansea (Telegs.: "Tramway, Swansea." Teleph. Nos. 106 & 505, Corp.); & Electrical Federation Offices, Kingsway, W.C. Directors: C. G. Tegetmeier, Esq.; G. J. Somerville, Esq.; W. G. Bond, Esq. Resident engineer, A. Johnston; secretary, H. A. Stagg.

Swansea Technical College, Swansea. *See* SCHOOLS, CLASSIFIED SECTION.

Swanser & Lloyd, designers & makers of electroliers, 52, Great Queen-st., London, W.C. (Telephone No. 1964, Central.)

Swanson, C., electrician, 23, Charlotte-sq., Edinburgh. (Teleph. No. 355, Central.)

Swarbrick, F., A.M.I.E.E., Electricity Works, Leigh, Lancs.

Sweetland, A., & Son, electrical engineers, 24, Powis-ter., & 145, Tavistock-eres., London, W. (Teleph. No. 4046, Paddington.)

Swettenham, Sir Frank, K.C.M.G., 15, Princes-st., Cavendish-sq., W. Chairman Singapore Electric Tramways, Ltd.

Swift, G. E., mains superintendent, Corporation, Chester.

Swift, H. Bevan, A.M.I.E.E., 71, Amesbury-ave., Streatham Hill, London, S.W.

Swinburne, James, F.R.S., M.I.C.E., M.I.E.E., consulting engineer, 82, Victoria-st., S.W. (Telegs.: "Swooper, London." Teleph. Westminster 292; & Oxted 10.)

Swinburne, T. H. M., A.I.E.E., Woodlands Park, Altrincham.

Swinburne, O'Gorman & Baillie, consulting electrical engineers, 82, Victoria-st., S.W. (Telegs.: "Swooper, London." Teleph. Nos. 292 & 734, Westminster.)

Swindell, H. C., electrician, 144, Tower-rd., Aston, Birmingham.

Swindon Corporation Electricity & Tramways Department, Swindon. (Teleph. No. 28.) Electrical engineer, A. Dimmack, A.M.I.M.E.; tramways manager, T. Medcalf.

Swindon Engineering Co., Devizes-rd., Swindon.

Swinnerton, J. R., electrical engineer, Electric Construction Co., Ltd., Bushbury, Wolverhampton.

Swinnerton, G., & Son, lightning conductor manufacturers & erectors, 108, Shirland-rd., Smethwick, Birmingham.

Swinton, A. A. Campbell, M.I.C.E., M.I.E.E., consulting electrical engineer, 66, Victoria-st., Westminster, London, S.W. (Telegs.: "Dunamis, London." Teleph. No. 156, Westminster.) Director Bath Electric Tramways, Ltd.; managing director Cambridge Electric Supply Co., Ltd.; managing director Scarborough Electric Supply Co., Ltd.; director Edmundson's Electricity Corp., Ltd.; director Kent Electric Power Co.

Swire, W., wiring contractor, George-st., St. Helen's.

Swiss Mica Insulating Works, Ltd., 27, Chancery-lane, London, W.C.

Switchgear Co., Ltd., specialists in switchgear, circuit breakers & time lags, Wilfred-st., Sherbourne-st., Manchester. (Telegs.: "Energizers, Manchester." Teleph. City 2166.)

Swithinbank, J. W., district manager, National Telephone Co., Ltd., Post Office-bldgs., Middlesbrough.

Syer, Ernest, globes for electric lighting, 101, Hatton Garden, London, E.C. (Teleph. Central 7514.)

Syer, Thos. J., & Co., makers of engineers' & electricians' tools, 45, Wilson-st., Finsbury, London, E.C.; & Birmingham. (Telegs.: "Sprayboard, London." Teleph. No. 1095, Central.)

Syfret, E. R., chairman Cape Peninsula Lighting Co., Ltd., 54, St. Mary Axe, London, E.C.

Sykes, E., A.M.I.E.E., electrical engineer, 7, King Cross-st., Halifax.

Sykes, Jas. Arthur, chief electrical engineer, Wm. Beardmore & Co., Ltd., Parkhead Forge, Rolling Mills & Steel Works, Glasgow.

Sykes, J. Roberts, jun., M.I.E.E., c/o T. K. Grant, 89, Great Russell-st., London, W.C.

Sykes, John, teacher of mechanical & electrical engineering, Technical College, Halifax.

Sykes, Henry, Ltd., engineers, 66, Bankside, London, S.E. (Teleph. Nos.: 565, Hop; & 10123, Central.)

Sykes, Joseph, Bros., mechanical & electrical engineers, Aire Mills, Lindley, Huddersfield. (Telegs.: "Sykes, Huddersfield." Teleph. No. 79.)

Sykes, J., & Sons, Ltd., engineers, Turnbridge, Huddersfield. (Telegs.: "Ezra, Huddersfield." Nat. Teleph. No. 307.)

Sykes, Robert, & Co., contractors for lighting & power, &c., 12, Dixon-st., Glasgow. (P.O. Tel. 3865.)

Sykes & Sugden, Ltd., electrical engineers, Spring Place Works, Springwood-st., Huddersfield. (Telegrams: "Light, Huddersfield." Telephone No. 375.)

Sykes, W. R., Interlocking Signal Co., Ltd., the Sykes' electric interlocking & block system for railways, manufacturers of signal repeaters, block instruments, &c. Works: Voltaire-rd., High-st., Clapham, London, S.W. (Telegs.: "Blockish, London." Teleph. No. 325, Battersea.) Glasgow office: Atlantic-chbrs., 45, Hope-st.

Sylverlyte (1909), Ltd., manufacturers of electrical supplies, 13, Sise-lane, Queen Victoria-st., London, E.C.

Symes & Co., Ltd., dealers in electric & chemical apparatus, 14, Hardmann-st., Liverpool. (Telegrams: "Symes, Liverpool." Telephone No. 2263, Royal.)

SYMMONS, SYD. H., representing WM. COTTIS & SONS, LTD., castings for electrical purposes, 10, Great St. Helen's, London, E.C. (Telegs.: "Sydsym, London.")

Symons, E., director Chichester Electric Light & Power Co., Ltd., 85, Fleet-st., London, E.C.

Symons, H. D., A.M.I.E.E., Oak Bank, Chester-rd., Old Trafford, Manchester.

Symons, P., & Sons, electric lighting contractors, Oxford-st., Swansea.

SYNCHRONOME CO., electrical clocks, 32 & 34, Clerkenwell-rd., London, E.C. (Telephone No. 4643, Holborn.)

Syndicate of Electrical Engineers, Ltd., 66, Southampton-row, London, W.C. (Teleph. Central 9999.) This company's annual return shows that out of a nominal capital of £10,000 in 1900 ordinary & 100 founders' shares, all of £5 each, 1002 ordinary & the whole of the founders' shares have been taken up. A call of £4 per share has been made on the ordinary shares, & the founders' shares have been agreed to be considered as paid. The total sum received in response to calls equals £4008. Directors: The Rt. Hon. the Earl of Crawford, K.T., F.R.S.; R. Hammond, Esq.; R. Whitehead Hammond, Esq.; F. Ince, Esq.; W. O. Smith, Esq. Secretary, Howard Foulds.

Syrinx Gas Engine Co., Ltd., Stevenage, Herts.

Székacs, G. C. F., A.M.I.E.E., "Pathlow," Stratford-on-Avon.

Szerelmey, N. C., & Co., paint manufacturers, Szerelmey Works, 277, Rotherhithe New-rd., London, S.E. (Telegrams: "Szerelmey, London." Telephone No. 2260, Hop.)

Szlumper, E. F., A.M.I.E.E., Culross, Rusthall-ave., London, W.

Szlumper, Sir Jas., engineer, Brompton & Piccadilly Circus Railway Co., St. James's Park Station, S.W.

Tadcaster Electricity Co., Ltd., Station-rd., Tadcaster, Yorks. Registered June 15, 1901. Nominal capital: £6000 in £5 shares. Directors: J. Bromet, Esq.; F. Thorman, Esq.; A. Bromet, Esq. Secretary, J. E. Hargett.

Taffs, H., electrical engineer, 30, Gilda Crescent-rd., Eccles.

Taffs, H., & Co., electrical engineers, 40, Brazennose-st., Manchester.

Tagg, Tom, & Son, electric launch builders, above the Lock, East Molesey, Surrey. (Telegrams: "Niagara, East Molesey." Telephone No. 1, Molesey.)

Tait, A. W., Basildon House, Moorgate-st., London, E.C. Director Ferranti Ltd.; director Falkirk Electric Construction Synd., Ltd.; chairman Durham Collieries Electric Power Co.; director Ardrossan, Saltcoats & District Tramways Co.; chairman Houghton-le-Spring & District Electric Light Co., Ltd.; director Falkirk & District Tramways Co.; director Loch Leven Water & Electric Power Co.; director Llandudno & Colwyn Bay Electric Railway Co., Ltd.

Tait, R. J., electrician, telephone & electric light engineer, Chester-le-Street, Durham.

Taite, C. Davis, M.I.E.E., engineer & manager, Lancashire Electric Power Co., 196, Deansgate, Manchester. (Telegs.: "Phase, Manchester." Teleph. Nos. 5990 & 6595, Central.)

Taite & Carlton, makers of liquid fuel burners, 63, Queen Victoria-st., London, E.C. (Telegrams: "Taite, Carlton, London." Telephone No. 6925, Central.)

Takata & Co., dealers in general & electrical machinery, 88, Bishopsgate-st., London, E.C. (Telegs.: "Takata, London." Teleph. Nos.: 1537, London Wall; & 11996, Central.)

Talbot, F. R., B.SC., A.R.C.S., lecturer in the physics department, Plymouth Municipal Science, Art & Technical Schools, Plymouth.

Talbot, Henry, corporation electrical engineer, Todmorden.

Talbot, Herbert, M.I.E.E., Corporation electricity department, Nottingham.

Talbot, Oswald, electric bell manufacturer, High-street, Mortlake, London, S.W.

Talbot & Stevenson, consulting electrical engineers, 26, Victoria-st., London, S.W. (Teleph. No. 5743, Westminster.)

Tallis, John Fox, electrical engineer, The Firs, Ebbw Vale, Mon.

Tamplin & Makovski, Ltd., electrical & general engineers, 27, Charles-st., Haymarket, London, S.W. (Teleph. Gerrard 1326); & Bell-st., Reigate. (Teleph. Redhill 64.)

Tandy, Frank, A.M.I.E.E., 75, Palace-rd., Tulse Hill Park, London, S.E.

Tangitana Development Synd., Ltd., 72, Victoria-st., London, S.W. Registered July 20, 1908. Nominal capital: 500 "A" & 1500 "B" shares of £1. Directors; A. D. Bredenburg, Esq.; H. J. Jones, Esq.; H. T. Cornwell, Esq. Secretary, H. P. Campbell.

Tangyes, Ltd., electrical engineers, Cornwall Works, Soho, Birmingham.

Tann, R. F. & C., electrical engineers, 95, Lee Bank-rd., Birmingham.

TANNAHILL, A., & CO., speciality—mica, 245, High-st., Stratford, London, E. (Telegs.: "Tannahill, London." Teleph. No. 470, Stratford.) *See* MICA MERCHANTS.

Tanner, A. E., engineer, 8, Birch-ave., Talbot-rd., Old Trafford, Manchester. (Teleph. No. 158, Docks.)

Tanner, A. M., electrician, c/o British Thomson-Houston Co., Ltd., 83, Cannon-st., London, E.C.

Tanner, H. W. Lloyd, M.A., D.SC., Oxon., F.R.S., professor of mathematics & astronomy, University College of South Wales & Monmouthshire, Cardiff.

Tapley, Wm., A.I.E.E., Bennett & Tapley, Belvidere Works, Belvidere-rd., Southampton.

Taplin, H. C., electric bell fitter, 105, Clifford-st., Southampton.

Tapper, J. E., A.M.I.E.E., chief electrical engineer, District Council's Electricity Works, Beckenham.

Tapper, W. C. P., A.M.I.E.E., borough electrical engineer & manager to the Stepney Borough Council, 27, Osborn-st., Whitechapel, E. (Telcph. Avenue 2949 (2 lines).)

Targett, Jas. H., A.M.I.E.E., 3, Poplar Grove, Llanrwst, North Wales.

Targett, Walter Jeffery, A.I.E.E., 25A, Cockspur-st., London, S.W.

Tarrant, Kenneth J., electrical engineer, Sun Fire Office, Threadneedle-st., London, E.C.

Tasker, Ernest A., electric lighting & power, 1, Richmond-rd., Montpelier, Bristol. (Teleph. No. 2105 Y.)

Tasker, E. E., M.I.E.E., electrical engineer, The Chase, Chigwell Row, Essex.

Tasker, P. S., A.M.I.E.E., commercial manager, The Jandus Arc Lamp & Electric Co., Ltd., Hartham Works, Hartham-rd., Holloway, N.; & 33, Edwardes-sq., Kensington, London, W.

Tasker, W. Howard, M.I.E.E., consulting electrical engineer, 33, Edwardes-sq., Kensington, London, W.

Tasker, Sons & Co., Ltd., electrical contractors, Angel-st., Sheffield. (Telegs.: "Tasker, Sheffield." Teleph. No. 1006.)

Tasker, W. A., & Sons, electro-platers & electrical & general engineers, Portland-sq., Bristol.

Tasker's Engineering Co., Ltd., electrical contractors, 59 & 61, Blonk-st., Sheffield. (Telegs.: "Stores, Sheffield." Teleph. Nos. 1005 & 1981.)

Tate, E., 21, Mincing-lane, E.C. Director City & South London Railway Co.

Tate, Leonard G., A.M.I.E.E., 20, Bucklersbury, London, E.C.; & Vineyard House, Richmond, Surrey.

Tate, T. Fleetwood, A.I.E.E., 50, Queen Anne's Gate, London, S.W.

Tate, Leonard G., & Co., electrical & mechanical engineers & contractors, 20, Bucklersbury, London, E.C. Room 582. (Telegs.: "Entraining, London." Tel. No. 881, Bank); & Vineyard House, Richmond.

Tatlow, W., A.M.I.E.E., electrical engineer, 20, Fleet-st., Dublin.

Tattersall, C. E., divisional engineer, North-East District, National Telephone Co., Ltd., Kingsland Green, High-st., Kingsland, London, N.E. (Teleph. Dalston 101.)

Tattersall, D., engineer & manager, Ingleton Electric Lighting & Power Co., Ingleton, Yorks.

Tattersall & Clarke, electrical engineers, Snowdon-rd., Middlesbrough. (Teleph. No. 820.)

Taunton, Theo., F.C.I.S., secretary Consolidated Electrical Co., Ltd., Broad-st. House, London, E.C. (Telegrams: "Goldsandes, London." Telephone No. 9080, London Wall.)

Taunton Corporation Electricity Works, St. James-st., Taunton. (Telegs.: "Electric Light, Taunton." Teleph. No. 13 Y.) E. B. Thornhill, A.M.I.E.E., electrical engineer.

Taunton Electric Traction Co., Ltd., Electrical Federation Offices, Kingsway, London, W.C. (Telegs.: "Taunton, c/o Tramway, London." Teleph. No. 2686, Holborn); & Tramway Depôt, Taunton. Registered Feb. 7, 1903. Nominal capital: £50,000 in £5 ordinary shares, debentures up to half issued capital. Issued: 5009 ordinary shares, fully paid. Directors: G. J. Somerville, Esq. (chairman); H. S. Day, Esq. Secretary, P. N. Gray; manager, F. J. Ayliffe.

Taunton Municipal Technical Institute, Taunton. For PROFESSORS, *see* SCHOOLS.

Taussig, F., director The Maxim Lamp Works, Ltd., Shernhall-st., Walthamstow.

Tavistock & District Electric Supply Co., Ltd., 11, Carteret-st., Westminster, S.W. Registered Dec. 12, 1903. Nominal capital: £1000 in £1 shares. Director, A. West, Esq.

Tayler, D. F., & Co., Ltd., wire drawers, copper, brass, steel & iron, New Hall Works, Birmingham. (Telegrams: "Epingles, Birmingham." Telephone Nos. 57, 3366 & 4535.) Registered March 31, 1886. Nominal capital: £100,000 in ordinary shares, £100,000 in preference shares, & £40,000 4 per cent. debentures. £65,000 in ordinary shares & £45,000 in preference shares & all the debentures are issued & fully paid. Reserve fund, £5000. Directors: Sir H. A. Wiggin, Bart. (chairman); Harold W. Williams, Esq.; G. W. Merrett, Esq.; & Graham W. Williams, Esq. Secretary, J. F. Green. Dividends on ordinary shares: 1903, 7½ per cent.; 1904, 7½ per cent.; 1905, 10 per cent.; 1906 & 1907, 10 per cent.; 1908, 7½ per cent.; first half of 1909, 5 per cent.

Tayler-Smith, T., consulting electrical engineer & electrician, 53, South Molton-st., Bond-st., London, W. (Telegrams: "Deserving, London.")

Tayler Smith Electric Co., The, electrical engineers, 53, South Molton-st., London, W.; 1B, Hill-st., & 52, Frederick-st., Edinburgh; 233, St. Vincent-st., Glasgow; & 28, South Anne-st., Dublin. (Telegs.: "Deserving," London, Edinburgh, Glasgow or Dublin. Telcph. Nos.: 6019, Gerrard, London; 1541, Central, Edinburgh; 483, Argyle, Glasgow; & 1642, Dublin.)

Taylor, Arthur, A.I.E.E., 37, Heaton-rd., Withington, Manchester.

Taylor, A. Lester, M.I.E.E., consulting electrical engineer, 1, Dale-st., Liverpool; & The Tithebarn, Great Crosby.

Taylor, A. M., M.I.E.E., assistant to the city electrical engineer, 14, Dale End, Birmingham.

Taylor, Chas. A., A.M.I.E.E., 41, Sydney-st., South Kensington, London, S.W.

Taylor, Cyril Ernest, A.M.I.E.E., Electrical Dept., North Eastern Railway, Gateshead-on-Tyne.

Taylor, C. Percy, A.M.I.C.E., M.I.MECH.E., M.I.E.E., chief engineer, Associated Portland Cement Manufacturers (1900), Ltd., Park House, Gravesend. (Teleph. No. 1, Dartford.)

Taylor, Daniel, insulating material maker, 8, Brunswick-st., Liverpool. (Telegs.: "Scotia, Liverpool." Teleph. No. 707, Central.)

Taylor, D., electrical engineer & contractor, 4, Athenæum-st., Sunderland.

Taylor, E., director Kolar Mines Power Station, Ltd., 6, Queen-st.-pl., London, E.C.

Taylor, E., electric bell fitter & contractor, 68, Prince's-st., Stockport. (Teleph. No. 974.)

Taylor, E. D., dealer in electric light fittings, 6, Rosebery-bldgs., John Bright-st., Birmingham.
Taylor, Ernest J., A.M.I.E.E., H.M. Office of Works, Storey's Gate, Westminster, S.W.
Taylor, F., director United Electric Light & Power Supply Co., Ltd.
Taylor, F., A.M.I.E.E., A.M.I.MECH.E., assistant tramways engineer, Corporation, Bolton.
Taylor, F. G., M.A., B.SC., lecturer in mathematics, University College, Nottingham.
Taylor, Frederic H., A.M.I.E.E., A.M.I.M.E., consulting engineer, 14, Victoria-st., London, S.W. (P.O. Teleph. No. 1457, Victoria.)
Taylor, F. W., electrical engineer, Milnsbridge, nr. Huddersfield. (Telegs.: "Taylor, electrician, Milnsbridge." Teleph. No. 40, Milnsbridge.)
Taylor, F. W., district manager, National Telephone Co., York-st., Manchester.
Taylor, G. C., J.P., A.I.E.E., "Ravenscar," Helsby, nr. Warrington. (Teleph. Helsby 13.) Director British Insulated & Helsby Cables, Ltd.; director Electric Supply Co. of Victoria, Ltd.; director Electric Supply Co. of West Australia, Ltd.
Taylor, G. E., A.M.I.E.E., 8, Bush-lane, London, E.C. (Telegs.: "Dielectric, London." Teleph. Bank 987.)
Taylor, G. Stamp, A.M.I.E.E., Electrical Department, North-Eastern Railway, Gateshead; & "Cluden," Queens-rd., Monkseaton, R.S.O., Northumberland.
Taylor, H., director Kingswood Electric Supply Co., Ltd., All Saints' House, The Exchange, Bristol.
Taylor, H. A., M.I.C.E., M.I.E.E., telegraph engineer (Clark, Forde & Taylor), 4, Great Winchester-st., E.C.
Taylor, H. J., A.I.E.E., 63, Queen Victoria-st., London, E.C.
Taylor, H. M., borough electrical engineer, Corporation Electricity Works, Middlesbrough.
Taylor, Hugh C., Middlesex Electrical Works, Fairfield-rd., Hounslow. (P.O. Teleph. Hounslow 174.)
Taylor, J., director Kolar Mines Power Station, Ltd., 6, Queen-st.-pl., London, E.C.
Taylor, Jas., electrical & motor works, May Day Green, Barnsley, Yorks. (Teleph. No. 313.)
Taylor, James, J.P., M.I.E.E., "Heathercliffe," Helsby, nr. Warrington. Vice-chairman British Insulated & Helsby Cables, Ltd.; director Midland Electric Corporation for Power Distribution, Ltd.; director Electric Supply Co. of Victoria, Ltd.; director Electric Supply Co. of West Australia, Ltd.; director Rangoon Electric Tramway Co.; director Midland Electric Corp. (1900), Ltd.; director Foots Cray Electricity Supply Co., Ltd.
Taylor, J. B., Sherfield Manor, nr. Basingstoke, Hants. Director Cape Electric Tramways, Ltd.; director Mexico Electric Tramways, Ltd.; director Lisbon Electric Tramways, Ltd.; director Rangoon Electric Tramways & Supply Co., Ltd.
Taylor, Jas. E., A.M.I.E.E., staff engineer, first class, Engineer-in-Chief's Office, G.P.O., London, E.C.; & 71, Ravensdale-rd., Stamford Hill, London, N.
Taylor, J. H., agent for forgings, castings, &c., 9 & 11, Fenchurch-ave., London, E.C. (Telegrams: "Tyne, London." Telephone No. 4108, Avenue.)
Taylor, J. H., electrical engineer, Macaulay-st., Huddersfield.
Taylor, John T., A.M.I.E.E., Electricity Works, Leith Docks, & 22, Cornhill-ter., Leith.
Taylor, Joseph, A.M.I.E.E., 92, Hyndland-rd., Kelvinside, Glasgow.
Taylor, J. Whitaker, mechanical & electrical engineer, Lord's-chbrs., 26, Corporation-st., Manchester.
Taylor, Peter, electric light & power engineer & contractor, 87 & 89, Bank-st., Coatbridge. (Telephone No. 0500, Coatbridge.)
Taylor, R., Mount-rd., Oswestry. Director Oswestry Electric Lighting & Power Co., Ltd.
Taylor, R., 125, High-st., Bromley, Kent. Director Bromley (Kent) Electric Light & Power Co., Ltd.; director Chislehurst Electric Supply Co., Ltd.
Taylor, R., A.M.I.E.E., general manager, Liverpool Electric Cable Co., Vauxhall-rd., Liverpool (Telegs.: "Concentric, Liverpool"); & 12, Caithness Drive, Liscard, Cheshire.
Taylor, S., director United Electric Light & Power Supply Co., Ltd.
Taylor, T., A.I.E.E., Rosendale, The Brampton, Newcastle, Staffs.
TAYLOR, THOMAS H., electrical engineer, 181, Queen Victoria-st., London, E.C. (Teleph. No. 5517, Holborn); & Dodworth, Yorkshire.
Taylor, Thomas William, A.M.I.E.E., The Avenue, Scholes, Leeds.
Taylor, W., district manager, National Telephone Co., 25, Hindpool-rd., Barrow-in-Furness.
Taylor, Wilford H., A.I.E.E., Holly-rd., Heaton Chapel, Manchester.
Taylor, Wm., M.I.MECH.E., F.R.P.S., scientific instrument maker, of Taylor, Taylor & Hobson, Ltd., Stoughton-st. Works, Leicester.
Taylor, William, electrician, 17, Bishop-st., Dublin.
Taylor, Wm. F., contract manager, National Telephone Co., Ltd., Salisbury House, London, E.C.
Taylor, Wm. Grigor, M.I.E.E., Eastern Extension Australasia & China Telegraph Co., Electra House, Finsbury Pavement, London, E.C.
Taylor, Wm. H., A.M.I.E.E., assistant electrical engineer, U.D.C. Electricity Works, Walthamstow; & 15, Hampton-rd., Forest Gate, Essex.
Taylor, William Isaac, M.I.M.E., M.I.E.E., representative & director of Messrs. Clarke, Chapman & Co., Ltd., & Darlington Forge Co., 50, Fenchurch-st., London, E.C. (Telegrams: "Cyclops, London." Telephone No. 4521, Avenue); & The Firs, Bush Hill Park, Enfield, N.
Taylor, W. S., A.M.I.E.E., Liverpool Electric Cable Co., Vauxhall-rd., Liverpool.

Taylor, Wm. T., M.I.E.E., 76, Greenham-rd., Muswell Hill, London, N.

Taylor Bros., electrolier lamp lustre, &c., manufacturers, Cooksey-road, Small Heath, Birmingham. (Telegs.: "Chandelier, Birmingham." Teleph. No. 95, Victoria.)

Taylor Bros. & Co., Ltd., manufacturers of forgings, &c., Clarence Iron & Steel Works, Leeds (Telegs.: "Taylors, Leeds." Teleph. No. 3395); Trafford Park Works, Manchester (Telegs.: "Clarencite, Manchester." Teleph. Nos. 48 & 49, Trafford Park); & Dacre House, Victoria-st., Westminster, London, S.W. (Telegs.: "Clarencite, London." Teleph. Gerrard 5660.)

Taylor & Challen, Ltd., mechanical engineers, 60 & 62, Constitution Hill, Birmingham. (Telegs.: "Derwent, Birmingham." Teleph. No. 2244.)

Taylor & Co., makers of silk, linen, & cardboard shades for the electric light, 40, Hatton Garden, London, E.C. (Telegrams: "Micaylor, London." Telephone No. 4575, Central.)

Taylor, G. E., & Co., electrical engineers, 8, Bush Lane, London, E.C. (Telegrams: "Dielectric." Telephone No. 987, Bank.)

Taylor & Hubbard, electric crane makers, Kent-st., Leicester. (Telegs.: "Lifting, Leicester." Teleph. No. 575.)

Taylor, J., & Co., electric bell manufacturers, Loughborough. (Telegrams: "Bells, Loughborough.")

Taylor, J. E., & Co., electrical engineers, 78 & 80, Bentinck-st., Ashton-under-Lyne. (Teleph. No. 0987.)

Taylor, J. H., & Son, installation contractors, Macaulay-st., Huddersfield.

Taylor, R., & Sons, engineers & boiler makers, Marsden, Yorks. (Telegrams: "Robert Taylor, Marsden." Telephone No. 3.)

Taylor, Samuel, Ltd., metal workers, aluminium solder & alloy manufacturers, &c., Birmingham.

Taylor & Sons, Ltd., mechanical engineers, Briton Ferry, South Wales. (Telegs.: "Taylor, Britonferry." Teleph. No. 451.)

Taylor, Taylor & Hobson, Ltd., makers of engraving & dividing machinery, Stoughton-st. Works, Leicester; 18, Berners-st., London, W.; & 1135, Broadway, New York. (Telegrams: "Lenses, Leicester;" & "Illiquo, London." Nat. Telephone Nos.: 134, Leicester; & 4591, Gerrard, London.)

TAYLOR, TUNNICLIFF & CO., LTD., porcelain for electrical purposes, Eastwood, Hanley. London agent, C. M. Bradley, 23, Holborn Viaduct, E.C. (Telegs.: "Eastwood, Hanley." Teleph. No. 12.)

Taylor, Wilfrid, & Co., electrical & mechanical engineers, 13, Lowgate, Hull. (Telegs.: "Motors, Hull." Teleph. No. 548, Corp.)

Taylor, W., & Sons, electric light contrs., 58A, Brompton-rd., S.W. (Telephone No. 690, Kensington.)

Taylor, W., & Sons, installation contractors, 209, Broad-st., Pendleton, Manchester. (Teleph. No. 725.)

Tayside Electric & Gas Light Co., Ltd., Electric Station-bldgs., Wormit, Fife. Registered June 24, 1899. Nominal capital: £25,000 in 20,000 £1 ordinary shares & 5000 £1 preference shares. Issued: 1713 ordinary & 1000 preference shares all fully paid. Directors: A. Stewart, Esq. (chairman); E. A. Stewart, Esq. (engineer). Secretary, P. R. Johnston.

Teague, Francis, electrical engineer to the Bath Corporation, Electricity Department, 7, Dorchester-st., Bath. (Telegrams: "Dynamo, Bath." Telephone No. 33.)

Teal, Sidney M. G., distributing engineer, Electricity Works, Hornsey, London, N.

Teale, L. H., & Co., electrical & general engineers, 38, Cookridge-st., Leeds.

Teasdel, J. E., A.M.I.E.E., engineer & manager, U.D.C. Electricity Works, Pontypridd. (Nat. Teleph. No. 33.)

Technical Art Co., The, advertising specialists, Emerson-chbrs., Newcastle-on-Tyne. *See advt. facing title page.*

Technical Publishing Co., Ltd., 55 & 56, Chancery-lane, London, W.C. (Telegs.: "Tepucol, London." Teleph. City 2817.)

Teed, Frank L., D.SC., analytical chemist, 9, Mincing-lane, London, E.C.

Teeton, H. W., electrical engineer, 19A, Lichfield-st., Hanley. (Teleph. No. 1300.)

Tegetmeier, C. G., director Associated Cos. The British Electric Traction Co., Ltd., Electrical Federation Offices, Kingsway, London, W.C.

Telegraph & Cable Companies' Officials. *See* CLASSIFIED SECTION.

Telegraph Condenser Co., makers of condensers for telegraph purposes, &c., 175A, Peckham Park-rd., London, S.E. (Teleph. No. 1397, Hop.)

Telegraph Construction & Maintenance Co., Ltd., 38, Old Broad-st., London, E.C. (Telegrams: "Telcon, London.") Registered April 7, 1864. Capital issued: Ordinary shares of £12 each, £448,200; 4 per cent. debentures of £100 each, £140,000. Both are fully paid up. Directors: Colin F. Campbell, Esq.; Sir J. Pender, Bart., J.P.; Paget V. Luke, Esq., C.I.E.; F. R. Lucas, Esq. (joint managing & engineer); W. S. Smith, Esq. (joint managing). Secretary, C. W. Clarke. Dividends: 1906, 15 per cent.; 1907, 17½ per cent.; 1908, 15 per cent.

Telegraph Manufacturing Co. (Colonial), Ltd., manufacturers of & dealers in wires, cables, &c., Helsby, Cheshire. Registered Nov. 12, 1901. Nominal capital: £2000 in £1 shares. Directors: Jas. Taylor, Esq.; G. C. Taylor, Esq.; J. S. Harmood Banner, Esq. Secretary, Jno. Brotherton.

Telegraph & Telephone Instruments, Ltd., 25, Victoria-st., London, S.W. (Telegs.: "Cymozia, London."

Telegraphone Co., Ltd., 28 & 29, St. Swithin's-lane, London, E.C. Registered April 25, 1906. Nominal capital: £100,000 in £1 shares.

Telephone Co. of Egypt, Ltd., Alderman's House, Alderman's Walk, Bishopsgate, London, E.C. (Telegrams: "Oakenpin, London. Telephone No. 2188, London Wall.) Capital: £200,000, divided into 36,000 preferred shares of £5 each & 4000 deferred shares of £5 each. Capital issued: 36,000 preferred & 4000 deferred (both fully paid), & £200,000 in 4½ per cent. debenture stock, secured by a trust deed, dated July 27, 1904. Directors: H. Grëwing, Esq.; H. Johnstone Grewing, Esq.; T. Lloyd, Esq.; B. St. John Ackers, Esq. Secretary, John Macleod. Dividends: 1904, 1905 & 1906, 7½ per cent. on preferred & deferred shares; 1907 & 1908, 10 per cent. on preferred & deferred shares.

TELEPHOS, LTD., electrical distance gas lighters, 16–20, Farringdon-ave., London, E.C. (Telegs.: "Pilotless, London." Teleph., Holborn 6149.)

Telfer, J., manager, Corporation Electric Tramways, Warrington. (Teleph. No. 196.)

Telford, Maxwell, electrical engineer, 7, Moray-pl., Strathbungo, Glasgow. (Teleph. No. 216 X 3, Crosshill.)

Telford, Walter, chief assistant engineer, Corporation Electricity Works, Middlesborough.

Telford, Grier & Mackay, Ltd., electrical engineers, 220–222, Broomielaw, Glasgow.

Telford, Walt & Co., electrical engineers, The Arcade, Lord-st., Liverpool.

TEMPERED SPRING CO., LTD., THE, Burton Weir Works, SHEFFIELD. (Telegs.: "Tempered, Sheffield." Teleph. No. 354.)

Temple & Crook, electric light & bell fitters, 6, Motcomb-street, Belgrave-square, London, S.W.

Templer & Ranoe, Ltd., makers of steam stop valves, Foleshill-rd., Coventry. (Telegrams: "Temprano, Coventry." Telephone No. 197.)

Templetown, The Right Hon. Viscount, M.I.E.E., 17, Victoria-st., London, S.W.

Tennant, James, J.P., Fairlieburne, Fairlie, Ayrshire. Director Newcastle-on-Tyne Electric Supply Co., Ltd.

Tennants & Co., manufacturing chemists, 1, Booth-st.; Works: Clayton, Manchester. (Telegs.: "Tennants, Manchester." Teleph. Nos. 7131–7132.)

Terrey, Charles A., maker of electrical specialities, 114, Lambeth-road, London, S.E.

Terry, Howard, electrical engineer, 78–80, Carlton House, 28, High-st., Birmingham.

Terry, Isaac, electric bell fitter, 32, High-st., Ayr.

Terry, Stephen H., M.I.C.E., M.I.M.E., electrical & consulting engineer, 17, Victoria-st., London, S.W. (Telegrams: "Crankpin, London." Telephone No. 75, Westminster.)

Tervet, R., A.M.I.E.E., electrical engineer, 28, Meynell-rd., South Hackney, London, N.E.

Tessier, A. E., A.I.E.E., engineer, Browne Engineering Co., Ltd., Norfolk House, Laurence Pountney Hill, London, E.C.; & Southlands, Denton-rd., Eastbourne.

Tester, J. F., A.I.E.E., electrical engineer, 5, Herewood-ter., Southbury-rd., Enfield, Middlesex.

Tester, Wm. A., M.I.E.E., A.M.I.M.E., borough electrical & tramways engineer, Lancaster.

Tetley, T. R. H., A.M.I.E.E., A.M.I.MECH.E., Tetley & Co., Falcon Works, Bedford-st., Greengate, Salford.

Tetley & Co., manufacturing electrical & mechanical engineers, Falcon Works, Bedford-st., Greengate, Salford. (Telegs.: "Electrical, Manchester." Teleph. Central 5274.)

Tett, C., electrical engineer & contractor, 7, Queen-st., Weymouth.

Tett, Henry S., & Co., Ltd., iron & steel merchants, electrical engineers, &c., Market-st., Faversham, Kent. (Telegrams: "Tett, Faversham." Telephone No. 0195.)

Tewkesbury Electric Light Co., Ltd., Tewkesbury. Registered May 4, 1908. Nominal capital: £5000 in £1 shares, of which 2000 are preference. Directors: J. Mitchell, Esq.; A. Johnson, Esq.; J. Parker, Esq.; J. H. Edwards, Esq.

Thain, Leslie A., assistant engineer, Electricity Works, Buxton.

Thames Ammunition Works, Ltd., manufacturers of ammunition, electric fuses for blasting & electric igniting machines, Erith, Kent. (Telegrams: "Thames, Erith." Telephone No. 10.)

Thames Conservancy, 2 & 3, Norfolk-st., Strand, London, W.C. (Telegs.: "Conservancy, London." Teleph. Nos.: 5855, Local; & Gerrard 5856 Trunk.)

Thames Iron Syndicate, Ltd., Thames Ironworks, Victoria Dock-rd., Canning Town, London, E.

Thames Ironworks, Shipbuilding & Engineering Co., Ltd., Canning Town, E. Electrical Department: Thames Electrical Engineering Works, Canning Town, E. (Telegs.: "Thames, London." Teleph. Eastern 1640.)

Theedam, E. C., Ltd., electrical engineers & contractors, King-st. Electrical Works, Dudley. (Telegs.: "Theedam, Dudley." Teleph. No. 14.)

Theerman, W. P., & Co., electrical engineers, Oxford-rd., All Saints, Manchester.

Theermann, W. P., electrical engineer, Electric Light, Power & Hiring Co., Ltd., 491, Manchester-rd., Haslingden. Works: 263, Oxford-rd., C.-on-M., Manchester. (Telegs.: "Theermann, Manchester." Teleph. Central 3982, Manchester.)

Thermal Storage, Ltd., 17, Victoria-st., London, S.W.

Thermit, Ltd., engineers & contractors, 27, Martin's-lane, Cannon-st., London, E.C. (Telegs.: "Fulmen, London." Teleph. No. 3749, Central.)

Therol Foreign Patents Syndicate, Ltd., Goldhawk Works, Goldhawk-rd., London, W.

Thewlis, Griffith & Edelsten, Ltd., linesmen's tools, Mersey-st., Warrington. (Telegs.: "Thewlis, Warrington." Teleph. No. 402X.)

Thirlby, N., A.M.I.E.E., 152, Ewell-rd., Surbiton Hill, Surrey.

Thirsk Electricity Works, Thirsk, Yorks. Northern Counties Electricity Supply Co., Ltd., proprietors. Engineer, C. W. Fairweather.

Thom, Wm., M.I.E.E., A.I.C.E., general manager, Potteries Electric Traction Co., Ltd., Tramway Depôt, Stoke-on-Trent.

Thomas, Aubrey Ward-, A.M.I.E.E., Hollin's Green Farm, Marple, Cheshire.

Thomas, B., engineer, Llandrindod Wells Electric Light & Power Co., Ltd., Llandrindod Wells.

THOMAS, BERTRAM, A.I.E.E., electrical engineer & maker of circuit breakers, switchboards, automatic switchgear, &c. Works: Worsley-st., Hulme, Manchester. (Telegs.: "Breaker, Manchester." Teleph. No. 215.)

Thomas, D. J., Bryn Bedw House, Nantymoel. Director Ogmore Valley Electric Light & Power Supply Co., Ltd.

Thomas, E., local manager, National Telephone Co., Waterford.

Thomas, Eustace, B.SC., A.I.E.E., c/o Bertram Thomas, Worsley-st., Hulme, Manchester.

Thomas, E. L. Evan, director British Columbia Electric Railway Co., Ltd., 34, Nicholas-lane, Lombard-st., London, E.C.

Thomas, F., director New Rottingdean Electricity Co., Ltd., Rottingdean, Sussex.

Thomas, Frank C., A.M.I.E.E., Worsley-st., Hulme, Manchester (Telegs.: "Breaker, Manchester." Teleph. No. 215); & 8, Rokeby-ave., Stretford, Manchester.

Thomas, H., electrical engineer, Corporation Electricity Works, Blackpool.

Thomas, Hubert S., Hillside, Penylan, Cardiff. Director Treforest Electrical Consumers Co., Ltd.

Thomas, J., director Northallerton Electric Light & Power Co., Ltd., High-st., Northallerton, Yorks.

Thomas, R., Station-rd., Brynamman, Carmarthenshire. Director Brynamman & District Electric Supply Co., Ltd.

Thomas, R. G., technical assistant, London County Council Tramways, 62, Finsbury Pavement, London, E.C.

Thomas, T., resident engineer, District Council's Electricity Works, Bridgend.

Thomas, Theodore E., A.M.I.E.E., 159, Worple-rd., Wimbledon, S.W.

Thomas, Thos., director Mardy Electric Light Co., Ltd., Mardy, Glam.

Thomas, Bertram & Co., electrical engineers, Castle-st., Northwich.

Thomas, Geo., & Co., tachometers & tachographs, Parsonage-lane, Deansgate, Manchester. (Telegs.: "Samoht, Manchester." Teleph. No. 1183.)

Thomas, R. Morris, & Co., manufacturers' agents, suppliers of electric light glass shades, 7, Ely-pl., Holborn Circus, London, E.C. (Teleph. No. 2417, Holborn.)

THOMAS & STRACHAN, Manganese Importers, 28, Chapel-st., Liverpool. (Telegs.: "Strachan, Liverpool." Teleph. Central 6789.) *See advt.*, MANGANESE MERCHANTS.

Thomas Transmission, Ltd., electrical & mechanical engineers, Monson-chbrs., Corporation-st., Lincoln.

Thomas-Davies, G., A.M.I.E.E., electrical engineer, Bank-chbrs., Regent-st., Clifton, Bristol.

Thompson, A. J., electrical engineer, 5, St. Mary's-pl., Newcastle-on-Tyne.

Thompson, A. M., M.I.C.E., M.I.E.E., London & North-Western Railway, Crewe.

Thompson, A. W., director Hankow Light & Power Co., Ltd., 29, College-st., London, E.C.

Thompson, C. W., A.M.I.E.E., engineer, Cleveland Trust, Ltd., Saltburn-by-the-Sea.

Thompson, Edward, electrical engineer, 12, Newgate-st., Bishop Auckland.

Thompson, E. A., electrical engineer, Westinghouse Works, Trafford Park, Manchester.

Thompson, F. J., A.M.I.E.E., electrical engineer, 42, Clarence-rd., Teddington; & c/o Wm. Clowes & Sons, Ltd., Duke-st., Stamford-st., London, S.E. (Teleph. No. 3430, Hop.)

Thompson, F. O., A.I.E.E., Direct United States Cable Co., 53, Old Broad-street, London, E.C.

Thompson, F. W., A.M.I.E.E., A.M.I.M.E., 29, Chasefield-rd., Tooting, London, S.W.

Thompson, Harry Francis Jackson, A.M.I.E.E., chief assistant electrical engineer, Electricity Supply Works, Battersea, S.W.

Thompson, Henry Ellis, A.I.E.E., 6, Dudley-rd., Wimbledon.

Thompson, H. S., A.M.I.E.E., Telephone House, Victoria Embankment, London, E.C.

Thompson, John, engineer & boiler maker, Ettingshall, Wolverhampton. (Telegs.: "Boiler, Wolverhampton." Teleph. Nos. 19 & 576.) London office: 63, Queen Victoria-st., E.C.

Thompson, John Harold, A.M.I.E.E., Electricity Works, James-st., Carlisle.

Thompson, Norman A., A.M.I.E.E., consulting electrical engineer, Scotman-bldgs., Edinburgh.

Thompson, P., director Keswick Electric Lighting Co., Ltd., Forge, Keswick.

Thompson, Paul S., A.M.I.E.E., South Tees Power Station, Grangetown, R.S.O., Yorks.

Thompson, R. O., electrical engineer, 10, St. James-st., Brighton.

Thompson, Silvanus P., B.A., D.SC., F.R.S., M.I.E.E., "Morland," Chislett-rd., West Hampstead, London, N.W. Professor of applied physics & electrical engineering, City & Guilds of London Technical College, Leonard-st., Finsbury, E.C.

Thompson, W., electrical contractor, 57, Victoria-st., Blackburn. (Teleph. No. 150 X.)

Thompson, Wm. J., mechanical & electrical engineer, 22, Hart-st., London-rd., Liverpool.

Thompson & Co., electrical contractors, Wellington-st., Kettering.

Thompson, R. B., & Co., makers of glass globes, cells, &c., 54, West Howard-st., Glasgow. (Telegrams: "Undaunted, Glasgow." Telephone Nos.: 1415, Nat.; & 2648, Corp.)

Thompson, Ritchie & Co., Ltd., electrical engineers, 34, Buckingham-gate, London, S.W. (Telegs.: "Farad, London." Teleph. No. 2701, Victoria.)

Thompson & Southwick, Ltd., engineers & pulley makers, The Foundry, Tamworth, Staffs.

Thompson, W. P., & Co., electrical patent agents. Manual of instructions & fees post free, 285, High Holborn, London (Telegs.: "Discovery, London." Teleph. No. 823, Holborn); 6, Lord-st., Liverpool (Telegs.: "Patent, Liverpool." Teleph. No. 1605); & 77, Market-st., Bradford. (Telegs.: "Patent, Bradford." Teleph. No. 3095.) *See* PATENTS & TRADE MARKS REGISTRATION AGENTS.

Thomson, Anthony S., Capt. C.B., Comdr. R.N.R., F.R.G.S., A.I.E.E., Trinity House, London, E.C.

Thomson, A. W., machinery broker & dealer, 5, Lloyds-ave., Fenchurch-st., London, E.C. (Telegs.: "Mekaniska, London." Teleph. No. 1481, Avenue.)

Thomson, C., director Leicestershire & Warwickshire Electric Power Co., 53, Temple-chbrs., Temple-ave., London, E.C.

Thomson, C. S., M.SC., M.I.E.E., electrical engineer, 28, Victoria-st., Westminster, London, S.W. (Teleph. Westminster 842.)

Thomson, G. H., A.I.E.E., electrical engineer & manager, R.D.C. Electricity Works, Neath.

Thomson, Hedley J., A.C.G.I., A.I.E.E., 21, Ennismore-ave., Chiswick, W.

Thomson, J., chief assistant engineer, Electricity Works, Leith.

Thomson, J. M., F.R.S., F.C.S., professor of chemistry, King's College, Strand, London, W.C.

Thomson, J. S., A.M.I.E.E., manager, Fife Electric Power Co., Dunfermline, N.B.

Thomson, Sir J. J., M.A., F.R.S., Hon. M.I.E.E., Cavendish professor of experimental physics, University, Cambridge, & University of London, Burlington-gardens, W.

Thomson, T. Frame, 62, London Wall, London, E.C. (Telegrams: "Framboise, London." Telephone Central 6254.) Director United Electric Tramways of Montevideo, Ltd.; director Cordoba Light, Power & Traction Co., Ltd.; director Cordoba (Argentine) Electric Tramways Construction Co., Ltd.

Thomson, Wilfred C., M.I.E.E., chief electrical engineer to Great Northern Railway Co., Engineer's Office, Holloway, N. (Telegs.: "Thomicis, London." Teleph. No. 1509, North.)

Thomson, William, consulting chemist (Crace-Calvert & Thomson), Royal Institution Laboratory, 79A, Princess-st., Manchester.

Thomson, W. W., director Lyndhurst Ltd.

Thomson, D. F., & Co., telegraph pole makers, 20, Victoria-st., London, S.W. (Telegs.: "Trapezoid, London." Teleph. No. 1786, Victoria.)

THOMSON & RAMSAY, consulting electrical, mechanical & ventilating engineers, 55, West Regent-st., Glasgow. (Telegs.: "Powers, Glasgow." Nat. Teleph Argyle 1369.)

Thomson, W. R. M., & Co., consulting engineers & patent agents, 96, Buchanan-street, Glasgow. (Telegrams: "Inventions, Glasgow." Telephone No. 829.)

Thomson-Davis Telephone System, Ltd., manufacturers of & dealers in telephones, telegraphic apparatus, &c., 66, Victoria-st., Westminster, S.W. (Telegrams: "Wrenching, London." Telephone No. 1907, Victoria.) Registered Jan. 30, 1900. Nominal capital: £6000 in £1 shares. Issued: 5695 shares. 4493 shares are considered as fully paid. Directors: A. T. M. Thomson, Esq.; A. H. Holmes, Esq. Consulting engineer, R. P. Wilson; secretary, C. H. Wilson.

Thomson-Knox Co., electricians, 109, Argyle-st., Glasgow.

Thorium (Metal Filament) Lamp Works, Ltd., Broad-st. House, London, E.C. Works: South Tottenham, N. (Teleph. City 2898.)

Thorman, F., Newton Kyme, Tadcaster. Director Tadcaster Electricity Co., Ltd.

Thorn, C. H. R., A.M.I.E.E., 42, Elm Park-gdns., London, S.W.

Thornbery, W. H., consulting & electrical engineer, 32, Paradise-st., Birmingham. (Telephone Midland 1989.)

Thorne, A., 11, Austin Friars, E.C. Director Gloucestershire Electric Power Co.

Thornhill, E. B., A.M.I.E.E., borough electrical engineer, St. James-st., Taunton.

Thornton, Edwin, A.M.I.E.E., 24, Oxford-st., Barrow-in-Furness. (Teleph. No. 38.)

Thornton, F. H., J.P., Kingsthorpe Hall, Northampton. Chairman Northampton Electric Light & Power Co., Ltd.

Thornton, M., electrical engineer, 210, Helmsley-rd., Jesmond, Newcastle-on-Tyne.

Thornton, N., electric light contractor, 839, Harrogate-rd., Greengates, Bradford.

Thornton, Robert, maker of staples for telegraph wire & all other purposes, Paragon Works, Cleckheaton, Yorks. (Teleph. No. 73.)

Thornton, S. E., A.M.I.C.E., Sanctuary House, Tothill-st., Westminster, London, S.W. (Telegs.: "Altiscope, London." Teleph. No. 650, Victoria.)

Thornton, W. M., D.SC., D.ENG., M.I.E.E., professor of electrical engineering, Armstrong College, Newcastle-on-Tyne.

Thornton & Crebbin, iron castings, Hammerton-st. Ironworks, Bradford, Yorks. (Telegrams: "Iron-founders, Bradford." Telephone No. 226.)

Thornton, Frank, & Co., electrical contractors, 6, Howe-st., Burnley. (Teleph. No. 984 Y.)

Thornton, W. R., & Son, electrical engineers, Ramsden-sq., Barrow. (Telegrams: "Thornton & Son, Barrow." Telephone No. 38.)

Thornycroft, John I., & Co., Ltd., oil motor driven electrical generators, Caxton House, Westminster, London, S.W. (Telegs.: "Thornycroft, London." Teleph. Gerrard 8000.)

Thorp, Edgar Leslie, A.M.I.E.E., Lumb Mills, Edenfield, Manchester.

Thorp, Joseph, station superintendent, Corporation Electricity Supply Works, Liverpool.

Thorp & Simpson, electrical & mechanical engineers, Dryden Works, Shakespeare-st., Nottingham. (Nat. Teleph. No. 1898.)

Thorpe, Harold, A.M.I.E.E., Westlands, Wavertree, Liverpool.

Thorpe, Wilfred B., A.M.I.E.E., 60, St. Martin's-lane, London, W.C.

Thorpe Meter Syndicate, Ltd., electricity meters, 11, Victoria-st., London, S.W.

Thorrowgood, W. J., A.M.I.E.E., 2, Waldemar-rd., Wimbledon Park.

Threlfall, Richard, M.I.E.E., F.R.S., consulting electro-chemist, Oakhurst, Church-rd., Edgbaston. (Teleph. Edgbaston 1181.)

Thrift, Prof. Wm. E., M.A., HON.M.I.C.E.I., M.I.E.E., 80, Grosvenor-sq., Rathmines, Dublin; & Trinity College, Dublin. (Teleph. No. 2379.)

Thrupp, Edgar C., A.M.I.C.E., consulting engineer, 39, Victoria-st., London, S.W.

Thursfield, F., A.M.I.C.E., M.I.E.E., Prudential Assurance-bldgs., 20, Park-row, Leeds.

Thursfield, C. J., & Co., manufacturers of electric light fittings & metal workers, Cecil Works, Clement-st. Parade, Birmingham; & 28, Berners-st., Oxford-st., London, W. (Telegs.: "Electrolier, Birmingham;" "Thursfield, London." Teleph. Nos.: 6267, Birmingham; & 6792, P.O., Central.)

Thwaites, J. W., electrical engineer, 4, Higham-pl., Newcastle-on-Tyne.

Thwaites Bros., dials & indicator fronts, 257, St. John-st., Clerkenwell, London, E.C. (Teleph. No. 10509, Central.)

Thwaites Bros., Ltd., steam engine & fan makers, Vulcan Ironworks, Bradford. (Telegrams: "Thwaites, Bradford." Telephone No. 325.)

Thynne, A. C., Penstowe, Kirkhampton, Cornwall. Director Bude Electric Supply Co., Ltd.

Thynne, F. J., 67, Eaton-pl., S.W. Chairman Bude Electric Supply Co., Ltd.

Thys, M. le Col., 48, rue de Namur, Brussels. Director Shanghai Electric Construction Co., Ltd.

Tibbits, Oliver, A.M.I.E.E., Geo. Nelson Dale & Co., Ltd., Emscote Mills, Warwick. (Telegs.: "Opaque, Warwick." Teleph. No. 191.)

Ticehurst, F. Gorham, consulting engineer, Langton House, Battle, Sussex.

Tidd, E. George, A.M.I.C.E., M.I.E.E., engineer, 68, Gordon-st., Glasgow. (Teleph. Nos. 1020, P.O. & Royal Nat.)

Tiddeman, P. J. S., M.I.E.E., borough electrical engineer, Stoke-on-Trent. (Teleph. No. 412.)

Tierney, J. P., A.M.I.E.E., 44, Booterstown-ave., Booterstown, co. Dublin.

Tiffin, F. J., maker of "Xelsior" electric incandescent lamps, 3, Great Winchester-st., London, E.C. (Telephone No. 1993, Central.)

Tight, Charles, electrical instrument case maker, 12, Percival-st., Clerkenwell, London, E.C.

Tilghman's Patent Sand Blast Co., Ltd., for obscuring & decorating incandescent electric lamps, Broadheath, Altrincham. (Telephone No. 14.)

Till & Whitehead, Ltd., dealers in electric fittings, 88, Chester-rd., Manchester. (Telegs.: "Tillwite, Manchester." Teleph. No. 1912, Central.)

Tilley, Herbert B., A.M.I.E.E., Bruce Peebles & Co., Edinburgh.

Tilley Bros., electrical engineers & contractors, 53, Kingsland-rd., N.E. (Tel. Central 14786 & 14254.)

Tillyer, E. G., A.M.I.E.E., electrical engineer, Salisbury-ave., St. Albans.

Tilney, M. J. E., A.M.I.E.E., 8, Astwood-rd., South Kensington, S.W.

Timmins, R. D., A.M.I.E.E., Engineers' Office, St. James' Gate Brewery, Dublin.

Timmis, I. A., & Son, civil engineers, 2, Great George-st., Westminster, London, S.W. (Telegs.: "Timmis, London." Teleph. Gerrard 481.)

Timms, Percy G., A.M.I.E.E., 1, The Oval, Garden Village, Hull.

Timpson, H. S., electrical engineer & contractor, 29 & 30, High-st., Ealing.

Tindall, J. E., B.A., B.SC., teacher of magnetism & electricity, Leeds Institute Technical School, Leeds.

Tinker, Shenton & Co., Ltd., boiler makers, Hyde Boiler Works, Hyde, nr. Manchester. (Telegs.: "Duplex, Hyde." Teleph. No. 21, Ashton-under-Lyne.)

Tinkers, Limited, boiler makers, Hyde, Manchester (Telegs.: "Tinkers, Hyde." A.B.C. & A1 Codes. Teleph. No. 20); & 52, Queen Victoria-st., London, E.C. Price & Belsham, agents. (Telegs.: "Belsham, London." Teleph. No. 6003, Central.)

Tinsley, Henry, electrical engineer, Stanley House, Eldon Park, South Norwood, London, S.E.

Tipton Electricity Works, Ocker Hill, Tipton, Staffs. Midland Electric Corporation for Power Distribution, Ltd., proprietors. J. Hardie McLean, M.I.E.E., general manager & chief engineer.

Tisdall, H. G., A.M.I.E.E, 190, Worple-rd., Wimbledon, London, S.W.

Titan Lift & Electric Co., 113, Clerkenwell-rd., London, E.C. (Teleph. Central 3191.)

Tite, Robt., electric clock alarms, 113, Lavender Hill, Battersea, London, S.W.

Titherley, C. P. L., electrical engineer, Northern Electrical & Ventilating Co., Ltd., 49, Dale-st., Liverpool.

Tittensor, Walter H., M.I.E.E., Scottish manager for J. H. Holmes & Co., 19, Waterloo-st., Glasgow.

Tizzard, J., M.I.MECH.E., electrical engineer & wiring contractor, Sunnymount, Hatfield-rd., Torquay.

Tobin, Frank, Queen Insurance-bldgs., Liverpool. Chairman The Rangoon Electric Tramway & Supply Co., Ltd.

Tod, M., & Son, engineers & electric diamond drill makers, Dunfermline. (Telegs.: "Tod, Engineers." Teleph. Nos. 48 & 48A.)

Todd, D., electric lighting contractor, 249, Canterbury-st., Gillingham.

Todd, E. T., engineer, Oldham, Ashton & Hyde Electric Tramway, Tramway Depôt, Denton. (Telegrams: "Tramways, Denton." Telephone No. 265.)

Todd, F. L., A.M.I.E.E., electrical engineer, c/o Westminster Electric Supply Corporation, 11, Millbank, Westminster, S.W.

Todd, Harry E., A.M.I.E.E., 5, Elm Park, Brixton Hill, London, S.W.

Todd, R. R., M.I.C.E., M.I.E.E., 109-111, New Oxford-st., London, W.C.; & 54, Aberdare-gdns., West Hampstead, London, N.W.

Todhunter & Elliot, Ltd., ironmongers & electricians, Duke-st., Douglas, Isle of Man. (Telegs.: "Iron, Douglas." Teleph. No. 15.)

Todman, E. L., assistant engineer, U.D.C. Electricity Works, Ebbw Vale, Mon.

Todmorden Corporation Electricity Works, Todmorden. Engineer, H. Talbot.

Tollemache, The Hon. J. R. Delap, Boscombe, Bournemouth. Director The Victoria Falls Power Co., Ltd.; director African Concessions Syndicate, Ltd.

Tolley, F., A.I.E.E., 7, Queen-st., Cheapside, London, E.C. (Teleph. No. 8021, Bank.)

Tolman, G., & Son, electrical engineers, 53, Drayton-st., Wolverhampton.

Tomes, Alderman W., J.P., 31, Billing-rd., Northampton. Director Northampton Electric Light & Power Co., Ltd.

Tomey, J., & Sons, Ltd., manufacturers of glass tubing for electric purposes, &c., Catherine-st, Aston, Birmingham. (Telegs.: "Tomey, Birmingham.") Est. 1853.

TOMEY & SONS, gauge glass manufacturers, Tay Glass Works, Perth. (Telegrams: "Tomey, Perth.")

Tomkins, G. G., A.M.I.E.E., 5, Howells-cres., Llandaff, South Wales.

Tomkinson Rt. Hon. J., M.P., Willington Hall, Tarporley, Cheshire. Director North Wales Power & Traction Co., Ltd.

Tomlinson, E. T., electrical engineer, 8, St. George's-sq., London, S.W.

Tomlinson, H. J., A.I.E.E., 56, Harold-rd., Upper Norwood, London, S.E.

Tomlinson, Thomas, M.I.E.E., 16, Beresford-pl., Dublin.

Tomlinson-Lee, H., A.M.I.E.E., chief electrical engineer, Electricity Works, Wimbledon. (Telegrams: "Electricity Works, Wimbledon." Telephone No. 60.)

Tompkins, J. B., electric light fittings maker, 79, Plashet-lane, East Ham, London, E.

TOMS, H. J., & SONS, electric light & power contractors, Henry-st., Gray's Inn, London, W.C. (Teleph. Central 5477.)

Tonbridge Urban District Council Electricity Works, Tonbridge, Kent. (Teleph. No. 60B.) Engineer, M. P. Plunkett, A.M.I.E.E.; assistant, C. J. Wood.

Tonge, J. H., M.I.E.E., engineer, National Electric Supply Co., Ltd., Preston.

Tongue & Birkbeck, patent agents, Birkbeck Bank-chbrs., Chancery-lane, London, W.C. (Telegrams: "Lingua, London.")

Tonks, Ltd. (late Tonks, W., & Sons), art metal workers, 201, Moseley-st., Birmingham (Telegrams: "Brass, Birmingham." Telephone No. 52); & 57, Holborn Viaduct, London, E.C. (Telephone No. 6789, Holborn.)

Ton-yr-efail & Gilfach Goch Electric Light Co., Ltd., 48, High-st., Ton-yr-efail. Registered Sept. 24, 1903. Nominal capital: £5000 in £1 shares & £1500 5 per cent. debentures. Issued: 3421 shares. £1 per share has been called up & £3406 15*s.* received & £935 debentures. Directors: Wm. James, Esq. (chairman); D. L. Jones, Esq.; Dr. D. N. Morgan; L. Jenkins, Esq; Thos. Williams, Esq. (vice-chairman); W. Evans, Esq.; Stephen Evans, Esq. Engineer, A. J. Arthur; secretary, David R. Morgan. Dividends: 1906, 2½ per cent.; 1907 & 1908, 3¾ per cent.

Topham, Charles, & Co., weavers of wire gauze for dynamos, 3, Dufferin-st., Bunhill-row, London, E.C. (Telephone No. 1877, London Wall.)

Topham, Jones & Railton, Ltd, constructors & owners of electric & other works, 11, Great George-st., Westminster.

Toppin, W. A., A.M.I.E.E., 35, Robertson-st., Greenock, N.B.

Topping, F. W., M.I.E.E., superintendent Direct United States Cable Co., Ballinskelligs, Ireland.

Topsham Electricity Supply Co., Ltd., Topsham, Devon. (Nat. Teleph. No. 9.) Registered April 30, 1904. Nominal capital: £3000 in £1 shares & £200 debentures & £600 second debentures. Issued: 1470 shares with £1 called. Directors: T. J. Holman, Esq. (chairman); A. A. Amos, Esq.; C. J. Gale, Esq.; C. F. Gale, Esq.; A. C. Hardbottle, Esq. Secretary & manager, H. C. Gould.

Toronto Power Co., Ltd. Registrars & agents in London: The British Empire Trust Co., Ltd., 34, Nicholas-lane, E.C. Directors: Wm. Mackenzie, Esq. (president); F. Nicholls, Esq. (vice-president); Sir H. M. Pellatt: Jas. Gunn, Esq.; J. G. Grace, Esq. Nominal capital: $1,000,000, all issued. Debentures authorised: £500,000.

Torpy, R. N., A.M.I.MECH.E., A.M.I.E.E., deputy chief engineer, Corporation Electricity Works, Wimbledon. (Teleph. No. 60.)

Torquay Corporation Electricity Works, Torquay. P. Storey, M.I.M.E., A.M.I.E.E., engineer. (Telegrams: "Storey, Electricity Works, Torquay." Telephone No. 192.)

Torquay Tramways Co., Ltd., Queen Anne's-chbrs., Westminster, S.W. Registered Dec. 10, 1907. Nominal capital: £120,000 in £1 shares & £60,000 debentures. The whole share & debenture capital, with the exception of £5000 debentures, has been issued to the Torquay Tramways Construction Synd. Directors: L. B. Schlesinger, Esq. (chairman); J. T. Jervis, Esq.; B. Bernheim, Esq.; W. B. Cownie, Esq. Electrical engineer & manager, H. Holliday; secretary, L. D. H. Jacobs.

Torquay Tramways Construction Syndicate, Ltd., Queen Anne's-chbrs., Westminster, London, S.W. Registered Aug. 24, 1905. Nominal capital: £140,000 in £1 shares, all issued & fully paid. Directors: L. B. Schlesinger, Esq. (chairman); B. Bernheim, Esq.; J. T. Jervis, Esq.; W. Herbert Fowler, Esq. Secretary, L. D. H. Jacobs.

Tose, G., chief superintendent of the telegraph branch, Liverpool.

Tosh, D., & Son, manufacturers & erectors of lightning conductors, 77, Queen-st., Glasgow. Works: 12, Houston-st., Greenock. (Telegrams: "David Tosh, Greenock." Telephone No. 256.)

Tothill, Chas., M.I.E.E., Eastern Telegraph Co., Electra House, Moorgate, London, E.C.

Touche, G. A., director United Electric Tramways of Montevideo, Ltd., Basildon House, Moorgate-st., London, E.C. (Telegs.: "Retexo, London." Teleph. London Wall 3920.) Director Llandudno & Colwyn Bay Electric Railway Co., Ltd.

Tough, G., engineer & manager, Corporation Electricity Works, Coventry. (Teleph. No. 161.)

Toulmin, E. H., M.S.E., art metal worker & lighting engineer, Wotton-under-Edge, Gloucestershire. (Telegrams: "Toulmin, Wotton-under-Edge.")

Toulmin, Jas., A.M.I.E.E., manager & engineer, Burton & Ashby Light Railway, Power Station, Swadlincote, nr. Burton-on-Trent. (Nat. Teleph. No. 1.)

Tourtel, John, consulting engineer, 57, Chiswell-st., London, E.C. (Telegs.: "Tourtel, London." Teleph. No. 1775, London Wall.)

Tourtel Manufacturing Co., Ltd., engineers, 57, Chiswell-st., London, E.C. (Telegs.: "Tourtel, London." Teleph. No. 1775, London Wall.)

Toward, T., & Co., Ltd., manufacturers of tarboilers, St. Lawrence Ironworks, 11, Ouseburn, Newcastle-on-Tyne. (Telegs.: "Towards, Newcastle-upon-Tyne." Teleph. No. 515, Central.)

Tower Manufacturing Co., Ltd., rivets, hooks, electric staples, &c., Central Works, Shrub Hill, Worcester. (Telegrams: "Nails, Worcester." Telephone No. 66.)

Towle, J. W., M.I.E.E., M.I.C.E.I., resident engineer, Underground Electric Railways Co. of London, Ltd., Power Station, Lots-rd., Chelsea, London, S.W. (Teleph. No. 1691, Kensington.)

Townsend, E., M.A., D.SC., professor of engineering & registrar, Queen's College, Galway.

Townsend, E. H., electrical inspector, British Engine, Boiler & Electrical Insurance Co., Ltd., 12, King-st., Manchester.

Townsend, Prof. J. S. E., M.A., professor of physics, University, Oxford.

Townson & Mercer, electrical instrument makers, 89, Bishopsgate-st. Within, & 34, Camomile-st., London, E.C. (Telegs.: "Townson, London." Teleph. Avenue 5754.)

Toy, W. E., A.I.E.E., 11, St. Ann's-rd., New Wandsworth, London, S.W.

Tozer, Kemsley & Fisher, Ltd., agents for L. J. Healing & Co., Ltd., Yokohama & Kobe, Japan, 84, Fenchurch-st., London, E.C.; & at Lloyds. (Telegs.: "Tozer, or Kemsley, London." Teleph. No. 4950, London Wall. Engineering, 2nd edit., A1, A.B.C., Leviathan, Commercial, Scotts, Garsins, Liebers & Private Codes.)

Tracey, H. J., manager for Glasgow, Commercial Cable Co., Glasgow. (Telephone Nos.: 3349, Nat.; & 2349, P.O.)

Traction Batteries, Ltd., 5, Victoria-ave., Bishopsgate, London, E.C.

Traction Corporation, Ltd., 16, Great George-st., Westminster, S.W. (Telegs.: "Overtrip, London." Teleph. No. 331, Westminster.) Works: Wednesfield-rd., Wolverhampton. Registered Nov. 4, 1904. Nominal capital: £100 in £1 shares. Secretary, J. D. McAra.

Traction & Power Securities Co., Ltd., 2, Norfolk-st., London, W.C. (Telegs.: "Unbuckling, London." Teleph. No. 3261, Gerrard.) Registered July 27, 1901. Nominal capital: £2,000,000 in 100,000 5 per cent. non-cumulative preference shares of £10 each & 100,000 ordinary shares of £10 each. Issued: 85,410 ordinary shares, fully paid up. Directors: G. Westinghouse, Esq.; M. Hunsiker, Esq.; J. H. Lukach, Esq. (managing); H. A. Vernet, Esq.; A. Bonar Law, Esq, M.P. Secretary, W. G. Dunstall. Dividends: 1901–02, 4¼ per cent.; 1903, 1904, 1905, 1906, 1907 & 1908, *nil*.

Traction Supplies Co., Ltd., manufacturing electrical engineers, Gill Bridge-ave., Sunderland. (Telegs.; "Contact, Sunderland." Nat. Teleph. No. 531.)

Tracy, Paul, electrical & mechanical engineer, 5, Castle-st., Finsbury, London, E.C. (Tel. Wall 9029.)

Trade Mark Protection Society, registration of trade marks, designs, copyrights, &c., 285, High Holborn, London, E.C. (Telegrams: "Discovery, London.")

Trade Marks Journal (weekly) (annual subscription, 35*s.*; single copies, 6*d.*; post free, 8*d.*), Patent Office Sale Branch, 25, Southampton-buildings, Chancery-lane, London, W.C.

Traders Supply Co., electrical accessories, plant & lamps, 40, South King-st., Manchester. (Teleph. No. 3758.)

Trafford, F., assistant engineer, U.D.C. Electricity Works, Leek, Staffs.

Trafford, Wilfred B., A.I.E.E., assistant electrician, Sun Fire Office, Threadneedle-st., E.C. (Teleph. No. 9346, Central.)

Trafford Park Estates, Ltd. (Tramways), Trafford Park, Manchester. (Telegs.: "Developing, Manchester." Teleph. No. 61, Trafford Park.)

Trafford Power & Light Supply (1902), Ltd., Trafford Park, Manchester. (Telegs.: "Quickstep, Manchester." Teleph. No. 2684.) Registered Jan. 27, 1902. Nominal capital: £80,920 in shares & £40,900 debentures. 23,120 £1 preference & 57,800 ordinary shares of £1 each, all fully paid. Directors: A. L. Ormrod, Esq. (chairman); E. A. Claremont, Esq. (joint managing); Ll. B. Atkinson, Esq. (joint managing); J. Harwood, Esq. Resident engineer, T. A. Kerr; assistant engineer, F. Fuga; secretary, F. J. Warren.

Traill, A., D.L., LL.D., M.D., Provost, Trinity College, Dublin. Chairman Giants' Causeway & Portrush Electric Tramway Co.

Traill, Wm. A., C.E., electric railway engineer & managing director Giants' Causeway & Portrush Electric Tramway Co., Portrush, Co. Antrim, Ireland. (Telegrams: "Trailway, Bushmills.")

TRAMWAY & RAILWAY WORLD, Amberley House, Norfolk-st., Strand, London, W.C. (Telegrams: "Tramigro, London." Telephone No. 2948, Gerrard.)

Tramways Construction Syndicate, Ltd., 22, Staines-rd., Ilford.

Tramways & Light Railways Association, 35, Parliament-st., London, S.W. (Teleph. No. 2110, Victoria.) Secretary, A. de Turckheim.

Tramways & Light Railways Estates Co., Ltd., Electrical Federation Offices, Kingsway, London, W.C. (Telegs.: "Tramway, London." Teleph. Holborn 2686 (6 lines).) Registered Feb., 1900. Nominal capital: £100,000, in £10 shares. Issued: £10,044, £2 per share paid. Directors: E. Garcke, Esq.; S. Morse, Esq.; G. J. Somerville, Esq. Secretary, W. F. Cox. Dividends: 1907, 3 per cent.; 1908, 2 per cent.

Tramways Supplies, Ltd., manufacturers of electric tramway requisites, 31, Swinegate, Leeds.

Transactions of the Institution of Mining Engineers (monthly), edited by the secretary, 39, Victoria-st., Westminster, London, S.W. (Price, £3 12*s.* per annum.)

Transvaal Hydraulic Power Synd., Ltd., 24, Coleman-st., London, E.C. Registered Dec. 12, 1908. Nominal capital: £15,000 in £1 "A" shares, £5000 in £1 "B" shares.

Tranter, J., local manager, National Telephone Co., Ltd., Blackpool.

Travers, J. L., & Co., electrical engineers, Newcastle-on-Tyne & Whitley Bay.

Traynor, T., director Kerry Electric Supply Co., Ltd., Killarney.

Treacher, C. W., & Co., manufacturing electricians, 165, Queen Victoria-st., London, E.C.

Treasure, J. B., & Co., makers of gauge glasses & electric cylinders, 4–14, Vauxhall-rd., Liverpool. (Telegs.: "Treasure, Liverpool." Teleph. No. 1529.)

Treeton Parish Council Electricity Works. Engineer, W. H. Barwell.

Treforest Electrical Consumers Co., Ltd., Generating Station, Upper Boat, Treforest, Glam. (Telegs.: "Unit, Treforest." Nat. Teleph. Pontypridd 28.) Registered July 25, 1907. Nominal capital: £100,000 in £1 shares. Issued: 30,000 shares, & 5*s.* per share has been called up. Directors: H. Bramwell, Esq. (chairman); Sir Wm. T. Lewis, Bart.; R. B. Thomas, Esq.; W. H. D. Newton, Esq.; W. N. Lewis, Esq.; W. H. Mathias, Esq.; G. T. Hutchinson, Esq.; W. L. Madgen, Esq. Engineer, W. A. Chamen; resident engineer, H. N. Holland.

Treglohan, Thomas P., electrician, c/o Plymouth & District Students' Association, Plymouth.

Tremain, F., M.I.E.E., superintending engineer of Postal Telegraphs, South Western District, Bristol; & 63, Manor Park, Redland, Bristol.

Trenbath, G., electrical engineer, Corporation Electricity Works, Salford.

Trench, Colonel The Hon. W. Le Poer, R.E., A.I.E.E., 3, Hyde-park-gardens, London, W. (Telegrams: "Heusden, London.")

Trenery, E. T., & Sons, electric casing makers, Bridge-st., Northampton. (Telegrams: "Trenery, Northampton." Nat. Telephone No. 123.)

Trenow, E. H. R., director Bath Electric Tramways, Ltd., 18, St. Helen's-pl., E.C.

Trentham, W. H., M.I.M.E., consulting electrical engineer, 39, Victoria-st., London, S.W. (Teleph. Victoria 1048.)

Trentham & Heming, consulting electrical engineers, 39, Victoria-st., S.W. (Teleph. Victoria 1048.)

Tresilian, A. S., A.M.I.E.E., Cumnar, Eglinton-rd., Donnybrook, Dublin.

Trezise, J. M. G., M.I.E.E., Post Office Central Power Station, Upper Ground-st., London, S.E.

Trickett & Co., electrical engineers & contractors, 130, Norwood-rd., West Norwood, S.E.

Trickett, A. L., A.M.I.E.E., 65, Breakspears-rd., Brockley, S.E.

Trier Bros., lubricator makers, & sole makers of Stauffer's Lubricant, 19, Great George-street, Westminster, London, S.W. (Telegrams: "Viscosity, London.")

Trimmer, E. B., A.M.I.E.E., 4, Greenlaw-ave., Paisley, N.B.

Trimnell, L. C. B., A.M.I.E.E., electrical engineer, Richmond (Surrey) Electric Light & Power Co., Ltd., Richmond, Surrey; & Whitecliffe, Woldingham, Caterham Valley.

Trinity College Engineering School, Dublin.

Trinity House, Tower Hill, London, E.C. (Telegs.: "Dioptric, London." Teleph. No. 2242, Avenue.)

Triplex Co., electrical engineers & contractors, Wrexham. (Telegs.: "Triplex, Wrexham." Tel. No. 124.)

Trippe, C. F., A.M.I.E.E., electrical engineer, 36, Brooke-st., Holborn, London, E.C.

Trippett, J., & Sons, steel castings manufacturers, Coleridge-rd., Sheffield. (Telegs.: "Canal, Sheffield." Nat. Teleph. No. 1636.)

Tritton, J. Herbert, chairman Indo-European Telegraph Co., Ltd., 18, Old Broad-st., E.C.

Triumph Stoker, Ltd., 85, Kirkstall-rd., Leeds. (Telegs.: "Stoker, Leeds." Teleph. No. 2184.)

Trollope, G., & Sons, electric light engineers, 14, Mount-st., Grosvenor-sq., & 5, Victoria-st., London, S.W. (Telephone No. 533, Westminster.)

Trotman, John Price, A.I.E.E., 31, Balchier-rd., East Dulwich, London, S.E.

Trotter, Alexander, gas & steam tubes & fittings & electrical accessories, 1A, Bowling Green-lane, Farringdon-rd., London, E.C. (Telegrams: "Overspan, London." Telephone No. 1973, Holborn.)

Trotter, A. P., B.A., M.I.M.E., M.I.C.E., M.I.E.E., electrical adviser to the Board of Trade, 8, Richmond-ter., Whitehall, London, S.W.

Trotter, H. A., 7, Mincing-lane, E.C. Director La Capital Tramways Co., Ltd.; director Cordoba Light, Power & Traction Co., Ltd.

Trotter, Howard B., electrician, 63, Queen Victoria-st., London, E.C. (Telegs.: "Lithium, London." Teleph. No. 8042, Bank.)

Trotter, John, electrician, 40, Gordon-st., Glasgow. (Telephone Nos.: 5865, Nat.; & 3636, Corp.)

Trotter, H. B., & Co., electrical & mechanical engineers, 63, Queen Victoria-st., London, E.C. (Telegrams: "Lithium, London." Telephone No. 8042, Bank.)

Troughton, J. A., A.I.E.E., 7, Park Mansions Arcade, Knightsbridge, S.W.; & 10, Canonbury Park North, Canonbury, N.

Troughton & Shipton, electrical & general engineers, 7, Park Mansions Arcade, Knightsbridge, London, S.W. (Teleph. No. 2297, Kensington.)

Troup, Curtis & Co., electrical engineers, 102, Fenchurch-st., London, E.C. (Teleph. No. 1826, Central); 282, Victoria Dock-rd., Custom House, London, E. (Telegs.: "Voltejar, London." Teleph. No. 571, East); & Avonmouth Dock, Bristol.

Trouton, Fredk. Thos., M.A., D.SC., F.R.S., M.I.E.E., professor of physics, University College, Gower-st., W.C.

Troy & Co., installation contractors, 194, Finchley-rd., London, N.W. (Teleph. Nos.: 79, Nat.; & 3161, P.O., Hampstead.)

Trube, G. A., sales manager, Engine Dept., British Westinghouse Electric & Manufacturing Co., Ltd., Trafford Park, Manchester.

Truman, W., electrical agent, 4, Newick-rd., Clapton, London, N.E.

Trusler, W. T., A.I.E.E., Windmill Hill, Enfield.

Tuchman, H., arc lamp carbons, 2, Dyer's-bldgs., Holborn, London, E.C. (Telegs.: "Hurdle, London." Teleph. No. 9706, Central.)

Tuck & Co., Ltd., engineers' stores contractors, 19–22, Lower Abbey-st., Dublin. (Telegrams: "Tucks, Dublin." Telephone No. 575.)

Tucker, G. G., 4, Thicket-rd., Anerley, S.E. Director Hankow Light & Power Co., Ltd.

Tucker, Wm. Sansome, A.I.E.E., Municipal Technical Institute, Romford-rd., West Ham; & 50, Empress-ave., Ilford.

Tucker, J. H., & Co., manufacturers of electric lighting & power accessories & switchgear, King's-rd., Hay Mills, Birmingham (Telegs.: "Switches, Hay Mills." Teleph. No. 50, Acocks Green); 217, Shaftesbury-ave., London, W.C. (Telegs.: "Tuckerancy, London." Teleph. No. 3215, Gerrard); & 221, St. Vincent-st., Glasgow. (Telegs.: "Switches, Glasgow." Teleph. Nos.: 5645, Corporation; & 34, Argyle. Codes A.B.C., 5th edit., & A1.)

Tucker, W., & Co., electric lighting contractors, 3, High-st., Putney, London, S.W. (Tel. No. 3, Putney.)

Tuckett, P. D., A.I.E.E., 92, Palace Gardens-ter., London, W. Director City of London Electric Lighting Co., Ltd.; director British Electric Traction Co., Ltd.; chairman Edmundson's Electricity Corp., Ltd.; chairman Urban Electric Supply Co., Ltd.

Tudman, A. R., A.M.I.E.E., engineer & manager, District Council Electricity Works, Colwyn Bay. (Telegrams: "Tudman, Colwyn Bay." Telephone No. 63.)

Tudor Accumulator Co., Ltd., 119, Victoria-st., London, S.W. (Telegs.: "Subconical, London." Teleph. Victoria 2600.) Works at Dukinfield, nr. Manchester. Registered Sept. 16, 1897. Nominal capital: £100,000 in 8800 "A" & 1200 "B" shares of £10 each. Issued: 3800 "A" & 1200 "B," fully paid. Directors: A. Muller, Esq. (chairman); H. O. Tudor, Esq.; F. Correns, Esq.; A. B. Pescatore, Esq. (managing); & E. S. Jacob, Esq. (managing, electrical engineer & secretary.) *See advt.*, ACCUMULATORS.

Tudor Storage Battery Export Syndicate, Milton House, Surrey-st., Strand, London, W.C. (Telegs.: "Tudorious, London." Teleph. No. 13193, Central.)

Tudsbery, Dr. J. H. T., M.I.C.E., secretary of the Institution of Civil Engineers, Great George-st., Westminster, S.W.

Tudsbury, Rd., & Sons, influence machine makers, Edwinstowe, Newark, Notts.

Tufnell, Carleton F., "Watendone Manor," Kenley, Surrey. Chairman Hove Electric Lighting Co., Ltd.; director Crompton & Co., Ltd.; chairman Hendon Electric Supply Co., Ltd.

Tullis, John, & Son, Ltd., St. Ann's Leather Works, John-st., Bridgeton, Glasgow.

Tulloch & Co., mica importers & exporters, 4, Fenchurch-ave., London, E.C. (Telegrams: "Target, London." Telephone No. 1131, Avenue.)

Tully, J. E., West Quarter, Hexham. Chairman Hexham & District Electric Supply Co., Ltd.

TULLY, WILLIAM, & CO., mica merchants, 16, Water-lane, Great Tower-st., E.C. (Telegs.: "Glist, London." Teleph. Central 975.)

Tunbridge Wells Corporation Electricity Works. (Telegs.: "Electricity Works, Tunbridge Wells." Teleph. No. 565.) Consulting engineer, Horace Boot, M.I.E.E.; resident engineer, J. W. Beauchamp, A.M.I.E.E.

Tungsten Metal Co., Ltd., 56, Cannon-st., London, E.C.

Tunzelmann, G. W. de, B.SC., M.I.E.E., consulting engineer, 4 & 5, Queen Anne's-chbrs., Westminster, London, S.W. (Telegs.: "Tunzelmann, London.")

Turford, E., director Ludlow Electric Light Co., Ltd., 14, Corve-st., Ludlow, Salop.

Turing & Findlay, mica importers & merchants, 41, Gracechurch-st., London, E.C. (Telegrams: "Thorite, London." Telephone No. 5840, Central. A.B.C. Code.)

TURK SYSTEM DRYING CO., 23, Budge-row, London, E.C. (Teleph. Central 159.) *See advt. under* INSULATORS.

Turnbull, Charles, M.I.E.E., borough electrical engineer, County Borough of Tynemouth Corporation Electricity Works, North Shields. (Telegs.: "Electricity Works, N. Shields." Tel. No. 27, Nat.)

Turnbull, Herbert, M.I.E.E., 3, Myddleton Park, Whetstone, London, N.

Turnbull, Jas., electrical engineer, 3, New-st., Birmingham. (Telegs.: "Merit, Birmingham." Teleph. No. 5339, Central.)

Turnbull, Jas. L., electrical engineer, Corporation Electricity Works, Broughty Ferry, Forfarshire.

Turnbull, R. E. S., A.I.E.E., chief assistant electrical engineer, Electric Light Works, Bromley, Kent.

Turnbull, Walter A., A.M.I.C.E., A.M.I.E.E., A.M.I.M.E., chief assistant, Electricity Works, York.

Turnbull, Alex., & Co., Ltd., manufacturers of boiler mountings, Bishopbriggs, Glasgow. (Telegs.: "Valve, Bishopbriggs, Glasgow." Teleph. No. 4394.)

Turnbull, John, jun., & Sons, turbine makers, Canal Basin Foundry, Dobbies Loan, Glasgow. (Telegs.: "Turbine, Glasgow." Teleph. Nos.: 861, Corp.; & 3032, Royal, Nat.)

Turner, Arnold, A.I.E.E., Denton, nr. Manchester.

Turner, A. W., dealer in electric safety lamps, Cobden-bldgs., Birmingham. (Telegrams: "Acumen, Birmingham.")

Turner, Chas. J., A.M.I.E.E., resident engineer, District Council Electricity Works, Hoylake. (Teleph. No. 203.)

Turner, C. L., consulting electrical & mechanical engineer, 49, Deansgate, Manchester.

Turner, Dr. Dawson, F.R.S.E., medical electrician, Royal Infirmary, Edinburgh. (Teleph. No. 1778.)

Turner, F., electrical engineer, 61, Western-rd., Hove. (Nat. Teleph. No. 2846.)

Turner, F. W. J., electrician, Pim Bros., Great George-st., Dublin. (Telegs.: "Turner, Pims, Dublin." Teleph. No. 103.)

Turner, Geo. Charles, B.SC., A.I.E.E., Wrens, Church-ave., Sidcup.

Turner, G. P., electrical engineer, 16A, Eccleston-st., London, S.W.

Turner, H. E., A.M.I.E.E., 18, Spring-st., Hull. (Teleph. No. 1957.)

Turner, H. H., electrical engineer, Denton, Lancs.

TURNER, H. W., A.M.I.E.E., insulation specialist, Sterling Varnish Co., Brougham-st, Blackfriars-rd., Manchester. (Telegs.: "Reduction, Manchester.")

Turner, John W., A.M.I.E.E., 88, Clonmore-st., Southfields, London, S.W.

Turner, J. W., chief electrical assistant, Electricity Works, Huddersfield.

Turner, Marten, electrical engineer & general manager, Colne & Trawden Light Railways Co., Colne. (Telegs.: "Trams, Colne." Teleph. No. 30.)

Turner, T. E., A.M.I.E.E., assistant electrical engineer, Corporation Electric Tramways Power Station, Osborne-st., Hull. (Teleph. Corp. 445.)

Turner, Wm., Stowmarket, Suffolk. Director Suffolk Electricity Supply Co., Ltd.

Turner, Wm. Gilbert, A.M.I.E.E., Newcastle Electric Lighting Co., Ltd., 38, Grainger-st. West, Newcastle-on-Tyne.

Turner, Wm. H., A.M.I.E.E., 62, Bentley-lane, Meanwood, Leeds.

Turner, Atherton & Co., Ltd., electrical & general engineers, Turner-st., Denton, Manchester. (Telegs.: "Machines, Denton, Lancs." Teleph. No. 5. A.B.C. Code used.)

Turner Bros., iron & steel, brass & copper manufacturers & merchants, 134, Upper Thames-st., London, E.C. (Telegrams: "Sheetiron, London." P.O. Telephone No. 355, Central.)

TURNER & BURGER, manufacturers & agents for electrical accessories, fittings, main switches, & all electrical goods, Audrey House, Ely-pl., London, E.C. (Telegs.: "Automaton, London." Teleph. No. 9687, Central.)

Turner, E. R. & F., Ltd., steam engine & boiler makers, Ipswich. (Telegrams: "Gippeswyk, Ipswich." Telephone No. 24.)

Turner, G. & H., electrical engineers, 2, High-st., Harlesden, London, N.W. (Teleph. No. 99, Harlesden.)

Turner & Hudson, makers of electric wire casings, 31, Ivy-st., Hoxton, London, N. (Telegs.: "Sculptendo, London." Teleph. Dalston 341.)

Turner, Stuart, Ltd., small electric lighting engines & castings, Shiplake Works, Henley-on-Thames.

Turners & Manville, Ltd., asbestos mine owners & manufacturers of electrical insulating materials, &c., 5, Lloyds-ave., London, E.C. (Telegs.: "Vulbeston, London." Teleph. No. 1458, Avenue.)

Turney, A. T., A.M.I.E.E., 15, Elderslie-rd., Eltham, S.E.

Turnor, Algernon, C.B., Goadby Hall, Melton Mowbray. Director South London Elec. Supply Corp., Ltd.

Turpin, A. E., A.M.I.E.E., 8, Addison-st, Nottingham.

Turton Bros. & Matthews, Ltd., manufacturers of tool steel, files, &c., Steel File & Spring Works, Sheffield. (Telegs.: "Matthews, Sheffield." Teleph. Nos. 1045 & 3880.)

Tuson, C., A.M.I.E.E., electrician, 1, Holmewood, Anson-rd., Tufnell Park, N.

Tutt, C. B., A.M.I.E.E., electrical engineer, County Asylum, Rainhill, Lancs. (Teleph. No. 7.)

Tutte, H. E., A.M.I.E.E., 10, West-st., Fareham, Hants. (Nat. Teleph. No. 43 Y.)

Tuxford, Jas. Geo., maker of slate insulators, Conway, North Wales.

Tweddell, G. H., district manager, British Westinghouse Electric & Mfg. Co., Ltd., Newcastle-on-Tyne. (Telegs.: "Multiphase, Newcastle-on-Tyne." Teleph. No. 568, Nat.)

Tweedales & Smalley, Ltd., machine makers, Castleton, nr. Manchester. (Telegs.: "Globe, Castleton, Lancashire." Teleph. Rochdale 287 (2 lines).)

Tweeddale, the Most Hon. the Marquis of, K.T., 6, Hill-st., Berkeley-sq., W. Chairman Europe & Azores; chairman Direct Spanish; director Eastern; director Eastern & South African; chairman West African; & director Eastern Extension Australia & China Telegraph Cos., Ltd.; chairman Globe Telegraph & Trust Co., Ltd.

Tweedy, R. N., A.M.I.E.E., manager, Dublin & South of Ireland Branch, Wm. Coates & Son, Ltd., 5, Leinster-st., Dublin (Telegs.: "Megavolt, Dublin." Teleph. No. 1584); & Belfast. Director Greystones Electric Light & Power Co., Ltd.

Twelvetrees, W. Noble, A.M.I.E.E., 91, Louisville-rd., Upper Tooting, London, S.W. (Teleph. Battersea 1221.)

Twickenham & Teddington Electric Supply Co., Ltd., Broad Sanctuary-chbrs., Tothill-st., Westminster, London, S.W.; & Twickenham. (Telegs.: "Twickenham Electric." Teleph. No. 54, Richmond.) *The whole of the capital is held by the Urban Electric Supply Co., Ltd.* Nomiual capital: £25,000 in £5 shares. Issued: 127 shares, fully paid. Directors: P. D. Tuckett, Esq. (chairman); F. E. Gripper, Esq.; E. Charrington, Esq.; H. B. Grotrian, Esq.; D. Owen, Esq. Engineer & manager, M. Farrer; secretary, C. H. Jones.

Twycross, G., director Cape Peninsula Lighting Co., Ltd., 54, St. Mary Axe, London, E.C.

Twyford, T. W., Whitmore Hall, Newcastle-under-Lyme. Chairman North-Western Electricity & Power Gas Syndicate, Ltd.; director North-Western Electricity & Power Gas Co.

Twyfords, Ltd., earthenware manufacturers, Cliffe Vale Works, Shelton, Staffs.

Tyack, W. J. & C., Ltd., electric bell fitters & telephone engineers, electric light wirers, Camborne, Cornwall. (Telegs.: "Tyack, Ironmongers, Camborne." Teleph. No. 41.)

Tychsen, Colonel V. E., D.R.E., director Great Northern Telegraph Co., Ltd., of Denmark, 26, Kongens Nytorv, Copenhagen.

Tyer, Ed., F.R.A.S., F.R.G.S., M.I.E.E., 16, Ashwin-st., Dalston, London, N.E.

Tyer & Co., Ltd., railway signal telegraph instrument manufacturers, 16, Ashwin-st., Dalston Junction, London, N.E. (Telegs.: "Switchmen, London"); & Metcalfe-st., Carlisle. Registered March 31, 1898. Nominal capital: £25,000 in £1 shares. 22,007 have been taken up, 20,000 are considered as paid, & £1 per share has been called on the others. £2000 has been paid, & £7 has yet to be sent in.

Tylecote, L. H., chief assistant electrical engineer, Electricity Works, Llandudno.

Tyler, H. E., Colonel, R.E., A.I.E.E., Wetherden, Warwick's Bench, Guildford.

Tyler, H. W., electrical engineer & contractor, 45, High-st., Beckenham. (Teleph. Bromley 589.)

Tyler, Ralph Gooch, M.I.E.E., 20, New Bridge-st., Blackfriars.

Tyler & Freeman, electrical & mechanical engineers, 20, New Bridge-st., London, E.C. (Telegrams: "Potential, London." Telephone No. 859, Holborn.)

Tyne Wire Drawing Co., Ltd., wire drawers & manufacturers, South Shore, Gateshead. (Telegs.: "Haggie, Gateshead." Teleph. Nos. 3067 & 3068.)

Tynemouth, County Borough of, Corporation Electricity Works, Tanners Bank, North Shields. (Telegs.: "Electricity Works, North Shields." Nat. Teleph. No. 27.) Engineer, C. Turnbull, M.I.E.E.

Tynemouth & District Electric Traction Co., Ltd., Electrical Federation Offices, Kingsway, W.C.; & Tramways Depôt, Cullercoats. (Telegs.: "Tram Co., Cullercoats." Teleph. No. 17, Whitley.) Registered Jan., 1890, name changed as above in 1899. Nominal capital: £60,000 in £5 ordinary shares & £40,000 in £5 preference shares. Debenture stock limited to one-half subscribed capital. Issued: £46,410 ordinary, £30,500 preference shares, fully paid, & £16,650 4 per cent. debentures. A trust deed, dated Feb. 6, 1903, to secure £20,000 debentures, created by resolution of Aug. 10, 1902 (power being taken to make further issues). Directors: W. L. Madgen, Esq. (chairman); H. S. Day, Esq.; J. H. Robinson, Esq.; J. B. Williamson, Esq., J.P. Manager, R. Simpson; secretary, W. Fredk. Cox. Dividends on ordinary shares: 1905, 3½ per cent.; 1906 & 1907, 4 per cent.; 1908, 2 per cent.

Tyneside Electrical Development Co., Ltd., Collingwood-bldgs., Newcastle-on-Tyne. Registered Nov. 20, 1906. Nominal capital: £100,000 in £1000 shares, all taken up, £100 paid. Directors: J. H. Armstrong, Esq.; Dr. J. T. Merz; F. S. Newall, Esq. Secretary, N. Merz. Dividends: to Jan. 31, 1908, 10 per cent.; to Jan. 31, 1909, 15 per cent.; & first half of year ending Jan. 31, 1910, 5 per cent. (*interim*).

Tyneside Tramways & Tramroads Co., Neptune Bank, Wallsend, Northumberland. (Telegs.: "Tramways, Wallsend." Nat. Teleph. No. 84.) Incorporated 1901. Nominal capital: £200,000 in £10 shares & £65,000 debentures. Issued: £133,900 ordinary shares, fully paid, £23,440 preference shares, fully paid, & £40,000 5 per cent. mortgage debentures. Directors: J. T. Merz, Esq., D.C.L. (chairman); Lord Armstrong; J. H. Armstrong, Esq.; G. E. Henderson, Esq.; Summers Hunter, Esq. Resident engineer, F. H. Briggs; secretary & manager, J. C. Little. Dividends: 1906, 1¾ per cent.; 1907, 2¼ per cent.; 1908, ¾ per cent.; & first half of 1909, 1 per cent.

Typewriting Telegraph Corporation, Ltd., 72, Bishopsgate-st. Within, E.C. (Telegs.: "Atypic, London." Teleph. London Wall 849.) Registered June 26, 1900. Nominal capital: £100,000 in £1 ordinary shares & £3000 debentures. Issued: £71,100, fully paid, & £1590 debentures. Directors: A. J. Parker, Esq. (chairman); R. W. Nash, Esq., C.E. Secretary, R. J. Barrow, A.C.I.S.

Typke & King, Ltd., manufacturers of chemicals for electrical purposes, 16, Mincing-lane, London, E.C. (Telegs.: "Valerianic, London." Teleph. No. 279, Avenue.)

Tyson, Thomas, chief assistant engineer, Corporation Tramway Power Station, Leicester.

Tyson-Wolff, H. L., M.I.E.E., 52, Carson-rd., West Dulwich, London, S.E.

U. T. T. Synd., Ltd., registered as the Universal Telegraphex & Telegraphone Synd., Ltd., April 9, 1906. Nominal capital: £35,000 in 34,900 ordinary shares of £1 each & 2000 deferred shares of 1s. each.

Ullett, J. W., M.I.E.E., British L. M. Ericsson Manufacturing Co., Ltd., Telephone Works, Beeston, Notts.

Ullmann, W. C., M.I.E.E., M.I.MECH.E., engineer & manager, Corporation, Nelson-st, East Ham.

Ulster Electric Power Distribution Co., Ltd., Belfast. Registered July 9, 1903. Nominal capital: £10,000 in £1 shares. Consulting engineers, Preece & Cardew, & L. L. Macassey & Son; secretary, S. B. Quin.

Umney, Herbert W., M.I.E.E., electrical engineer, 46, King William-st., London, E.C.; & 1, Mowbray-rd., Norwood, S.E.

Umney, H. W., & A. Peckett, electrical engineers, 46, King William-st., E.C.

"Unbreakable" Pulley & Mill Gearing Co., Ltd., pulley manufacturers, 40, Boundary-st., West Gorton, Manchester (Telegs.: "Strength, Manchester." Teleph. No. 7327 (2 lines)); & 56, Cannon-st., London, E.C. (Telegs.: "Horsepower, London." Teleph. No. 15,051.)

Underdown, E. M., K.C., 98, Eaton-pl., London, S.W. (Telephone No. 3407, Gerrard.) Chairman Direct U.S. Cable Co., Ltd.

Underdown, H. C. B., director Direct United States Cable Co., Ltd., 50, Old Broad-st., London, E.C.

Underfeed Stoker Co., Ltd., Coventry House, South-pl., London, E.C. (Telegs.: "Underfeed, London." Teleph. No. 5257 (2 lines), London Wall.)

Underground Electric Railways Co. of London, Ltd., Electric Railway House, Broadway, Westminster, S.W. (Telegs.: "Underneath, London." Teleph. Gerrard 5820 (9 lines)); & Power House at Lots-rd., Chelsea. Registered April 9, 1902. Nominal capital: £5,000,000 in £10 shares, fully paid. £2,818,700 4½ per cent. bonds of 1933, £4,928,050 6 per cent. income bonds, & £1,000,000 first Power House 4 per cent. Debentures, all issued. A trust deed, dated July 30, 1908, securing (1) prior lien bonds not exceeding £1,000,000 (unless same be increased as provided in conditions endorsed thereon to £1,250,000; (2) 4½ per cent. bonds of 1933, securing not more than £3,000,000; & (3) 6 per cent. income bonds, securing not more than £5,200,000 (all created by resolution of July 30, 1908), has been registered. Directors: The Rt. Hon. Sir Edgar Speyer, Bart., P.C. (chairman); Sir Geo. S. Gibb (managing); F. Dawes, Esq.; Rt. Hon. Lord Farrer; The Rt. Hon. Lord Geo. Hamilton; C. J. Cater-Scott, Esq.; Sir Clifton Robinson; W. Barclay Parsons, Esq.; L. F. Loree, Esq.; J. Speyer, Esq.; Jonkheer H. Teixera de Mattos; Hon. S. Holland; Wm. C. Burton, Esq.; J. G. Metcalfe, Esq.; A. H. Stanley, Esq. Secretary, W. E. Mandelick.

Underhill, Walter R., A.I.E.E., 79, Bath-st., Glasgow.

Underhill, W. R., & Co., electrical engineers & contractors, 79, Bath-st., Glasgow.

Underwood, Capt. W. J., A.M.I.C.E., A.I.E.E., 18, Colebrook-ave., West Ealing, London, W.

Underwood (Manchester), Ltd., electrical supplies, 34, Pall Mall, Manchester. (Telegs.: "Gleaming, Manchester." Teleph. City 5613.)

UNION CABLE CO., LTD., cable manufacturers, Eagle Wharf-rd., London, N. (Telegs.: "Cablewell, London." Teleph. No. 975, North.) Registered Aug. 24, 1900. Nominal capital: 25,000 in £1 shares. Secretary & manager, J. A. Blackwood. *See advt., page* 4.

Union Construction Co., Ltd., Electric Railway-bldg., St. James's Park, Westminster, S.W. Registered Oct. 16, 1901. Nominal capital: £200,000 in £20 shares. Directors: J. R. Chapman, Esq.; W. E. Mandelick, Esq. (secretary).

UNION ELECTRIC CO., LTD., manufacturing electrical engineers. Head office & stores: Park-st., Southwark, London, S.E. (Telegs.: "Abeam, London." A.B.C. Code. Teleph. Hop. 2970.) Registered Aug. 13, 1901. Nominal capital: £25,000 in £1 shares. Issued: 24,250 shares, of which 4250 are fully paid & 19,500 are 1s. paid. Directors: M. Korting, Esq.; H. Garbe, Esq.; M. Muller, Esq. Chief engineer, manager & secretary, Justus Eck, M.A., M.I.E.E. *See advt.*, ENGINEERS—ELECTRICAL.

Unit, The (quarterly), a publicity medium for the lighting consumer, Electrical Press, Ltd., 37 & 38, Strand, London, W.C.

United Alkali Co., Ltd., chemical & metal manufacturers, 30, James-st., Liverpool (Telegs.: "Ubique, Liverpool." Teleph. Central 8213); Netham Works, Bristol (Telegs.: "Netham, Bristol." Teleph. No. 810); Newcastle-on-Tyne (Telegs.: "Ubique, Newcastle-on-Tyne." Teleph. G.P.O. 41; & Nat. 1692); Glasgow (Telegs.: "Ubique, Glasgow"); St. Helens, Lancs. (Telegs.: "Greenbank, St. Helens." Teleph. No. 60); & Sullivan Works, Widnes.

United Asbestos Co., Ltd., asbestos manufacturers & merchants, Dock House, Billiter-st., London, E.C. (Telegrams: "Asbestos, London." Telephone No. 2872, Avenue); & 34, Deansgate, Manchester.

United Berlin-Frankfort India Rubber Co., insulating materials manufacturers, 11A, Upper Thames-st., London, E.C. (Telegs.: "Axolotl, London." P.O. Teleph. No. 1355, Central.)

United Electric Car Co., Ltd., Strand-rd., Preston. (Telegs.: "Prescar, Preston." Teleph. No. 395); & Hadley, nr. Wellington, Salop.

United Electric Light & Power Supply Co., Ltd. (Telegs.: "Lucere, Manchester.") Registered Nov. 29, 1901. Nominal capital: £15,000 in £1 ordinary shares, 2830 of which are issued & fully paid. Lien registered Nov. 25, 1904, for £450 6 per cent. debentures, part of £3000; £2375 previously issued. Directors: F. Taylor, Esq.; S. Taylor, Esq. Electrical engineer, R. D. Marshall; secretary, F. Denby Ashton. *Under powers contained in debenture dated March* 25, 1903, *J. K. Hollingbery, C.A., 6, Howard-st., Glossop, has been appointed receiver.*]

United Electric Supply Co., Micklehurst, Mossley, near Manchester. (Telegrams: "United, Mossley.")

United Electric Tramways Co. of Caracas, Ltd., 9, New Broad-st., London, E.C. Registered July 25, 1906. Nominal capital: £200,000 in £1 ordinary shares & £200,000 5 per cent. debentures, secured by trust deed, dated Nov. 19, 1906. Issued: £170,000 shares & £170,000 5 per cent. first mortgage debenture stock. Directors: Col. Ivor Philipps, D.S.O., M.P. (chairman); Sir Douglas Fox; H. D. L. McDougall, Esq.; Edgar A. Wallis, Esq. Secretary, A. J. Shepherd.

United Electric Tramways of Montevideo, Ltd., Basildon House, Moorgate-st., London, E.C. (Telegs.: "Retexo, London." Teleph. London Wall 3920 & 3921.) Registered March 24, 1904. Nominal capital: £1,000,000 in 100,000 £5 ordinary shares & 100,000 6 per cent. cumulative £5 preference shares, & £1,000,000 debenture stock. Issued: £400,000 ordinary & £150,000 preference shares, & £800,000 5 per cent. first debenture stock, secured by trust deed, has been issued & paid up, of which £4000 has been redeemed by purchase in the market. Directors: G. A. Touche, Esq. (chairman); H. F. Gunning, Esq.; T. F. Thomson, Esq.; H. A. Trotter, Esq. Secretary, A. J. Side. Dividends on ordinary shares: 1905–06, 1906–07, 2 per cent.; 1907–08, 1908–09, 5 per cent.

United Flexible Metallic Tubing Co., Ltd., manufacturers of flexible tubes, 112, Queen Victoria-st., London, E.C. (Telegrams: "Tuyaux, London." Telephone No. 773, Bank.)

United Incandescent Lamp & Electrical Co., Ltd., 211, Upper Thames-st., London, E.C. G. Straus & Co., Ltd., agent. (Telegs.: "Merriness, London." Teleph. No. 5645, Bank.)

United Kingdom Tramway, Light Railway & Electrical Syndicate, Ltd., 28, Victoria-st., Westminster, S.W. (Teleph. Westminster 5008.) *In voluntary liquidation.* Liquidator, G. E. S. Venner, F.I.D., F.C.I.S.

United River Plate Telephone Co., Ltd., 340, Dashwood House, New Broad-st., London, E.C. (Telegrams: "Untel, London." Telephone No. 2643, London Wall.) Registered Dec. 17, 1886. Nominal capital: £1,000,000 in £5 shares, of which 40,000 are 5 per cent. cumulative preference, 150,000 are ordinary shares, 10,000 unclassified. Issued: 150,000 ordinary shares & 40,000 preference shares have been taken up, 120,000 ordinary shares & 40,000 preference shares being fully paid & 30,000 ordinary shares 30s. paid; 16,000 ordinary shares issued to vendors have been agreed to be considered as fully paid; & £300,000 4½ per cent. debentures, secured by trust deed, dated June 14, 1907. Directors: Sir Irving Courtenay (chairman & managing); Frederick Green, Esq.; George Keith, Esq.; Sir John Gavey, C.B. David Smith, secretary. Dividends: 1899–1903, 7 per cent.; 1904, 1905, 1906, 1907, 1908 & 1909, 8 per cent.

United States Metallic Packing Co., Ltd., steam packing manufacturers, Thornton-rd., Bradford. (Telegrams: "Metallic, Bradford." Telephone No. 604, Nat.)

United States Steel Products Export Co., 71 & 72, King William-st., London, E.C.

United Wire Works, Ltd., manufacturers of wire cloths & dynamo brushes, Edina Works, Edinburgh (Telegs.: "Scotia, Edinburgh." Teleph. No. 165); Baltic Wire & Metal Works, Glasgow (Telegs.: "Durable, Glasgow." Teleph. No. 2527); & Trafalgar Works, Newcastle-on-Tyne. (Telegs.: "Mountains, Newcastle-on-Tyne." Teleph. No. 1494.)

Unity Motor, Electrical & General Engineering Co., Ltd., 52, Queen-st., Bristol.

Universal Electric Supply Co., electrical sundries, 60, Brook-st., C.-on-M., Manchester.

UNIVERSAL ELECTRICAL DIRECTORY (J. A. Berly's). Published January. Price 14*s.* complete, or 10*s.* omitting Continental & American Sections. The Classified Section is a reliable buyer's guide, while the arrangement under towns is invaluable to every traveller. Sole proprietors: H. Alabaster, Gatehouse & Co., 4, Ludgate Hill, London, E.C. (Telegs.: "Ageekay, London." Teleph. Nos.: 933, Holborn; & 4425, Central.)

Universal Electrical Manufacturing Co., switchboards, switches & accessories, 14, Station Parade, Queen's-rd., Peckham, London, S.E. (Telegs.: "Uemcoy, London." Teleph. No. 423, Hop.)

Universal Engineering Co., lightning conductor manufacturers, Nottingham. (Telegs.: "Lightning, Nottingham.")

Universal Patents Bureau, Ltd., 20, Copthall-ave., London, E.C. (Telegs.: "Pantelez, London." Teleph. Central 10924.)

University College, Department of Electrical Engineering (Prof. R. M. Ferrier, M.Sc., M.I.C.E.), Bristol. *See* SCHOOLS.

University College, Cork. (Teleph. No. 101 Y.) *See* SCHOOLS, &c.

University College, classes in electrical engineering, Dundee. (Telephone No. 660.)

University College (Prof. J. A. Fleming, M.A., D.Sc. & M.I.E.E.), Gower-st., London, W.C. *See* SCHOOLS, &c.

University College (Rev. J. E. Symes, M.A., principal; P. H. Stevenson, F.S.A.A., sec.), Nottingham. (Telephone No. 776.)

University College, Reading. *See* SCHOOLS, CLASSIFIED SECTION.

University College of North Wales, Bangor. (Teleph. No. 68.) *See* SCHOOLS, &c.

University College of South Wales & Monmouthshire, classes in electrical engineering, Cardiff. (Telephone No. 512.) *See* SCHOOLS, &c.

University College of Wales, Aberystwyth. *See* SCHOOLS, &c.

University of Aberdeen. *See* SCHOOLS, &c.

University of Birmingham, classes in electrical engineering, Birmingham. *See* SCHOOLS, &c.

University of Cambridge. *See* SCHOOLS, &c.

University of Dublin. *See* SCHOOLS, &c.

University of Edinburgh. *See* SCHOOLS, &c.

University, The, Glasgow. (Telephone No. 2405.) *See* SCHOOLS, &c.

University of Leeds, special courses in electrical engineering. (Teleph. No. 2516.) *See* SCHOOLS, &c.

University of Liverpool. *See* SCHOOLS, &c.

University of London, South Kensington, London, S.W. (Telegs.: "University, London." Teleph. Western 1486.) *See* SCHOOLS, &c.

University of Oxford. *See* SCHOOLS, &c.

University of Sheffield. *See* SCHOOLS, &c.

UNSWORTH, G. B., & SONS, LTD., (estab. 1827) electric wire manufacturers, telegraph, telephone & insulated wires of all descriptions, Green-lane Mills, Derby. (Telegrams: "Unsworth, Derby.") *See* WIRE COVERERS—COTTON.

Unwin, Prof. W. C., LL.D., F.R.S., M.I.C.E., M.I.E.E., 29, Palace-gate, Kensington, London, W.

Upton, G. R. T., New-sq., Lincoln's Inn, London, W.C. Director Ecuador Telephone Co., Ltd.

Upton, R., North Holme, Commonside, Mitcham, Surrey. Director Ecuador Telephone Co., Ltd.

Urban, Chas., Trading Co., Ltd., manufacturers of arc lamps for stage & cinematograph purposes, 48, Rupert-st., London, W.

Urban Electric Supply Co., Ltd., electrical engineers & contractors, Broad Sanctuary-chbrs., Tothill-st., Westminster, London, S.W. (Telegs.: "Urbaniora, London." Teleph. No. 14, Westminster); Hawick (Telegs.: "Urbanbo, Hawick." Teleph. No. 407, Hawick); Godalming (Teleph. No. 8, Godalming); Dartmouth; Glossop; Camborne & Redruth; Twickenham; Stamford; Grantham; Weybridge; Newton Abbot; Newbury; Caterham (P.O. Teleph. No. 23, Caterham); & Berwick-on-Tweed. Registered June 29, 1898. Nominal capital: £650,000 in £5 ordinary shares & £250,000 in £5 preference shares. 80,000 ordinary & 50,000 preference shares have been taken up, & are fully paid. £275,000 4½ per cent. first mortgage debenture stock issued & paid up. Directors: P. D. Tuckett, Esq. (chairman); F. E. Gripper, Esq.; E. Charrington, Esq.; H. B. Grotrian, Esq.; Douglas Owen, Esq. Secretary, C. H. Jones. Guaranteed dividend of 5 per cent. till 1910.

Ure, Robert A., A.M.I.E.E., electrical engineer, 192A, St. Vincent-st., Glasgow.

Urquhart, D., director Hammersmith City & North-East London Railway, Ltd., 17, Philpot-lane, E.C.

Urquhart, D., C.E., consulting & electrical engineer, Harvey's-bldgs., 427A, Strand, London, W.C.
Urquhart, Lindsay & Co., Ltd., engineers & gear cutters, Blackness Foundry, Dundee. (Telegs.: "Engineers, Dundee.")
Urton, W., electrical & mechanical engineer, West Bars, Chesterfield. (Telephone No. 54.)
Usher, Thos. G., & Co., electrical engineers, 44, Leazes Park-rd., Newcastle. (Telegrams: "Electric, Newcastle." Nat. Telephone No. 1058.)
Uskside Engineering Co., Ltd., mechanical & general engineers, Uskside Iron Works, Newport, Mon. (Telegs.: "Uskside, Newport." Nat. Teleph. Nos. 53 & 307.)
Utley, C. J., & Co., electrical engineers & steeple jacks, Overton & Quenby-rd., Leicester. (Telephone No. 4566.)
Utting, Samuel, A.M.I.MECH.E., A.M.I.E.E., 65, Warwick-rd., London, S.W.
Utting, W., & Co., electrical engineers, 91, Albert-rd., Handsworth, Birmingham.
Uxbridge & District Electric Supply Co., Ltd., electricity supply contractors, Waterloo-rd., Uxbridge. (P.O. Teleph. Uxbridge 46.) *In liquidation.* Liquidator, the Official Receiver.

Vactite Wire Co., Ltd., manufacturers of electric lamp accessories, 50, Uxbridge-rd., Ealing, W.
Vacuum Oil Co., Norfolk-st., Strand, London, W.C. (Telegs.: "Vacuum, London." Teleph. No. 6840, Gerrard.)
Vail, Thos. N., 26, Cortlandt-st., New York. Director Cordoba Light, Power & Traction Co., Ltd.
Valentine, W. A., A.I.E.E., National Telephone Co., Ltd., Royal Exchange, Glasgow.
Valler, A. W., & Co., electric lighting contractors, 4, Sydney-st., Brighton. (Nat. Telephone No. 877 Y.)
Valor Co., Ltd., stamping manufacturers, Rocky-lane, Aston, Birmingham. (Telegrams: "Valor, Birmingham." Telephone No. 1653.)
Vance, Claude Edward, A.I.E.E., c/o British Electric Traction Co., Ltd., Electrical Federation Offices, Kingsway, London, W.C.
Vancouver Power Co., 34, Nicholas-lane, London, E.C. Registered in British Columbia.
Vandervell, C. A., & Co., electrical engineers, Warple Way, Acton Vale, London, W. (Telegs.: "Vanteria, London." Teleph. No. 544, Chiswick.)
Van Dieman, H., A.M.I.E.E., 10, Hawthorn-ave., Monton, Manchester.
Van Horne, Sir W. C., K.C.M.G., director Commercial Cable Co., 23, Royal Exchange, E.C.
Van Raden & Co., Ltd., motor ignition manufacturers, 567, Foleshill-rd., Coventry (Telegs.: "Vanraden, Coventry." Nat. Teleph. No. 277); & 8, Cecil-ct., Charing Cross-rd., London, W.C. (Telegs.: "Vanraden, London." Teleph. No. 8684, Central.)
Vansittart, A., director Costa Rica Electric Light & Traction Co., Ltd., 249, Dashwood House, E.C.
Vanstone & Roper, electric lighting contractors & bell fitters, 11, Exchange-st., Norwich.
Van Trump, H. J., The Elms, Taunton. Director Bridgwater & District Electric Supply & Traction Co., Ltd.
Varey, G., mains superintendent, Corporation Electricity Works, Wakefield.
Varley, F. H., M.I.E.E., 82, Newington Green-road, Islington, London, N.
Varley, Jno., director Direct U.S. Cable Co., Ltd., 11, Stanley-gardens, W. Director Callender's Cable & Construction Co., Ltd.
Varley, S. A., electrical engineer, 17, Lynton-rd., Crouch End, London, N.
Varley, W. Mansergh, M.A., D.SC., PH.D., principal & head of Physical & Electrical Engineering Department, Municipal Technical School, Devonport.
Varley Magnet Co., The, "Varley" patent coil winding, Cambridge-pl., Burrage-rd., Woolwich. (Telegs.: "Varley Magnet, Woolwich." Teleph. Woolwich 76.)
Varley, W., & Sons, installation contractors, Market-st., Colne.
Vaudrey, J. C., M.I.C.E., M.I.E.E., electrical engineer, Grassdale, Westfield-rd., Edgbaston, Birmingham. (Telephone No. 3539.)
Vaudrey, Sir W. H., Winter's-bldgs., St. Ann's-st., Manchester. Director Manx Electric Railway Co., Ltd.
Vaughan, G., Seymour House, Brynamman. Director Brynamman & District Electric Supply Co., Ltd.
Vaughan, J. M., electric light & power engineer & contractor, 9, Triangle South, Bristol.
Vaughan Engineering Installations, Ltd., heating & lighting engineers, 298 & 300, Goswell-rd., London, E.C. (Telegs.: "Vaughan Brown, London." Teleph. London Wall 8804.)
Vaughan & Marriott, dealers in electrical fittings, 32 & 34, St. George's-rd., Southwark, London, S.E. (Telephone No. 1385, Hop.)
Vaughan & Son, Ltd., engineers & manufacturers of overhead electric travelling cranes, West Gorton, Manchester. (Telegs.: "Vaunting, Manchester." Teleph. Central 5113.)
Vaughton, W. S., A.I.E.E., electrical engineer, 38, Barwick-st., Birmingham.
Vaughton Bros., metal stampers, Livery-st., Birmingham.
Vaux, Walter, M.I.M.E., tramways engineer & contractor, 23, Bank-st.-chbrs., Bradford. (Telegs.: "Lifeguard, Bradford.")

Vaux of Harrowden, Lord, director Associated Cos. The British Electric Traction Co., Ltd., Electrical Federation Offices, Kingsway, London, W.C. Director Southport Tramways Co., Ltd.; director Brush Electrical Engineering Co., Ltd.

Vauxhall Engineering Co., electrical & general engineers, 141, Vauxhall-rd., Liverpool. (Tel. No. 603A.)

Vauxhall Ironworks Co., Ltd., engine & pump makers, 45, Leadenhall-st., London, E.C.

Veasey, W. H., electrical contractor, King-st., Leicester. (Teleph. No. 333.)

Vecqueray, E. G., director Broadstone Ltd., 107, Cannon-st., London, E.C.

Vedel, P., D.C.L., director Great Northern Telegraph Co., Ltd., of Denmark, Copenhagen.

Velvril-Bonnaud, Ltd., manufacturers of insulating materials, Norfolk-rd., Ponder's End, London, N.; & 1, Fann-st., Aldersgate-st., E.C.

Venezuela Telephone & Electrical Appliances Co., Ltd., 104, Dashwood House, 9, New Broad-st., London, E.C. (Telegs.: "Furcation, London." P.O. Teleph. Central 4936.) Registered April 22, 1890. Nominal capital: £85,000 in 70,000 £1 ordinary & 1500 £10 preference shares. All the ordinary & 860 preference shares have been taken up, & are fully paid. There are also £70,000 in 5 per cent. first mortgage debentures, all of which were issued at 85 per cent., with interest payable January 31 & July 31. Bonds redeemable at par in 1925, £12,900 (part of £20,000 authorized) in 7 per cent. second debentures, with interest payable March 31 & September 30 (£7100 are issued as security against loan), also £30,000 6 per cent. prior lien debentures repayable at par on July 1, 1913. Directors: Sir D. Fox (chairman); J. S. Austen, Esq.; C. E. S. Bishop, Esq. Electrical engineer, E. A. Wallis; secretary, H. Simmonds. Dividends: 1903, 1904, 1905, 1906, 1907 & first half of 1908, *nil.*

Venndt, C. F., A.I.E.E., superintendent Great Northern Telegraph Co., St. Helen's-pl., London, E.C.

Venner, G. E. S., 28, Victoria-st., S.W. (Teleph. No. 5008, Westminster.) Director Leatherhead & District Electricity Co., Ltd.

VENNER & CO., electrical engineers & agents, 6, Old Queen-st., Westminster, S.W. (Telegs.: "Trydan, London." Teleph. Westminster 5595 (2 lines).) *See advt. under* SIGN FLASHERS.

Venning, A., consulting engineer, Sanctuary House, Tothill-st., Westminster, London, S.W.

Ventnor Electricity Works (Isle of Wight Electric Light & Power Co.). Head office: Ventnor. (Teleph. No. 43.) A. E. Mayes, A.M.I.E.E., engineer & manager.

Vera Cruz Electric Light, Power & Traction, Ltd., 47, Parliament-st., London, S.W. Registered July 28, 1906. Nominal capital: £300,000 in £1 shares, all issued, 299,993 as paid, & £300,000 debentures secured by a trust deed, dated Jan. 7, 1908. Issued: £300,000. Directors: Dr. S. Mackew; W. H. M. Pearson, Esq., M.P.; Jno. H. Macdonald, Esq.; R. M. Bird, Esq.

Verdin Technical School, Northwich. *See* SCHOOLS.

Vereinigte Electric Co., Field's-bldgs., Middlesbrough.

Verey, A., & Co., dealers in electrical apparatus & gutta-percha merchants, Dover.

Verity, George, M.I.E.E., chairman Veritys, Ltd., 31, King-st., Covent Garden, London, W.C.; & 7, Basil-st., London, S.W.

VERITYS. LTD., electrical engineers, manufacturers of all kinds of electrical machinery & apparatus, dynamos, motors, arc lamps, switchboards, accessories, fans, fittings, &c. ("Aston" brand). Merchants supplied with every requisite for electric light, power & traction. Secretary, A. Barraud.

	Telegrams.	*Telephone Nos.*
Head Offices: 31, King-st., Covent Garden, London, W.C. (Export Office: 28, King-st., Covent Garden, London, W.C.)	Verity, London.	6854–5–6, Gerrard.
Works: Plume & Victoria Works, Aston, Birmingham.	Verity, Birmingham.	805–6–7, East.
Branch Offices:		
Birmingham: Carlton House, 28, High-st.		12, Central.
Bristol: 59, Victoria-st.	Verity, Bristol.	01528.
Dublin: 52, William-st.		1988.
Glasgow: 40, Bath-st.	Veritys, Glasgow.	3570, Mun.; 3726, Nat.
Liverpool: 1, Hackin's Hey.		6248, Central.
Manchester: Hardman-st., Deansgate.	Verity, Manchester.	2011 & 5830.
Newcastle-on-Tyne: 26, Eldon-sq.		2900.

Vernet, H. A., 66, New Broad-st., E.C. Director The Traction & Power Securities Co., Ltd.

Vernier, Chas., A.M.I.E.E., 32, Bath-ter., Gosforth, Newcastle.

Vernon & Guest, engineers, Alma Works, Soho, nr. Birmingham.

Verrall, G. H., J.P., Sussex Lodge, Newmarket. Chairman Newmarket Electric Light Co., Ltd.

Verrill, W. S., district superintendent, County of Durham Electrical Power Distribution Co., Electricity Works, Durham.

Vesey-Brown, C. S., consulting electrical engineers, Milburn House, Newcastle-on-Tyne. (Telegs.: "Polarity, Newcastle-on-Tyne." A.B.C. Code, 5th edit. P.O. Teleph. No. 220.)

Viaduct Co., electrical accessory manufacturers, 48, Farringdon-st., London, E.C.

Vicarey, Robert W., M.AM.C.S., M.F.S., Pen-y-Wern, Black Hill, Clun, Salop.

Vicars, T. & T., mechanical stoker makers, Earlestown, Lancs.; & 20, Bucklersbury, London, E.C. (Telegrams: "Vicars, Earlestown;" "Vicarship, London." Telephone No. 5211, Bank.)

Vickers, G. D., A.M.I.E.E., 310, Bearwood-rd., Smethwick, Birmingham.

Vickers, H., A.M.I.E.E., tramways engineer, Corporation Car Depôt, Cleveland-rd., Wolverhampton.

Vickers, T., C.E., consulting tramway engineer, 20, Cecil-rd., Erdington, Birmingham.

Vickers & Co., engineers' stores & cotton waste merchants, Grenville-bldgs., Birmingham.

Vickers Sons & Maxim, Ltd., shipbuilders, ordnance & electrical manufacturers, 28–32, Victoria-st., London, S.W. (Telegs.: "Vickers, London." Teleph. Westminster 842 (4 lines)); & River Don Works, Sheffield. (Telegs.: "Vickers, Sheffield." Teleph. Nos.: G.P.O. 5; & Nat. 3200 (6 lines).)

Victor, C., electrical engineer, 201, Junction-rd., Upper Holloway, London, N.

Victoria Dynamo & Motor Co., Craven House, Kingsway, London, W.C. (Telegs.: "Bitangent, London." Teleph. No. 2236, City.)

Victoria Electric Co., 9, Bradley-st., Oldham.

Victoria Electrical Works (F. E. Emerson & Sons), manufacturers of switches, switchboards, electrical brass work, &c., 7, Broken Wharf, Upper Thames-st., London, E.C. (Teleph. Bank 5076.)

Victoria Engineering Co., Ltd., consulting electrical engineers & gas turbine experts & patentees of electrical apparatus, 21½, Market-pl., Wednesbury, Staffs.

Victoria Falls Power Co., Ltd., Salisbury, Rhodesia. Head office: 2, London Wall-bldgs., London, E.C. Registered Oct. 16, 1906. Nominal capital: £3,000,000 in 1,000,000 ordinary & 2,000,000 preference shares, all of £1 each. Issued: all the ordinary fully paid & 1,708,000 preference shares. Debentures authorised: £3,000,000; issued: £800,000. Directors: The Most Hon. the Marquis of Winchester; H. Birchenough, Esq.; R. G. Fricker, Esq.; I. Lewis, Esq.; Sir C. Metcalfe, Bart.; Herr Geheimrath E. Rathenau; Herr H. Schuster; The Hon. J. R. Delap Tollemache; W. A. Wills, Esq.; A. E. Hadley, Esq.; A. Brakhan, Esq. Electrical engineer, A. Wright (London); secretary, A. W. Bird.

Victoria Garage & Electrical Co., Ltd., elec. engineers & motor ignition mfrs., 68, St. John-st., Coventry.

Victoria Rubber Co., Ltd., manufacturers, Victoria Rubber Mills, Edinburgh.

Victoria University of Manchester, classes in electrical engineering, Manchester. (Telephone No. 518.) *See* SCHOOLS, &c.

Vidal, Wm. Espeut, A.M.I.E.E., 23, Blandford-st., Sunderland.

Vigers Bros., manufacturers of wood casings, 67, King William-st., London, E.C. (Telegs.: "Vigentes, London." Teleph. Nos.: 601 & 602, Avenue; & P.O. 311, Central.)

VIGERS, SONS & CO., makers of improved wood casings, &c., Eagle Wharf & Mills, High-st., Peckham. (Telegs.: "Vigers, Peckham." Teleph. Hop 332 & 333.) Branches at Stanley Bridge, Fulham, Sloane-sq. & Poland-st., W.

Vignoles, E. B., M.I.E.E., Acton-lane Works, Chiswick, London, W. (Telegs.: "Dorothea, London." Teleph. No. 221, Hammersmith.) Managing director Evershed & Vignoles, Ltd.

Vignoles, W. A., M.I.E.E., corporation electrical engineer, Great Grimsby.

Vigor & Co., electric light & telephone engineers, 15, King-st., Poplar, E. (Telephone No. 338, East.); & 49, Southampton-row, London, W.C.

Vincent, F. D. A., director Calcutta Tramways Co., Ltd., 1, Queen Victoria-st., London, E.C.

Vincit Co., Ltd., The, makers of carborundum & electric grinding goods, 67, Aldersgate-st., London, E.C.

VINTER, W., DIVIDER & ENGRAVER, every variety of scientific instruments accurately divided & engraved, 10 & 11, Dyers-bldgs., London, E.C. (Telephone No. 12713, Central.) Established 1879. *See* ENGRAVERS.

Virgo, Geo., electrician & wiring contractor, 40, Edward-st., Brighton. (Tel. No. 408 X., Kemp Town.)

Viscose Development Co., Ltd., manufacturers of insulating material, 3, New-ct., Lincoln's Inn, London, W.C. (Telegrams: "Viscoid, London." Telephone No. 1629, London.)

Visger, Harman, A.M.I.E.E., 30, Lidgett Park-rd., Roundhay, Leeds.

Vitty, T. H., A.M.I.E.E., 96, High-st., Ramsgate.

Vitty, W. L., assistant, Corporation Electricity Works, Southend-on-Sea.

Vitty & Hopper, electrical contractors, Ramsgate.

Vivian, G., electrical engineer, Oxford-st., Southampton.

Vivian, H. H., & Co., Ltd., brass & copper wire manufacturers, 43 & 44, George-st.-parade, Birmingham. (Telegrams: "Vivians, Birmingham." Telephone No. 54.)

Vivian & Sons, copper manufacturers, 4, Crooked-lane, Liverpool (Teleph. Bank 4447); & Hafod Copper Works, Swansea. (Telegs.: "Vivians, Liverpool;" & "Vivians, Swansea.")

Vogel, J. L. F., M.I.E.E., electro-chemist, 27, Old Jewry, London, E.C.

VOIGT & HAEFFNER, LTD., c/o Union Electric Co., Ltd., Park-st., Southwark, London, S.E. (Telegs.: "Abeam, London.")

Volenite, Ltd., manufacturers of electrical insulating materials, &c., Dunster House, Mark-lane, London, E.C. (Telegrams: "c/o Drabbling, London." Telephone No. 1807, Avenue.) Works: Alperton, nr. Wembley, Middlesex.

Volk, Magnus, electrical engineer (Volk's Electric Railway), Madeira-rd., Brighton. (Telegs.: "Volk, Brighton." Teleph. No. 14, P.O.) Chairman Magnus Volk, Ltd.

Volk, Magnus H., managing engineer, Volk's Electric Railway, Brighton. Director Magnus Volk, Ltd.

Volk, Magnus, Ltd., Madeira-rd., Brighton. (Telegs.: "Volk, Brighton." Teleph. No. 14, P.O.) Registered June 3, 1901. Nominal capital: £10,000 in 5000 ordinary & 5000 6 per cent. preference £1 shares. Issued: £8800. Directors: Magnus Volk, Esq. (chairman); M. H. Volk, Esq. (engineering).

Von Ammon, S., A.M.I.E.E., c/o British Westinghouse Electric Co., Trafford Park, Manchester.

Von Glehn, Alexander, & Co., agents for the Decauville portable railway plant, Tower House, 40, Trinity-sq., London, E.C. (Telephone No. 2276, Avenue.)

Vormeister, Chas. E., A.M.I.E.E., lecturer in electric wiring, Royal Technical Institute, Salford.

Vosper & Co., Ltd., steam yacht & electric launch builders, Broad-st., Portsmouth. (Telegrams: "Repsov, Portsmouth.")

Voss & Co., Ltd., electrical & mechanical engineers, Dashwood House, 9, New Broad-st., London, E.C.

Voules, F. M., director Collieries Electric Power Development Synd., Ltd., Dashwood House, New Broad-st., E.C.

Voysey, A. A., electrical engineer to the Corporation of London Public Health Dept., Guildhall, E.C.

Vulcan Boiler & General Insurance Co., Ltd., 67, King-st., Manchester (Telegs.: "Boiler, Manchester." Teleph. Nat. City 1188, 4708, 5214; & P.O. 7); Belfast; Birmingham; Bradford; Bristol; Dublin; Exeter; Glasgow; Ipswich; Leeds; Liverpool; Newcastle-on-Tyne; Nottingham; Sheffield; Swansea; 20, King William-st., London, E.C.; & 39, Victoria-st., S.W.

Vulcan Dynamo & Motor Co., Ltd., 29, Red Lion-st., Clerkenwell, London, E.C.

Vulcan Motor & Engineering Co. (1906), Ltd., mechanical & electrical engineers, Hawside-st., Southport.

VULCANITE WORKS, DR. HEINR. TRAUN & SONS, LONDON AGENCY (formerly Harburg Indiarubber C. Co.), (F. WINTER, MANAGER), EBONITE & VULCANITE MANUFACTURERS, SPECIALITY—MAKERS OF BOXES & CELLS FOR ELECTRIC BATTERIES, &c., 8, REDCROSS-ST., LONDON, E.C. *See* EBONITE & VULCANITE.

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Waddle Patent Fan & Engineering Co., Ltd, ventilating fans, Llanmore Works, Llanelly. (Telegs.: "Fan, Llanelly." Teleph. No. 315, Nat.)

Waddon, J. H., J.P., Northfield House, Bridgwater. Director Bridgwater & District Electric Supply & Traction Co., Ltd.

Wade, C., A.M.I.E.E., Garrison Side, Hull.

Wade, E. J., M.I.E.E., electrical engineer, 16, Elm-st., London, W.C.

Wade, F., wiring contractor, 112, Blackfriars-rd., Yarmouth.

Wade & Jones, Ltd., petrol & paraffin sets, 95, Colmore-row, Birmingham. (Telegs.: "Resolute, Birmingham." Teleph. No. 4754.)

Wade, J. L., & Co., Ltd., Boiler Scale Removing Works, Manor House Wharf, Nine Elms-lane, S.W.

WADE, R., SONS & CO., LTD., makers of telegraph poles & arms, Garrison-side, Hull. (Telegs.: "Wade, Hull." Teleph. Nat. 1095 (3 lines); Corp. 780.) *See advt. under* WOOD POLES.

Wadebridge & District Electric Supply Co., Wadebridge, Cornwall. (Teleph. No. 20, Wadebridge.) Manager, C. D. Minns; engineer, H. Salmon.

Wadham's Engineering Co., engineers, 146A, Queen Victoria-st., E.C. (Telegs.: "Wadham, London.")

Wadkin & Co., wood working machinery, North Evington Engineering Works, London-st., Leicester.

Wadsworth, Russell, electric bell fitter, 121, Vauxhall Bridge-rd., London, S.W.; & 33, Churton-st., Warwick-sq., S.W.

Wadsworth, Thomas, M.SC., A.M.I.E.E., The Polytechnic, Woolwich; & 64, Dallin-rd., Plumstead, Woolwich.

Wadsworth, Wm., & Sons, makers of electric lifts, School Hill, Bolton. (Telegs.: "Hoists, Bolton." Nat. Teleph. No. 171.)

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Wainwright, S. B., electrical engineer, 25, Pritchard-st., & 86, Demene-rd., Manchester.

Wainwright Bros., electrical & sanitary contractors, Pritchard-st., Manchester. (Nat. Teleph. No. 2455.)

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Wakefield Corporation Electricity Works, Wakefield. (Teleph. No. 137.) Engineer, H. A. Nevill.
Wakefield & District Light Railway Co., Belle Isle, Wakefield. (Telegs.: "England, Belle Isle, Wakefield." Teleph. No. 213.) Engineers, C. J. Jewell, Wakefield; J. C. Stewart, Castleford; H. England, general manager.
Wakefield Electrical Engineering Co., electric light contractors, Southgate, Wakefield. (Teleph. No. 176.)
Wakefield, J., & Sons, Ltd., electric fittings manufacturers, &c., Birmingham. (Telegrams: "Theodore, Birmingham." Telephone No. 1041, Birmingham.)
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Walker, Henry, M.I.M.E., chairman Clarke, Chapman & Co., Ltd., Victoria Works, Gateshead-on-Tyne.
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Walker Bros., electrical engineers, Upper Priory, Birmingham. (Telegs.: "Ambula, Birmingham." Teleph. No. 1510.)
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Walker, E. O., & Co., electrical & mechanical engineers, Trevelyan-bldgs., Manchester.
Walker, F. W., & Co., electric light engineers & contractors, 124 & 125, Queen-st., Portsea. (Telegrams: "Walker, Portsea." Telephone No. 180.)
Walker, Henry, & Son, Ltd., electric bell & telephone fitters, Gallowgate, & 55, Westgate-rd., Newcastle-on-Tyne. (Telegs.: "Reklaw, Newcastle-on-Tyne." Teleph. Nat. 1867; & G.P.O. 503.)
Walker, Hill & Co., consulting & mechanical engineers & patent agents, 2, Church-gate, Low-pavement, Nottingham. (Telegrams: "Hill, Churchgate, Nottingham." Nat. Telephone No. 968.)
Walker & Hutton, electric light engineers, 37, Huntriss-row., Scarborough. (Nat. Teleph. No. 149.)
Walker, J., & Son, electric light contractors, Tangier-st., Whitehaven.
Walker & Vickery, electrical engineers, Widemarsh-st., Hereford. (Telegs.: "Walkers, Electricians, Hereford." Teleph. No. 220.)
WALKER, W. G., & CO., electrical, mechanical & ventilating engineers, Emery Hill-st, Victoria-st., Westminster, S.W. (Telegs.: "Walker, Emery Hill Street, London." Teleph. No. 1622, Victoria.)
See advts. under DYNAMOMETERS & FANS.
Wall, G. P., specialities in steel & steel wire, Magneto Works, Penistone-rd., Sheffield. (Telegrams: "Magnetic, Sheffield.")

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Wallace, R. W., K.C., A.I.E.E., 2, Harcourt-bldgs., Temple, E.C. (Telephone No. 178, Holborn); & 36, Campden Hill-gdns., Kensington, London, W. Director Kensington & Knightsbridge Electric Lighting Co., Ltd.; director Westminster Electric Supply Corporation, Ltd.; director Central Electric Supply Co., Ltd.; director Loch Leven Water & Electric Power Co.; director Kalgoorlie Electric Power & Lighting Corp., Ltd.

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Waller, J. E., M.I.C.E., consulting engineer, St. Stephen's House, Victoria Embankment, Westminster, S.W. (Telegs.: "Kincaid, London." Teleph. Westminster 10 & 11.)

Waller, G., & Son, hydraulic engineers, 165, Queen Victoria-st., London, E.C.; & Stroud, Glos. (Telegrams: "Weighbeam, London.")

Walley, J., engineer & boiler maker, St. Mary's-bridge Works, Derby. (Telegrams: "Boiler, Derby.")

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Wallis & Watson, installation contractors, Trinity-st., Boar-lane, Leeds. (Telegrams: "Volt, Leeds." Telephone Nos.: 399, Office; & 862, Works.)

Wallis-Jones, Reginald J., M.I.E.E., M.I.C.E., 50, Queen Anne's-gate, Westminster, London, S.W. (Telegs.: "Alteration, London." Teleph. No. 689, Westminster.)

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Wallwin, J. M., A.M.I.E.E., Springfield Works, Dickinson-st., Salford, Lancs.

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Walmsley, Arthur Reginald, A.I.E.E., Geo. Hill & Co., Trafford Electric Works, Cornbrook, Manchester. (Telegs.: "Commutator, Manchester." Teleph. No. 2920.)

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Walmsley, J., engineer, Blackpool Tower Co., Ltd., Blackpool.

Walmsley, R. Mullineux, D.SC., F.R.S.E., M.I.E.E., &c., consulting electrician & principal of the Northampton Polytechnic Institute, Clerkenwell, London, E.C. (Teleph. No. 3072, Holborn.)

Walmsley, T., & Sons, iron & steel manufacturers, Atlas Forge, Bolton. (Telegs.: "Walmsley, Bolton." Teleph. No. 575, three lines.)

Walrond, A. M. H., chairman Madras Electric Supply Corp., Ltd., Salisbury House, London Wall, E.C.; director Calcutta Electric Supply Corp., Ltd.

Walrond, T. C. T., A.M.I.E.E., A.M.I.C.E., 25, Victoria-st., Westminster, London, S.W. (Telegs.: "Logistics, London." Teleph. No. 5052, Westminster.)

Walsall Corporation Electricity Works, Walsall. (Teleph. No. 260.) A. S. Barnard, M.I.E.E., A.M.I.C.E., engineer.

Walsall Corporation Tramways Department, Birchills, Walsall. (Teleph. No. 264.) R. L. Horsfield, general manager.

WALSALL ELECTRICAL CO., LTD., electric light contractors, electrical engineers, & manufacturers. Nominal capital: £20,620 in £1 shares. Issued: 12,000 ordinary shares, & the full amount called & paid. £2000 is agreed to be considered as paid. Directors: H. P. Nicklin, Esq. (chairman); J. O. Dale, Esq.; F. Brown, Esq., M.I.E.E. (electrical engineer). Secretary, G. R. Ridsdale.

	Telegrams.	*Telephone Nos.*
Birmingham: 12, Burlington-chbrs., New-st.	Luminosity, Birmingham.	Midland 517.
Liverpool: Central-chbrs., 17A, South Castle-st.	Luminosity, Liverpool.	Bank 4156.
Walsall: 57, Bridge-st.	Electrical, Walsall.	45.

Walsall Hardware Manufacturing Co., steel conduits & fittings, Walsall, Staffs. (Telegs.: "Durability, Walsall." Teleph. No. 147, Walsall); London & North Western Goods Station, Broad-st., London, E.C. (Telegs.: "Grevener, London." Teleph. No. 1842, Central); & at Orchard-st., Newcastle-on-Tyne.

Walsall Municipal Institute, Walsall. *See* SCHOOLS.

Walsh, Geo. Cecil, A.M.I.E.E., M.S.A., 6, Regent's Park-rd., Finchley, N.

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Walsh, John Walsh, manufacturer of all kinds of glass for electric lighting. Works: Lodge-rd., Birmingham. (Telegs.: "Vesta, Birmingham." Teleph. No. 63.)

Walsh, J., Ltd., installation contractors, 44–64, High-st., Sheffield.

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Walters, Austin, & Son, manufacturing electricians, stage specialties, 57, Lower Mosley-st., Manchester. (Teleph. Central 4109.)

Walters & Co., power & lighting engineers, Ocean-chbrs., Waterloo-st., Birmingham. (Telegs.: "Experience, Birmingham." Teleph. Central 320.)

Walter's Electrical Manufacturing Co., Ltd., telegraph & electrical engineers & contractors, 249 & 251, Kensal-rd., London, W. (P.O. Teleph. No. 653, Western.)

Waltham, John C., A.I.E.E., Kildene, 39, Tankerville-rd., Streatham, London, S.W.

Waltham Arc Lamp Co., 2, Jackson-rd., Holloway, London, N. (Teleph. North 3191.)

Waltham & Hill, workers in metal, artistic switch plates. Fittings specially designed, 3, Duke-st., Adelphi, W.C. (Teleph. Central, 1029.) Works: Camberwell.

Walthamstow District Council Electricity Works, Priory-ave., Walthamstow. (Teleph. No. 71, Walthamstow.) Electric Tramways, Chingford-rd., Walthamstow. Engineer, G. R. Spurr, A.M.I.E.E., A.M.I.MECH.E.

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See advt. facing first page GEOGRAPHICAL SECTION.

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Ward & Son, wiring contractors, Broad-st., Worcester.

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Warden, Joseph, & Sons, telegraph wire manufacturers, 110, Cannon-street, London, E.C.

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WARDLE ENGINEERING CO., LTD., THE, electrical & mechanical engineers & metal workers. Sole makers of Patent "Streetlite" Lanterns. Head office: 196, Deansgate, Manchester. (Telegs.: "Chamen, Manchester." Teleph. Central 8097.) Works: Hargreaves-st., Hulme.

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Waring & Withers, electrical engineers, 10A, Soho-sq., London, W. (Telegs.: "Waringites, London." Teleph. Nos.: 4118, Gerrard; & 69, Central.)

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Warrack, John, A.M.I.E.E., 124, Ayres-rd., Old Trafford, Manchester.
Warren, J. W. F., A.M.I.E.E., Lower Commercial-st., Middlesbrough.
Warren, Wm. Walter, A.M.I.E.E., 5, Dewar-pl., Edinburgh.
Warren, Beattie & Co., Ltd., electric light & power engineers, Lower Commercial-st., Middlesbrough; & 4, St. Nicholas-bldgs., Newcastle-on-Tyne.
Warren, H. N., & Co., chemists & electricians, Liverpool Research Laboratory, 131, St. Domingo-rd., Liverpool.
Warrilow, W. E., A.M.I.E.E., *The Electrical Field*, 30 & 31, St. Swithun's-lane, London, E.C.; & "Selwyn," Mildred-ave., Watford.
Warriner, Ltd., manufacturers of motor car carriage work, Riverside Works, Doncaster.
Warrington Corporation Electricity Works & Electric Tramways, Warrington. (Teleph. No. 206.) Engineer, F. V. L. Mathias, A.M.I.E.E.
Warrington Municipal Technical School. *See* SCHOOLS.
Warrington Wire Rope Works, Ltd., lightning conductor manufacturers, 13, Goree Piazzas, Liverpool. (Telegrams: "Wirop, Liverpool." Telephone No. 2037.)
Warwick, Benjamin, electrician, 134, Highbury-hill, London, N.
Warwick Machinery Co. (1908), Ltd., mechanical & electrical engineers, 83, Cannon-st., London, E.C.
Warwick's Time Stamp Co., manufacturers of electric time-checking machines, &c., 134, Highbury-hill, London, N.
Washington & Co., Ltd., manufacturers of every description of electric wire & cable making machinery, Sowerby Bridge, Yorks. (Telegrams: "Washington, Sowerby Bridge.")
Washington Traction Co., 23, St. Swithin's-lane, London, E.C. Registered in Washington, U.S.A. Capital stock: $3,500,000 in $100 shares.
Wassell, G., electrical engineer, 25, Centre-st., Glasgow.
Waste Heat & Gas Electrical Generating Stations, Ltd., 86, Collingwood-bldgs., Newcastle-on-Tyne. Registered Jan. 19, 1907. Nominal capital: £150,000 in £1 shares, all taken up & paid for in full. Directors: John B. Simpson (chairman); F. Stirling Newall, Esq.; E. Lloyd Pease, Esq. Secretary, Norbert Merz.
Waterbury, J. I., director Commercial Cable Co., 23, Royal Exchange, E.C.
Waterfall, H. & R., & Barber, electrical engineers, Bailey-lane, Sheffield. (Telegrams: "Niagara, Sheffield.")
Waterhouse, L. M., A.M.I.C.E., M.I.E.E., M.S.I.E., managing director Simplex Conduits, Ltd., 116, Charing Cross-rd., W.C. (Telegs.: "Audiphone, London." Teleph. No. 1875, City.)
Waterhouse, J. C., Ltd., plumbago crucible manufacturers, Soho Works, Wakefield. (Telegs.: "Crucible, Wakefield.")
Waterloo & City Railway, Waterloo Station, S.E. *Absorbed by the London & South-Western Railway.*
Waterlow & Sons, Ltd., telegraph paper makers, 26 & 27, Great Winchester-street, London, E.C. (Telegrams: "Imprimerie, London." Telephone Nos.: 1264, London Wall; & 4326, Central.)
Waterson's, electrical engineers, 39, Glassford-st., Glasgow. (Teleph. Nos.: 4609, Nat.; & 4609, P.O.)
Watford Engineering Works, electric light & general engineers, Watford. (Telegrams: "Mechanical, Watford." Telephone No. 35.)
Watford Urban District Council Electricity Works, Watford. (Nat. Teleph. Watford 95.) Chief electrical engineer, Fredk. W. Purse, A.M.I.E.E., A.M.I.M.E.
Wather, John, director Pontypool Electric Light & Power Co., Ltd., Club-chbrs., Pontypool, Mon.
Wathes, T. H., & Co., Ltd., electrical engineers, Coronation-bldgs., High-st., Leicester. (Tel. No. 1077.)
Watkins, A. A., A.M.I.E.E., manager & engineer, Musselburgh & District Electric Light & Traction Co., Ltd., Musselburgh.
Watkins, Fredk. A., senior engineer-in-charge, Borough Electricity Works, Hornsey; & 123, Park-rd., Crouch End, N.
Watkins, H. S., resident engineer, Sunderland & District Tramways, Ltd., Philadelphia, nr. Fence Houses, Co. Durham.
Watkins, J. H., A.M.I.E.E., A.M.I.MECH.E., electrical engineer, c/o Royce, Ltd., Manchester.
Watkins, W. J. A., A.M.I.C.E., engineer, Tramways Branch, Engineer's Department, London County Council, Oceanic House, 1A, Cockspur-st., London, S.W.
Watkins, Stephen, Son & Groves, chartered patent agents, 170, Strand, London, W.C.; & Royal London-bldgs., Wolverhampton. (Teleph. Gerrard 8072; & Wolverhampton 48.)
Watkinson, Prof. William H., M.ENG., M.I.C.E., M.I.E.E., M.I.MECH.E., A.I.N.A., The University, Liverpool.
Watlington, V., A.I.E.E., Watlington & Co., Moorgate Station-chbrs., London, E.C.
Watlington & Co. Head office: Moorgate Station-chbrs., London, E.C. (Telegs.: "Aetnaco, London." Teleph. London Wall 1479.) Branch office & stores: Trafford Park, Manchester. (Telegs.: "Aetnaco, Manchester." Teleph. Trafford Park 69.)
Watney, Thos. S., M.I.E.E., M.I.M.E., Greek-st.-chbrs., Leeds. (Telegs.: "Energy, Leeds." Teleph. No. 2229.)
Watson, C. G., electrical engineer, Callender's Cable & Construction Co., Ltd., Hamilton House, Victoria Embankment, London, E.C.

Watson, C. G., electrical engineer, Milburn House, Dean-st., Newcastle-on-Tyne. (Nat. Teleph. No. 865, Central, Newcastle.)

Watson, C. G., electrical engineer, 115, Sunderland-st., Houghton-le-Spring, Durham.

Watson, Duncan, M.I.E.E., 102, Charing Cross-rd., London, W.C. (Telegs.: "Ingegneri, London." Teleph. No. 4219, Gerrard.)

Watson, F. Douglas, A.I.E.E., superintendent for Scotland, National Telephone Co., Glasgow.

Watson, Harold, A.M.I.E.E., electrical engineer, 121A, St. Vincent-st., Glasgow.

Watson, Henry Sinclair, B.A., A.M.I.C.E., A.M.I.E.E., electrical engineer, Melrose, Whytecliffe-rd., Purley.

Watson, J. F., electrical engineer, testing engineer to Callender's Cable & Construction Co., Ltd., Hamilton House, Victoria Embankment, London, E.C. Local address: 1, Ormond-yard, Great Ormond-st., W.C. (Teleph. No. 2539, Holborn.)

Watson, J. H. G., electrical engineer, Watson & Co., 10, Glasshouse-st., London, W. (Teleph. Gerrard 4690.)

Watson, J. R., dealer in electric blasting apparatus, 35, Queen Victoria-st., London, E.C. (Telegrams: "Bobolink, London." Telephone No. 1719, Bank.)

Watson, J. S., technical manager, Newcastle-upon-Tyne Electric Supply Co., Ltd., Royal Exchange-bldgs., Newcastle-upon-Tyne. (Telegs.: "Supply, Newcastle." Teleph. Nos.: 882-3-4-5 & 6, Nat.; & 530, P.O.)

Watson, J. Wilson, Woodland, Stockton-on-Tees. Director Cleveland Trust, Ltd.

Watson, Percy, A.M.I.E.E., electrical engineer, Northern Electrical Co., Grimsby.

Watson, R., director Lancashire United Tramways, Ltd.; director South Lancs. Tramways Co.; director Lancashire Light Railways, Ltd.; director South Lancashire Electric Supply Co., Ltd., Atherton, Lancs.

Watson, Rt. Hon. Robt. Spence, LL.D., 141, Pilgrim-st., Newcastle-on-Tyne. Director Newcastle-on-Tyne Electric Supply Co., Ltd.; director County of Durham Electrical Power Distribution Co., Ltd.

Watson, Sir C. M., K.C.M.G., C.B., M.A., Colonel R.E., A.I.E.E., 16, Wilton-ct., London, S.W.

Watson, S. J., M.I.E.E., resident engineer, Electricity Works, Bury, Lancs.

Watson, Stanley J., electrical engineer, 12A, St. Anns-ter., Barnes, London, S.W.

Watson, W., D.SC., F.R.S., A.R.C.S., assistant professor of physics, Royal College of Science, South Kensington, London, S.W.

Watson, William D., electrical engineer, managing director Rochdale Electric Co., Ltd., Lydstep, Falinge-rd., Rochdale. (Teleph. No. 23 X.)

Watson, A., & Co., ignition coils for motor cars, gas engines, &c., Edward-st. Works, Edward-st. Parade, Birmingham.

Watson, Archibald, & Co., Ltd., electrical engineers & brassfounders, 36, George-st., Glasgow.

Watson & Co., electrical engineers & agents, 10, Glasshouse-st., London, W. (Teleph. No. 4690, Gerrard.)

Watson Duncan, & Co., electric lighting engineers, 102, Charing Cross-rd., London, W.C. (Telegs.: "Ingegneri, London." Teleph. Nos.: 4218 & 4219, Gerrard; & 3772, Central.)

Watson, G. W., & Son, electrical & mechanical engineers, 14, Hurst-st., Oxford. (Teleph. No. 114 Y.)

Watson, Gow & Co., Ltd., electric cable pipe manufacturers, Etna Foundry, Lilybank-rd., Glasgow (Telegs.: "Etna, Glasgow." Teleph. Nos.: 77, Gorbals, Nat.; & X. 191, P.O.); & Etna Iron Works, Grahamston, Falkirk, N.B. (Teleph. No. 153.)

Watson, H., & Sons, mechanical engineers, High Bridge Works, Walker-gate, Newcastle-on-Tyne. (Telegs.: "Watsons, Newcastle, Tyne." Teleph. Nos. 516 & 517.)

Watson, Laidlaw & Co., manufacturers of friction gear, &c., Dundas-street, South Glasgow. (Telegrams: "Fugal, Glasgow." Telephone No. 1700.)

Watson & Sons, electric light contractors, 17, Birmingham-st., Oldbury. (Teleph. No. 39.)

Watson, T. B., & Son, wiring contractors, Bishopton-lane, Stockton-on-Tees.

Watson, W., & Sons, Ltd., electro-medical & X-ray apparatus manufacturers, 313, High Holborn, London, W.C. (Telegs.: "Optics, London." Teleph. No. 6979, P.O., Central.)

Watt, James, & Co., engineers, Soho Foundry, Birmingham. (Telegs.: "Watt, Birmingham." Teleph. No. 34, Smethwick.)

Wattis, G. & F. E., manufacturers of electric clocks & electrical apparatus, Lower Temple-st., Birmingham.

Watts, Arthur, A.M.I.E.E., 3, Orchard-grove, Orpington, Kent. (Teleph. Cray 12.)

Watts, B. H., assistant engineer, Corporation Electricity Works, Bedford.

Watts, E., director Kingswood Electric Supply Co., Ltd., All Saints' House, The Exchange, Bristol.

Watts, Ewart J., electrician, Marconi's Wireless Telegraph Co., Ltd., Watergate House, York-bldgs., Adelphi, London, W.C.

Watts, H. W., A.M.I.M.E., A.M.I.E.E., resident engineer, Urban Electric Supply Co., Ltd., Weybridge, Surrey. (Teleph. No. 46.)

Watts, J., M.I.MECH.E., engineer, 43, Broad-st., Bristol. (Telegs.: "Asphyxiator, Bristol." Tel. No. 1503.)

Watts, P. J., M.I.E.E., 13, The Terrace, H.M. Dockyard (South), Devonport.

Watts Bros., electrical & mechanical engineers, 101, Castleton-rd., Goodmayes, Ilford. (Telegs.: "Advisers, Ilford." Teleph. Ilford 652.)

Watts, C. F., & Co., electrotypers, 8 & 9, Hosier-lane, E.C.; & 62, Neal-st., Long Acre, W.C.

Waugh, J., C.E., patent agent, Sunbridge-chbrs., Bradford. (Telegs.: "Powerful." Teleph. No. 72.)
Way, A. G., M.I.E.E., A.M.I.C.E., elec. engineer, Westminster Engineering Co., Ltd., Willesden Junction, N.W.
Wayeott, R., Marina, Paignton. Director Paignton Electric Light & Power Co., Ltd.
Waygood, R., & Co., Ltd., electrical, hydraulic & mechanical engineers, & makers of lifts & cranes, Falmouth-rd., Great Dover-st., London, S.E. (Telegs.: "Waygood, London." A.B.C. Code, 5th edition. Teleph. Hop. 4000 (5 lines).)
Wayne, P. G., A.M.I.E.E., British L. M. Ericsson Mfg. Co., Ltd., 82, Fleet-st., London, E.C.
Waynforth, H. M., A.M.I.C.E., M.I.M.E., consulting engineer & assistant professor in engineering, King's College, London. (Teleph. No. 5255A, Westminster.)
Wearwell Cycle Co., electric bell manufacturers, &c., Vine-st., Stafford. (Telephone No. 106.)
Webb, Col. R. F., City of Oxford Electric Tramways, Ltd., Queen Anne's-chbrs., Westminster, S.W.
Webb, E. L., A.M.I.E.E., c/o A. G. Kidston & Co., 155, Fenchurch-st., London, E.C.
Webb, E. March, electrical engineer, Indiarubber Co., Submarine Dept., Telegraph Works, Silvertown, London, E.; & 98, Cannon-st., E.C.
Webb, G. S., electric bell fitter, 148, High-st.; & Benhill-st., Sutton, Surrey.
Webb, Herbert Laws, M.I.E.E., M.AM.I.E.E., telephone expert, 35, Old Queen-st., London, S.W. (Telegrams: "Marcomagus, London." Telephone No. 348, Westminster.)
Webb, Thos., electric bell fitter, 45, Great Knollys-st., Reading.
Webb, F., & Son, electrical engineers & contractors, Kelvin Works, 15, Cank-st., Leicester. (Telegs.: "Webb, Engineers, Leicester." Nat. Teleph. No. 398.)
Webb & Son, leather driving band makers, Combs Tannery, Stowmarket. (Telegrams: "Webb, Combs.")
Webber, Capt. O. T. O'Kelly, R.E., A.M.I.E.E., Aldborough House, Dublin.
Webber, G. E. F., A.M.I.E.E., 27, Edwards-rd., Whitley Bay, Northumberland.
Webber, H., A.M.I.E.E., assistant electrical engineer to the Corporation, Sunderland.
Webber, Wallace J., A.I.E.E., M.S.A., electrical engineer, Parfitt & Webber, Keynsham R.S.O., Somerset.
Webster, Chas. W., A.I.E.E., Cecil House, Park-ave., Bradford.
Webster, G. M., electrical contractor, 71, Upper Parliament-st., Nottingham.
Webster, S. M., electrical engineer, 421, Victoria-rd., Aston, Birmingham.
Webster & Bennett, Ltd., machine tool makers, Atlas Works, Coventry. (Telegs.: "Profile, Coventry." Teleph. No. 221.)
Webster & Horsfall, steel wire manufacturers, Hay Mills, near Birmingham. (Telegrams: "Latch, Hay Mill." Telephone No. 3338.)
Webster & Son, manufacturing electrical & mechanical engineers, Alexandra Works, Folkestone. (Telegrams: "Webster, engineer, Folkestone.")
Weddell, Alex. H., B.SC., A.M.I.E.E., electrical engineer, George Russell & Co., Ltd., Motherwell, N.B.
Wedekind, Julius Edward, A.M.I.E.E., A.M.I.MECH.E., 2, Monivea-rd., Beckenham, Kent.
Wedmore, Edmund Basil, A.M.I.E.E., c/o British Thomson Houston Co., Ltd.; & 171, Clifton-rd., Rugby.
Wednesbury Corporation Electricity Works, Camp-st., Wednesbury. Engineer & manager, W. Fennell. (Teleph. No. 38, Wednesbury.)
Weekes, A. L., A.M.I.E.E., The Electrical Works, Harpenden, Herts. (Telegs.: "Electrical, Harpenden." Teleph. No. 22, Harpenden.)
Weekes, R. W., WH.SC., A.M.I.C.E., M.I.E.E., consulting engineer, Maxwell House, Arundel-st., Strand, London, W.C. (Telegs.: "Weekesadd, London." Teleph. No. 11488, Central.)
Weekes, W., assistant electrical engineer, Shoreditch Borough Council Electricity Works, Coronet-st., Pitfield-st., London, N.; & Whiston-st., Haggerston.
Weeks, G., & Sons, electric light, bell & telephone fitters, High-st., Bromley; & Beckenham. (Telephone Nos. 7 & 3, Bromley.)
Weekey, R. F., electrical engineer, Wenlock, Thorkhill-rd., Thames Ditton.
Weighton, R. L., M.A., professor of engineering, Armstrong College, Newcastle-upon-Tyne.
Weights of Steel Bars & Sheets (Frank Barker), Edendale, Church End, Finchley, London, N.
Weil, L., director Electricity Supply Co. for Spain, Ltd., 88, Leadenhall-st., London, E.C.
WEIR, G. & J., LTD., makers of feed pumps, circulating pumps, independent air pumps, feed heaters, condensers, &c., Catheart, Glasgow (Teleph. Nos.: Nat., 3223, Royal; 113, Langside; & Post Office, Z 32); 77, Billiter-bldgs., London, E.C.; & Bank-chbrs., Mosley-st., Newcastle-upon-Tyne. (Telegs.: "Giweir, Glasgow;" "Hydrokineter, London;" & "Efficiency, Newcastle-upon-Tyne.")
Weiss, Chas., A.M.I.C.E., M.I.E.E., Kronengarten, Nightingale-rd., Rickmansworth, Herts.
Weiss & Biheller, glass, china & enamelled iron agents, 70 & 71, Chiswell-st., London, E.C. (Telegs.: "Biheller, London." A.B.C. Code, 5th edit. Teleph. London Wall 1597; & Central 13955.)
Welbourn, Burkewood, M.I.E.E., contract manager, British Insulated & Helsby Cables, Ltd., Prescot, Lancashire.
Welby, C. W., electric bell fitter & contractor, Herne Bay, Kent. (Telephone No. 049.)
Welch, W. B., M.R.C.S., director Burgess Hill & District Electric Supply Co., Ltd., Railway Approach, Burgess Hill, Sussex.
Welch, Francis B., & Co., general & electrical engineers, Manchester-chbrs., Market-st.; & 5, Deansgate, Manchester. (Telegrams: "Paratus, Manchester." Telephone No. 1527.)

Welch, Fry & Skelton, electrical & gas engineers, 18, South-pl., Finsbury Pavement, London, E.C. (Teleph. No. 978, London Wall.)

Weldless Steel Tube Co., Ltd., steel tube makers, 303 & 304, Icknield Port-rd., Birmingham.

Weller, Thomas, electric bell fitter, 11, Westhill-road, Brighton.

Wellingborough Electricity Works, Wellingborough, Northamptonshire. County of Northampton Electric Power & Traction Co., Ltd., proprietors. Managing engineer, W. I. S. Jones, A.M.I.E.E.

Wellings & Son, electrical contractors, Iron Market, Newcastle-under-Lyme. (Teleph. No. 4 X.)

Wellington, S. N., A.M.I.E.E., Coke Ovens & By-Products Co., Ltd., 141–143, Palace-chbrs., Westminster, London, S.W.

WELLMAN, SEAVER & HEAD, LTD., Electrical Department, 47, Victoria-st., London, S.W. (Telegs.: "Principium, London." Teleph. Gerrard 8416.)

Wells, D., assistant telegraph superintendent, North British Railway Co., Edinburgh.

Wells, E. J., A.M.I.E.E., electrical engineer, Granville Hotel, Bexhill-on-Sea.

Wells, Herbert H., electrician, 219, High-st., Lewes, Sussex.

Wells, T. H., The Anglo-American Telegraph Co., 26, Old Broad-st., London, E.C.

Wells, W. H., manager British Westinghouse Co., Westinghouse-bldg., Norfolk-st., London, W.C.; & Trafford Park, Manchester.

WELLS, A. C., & CO., oil filter manufacturers, 102, 103 & 104, Midland-rd., St. Pancras, London. Works: Manchester. (Telegrams: "Unbreakable, London;" "Unbreakable, Manchester." Telephone No. 341, North.) *See* OIL FILTER MANUFACTURERS.

Wells, A. T., & Co., electrical engineers, 95, High-st.; & at 16A, London-rd., Southampton. (Telephone No. 917.)

Wells, C. A., & Co., electrical engineers, Etna Works, Lewes, Sussex. (Telegrams: "Wells, Etna, Lewes.")

Wells & Co., electrical engineers, 230, Smithdown-rd., Liverpool. (Teleph. No. 132, Mossley Hill.)

Wells, Henry, Oil Co., lubricating oil manufacturers, Salford, Manchester. (Telegs.: "Lubricant, Manchester." Teleph. Central 4273.)

Wells, Matthew, & Co., manufacturers of lubricating oils for high-speed engines & dynamos, Hardman-st. Oil Works, Manchester. (Telegs.: "Oilwells, Manchester." Teleph. Central 2593.)

Wells, Rayner & Co., Ltd., electrical engineers, 56, Paddington-st., London, W. (Telegrams: "Welfaring, London." Telephone No. 193, Paddington.)

Welsbach Electric Light Section, Welsbach House, 344-354, Gray's Inn-rd., King's Cross, London, W.C.

Welsh, F. E., electrical engineer, Broome House, near Fence Houses, co. Durham.

Welsh & Co., model makers, 67, McAlpine-st., Glasgow. (Teleph. No. 232 Y. 8, Argyle.)

Wemyss & District Tramways Co., Ltd., Royal Bank-bldgs., Leven, Fife; & Aberhill, Methil, Fife. (Teleph. No. 38, Leven). Registered Nov. 8, 1905. Nominal capital: £55,000 in 10,000 ordinary shares of £1 each, 9000 preference shares of £5 each & £30,000 mortgage debenture stock. Issued: all the ordinary & 6000 preference shares, fully paid, & £30,000 debentures. Directors: J. Budge, Esq. (chairman); J. Oswald, Esq.; A. Bowman, Esq.; Wm. Shepherd, Esq.; S. Sellon, Esq.; Captain V. L. Gordon. Manager, Major Marshall, v.c.; engineer, Robt. Richardson; secretary, J. O. Shepherd. Dividends on preference shares: 1906, 1907 & 1908, 6 per cent.

Wenger, A. F., director North-Western Electricity & Power Gas Synd., Ltd., 37, Cross-st., Manchester.

Wenham, A., 10, Walbrook, London, E.C. Director Buenos Aires Port & City Tramways, Ltd.

Wenham, James, electrical engineer, Paragon Works, Croydon.

Wenham, John, 10, Walbrook, London, E.C. Director Buenos Aires Port & City Tramways, Ltd.

Wenham & Waters, Ltd., sanitary, heating & electrical engineers, &c., Paragon Works, Croydon. (Telegs.: "Wenham, Croydon." Teleph. No. 11, Croydon.) Electrical engineer, Jas. Wenham; secretary, C. Hunt.

Wentworth, P. S., A.M.I.E.E., 72, Broadfield-rd., Hither Green, S.E.

Wentworth & Co., electric light engineers, 102, Newgate-st., London, E.C. (Teleph. Holborn 3122.)

Werner, Sir Julius, Bart., 1, London Wall-bldgs., E.C. Director African Transcontinental Telegraph Co., Ltd.; director Chilian Electric Tramway & Light Co., Ltd.

Werner, Pfleiderer & Perkins, Ltd., carbon, bitumen & gutta-percha machinery, Westwood Works, Peterborough. (Telegs.: "Arktos, Peterborough." Nat. Teleph. No. 34; & P.O. 2.)

Wernher, J., 120, Bishopsgate-st.-within, E.C. Director African Transcontinental Telegraph Co., Ltd.; chairman Chilian Electric Tramway & Light Co., Ltd.

Wertheimer, Prof. J., B.A., B.SC., F.I.C., F.C.S., principal of the Merchant Venturers' Technical College, Bristol. (Teleph. Nos. 407, 1190 & 1682.)

West, A., 118, Queen Victoria-st., London, E.C. Director National Provincial Electricity Corporation, Ltd.; director Bridgwater & District Electric Supply Co.; director Penzance & District Electric Supply Co.; director St. Austell & District Electric Supply Co.; director Tavistock & District Electric Supply Co.

West, C., A.I.E.E., Cherry-st., Coventry. (Teleph. No. 486.)

West, Chas. A., B.SC., A.I.E.E., 9, Tideswell-st., Putney, London, S.W.

West, G., electric light silk & lace shade manufacturer, 4, Soho-st., Oxford-st., London, W.

West, Harold, A.I.E.E., electrical engineer, Cyclops Steel & Iron Works, Sheffield. (Telegrams: "c/o Cammell, Sheffield." Telephone No. 939.)

West, Right Hon. Sir A., G.C.B., 1, Mount-st., London, W. Director Baker-st. & Waterloo Railway; director Charing Cross, Euston & Hampstead Railway Co.; director Gt. Northern, Piccadilly & Brompton Railway Co.

West, R. J., 3, Bank-bldgs., London, E.C. Director New General Traction Co., Ltd.

West, Robert A., Electrical Dept., Ordnance College, Woolwich.

West African Telegraph Co., Ltd., Electra House, Finsbury Pavement, London, E.C. (Telegrams: "Gorilla, London.") Nominal capital: £400,000 in £10 shares, 23,109 of which have been taken up, & the full amount called & paid thereon. Directors: The Most Hon. the Marquess of Tweeddale, K.T. (chairman); Sir H. C. Mance, C.I.E.; R. K. Gray, Esq.; Hon. A. G. Brodrick; Sir John Denison-Pender, K.C.M.G. (managing). Secretary, John Cambrook.

West Bromwich Corporation Electricity & Tramways Generating Station, West Bromwich. Engineer, W. A. Jackson. (Telephone No. 145, West Bromwich.)

West Bromwich Municipal Science & Technical School, West Bromwich. (Telephone No. 156A.) *See* SCHOOLS.

West Bromwich Spring Co., Ltd., makers of spiral springs of every description, George-st., West Bromwich. (Telegs.: "Helical, West Bromwich." Teleph. No. 265.)

WEST COAST OF AMERICA TELEGRAPH CO., LTD., ELECTRA HOUSE, FINSBURY PAVEMENT, LONDON, E.C. (Telegs.: "Woolpack, London.") F. L. Robinson, secretary. Directors: Sir J. Denison-Pender, K.C.M.G. (chairman); Sir Albert J. Leppoc Cappel, K.C.I.E.; F. A. Johnston, Esq. This company was reconstructed under the same title in 1897. Registered April 12. Nominal capital: £132,520 in ordinary shares of £2 10s., & £150,000 4 per cent. debentures, & £20,000 4 per cent income bonds. Issued: £112,520 in ordinary shares, & all the debentures, both fully paid. The cables & land lines, 2100 nautical miles, extend from Concepcion (Chili) to Lima (Peru), touching at Talcahuano, Coronel, Santiago, Valparaiso Coquimbo, Serena, Antofagasta, Iquique, Pisagua, Arica (Chili), & Mollendo Callao (Peru).

West Cumberland Electric Tramways Co., Bank-chbrs., St. Helen's, Lancs. Directors: C. B. Craven, Esq.; J. Beecham, Esq., J.P.; Jno. Hammill, Esq.; Jno. Forbes, Esq. Secretary, W. Simpson, A.M.I.MECH.E., A.I.E.E.; consulting engineer, Sir D. Fox. Capital: £400,000 in £10 shares. Loan, £100,000. *Works not yet commenced.*

West End Decorating Co., electric light engineers, 38, Sloane-st., London, S.W.

West Ham Chemical Works (Bacon, W. C., & Co.), sulphuric acid manufacturers, 14, Mincing-lane, London, E.C. (Telegs.: "Nocab, London." Teleph. No. 544, Stratford.)

West Ham Corporation Electricity Supply, 84, Romford-rd., Stratford, E. Engineer & manager, H. Herbert Couzens. (Teleph. East 1320 (3 lines).) Power Station, Tucker-st., Canning Town, E. (Teleph. East 865.)

West Ham Municipal Technical Institute, Romford-rd., West Ham, E. (Teleph. No. 1508 E., Stratford.) *See* SCHOOLS.

West Hartlepool Corporation Electricity Works, West Hartlepool. H. F. Friederichs, M.I.C.E., engineer. (Nat. Telephone No. 378.)

West Hartlepool Technical College, West Hartlepool. *See* SCHOOLS.

West, Henry, & Son, electrical engineers, 31, High-st., Taunton. (Teleph. No. 56 X.)

West India & Panama Telegraph Co., Ltd. Offices: Dashwood House, 9, New Broad-street, London, E.C. Incorporated 9th January, 1877. Issued capital: ordinary shares of £10 each, fully paid, £883,210; 6 per cent. first preference shares of £10 each, fully paid, £345,630; 6 per cent. second preference shares of £10 each, fully paid, £46,690. The full amount has been called, resulting in the payment of £1,275,530; & 5 per cent. debentures, £80,000. Directors: W. B. Kingsford, Esq. (chairman); T. W. Goulding, Esq.; G. Von Chauvin, Esq.; Henry Holmes, Esq.; Sir Jno. C. Lamb, C.B., C.M.G. Manager & secretary, R. T. Brown. Dividends on ordinary shares, *nil;* on first preference shares: 1908, 12*s.*; second preference: 1908, £1 10*s.* on account of arrears; to June, 1909, 6*s.* per share on first preference shares, & £1 per share on second preference shares on account of dividend accrued to June 30, 1909.

West, John, & Sons, brass & gun metal founders, 157 & 159, Back Church-lane, E. (Telegs.: "Jumpweld, London." Teleph. Avenue 6173.)

West London & Provincial Electric Supply Co., Ltd., 14, Ironmonger-lane, E.C. (Telegs.: "Wyatilliam, London." Teleph. No. 1994, London Wall.) Registered May 13, 1899, with a capital of £150,000 in 70,000 ordinary £1 shares & 80,000 6 per cent. cumulative preference shares. Issued: 23,354 ordinary shares & 49,077 preference shares. Proprietors of the Chiswick Electricity Supply Corporation, Ltd. Directors: Sir Thos. Brooke-Hitching (chairman); M. Ansell, Esq.; Harry Kahn, Esq.; J. Courthope Peache, Esq., M.I.C.E.; Gerald T. Moody, Esq.; W. B. Esson, Esq., M.I.C.E. (managing). Secretary, O. Wyatt Williams.

West London Scientific Apparatus Co., electrical & magnetic apparatus makers, Premier-pl., High-st., Putney, London, S.W.

West of Scotland Trading Co., Ltd., electrical & mechanical engineers, 62, Robertson-st., Glasgow.

Westbrook, R., A.M.I E.E., "Shenley," Colney Hatch-lane, Muswell Hill, N.

Western, W. T., 44, Charing Cross, S.W. Chairman Rosario Electric Co., Ltd.; director Costa Rica Electric Light & Traction Co., Ltd.

Western Counties Light Railways Co., Ltd., 26, Victoria-st., London, S.W.

WESTERN ELECTRIC CO., manufacturers of telephonic & telegraphic apparatus, telephone, telegraph & electric light cables, Norfolk House, Victoria Embankment, London, W.C. Works: North Woolwich. (Telegs.: "Relay, London." Teleph. Nos.: 5349, Gerrard; 2389, P.O. Central; & 1400, East.) *See* CABLES & TELEPHONE APPARATUS MAKERS.

Western Electric Co. (Australia), Ltd., Norfolk House, Victoria Embankment, London, W.C.

Western Electric Distributing Corporation, Ltd., Westminster, S.W. Registered Nov. 5, 1903. Nominal capital: £10,000 in £1 shares. Issued: £1004. Directors: T. Glyn, Esq. (chairman); — Egerton, Esq.; T. Kirkland, Esq.; W. T. Pressland, Esq. Secretary, Seymour Williams.

Western Electric Railways Development Co., Ltd., 4, Broad-st.-pl., London, E.C. Registered Aug. 28, 1902. Nominal capital: £120,000 in £1 shares & £100,000 debentures. Issued: 24,607 ordinary shares & 15,600 5 per cent. cumulative preference shares. Debentures issued Oct. 20, 1902: £10,000. Directors: M. St. B. Prichard, Esq.; C. C. Wright, Esq. Secretary, H. Blondell.

Western Electricity Corporation, 11, Bedford Circus, Exeter.

Western Telegraph Co., Ltd., Electra House, Finsbury-pavement, London, E.C. (Telegrams: "Amulet, London." Telephone No. 1129, London Wall.) Registered Jan. 8, 1873. Name changed to above Nov. 10, 1899. Nominal capital: £2,500,000 in £10 shares. Issued: 207,930 shares, fully paid; & 4 per cent. debenture stock, £800,000. Directors: Sir J. Wolfe Barry, K.C.B. (chairman); Sir J. Denison-Pender, K.C.M.G. (deputy-chairman); The Rt. Hon. Lord Balfour of Burleigh, K.T.; Sir A. J. Leppoc Cappel, K.C.I.E.; J. Gordon, Esq.; F. A. Johnston, Esq.; The Rt. Hon. Viscount Midleton. Secretary, E. Steer Hodson. Dividends: 1895–1907, 7 per cent. per annum.

Western Union Telegraph Co., 21, Royal Exchange, London, E.C. (Telegs.: "Western Union, London;" & "Unpack." Teleph. Wall 3761); 40, Mark-lane, London, E.C. (Teleph. Wall 3762); East India-ave., E.C. (Teleph. Wall 3763); 1, Draper's-gdns., E.C. (Teleph. Central 1830): 5, Royal Opera Arcade, S.W. (Teleph. Central 2073); The Baltic, E.C. (Teleph. London Wall 976); Effingham House, Arundel-st., W.C. (Teleph. Gerrard 1713); 34, Victoria-st., S.W. (Teleph. Victoria 3716); 109, Fenchurch-st., E.C. (Teleph. Avenue 953); 2, Northumberland-ave., W.C. (Teleph. Gerrard 3598); & 48, Tooley-st., London, S.E. (Teleph. Hop 984.) General offices: 33, Broad-st. House, E.C. (Telegs.: "Teletique, London." P.O. Teleph. Central 11444); Bristol; Bradford; Dundee; Edinburgh; Glasgow; Leith; Liverpool; Manchester; & Newcastle-on-Tyne. Secretary (New York), J. C. Willever.

Westinghouse, G., director Traction & Power Securities Co., Ltd.; chairman British Westinghouse Electric & Manufacturing Co., Ltd., Norfolk-st., W.C.

Westinghouse Brake Co., Ltd., engineers, York-rd., King's Cross, London, N. (Telegs.: "Westinghouse, London." Teleph. No. 2416, North.)

Westinghouse Cooper, Hewitt Co., 151 & 152, Great Saffron Hill, Charterhouse-st., London, E.C. (Telegs.: "Hewittic, London." Teleph. City 1647.)

Westinghouse Electric Co., Ltd., Westinghouse-bldg., 2, Norfolk-st., Strand, W.C. (Telegrams: "Mobilized, London." Telephone No. 3261, Gerrard.)

Westinghouse Metal Filament Lamp Co., Ltd., Westinghouse-bldg., Norfolk-st., Strand, London, W.C. (Teleph. Gerrard 3261.)

Westman, E. B., Swedish iron & steel merchant, 39, Lombard-st., London, E.C. (Telegs.: "Jernagent, London." Teleph. No. 4604, Central.)

Westminster Electric Supply Corporation, Ltd. Head offices: Eccleston-place, Belgravia, London, S.W. Central & transforming stations, Eccleston-pl., Belgravia, S.W., Millbank-st., Westminster, S.W., Davies-st., & Duke-st.-gdns., Mayfair, London, W. (Telegs.: "Visual, London." Teleph. No. 886, Westminster.) Registered June 30, 1888. Nominal capital: £2,000,000 in 200,000 ordinary & 200,000 preference shares of £5 each. Issued capital: ordinary shares, £550,000, £5 each (fully paid); 4½ per cent. cumulative preference shares, £5 each, £406,395 (fully paid); £100 debentures, £250,000 (fully paid). Frank Iago, F.C.I.S., secretary; Sir A. B. W. Kennedy, LL.D., F.R.S., M.I.C.E., engineer-in-chief; C. O. Grimshaw, M.I.C.E., assistant engineer-in-chief; L. H. Hordern, manager. Directors: Lord Suffield, G.C.V.O., K.C.B. (chairman); Capt. E. I. Bax; Edmund Boulnois, Esq.; W. Hayes Fisher, Esq.; Lord Kinnaird; J. Browne Martin, Esq.; R. W. Wallace, Esq., K.C. Dividends: on ordinary shares; 1906, 12 per cent.; 1907 & 1908, 10 per cent.; & first half of 1909 (*interim*), 10 per cent.

WESTMINSTER ELECTRICAL TESTING LABORATORIES, York Mansion, York-st., Westminster, London, S.W.

Westminster Engineering Co., Ltd., electrical & general engineers, Victoria-rd., Willesden Junction, London, N.W. (Telegs.: "Regency, London." Teleph. No. 90, Harlesden.)

Westminster Tool & Electric Co., Ltd., Palace-chbrs., Bridge-st., Westminster, London, S.W.

Weston, G., installation contractor, 94, Leigh-rd., Westcliff-on-Sea.

Weston, Geo., A.M.I.E.E., 153, Fenchurch-st., London, E.C.

Weston, G. C., A.M.I.M.E., M.I.E.E., Kensington & Knightsbridge Electric Lighting Co., Ltd., Distribution Department, Albert Vaults, Prince Consort-rd., South Kensington, London, S.W. (Teleph. No. 1162, Western.)

WESTON ELECTRICAL INSTRUMENT CO., manufacturers of electrical measuring instruments & appliances, Audrey House, Ely-pl., London, E.C. (Telegs.: "Pivoted, London." Teleph. No. 2029, Holborn. A.B.C. Code.) *See inset advt.*, INSTRUMENTS—ELECTRICAL.

Weston, G., & Sons, electric light & telephone contractors, 153, Fenchurch-st., London, E.C. (Telegrams: "Ardentness, London." Telephone No. 7748, Central.)

Weston-super-Mare & District Electric Supply Co., Ltd., Electrical Federation Offices, Kingsway, London, W.C. (Telegs.: "Weston, c/o Tramways, London.") Registered May 26, 1899. Nominal capital: £40,000 in £1 ordinary shares, £40,000 in 6 per cent. cumulative £1 preference shares & £40,000 debentures. Issued: 35,000 ordinary & 35,000 preference shares, & £35,000 4½ per cent. first mortgage debenture stock. Trust deed, dated Oct. 29, 1903, to secure £35,000 debenture stock, has been registered. Directors: G. J. Somerville, Esq. (chairman); Geo. Offor, Esq. Engineer, G. Charlton; secretary, C. H. Godward. Dividends: 1902 to 1905, 4 per cent.; 1906, 4½ per cent.

Westwood, Chas., dealer in fine & alloyed bullion in flat, wires, &c., 53, Great Hampton-st., Birmingham. (Telegs.: "Alfrank, Birmingham." Teleph. No. 2194.)

Westwood, A., & Son, electric bell fitters, electric light & telephone engineers, 30, Bank-st., Dundee (Telephone No. 708); & 21, Princes-st., Perth. (Telephone No. 92.)

Wethered, O., 30/31, St. Swithin's-lane, London, E.C. Director Perth Electric Tramways, Ltd.; director Kalgoorlie Electric Tramways, Ltd.; director Cornwall Electric Power Co.; director Cascade (1906) Power Co., Ltd.

WETTER, J., chartered patent agent, 37 & 39, Essex-st., Strand, London. (Teleph. 2227 Central.)

Wetton, C. E., A.I.E.E., British Insulated & Helsby Cables, Ltd., Lennox House, Norfolk-st., London, W.C. (Telegrams: "Airlike, London." Telephone No. 2995, Gerrard.)

Wetzler, Joseph, M.I.E.E., president of the Electrical Engineer Institute of Correspondence Instruction, 13, Southampton-st., High Holborn, London, W.C. (Telegrams: "Electracor, London." Telephone No. 7723, Gerrard.)

Weybridge Electricity Works (Urban Electric Supply Co.), Weybridge. H. W. Watts, A.M.I.M.E., A.M.I.E.E., chief engineer. (Teleph. No. 46, Weybridge.)

Weymouth & Melcombe Regis Corporation Electricity Works, Weymouth, Dorset. (Teleph. No. 21.) Engineer, J. H. Bolam, M.SC., A.M.I.E.E.

Whaite, W. H., 8, Winchester-pl., Highgate, N. Director Lanarkshire Tramways Co.

Whalley, Alfred, M.I.E.E., consulting electrical engineer, 27, Chancery-lane, London, W.C. (Teleph. Holborn 5078); & 19, Croxteth Grove, Liverpool. (Teleph. Royal 838.)

Wharam, Wm., electrical & general engineer, Grove Engineering Works, Brunswick-ter., Leeds. (Telegs.: "Arclight, Leeds." Teleph. Central 1488.)

Wharfe, J., electrical engineer, 37, Brock-st. West, Macclesfield.

Wharton, C. Courtenay, A.I.E.E., electrical engineer, British Thomson-Houston Co., Ltd., Rugby.

Wharton, Charles J., M.I.E.E., Palace-chbrs., Bridge-st., Westminster, London, S.W. (Telegs.: "Endosmose, London." Teleph. Victoria 18.)

Wheat, H. C., electrical engineer, Julius Sax & Co., Ltd., 100, Charing Cross-rd., London, W.C.

Wheatland & Co., electrical engineers, 85, High-rd., Chiswick, W.

Wheatley, A. J., A.M.I.E.E., R.E. Office, Royal Victoria Hospital, Netley.

WHEATLEY KIRK, PRICE & CO., electrical & mechanical auctioneers, valuers & arbitrators, 46, Watling-st., London, E.C. (Telegs.: "Indices, London." Teleph. Bank 5077); Manchester; & Newcastle-on-Tyne. *See* AUCTIONEERS—ELECTRICAL & MECHANICAL.

Wheatley & Mackenzie, patent agents, 40, Chancery-lane, London, W.C. (Telephone No. 4608, Holborn.)

Wheeler, C. W., supervisor, Postal Telegraph Factory, Mount Pleasant, London, E.C.

Wheeler, Frank, electrical engineer, Moston Colliery, Newton Heath, Manchester.

Wheeler, Percy A., electrical engineer, Muscovy House, Trinity-sq., London, E.C.

Wheeler, W. T., A.M.I.E.E., "Roseleigh," Audley-rd., Hendon, London, N.W.

Wheeler Condenser & Engineering Co., 2 & 3, Norfolk-st., Strand, London, W.C. (Telegrams: "Suspend, London." Telephone No. 6889, Gerrard.)

Wheeler, E. H., & Co., manufacturers & exporters of indiarubber goods, steam packing, &c., 8 & 9, South Parade, Deansgate, Manchester (Telegs.: "Flanges, Manchester." Teleph. No. 5121, Central); & Lloyd's-ave. House, London, E.C. (Telegs.: "Pothaska, London." Teleph. No. 5856, Avenue.)

Wheelwright, P. P., M.I.E.E., engineer & manager, Corporation Electricity Works, Jubilee-st., Blackburn (Telegs: "Electricity, Blackburn." Teleph. No. 500); & "Brooklyn," Blackburn.

Whessoe Foundry Co., Ltd., mechanical, electrical, & consulting engineers, iron founders, tank makers, &c., Darlington (Telegs.: "Whessoe, Darlington." Teleph. No. 54); & 106, Cannon-st., London, E.C.

Whetham, W. C. D., M.A., F.R.S., lecturer in physics, Trinity College, Cambridge.

Whichello, N., A.I.E.E., 137, Ashley-rd., Loughborough.

Whieldon, A. W., M.I.E.E., electrical engineer, Great Northern Railway Co. (I.), Sutton, co. Dublin.

Whigham, W. K., 8, Crosby-sq., London, E.C. Director Para Electric Railways & Lighting Co., Ltd.

Whipp, R., electrical inspector, British Engine, Boiler & Electrical Insurance Co., Ltd., 12, King-st., Manchester.

Whipp & Bourne, electrical & mechanical engineers & contractors, Castleton, nr. Manchester. (Teleph. No. 563.)

Whipple, C. R., A.M.I.E.E., 9, Castle-st. Arcade, Cook-st., Liverpool.

Whipple, G. F., A.M.I.E.E., Greenend Motor & Cycle Works, Colsterworth, nr. Grantham.

Whipple & Co., electrical engineers & contractors, Cook-st., Liverpool. (Telegrams: "Whipple, Liverpool." Telephone Nos. 6329 & 95, Liscard.)

Whitaker, C., electrical engineer, Canal-rd., Bradford, Yorks. (Telegs.: "Whitakers, Engineers, Bradford." Teleph. No. 392 Y.)

Whitaker, J. W., electrical engineer, Brotherhood Works, 26, Victoria-rd., Leeds. (Teleph. No. 326 X.)

Whitaker, C., & Co., steam engine makers, Canal Engineering Works, Canal-rd., Bradford. (Telegs.: "Whitakers, Engineers, Bradford." Teleph. No. 392 Y.)

Whitaker, J., & Son, electric light engineers & contractors, 187, Earl's Court-rd., London, S.W. (Telephone No. 688, Kensington.)

Whitby Urban District Council Electricity Works. (Telephone No. 47, Whitby.) Engineer, L. H. King.

Whitcher, J., A.M.I.E.E., Wolseley Villa, Clifton-rd., Rugby.

Whitchurch & Pangbourne Electric Supply Co., Ltd., King Edward-bldgs., Reading; & Whitchurch, Oxon. (Teleph. No. 3, Pangbourne.) Registered Nov. 12, 1902. Nominal capital: £10,000 in £5 ordinary shares. Issued: £4975, fully paid. Directors: F. J. Ferguson, Esq. (chairman); J. H. Ferguson, Esq.; P. F. H. Ferguson, Esq. Resident electrical engineer, D. H. Coombs; secretary, C. T. Watson.

White, A. E., city engineer, Town Hall, Hull. (Telegs.: "City Engineer, Hull." Tel. Corp. 431 (3 lines).)

White, Anthony, 12, Chesham-pl., London, S.W. Director Kent Electric Power Syndicate, Ltd.

White, H. L., manager, Great Grimsby Street Tramways Co., Southampton House, Cleethorpes. (Telegs.: "Blanco, Cleethorpes." Teleph. No. 16.)

White, H. Orme, engineer, Great Grimsby Street Tramways Co., Southampton House, Cleethorpes.

White, James, electrical engineer, 1, Hamilton Drive, Pollokshields, Glasgow.

White, John B., electrical engineer, director J. G. White & Co., Ltd., 9, Cloak-lane, Cannon-st., London, E.C. (Telegs.: "Whitterick, London." Teleph. Nos. 3306, 3307, 3308, London Wall.)

White, P. F., corporation engineer, Electricity Works, Bangor. (Telegs.: "Price White, Bangor." Teleph. No. 31.)

White, R. H., A.M.I.E.E., 34, Mildmay-rd., Chelmsford.

White, Samuel, J.P., Clare Street House, Bristol. (Teleph. Nos. 74 & 3074.) Director Imperial Tramways Co., Ltd.; managing director Bristol Tramways & Carriage Co., Ltd.

White, Sir George, Bart., Clare Street House, Bristol. (Teleph. Nos. 74 & 3074.) Chairman Bristol Tramways & Carriage Co., Ltd.; chairman Imperial Tramways Co., Ltd.

White, T., electrical engineer, 66, Berners-st., London, W.

White, William, M.I.E.E., 3, Budge-row, Cannon-st., London, E.C. (Telegs.: "Rostator, London." Teleph. No. 3577, London Wall.)

White, J., & Co., installation contractors, 19, South St. Andrew-st., Edinburgh.

WHITE, J. G., & CO., LTD., electrical, mechanical & civil engineers, 9, Cloak-lane, Cannon-st., London, E.C. (Telegs.: "Whitterick, London." Teleph. Nos.: 3306, 3307, 3308, London Wall; & 9886, Central.) Registered July 10, 1900. Nominal capital: £200,000 in 15,000 preference shares of £10 each & 50,000 ordinary shares of £1 each, all issued. Directors: J. G. White, Esq. (chairman); Lord Arthur Butler; A. N. Connett, Esq.; W. C. Burton, Esq.; J. B. White, Esq. Asst. secretary, E. A. Borel. New York correspondents: J. G. White & Co., 43-49, Exchange-pl.

White, Jacoby & Co., Ltd., electrical & mechanical engineers, 54, Bayham-pl., Camden Town, N.W. (Telephone No. 2066, North.) Registered May 12, 1897. Capital: £4000 in £1 shares. 3207 shares have been taken up & are fully paid. Mortgages & charges, £1480. Directors: F. W. White, Esq. (managing); L. F. A. Whitmore, Esq.; L. C. Bryan, Esq.

White & Johnson, electric light fitters, &c., 17, College-pl., King's-rd., Chelsea, S.W.

White, Richard, & Sons, representatives of F. H. Lovell & Co., New York, Widnes, Lancs. (Telegrams: "Rails, Widnes." Telephone Nos. 25 & 27.)

White, T., & Sons, steel wire makers, 5, Hertford-st., Balsall Heath, Birmingham. (Telegs.: "White, Birmingham.")

White, Wm., & Co., 25, Budge-row, Cannon-st., E.C., electrical & mechanical engineers & suppliers, sole British agents for Crocker-Wheeler Dynamo Electric Machinery. (Telegs.: "Rostator, London." Teleph. No. 3577, London Wall.)

White & Woodington, office for patents, trade marks & designs, 221-225, Birkbeck Bank-chbrs., Holborn, London, W.C. (Telegs.: "Decachord, London." Teleph. No. 4991, Holborn.)

Whitecross Co., Ltd., manufacturers of wire rope, wire drawers, &c., Milner-st., Warrington. (Telegs.: "Whitecross, Warrington." Teleph. Nos. 9 & 180.)

Whitehaven Corporation Electricity Works, Whitehaven. Borough electrical engineer, B. Sankey, A.M.I.E.E., A.M.I.M.E. (Teleph. No. 22.)

Whitehead, C. Selby, A.I.E.E., 3, St. Catherine's-ter., Hove, Brighton.
Whitehead, H. J., A.M.I.E.E., 20, Fairfield-st., Wandsworth, London, S.W.
Whitehead, R. G., assistant electrical engineer, Corporation Electricity Works, Oldham. (Teleph. No. 269.)
Whitehead, T. Ross, M.I.M.E., resident engineer & manager Coventry Electric Tramways Co., Coventry. (Telegrams: "Tramway, Coventry." Telephone No. 372.)
Whitehead Bros., electrical engineers, Farsley, Leeds. (Telephone No. 107, Stanningley.)
Whitehead Bros., electrical engineers & contractors, 21, Hill-rd., Wimbledon. (Teleph. No. 16, Wimbledon.)
Whitehead, R. R., & Bros., Ltd., felt manufacturers, 10, Endell-st., London, W.C. (Telegrams: "Wandfelt, London." Telephone No. 9116, Central.)
Whitehead Torpedo Works (Weymouth), Ltd., Weymouth, Dorset. (Telegs.: "Whitehead, Weymouth." Teleph. No. 6.)
Whitehouse, J., electrical engineer, 15, The Parade, Golder's Green, London, N.W. (P.O. Teleph. Hampstead 4015.)
Whitehouse, W. H., M.I.E.E., consulting electrical engineer, Charlcote, Station-rd., Gravelly Hill, Birmingham, lecturer in telegraphy & telephony, The Municipal Technical School, Birmingham.
Whitehouse, W. P., resident engineer, Callender's Cable & Construction Co., Ltd., 35, Market-pl., Burslem, Staffs. (Teleph. No. 110 Y.); & Hamilton House, Victoria Embankment, London, E.C.
Whitehouse Bros., iron & steel merchants, South Quay, Worcester. (Teleph. No. 44.)
Whitehouse, Wm., & Co., Ltd., electric light fittings manufacturers, Empire Works, Brueton-st., Birmingham (Telegs.: "Empire, Birmingham." Teleph. No. 1404); & 59, Holborn Viaduct, London, E.C.
Whitelaw, John, electrical engineer, 15A, Duncan-st., Edinburgh.
Whitelaw, John T., district manager, National Telephone Co., Ltd., Hamilton. (Telegrams: "National Telephone, Hamilton." Telephone No. 30.)
Whiteley, J. C., A.M.I.E.E., assistant manager, Chatham & District Tramways Co., 8, Watling-st., Chatham.
Whiteley Bros., manufacturers of insulating materials (Press-spahn), Slitheroe Mills, Rishworth, nr. Halifax. (Telegs.: "Boards, Ripponden." Nat. Teleph. No. 45, Rishworth.)
Whiteley, Wm., Ltd., electric light engineers & contractors, Queen's-rd. & Westbourne-grove, London, W. (Telegrams: "Whiteley, London." Telephone Nos. for 10 lines, 4013, Paddington.)
Whiteley, Wm., & Sons, Ltd., manufacturers of dynamos & motors, Prospect Iron Works, Lockwood, Yorks. (Telegs.: "Whiteley, Huddersfield." Teleph. No. 598.)
Whitfeild, Arthur G., A.M.I.E.E., consulting engineer, Queen Anne's-chbrs., Westminster, S.W. (Telegs.: "Quanchom, London." Teleph. Victoria 2486.)
Whitie, Wm., works engineer, Brompton & Kensington Electricity Supply Co., Richmond-rd., Earl's Court, London, S.W.
Whiting, F. A., electrical engineer, 5, Clarence-st., Gloucester.
Whiting, Harry Geo., A.M.I.E.E., Power House, Albert-st., Cork.
Whiting, J. E., Glenside, Roundhay, Leeds. Director Roundhay & District Electric Lighting Co., Ltd.
Whiting, J. L., electric wiring contractor, 12, Arboretum-ave., Lincoln.
Whiting & Co., electric light contractors, 115, Uxbridge-rd., Shepherd's Bush, London, W. (Teleph. Chiswick 147.)
Whitlock, A. A., M.I.E.E., County of London Electric Supply Co., Ltd., Wandsworth, London, S.W. (Teleph. No. 1090, Battersea.)
Whitmore, Geo. S., A.M.I.E.E., Northern Counties Electricity Supply Co., Ltd., Milburn House, Newcastle.
Whitmore, H. B., A.M.I.E.E., electrical engineer, Brereton Cottage, Bramhall-lane, nr. Stockport.
Whitney, E., electrical apparatus maker, 117, City-rd., London, E.C. (Telephone No. 5361, Bank.)
Whittaker, A., director Ferranti Ltd., Hollinwood, nr. Manchester.
Whittaker, J. H., A.M.I.MECH.E., A.M.I.E.E., White Lodge, Standeford, Wolverhampton.
Whittaker, M. T., J.P., Albemarle-cres., Scarborough. Director Scarborough Tramways Co.
Whittaker, P. H., St. Anne's-on-the-Sea. Director Penrith Electric Supply Co., Ltd.
Whittaker, R., 12, Gledhow-gdns., S.W. Director Oldham, Ashton & Hyde Electric Tramway, Ltd.
Whittaker, Wm. Francis, A.M.I.E.E., 204, Wolverhampton-st., Dudley, Worcester.
Whittaker Bros., general & electrical engineers, Horsforth, Leeds.
Whittaker Bros., Ltd., electrical contractors, Wolverhampton-st., Dudley. (Telegs.: "Electrical, Dudley." Teleph. No. 112, Dudley.)
Whittaker & Co., publishers of electrical & scientific books, 2, White Hart-st., Paternoster-sq., London, E.C. (Telegs.: "Whittaker, Publishers, London." P.O. Teleph. No. 11964, Central.)
Whittingham, J. A., assistant engineer, Corporation Electricity Works, Newcastle, Staffs.
Whittle, H., A.M.I.E.E., Electric Light & Power Station, Brynamman, S.O., Carmarthen.
Whitworth, H., electrical engineer, 19, Martin's-lane, Liscard, Cheshire.
Wholesale Electric Traders, 2, Queen Anne's Gate, Westminster, S.W. (Telegs.: "Bureaulite, London." Teleph. No. 601, Westminster.)

Wholesale Traders' Association, The, for (the protection & promotion of) the Hardware, Furnishing & Metal Industries, Ltd. (Electrical Trades Section), 26, Corporation-st., Birmingham (Teleph. No. 6420, Central); 3, Barbican, London, E.C. (Teleph. No. 3999, London Wall); & 3, East-parade, Sheffield. (Teleph. No. 2787.)

Whysall, F. H., A.M.I.E.E., resident engineer, Dickinson-st. & Bloom-st. Electricity Works, Manchester. (Telegs.: "Potential, Manchester." Teleph. Nos. 2301 & 7838.)

Whyte, R. A., & Co., agents for the "Shelby" lamp, 140, Bath-st., Glasgow.

Wickenden, A. H., A.I.E.E., St. Michaels, Burgess Hill, Sussex.

Wicker, G. J. M., local manager, National Telephone Co., Huddersfield.

Wickham, R. W., J.P., Royds Hall, Low Moor, Yorks. Director Electrical Distribution of Yorkshire, Ltd.

Wicks, J. T., & Co., indiarubber, asbestos & "Wicksite" jointing. Head office: 185, Fore-st., Edmonton, London, N. (Telegs.: "Caoutchine, London." Teleph. Tottenham 1953.)

Wickwar Electricity Works, Wickwar, Glos. Arnold Perrett & Co., Ltd., proprietors. Engineer, F. G. Ansell, F.C.S.

Widnes Foundry Co., Ltd., ironfounders & bridge builders, Widnes, Lancashire. (Telegs.: "Foundry, Widnes." Nat. Teleph. No. 9.)

Wiesengrund, B., PH.D., A.M.I.E.E., 27, Westbury-rd., North Finchley, London, N.

Wigan, C. Harman, A.I.E.E., Cromwell House, East Sheen.

Wigan Corporation Electric Lighting & Tramways. (Telegrams: "Trolley, Wigan." Telephone No. 162.) Engineer, Jas. Slevin.

Wigan Mining & Technical College, Wigan. (Telegs.: "Mining College, Wigan." Teleph. No. 255.) *See* SCHOOLS.

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Williams, J., & Sons (Cardiff), Ltd., iron founders, poles for electric trams, &c., 9–17, Queen-st., & Globe Foundry, Cardiff. (Telegs.: "Metal, Cardiff." Nat. Teleph. Nos.: 501, 608, 635, 1244; & P.O. 516.)

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Winchester Electric Light & Power Co., Ltd., Electric Light Station, Winchester. Registered Jan. 14, 1897. Nominal capital: £50,000 in £5 ordinary shares. Issued: £44,195 ordinary shares, fully paid, & £41,000 debentures. Directors: T. F. Kirby, Esq. (chairman); Capt. Clayton Mitchell, R.N.; A. R. Dyer, Esq.; F. E. Gripper, Esq.; Capt. the Hon. Guy Baring, M.P. H. N. Warburton, engineer & secretary. Dividends: 1906, 1907 & 1908, 6 per cent. on ordinary & 5 per cent. on debentures; & first half of 1909, 5 per cent. on ordinary.

Winder, R. F., Belgrave Electrical Works, 2, Cross Belgrave-st., Leeds. (Telephone No. 40 Y., Central.)

Windermere & District Electricity Supply Co., Ltd., Troutbeck Bridge Mills, Windermere. (Telegs.: "Electricity, Windermere." Teleph. No. 17.) Nominal capital: £50,000 in 3000 ordinary £5 shares & 5000 6 per cent. preference £5 shares, & £20,000 4½ per cent. first mortgage debenture stock secured by a trust deed, dated Nov. 11, 1902. 5000 preference & 3000 ordinary have been taken up & are fully paid & £16,800 debenture stock. Directors: Wm. Long, Esq., J.P. (chairman); Rd. Rigg, Esq.; A. M. Sing, Esq.; Geo. Wilson, Esq.; F. A. Roberts, Esq., J.P. Manager & secretary, Chris. Walker, F.C.I.S. Dividends on preference shares: 1906, 3 per cent.; 1907, 3 per cent.

Windle, Sydney, A.M.I.E.E., Corporation Electricity Works, Sunderland.

Windschuegl, C., & Co., wax & oil merchants, 1, Leadenhall-st., London, E.C. (Telegs.: "Windschuegl, London." Teleph. Nos.: 1624, Avenue; 4478, Central.)

Windsor, F. W., resident engineer, Corporation Electricity Works, Monmouth.

Windsor, J. B., A.M.I.E.E., electrical engineer, 16, Glaydis-ave., North End, Portsmouth.

Windsor & District Electrical Co., electrical contractors, 53, Thames-st., Windsor. (Teleph. No. 249.)

Windsor Electrical Installation Co., Ltd., Windsor & Eton, & Old Windsor Central Station, Peascod-st., Windsor. (Telegs.: "Electric Works, Windsor." Teleph. No. 29.) Registered Dec. 5, 1895. Nominal capital: £100,000, divided into £50,000 in £1 ordinary shares, £50,000 in £1 preference shares & £20,000 debentures (temporary). Issued: all the ordinary shares, fully paid, & 28,362 preference shares, fully paid, & all the debentures. Directors: Sir A. W. Shipley (chairman); H. L. Prior, Esq., J.P.; A. A. Somerville, Esq., M.A.; E. Riley, Esq.; H. R. de Salis, Esq., J.P.; R. A. Bosanquet, Esq.; E. M. Duncan, Esq., M.I.E.E. Electrical engineer, A. E. Farrow, A.M.I.E.E.; secretary, A. E. Drowne, F.C.I.S. Dividends: 1903, 8 per cent.; 1904, 7 per cent.; 1905, 5 per cent.; 1906, 4½ per cent.; 1907 & 1908, 4 per cent.

Windybank & Ballard, electricians, Albert-rd., Kingston-on-Thames.

Wing Disc Fan (Potter, F. W., & Co.), dynamo brush & electric fan & motor manufacturers, Phipp-st., E.C. (Telegrams: "Wirework, London." Telephone No. 1169, London Wall.)

Wingett, Robert, electrical engineer, 22, Hartfield-rd., Wimbledon, London, S.W. (P.O. Telephone No. 48, Wimbledon.)

Wingfield, G. A., 74, Cheapside, London, E.C. Director Bright's Light & Power, Ltd.

Wingfield, Rowbotham & Co., engineers' tool makers, &c., 1, Suffolk-rd., Sheffield. (Telegrams: "Wingfield, Sheffield." Telephone No. 2339.)

Winkley, F. S., Lauriston, Roxborough Park, Harrow. Director Harrow Electric Light & Power Co., Ltd.

Winkworth, H. St. J., 12, Curzon-st., Mayfair, W. Chairman South Metropolitan Electric Light & Power Co., Ltd.

Winkworth, W., A.M.I.E.E., 22, Simonside-ter., Heaton, Newcastle-on-Tyne.

Winn, Jas. Percy, A.M.I.E.E., 12, Wellington-st., Higher Broughton, Manchester.

Winn, Charles, & Co., engineers & brass founders, electric light & steam fittings, St. Thomas Works, Birmingham. (Telegs.: "Winn, Birmingham." Teleph. Midland 1437, 366 & 1209.)

Winning, W. L., M.I.E.S., A.M.I.E.E. (British Westinghouse Co.), 7, Albion-cres., Dowanhill, Glasgow. (Teleph. Hillhead 227.)

Winny, Wm. Humphris, A.M.I.E.E., Testing Branch of the Engineer-in-Chief, Postal Telegraphs, Mount Pleasant, London, E.C.

Winsborough, Walter, electrical engineer, Douglas Bank Colliery, 291, Gidlow-lane, Wigan. (Teleph. No. 91.)

Winslow, I. E., consulting engineer, 8, Crosby-sq., London, E.C. (Telegs.: "Carwheel, London." Teleph. City 626.) Director Douglas Southern Electric Tramways, Ltd.; engineer New General Traction Co., Ltd.; engineer Coventry Electric Tramways; engineer Norwich Electric Tramways.

Winstanley-Wallis, T., M.I.E.E., c/o J. H. Holmes & Co., 17, Soho-sq., London, W.

Winston, H. H., A.M.I.E.E., 2, Vernon-chbrs., Southampton-row, London, W.C.

Winstone, B., & Sons, Ltd., Morse's telegraph & copyable ink manufacturers, 100, Shoe-lane, London, E.C. (Telegs.: "Fulgency, London." Teleph. Nos.: 414, Holborn; & 6230, Central.)

Winstone & Co., electric bell manufacturers, 17, Cross-st., Finsbury, London, E.C.

Winter, C. E., A.I.E.E., Equitable Life Assurance Society of the United States, 6, Princes-st., London, E.C. (Telegrams: "Winter, c/o Incursion, London.")

Winter, D. L., director Mexborough & Swinton Tramways Co., Moorgate-st., Rotherham.

WINTER, F., ebonite & vulcanite manufacturer; speciality—maker of boxes & cells for electric batteries, &c., 8, Redcross-st., London, E.C. (Telegrams: "Instantly, London." Telephone No. 3186, Central.) *See* EBONITE & VULCANITE.

Winter, G. E., electrician, 60, Caversham-rd., London, N.W.

Winter, H., Carlton Villas, Penrith. Director Penrith Electric Supply Co., Ltd.

Winter, J. H., & Co., electrical installations, Narrow Wine-st., Bristol. (Telephone No. 01488.)

Winter, Th., & Co., Ltd., electrical & mechanical engineers, Perseverance Works, Byron-st., Blackburn, Lancs.

Winterbotham, F., Stroud. Director Gloucestershire Electric Power Syndicate, Ltd.

Winterbotham, W. H., M.I.E.E., 6, Ladbroke-ter., Notting Hill, London, W. (Telephone Paddington 115.)

Winterhalder, W. F., mains superintendent, Corporation Electricity Supply Works, Kingston-on-Thames.

Wintle, G. E., station superintendent, Corporation Electricity Supply & Tramways Station, Maidstone.

Winton, W. S. de, Old Registry, Llandaff. Director Rhondda Tramways Co., Ltd.

Wippell Bros. & Row, electrical engineers & contractors, 243 & 244, High-st., Exeter. (Telephone No. 48.)

Wireless Syndicate, Ltd., Queen's House, Queen-st., Cheapside, London, E.C. Registered March 23, 1909. Nominal capital: £4000 in £1 shares.

Wisbech Electric Light & Power Co., Ltd., 3, Queen Anne's-chbrs., London, S.W. Registered May 18, 1907. Nominal capital: £25,000 in £1 shares. Issued: 7 signatories shares. Directors: W. B. Cownie, Esq.; J. T. Jervis, Esq.; F. E. Stanley Esq. Secretary, L. D. H. Jacobs.

Wisely, G. A. K., Capt., R.E., A.I.E.E., 12, Palace-ct., Bayswater, London, W.

Wiseman, Alfred, Ltd., manufacturers of insulators, &c., 80–89, Glover-st., Birmingham. (Telegs.: "Verus, Birmingham." Teleph. Victoria 99.)

Wishart, Jas. A., mains superintendent, Corporation Electricity Works, Leith.

Wishaw Burgh Electricity Works, Wishaw. (Teleph. No. 7 Y., Wishaw.) Engineer, E. F. Cox.

Witney Electric Supply Co., Ltd., Witney, Oxfordshire. Registered May 30, 1899. Nominal capital: £10,000 in £1 shares, half of which are preference. Issued capital: 2802 ordinary & 2849 preference, all fully paid. Mortgages & charges: £3500. Directors: J. Bartlett, Esq.; E. Fyfield, Esq.; H. Fowler, Esq.; A. E. Barrell, Esq.; E. L. Hill, Esq. Engineer, F. G. Curel; secretary, J. F. Bartlett.

Wittin, F., 13, Norfolk-sq., Brighton. Director Costa Rica Electric Light & Traction Co., Ltd.

Witton Kramer Electric Tool & Hoist Co., Witton, Birmingham.

Wittrick, W. A., electrical engineer, 33, Coleraine-rd., Westcombe Park, London, S.E.

Witty & Wyatt, Ltd., asbestos manufacturers, 88, Leadenhall-st., London, E.C. (Telegrams: "Witwy, London." Telephone No. 4104, Avenue.)

Woking Electric Supply Co., Ltd., Board School-rd., Woking. (Telegs.: "Electric Supply, Woking." Teleph. Nos.: 68; Manager's House, 68A.) Registered Dec. 5, 1895. Nominal capital: £100,000 in 50,000 ordinary £1 shares & 50,000 6 per cent. preference shares of £1 each. Issued: 20,552 ordinary shares & 34,098 preference shares, fully paid. A trust deed, dated March 1, 1906, to secure £45,042 4½ per cent. debenture stock & further stock not exceeding, with the existing debentures outstanding, the company's paid up capital, has been registered. Directors: J. Ashby, Esq. (chairman); B. M. Kilby, Esq.; M. W. Ashby, Esq. Engineer & manager, J. G. McLean, M.I.E.E.; secretary, W. Strayton. Dividends: 1906, 5 per cent. on ordinary, 6 per cent. on preference & 4½ per cent. on debentures; 1907, 5 per cent. on ordinary, 6 per cent. on preference & 4½ per cent. on debentures; 1908 (*interim*), at the rate of 5 per cent. per annum on ordinary shares, 6 per cent. per annum on preference shares.

Wolf, R., maker of superheated steam engines for electric lighting, Norfolk House, 7, Laurence Pountney Hill, Cannon-st., London, E.C. (Telegs.: "Locomobile, London." Teleph. London Wall 7747.)

Wolf, S., & Co., engineers & electric drill makers, 138, Southwark-st., London, S.E. (Telegrams: "Widerstand, London." Telephone No. 5172, Central.)

Wolfenden, H., A.I.E.E., 1, Palace Court, Hyde Park, London, W. Chairman Edison & Swan U. E. L. Co., Ltd.; chairman Altrincham Electric Supply, Ltd.; director British Aluminium Co., Ltd.; director Loch Leven Water & Electric Power Co.

Wolff, J. J., A.M.I.E.E., Telephone House, Victoria Embankment, London, E.C.

Wolfram (Tungsten) Metal Filament Lamps, Ltd., Osram & other lamp manufacturers, 31, Copthall-ave., London, E.C. Works: Brook Green, Hammersmith, W.

Wolstenholme, John, & Son, engineers, Albert Works, Radcliffe, nr. Manchester. (Teleph. No. 66.)

Wolverhampton Corporation Electricity Supply & Electric Tramways. Offices & works: Commercial-rd., Wolverhampton. Chairman, W. Gough Allen; electrical engineer, C. E. C. Shawfield, A.M.I.E.E., M.I.MECH.E. (Telegs.: "Municipal, Wolverhampton." Teleph. No. 314.)

Wolverhampton District Electric Tramways, Ltd., Electrical Federation Offices, Kingsway, London, W.C. (Telegs.: "c/o Tramway, London." Teleph. No. 2686, Holborn (6 lines).) Registered Dec. 17, 1900. Nominal capital: £200,000 in £5 ordinary shares & £100,000 4½ per cent. first debenture stock, secured by trust deed, dated April 11, 1904. 31,950 ordinary shares are issued,

fully paid, 250 with 5*s.* paid, & all the debentures. Directors: S. R. Blundstone, Esq. (chairman); J. A. Lycett, Esq. (managing). General manager, R. W. Cramp; secretary, B. Kingsford. Dividends: 1905, 1¼ per cent.; 1906, 2 per cent.; 1907, 1½ per cent.

Wolverhampton Electric Fittings Co. (Chas. E. Spurrier), electrical engineers, 28, Darlington-st., Wolverhampton. (Teleph. No. 451.)

Wolverhampton Municipal Technical School, Wolverhampton. (Teleph. No. 305.)

Wontner-Smith, J., Gray & Co., electric bell manufacturers & electrical engineers, 81, Finsbury Pavement, London, E.C. (Telegs.: "Warming, London." Teleph. London Wall 1430.)

Wood, Arthur, electrician & ironmonger, Newport, Isle of Wight.

Wood, Arthur P., M.I.E.E., electrical engineer, Lancashire Dynamo & Motor Co., Ltd., Trafford Park, Manchester.

Wood, A. R., A.M.I.E.E., 2, Oakside, Urmston, Manchester.

Wood, Col. H., C.B., 71, Thorpe-rd., Norwich. Director Hove Electric Lighting Co., Ltd.; director Hendon Electric Supply Co., Ltd.

Wood, D. P., electrical engineer, 41, Loudoun-rd., London, N.W. (Teleph. No. 6, P.O., Hampstead.)

Wood, E. G., scientific instrument maker, 2, Queen-st., Cheapside, London, E.C. (Telegs.: "Euphaneron, London." Teleph. Central 11373.)

Wood, E. J., local manager & electrical engineer, National Telephone Co., Ltd., 12, Market-pl., Cambridge. (Telephone No. 201.)

Wood, Ernest Rudland, A.M.I.E.E., New Exchange-bldg., Queen-sq., Middlesbro'; & Langford House, Queen-st., Redcar-by-Sea.

Wood, G. L., electrician, Corporation Electricity Works, Faversham, Kent.

Wood, G. St. John, electrical engineer, 37, Moorfields, Liverpool.

Wood, H. A., A.M.I.E.E., electrical engineer, Lancashire County Asylum, Prestwich, nr. Manchester.

Wood, H. Gurney, A.I.E.E, c/o Siemens Bros. & Co., Ltd., Cable Dept., Telegraph Works, Woolwich.

Wood, Henry George, A.M.I.E.E., Electrical Department, South Eastern & Chatham Railway, London Bridge, S.E.

Wood, H. M., electrical engineer, High-st., Staines.

Wood, Henry Raymond, A.M.I.E.E., 17, Nutfield-rd., Thornton Heath.

Wood, Lionel, A.I.E.E., Sleigh & Wood, Milburn House, Newcastle-on-Tyne. (Teleph. No. 2910, Central.)

Wood, Ralph, director Spanish Telephone Co., Ltd., 39, Lombard-st., London, E.C.

Wood, Sir Henry Trueman, M.A., Royal Society of Arts, John-st., Adelphi, London, W.C. (Telegs.: "Praxiteles, London." Teleph. Gerrard 5610.)

Wood, Sir Lindsay, Bart., The Hermitage, Chester-le-Street. Director Newcastle-on-Tyne Electric Supply Co., Ltd.; director County of Durham Electrical Power Distribution Co., Ltd.; director County of Durham Electric Power Supply Co.

Wood, W. J., station superintendent, Corporation Electricity Works, Bolton.

Wood, W. W., A.M.I.E.E., 46, Loraine-pl., Newcastle-on-Tyne.

Wood, Geo., & Son, electrical engineers, King Charles' Croft, Leeds (Teleph. Central 10 X.); also at Horsforth.

Wood, J. & E., Corliss engine makers, &c., Victoria Foundry, Bolton. (Telegs.: "Woods, Bolton." Teleph. No. 45.)

Wood & Newland, electrical & engineering valuers, 42, Spring-gardens, Manchester. (Telegs.: "Certificate, Manchester." Teleph. City 2936.)

Wood & Robinson, mechanical & electrical engineers, Alma Engineering Works, Neepsend, Sheffield. (Teleph. No. 2084.)

Wood, T. H., & Sons, ironmongers & electricians, 206, Broadway, Bexley Heath, S.E.

Woodbury, W. B., director Dulverton Electric Lighting Co., Ltd., High-st., Dulverton.

Woodcock, Walter T. J., A.M.I.E.E., 38, Braydon-rd., Stamford Hill, London, N.

Woodeson, W. A., M.I.MECH.E., electrical & mechanical engineer, 14, Bewick-rd., Gateshead-on-Tyne. (Teleph. No. 278.)

Woodfall & Morris, electrical engineers & contractors, 187, Shaftesbury-ave., London, W.C.

Woodfield, Sydney, A.M.I.E.E., J. G. White & Co., 9, Cloak-lane, Cannon-st., London, E.C.; & The Bungalow, West Barnes-lane, New Malden.

Woodfin, N. C., A.I.E.E., consulting electrician, 296, Maxwell-rd., Pollokshields, Glasgow.

Woodfin, F., & Co., electrical engineers & contractors, 138, Northgate-st., Chester.

Woodger, Glenister & Co., installation contractors, 307, Goldhawk-rd., Shepherd's Bush, London, W. (Teleph. No. 615, Chiswick.)

Woodhall, A. R., A.M.I.E.E., 48, Spencer-rd., Herne Hill, London, S.E.

Woodhall, H., 7, South Parade, Llandudno. Director Ascot District Gas & Electricity Co.; director South African Lighting Association, Ltd.

Woodhouse, Albert E., A.M.I.E.E., c/o A. L. Elder & Co., 7, St. Helen's-pl., E.C.

Woodhouse, A. V., c/o Woodhouse Bros., 66, Scotland-rd., Liverpool.

Woodhouse, C. H. C., Bordighera, Italy. Chairman Woodhouse & Baillie Riviera Electricity Co., Ltd.; director British Continental Electricity Co., Ltd.

Woodhouse, Noel, A.M.I.MECH.E., A.M.I.E.E., Woodhouse Bros., 66, Scotland-rd., Liverpool. (Telegs.: "Potential, Liverpool." Teleph. No. 2039, Royal.)

Woodhouse, W. B., A.M.I.MECH.E., A.M.I.E.E., Yorkshire Electric Power Co., Thornhill, nr. Dewsbury.

Woodhouse & Baillie Riviera Electricity Co., Ltd., electric light, tramway & general engineers, Bordighera, Italy; & 28, Queen-st., London, E.C. Registered June 29, 1899. Nominal capital: £50,000 in £1 shares, of which 14,000 are ordinary, 16,000 are 5½ per cent. first cumulative preference shares & 20,000 6 per cent. second preference shares. Issued: 4000 ordinary shares, 4000 second preference & 14,700 first preference shares. The full amount has been called on the first preference shares & £8000 is considered as paid on the ordinary & second preference shares. Directors: C. H. C. Woodhouse, Esq. (chairman); G. H. Baillie, Esq.; A. Hanbury, Esq. Secretary, J. K. Johnson. Dividends: 1899, 5½ per cent. on first preference, 6 per cent. on second preference.

Woodhouse Bros., electrical engineers & contractors, 66, Scotland-rd., Liverpool. (Telegs.: "Potential, Liverpool." Teleph. No. 2039, Royal.)

Woodhouse & Mitchell, Ltd., steam engine makers, &c., Brighouse, Yorks. (Telegrams: "Woodhouse, Brighouse." Telephone No. 7.)

Woodhouse & Rixson, dynamo shafts, commutator weldless steel rings, &c., Chantrey Steel & Crank Works, Attercliffe, Sheffield. (Telegs.: "Rixson, Sheffield." Teleph. No. 1113.)

WOODITE CO., manufacturers of woodite for insulating purposes, valves, gauge glass rings, packings &c., Mitcham, Surrey. (Telegs.: "Woodite, Mitcham." Teleph. No. 169, Croydon.)

Woodland, C. E., electrical engineer, Hightown, Hereford.

Woodman, Alex. G., electrical engineer, Wisbech; also at Peterboro', Rushden, Millfield & Stamford.

Woodman, Leicester William, M.I.E.E., borough electrical engineer, Dover. (Telegrams: "Electric, Dover." Telephone No. 291.)

Woodrow, C. J., director Salisbury Electric Light & Supply Co., Ltd., The Close, Salisbury.

Woods, E. H., C.E., 110, Cannon-st., E.C. Director City of Buenos Ayres Tramways Co. (1904), Ltd.

Woods, J. W., M.I.E.E., assistant engineer-in-chief, Postal Telegraphs, G.P.O. (West), St. Martins-le-Grand, London, E.C.

Woods, Major W. F., J.P., director Chelsea Electricity Supply Co., Ltd., 19, Cadogan-gdns., S.W.

Woods, T. G., & Sons, jewel hole makers, 54, Spencer-st., Clerkenwell, E.C. (Telegs.: "Monomial London." Teleph. Central 11729.)

Woodside, John, & Co., consulting engineers, Ocean-bldgs., Donegall-sq. East, Belfast. (Telegs. "Resistance, Belfast." (Teleph. No. 1645.)

WOODVILLE ELECTRIC CO., electric light & power engineers, 21, Hengist-rd., Belvedere, S.E.; & 68A, Lincoln's Inn Fields, London, W.C. (Teleph. No. 287, Holborn.)

Woodward, Harvey C., Northway House, Crosby-rd. S., Seaforth. Director Liverpool Overhead Railway Co.

Woodward, J. H., electrical engineer, 8, Queen Anne's-gate, Westminster, London, S.W. (Telephone No. 5908, Westminster.)

Woodward, W. R., manufacturing electrician, 155A, Boleyn-rd., Forest-gate, London, E.

Woodward & Co., electrical engineers, 147 & 149, Renfield-st., Glasgow.

Woodward, H., & Co., Ltd., electro-platers, Atlas Works, 21, Paradise-st., Birmingham.

Woodward, James, Ltd., cable conduit makers, Swadlincote, nr. Burton-on-Trent. (Telegs.: "Woodward, Swadlincote.")

Woolams, T. C., A.M.I.E.E., Oakleigh, Jockey-rd., Wylde Green, Sutton Coldfield.

Woolard & Co., electrical engineers, Hightown, Hereford.

Wooler, Herbert, A.I.E.E., 99, Bishop-st., Moss Side, Manchester. (Telephone No. 136, Rusholme.)

Wooler & Co., Pemberton, automobile & electrical engineers, 2, Park-pl., Leeds. (Telegs.: "Unfailing, Leeds." Teleph. Central 3069.)

Woollacott & Friederich, tin, lead & copper foil, 5 & 4, Brickhill-lane, Upper Thames-st., London, E.C. (Telegs.: "Sabellum, London." Teleph. No. 5282, Bank.)

Woollard, F., electrician, Northern District, National Telephone Co., 77, Market-st., Edgware-rd., London, W. (Teleph. Paddington 103.)

Woollcombe, Dr. Robert Lloyd, M.A., LL.D., M.R.I.A., A.I.E.E., barrister-at-law, 14, Waterloo-rd., Dublin. (Telegrams: "Justice, Dublin.")

Woolley, A. H., electrical engineer, Pudding-lane, Maidstone.

Woolley, Chas., 35, Dulwich-rd., Herne Hill, S.E. Director Anglo-Portuguese Telephone Co., Ltd.; director Consolidated Electrical Co., Ltd.

Woolley, G., director Ludlow Electric Light Co., Ltd., Haldon, Corve-st., Ludlow, Salop.

Woolley, J., electric light & power contractor, Mansfield.

Woolley, T., electrical engineer, 3, Church-st., Bexhill-on-Sea.

Woolliscroft, J. H., A.M.I.E.E., A.AM.I.E.E., general manager, H. T. Boothroyd & Co., Rimrose Works, Bootle, Liverpool; & "Shanklin," Grosvenor-ave., Great Crosby, Liverpool.

Woolliscroft, G., & Sons, tile manufacturers, Melville-st., Hanley.

WOOLNOUGH, F., dynamo & motor manufacturer, electric light & power engineer, St. Stephen's Works, Norwich. (Telegs.: "Woolnough, Norwich." Teleph. No. 456.)

Woolwich Borough Council Electricity Works, Globe-lane, Woolwich, S.E.; & White Hart-rd., Plumstead, S.E. (Telegs.: "Resistance, Woolwich." Teleph. Nos. 122 & 128.) Elec. engr., G. W. Keats.

Woolwich Polytechnic, Woolwich, E. *See* SCHOOLS, CLASSIFIED SECTION.

Wootten, A. E., & Co., electrical engineers, Quarry Wood Boathouse, Cookham Dean, Berks.

Wootton, G. A. H., electrical engineer, 7, Findon-rd., Shepherd's Bush, London, W.

Wootton & Morrall, manufacturers of electric light fittings, Parade Chandelier Works, Birmingham.

Worcester Corporation Electricity Supply & Electric Tramways. Works: Lower Wick, nr. Worcester; & Hylton-rd., Worcester. Chairman of Electricity Committee, A. H. Parker, Esq.; chief engineer, C. M. Shaw, A.M.I.E.E., A.M.I.M.E. (Teleph. No., Engineer's office, Hylton-rd., 137.)

Worcester Electric Traction Co., Ltd., Electrical Federation Offices, Kingsway, London, W.C. Registered Aug. 22, 1902. Nominal capital: £120,000 in £5 ordinary shares & £60,000 debenture stock. Issued: £70,000 in fully paid ordinary shares & £10,700 debenture stock, secured by trust deed, dated Oct. 22, 1903. Acknowledgments of indebtedness under seal, dated Jan. 27, 1905, creating £10,000 further debenture stock, & March 26, 1906, for £15,000, making, with £10,000 already created, a total of £35,000, & being supplemental to deed dated Oct. 22, 1903, registered. Directors: H. S. Day, Esq. (chairman); C. Shirreff B. Hilton, Esq.; W. G. Bond, Esq.; J. A. Lycett, Esq. Secretary, H. A. Stagg. Dividends: 1904, 1905 & 1906, 5 per cent.; 1907, 4½ per cent.; 1908, 3½ per cent.

Wordingham, C. H., M.I.C.E., M.I.M.E., M.I.E.E., electrical engineer-in-chief to H.M. Navy, Admiralty, Whitehall, London; & Beechgrove, Ridgeway-rd., Redhill, Surrey. (Teleph. Redhill 453.)

Wordley, F., electrical engineer, 33, Norman-rd., & Western Works, St. Leonards-on-Sea. (Tel. No. 902.)

Wordsworth, George, & Sons, wire manufacturers, New Wire-mill, Thurgoland, Sheffield.

Working Men's College (J. J. Denton, teacher of electricity), Crowndale-rd., London, N.W.

Workman & Son, electric light contractors, Hightown, Hereford. (Telegs.: "Workmans, Hereford." Teleph. No. 68 Y.)

Worksop Urban District Council Electricity Works, Worksop, Notts. (Teldph. Worksop 104.) Resident engineer, J. Percival Crowther.

Wormald, W. E., director Mather & Platt, Ld., Queen Anne's-chbrs., Westminster, London, S.W.

Wormit Electricity Works, Wormit, Scotland. Tayside Electric & Gas Light Co., proprietors. Resident engineer, E. A. Stewart.

Wormull, F. A. S., A.I.E.E., 31, Stamford-st., Blackfriars, London, S.E.

Worrall, F., chief engineer, District Council's Electricity Works, Long Eaton. (Teleph. No. 22.)

Worrall, G. W., A.M.I.E.E., 23, Storeton-rd., Birkenhead.

Worrall, Hallam & Co., steel wire drawers & manufacturers, Needle Works, Warren-st., Sheffield.

Worsley, F. S., electrical engineer, Veritys, Ltd., Aston, Birmingham.

Worster, G. H., electrical engineer, 12, Albany-st., Regent's Park, N.W. (Teleph. No. 2311, North.)

Worster-Hounslow Electrical Engineering Co., 12, Albany-st., Regent's Park, London, N.W.

Wort, Arthur, electric bell, telephone & light fitter, 20, Tavistock-road, Forest-gate, London, E.

Worthing Corporation Electricity Works, Worthing. Engineer, G. Porter, A.M.I.C.E.

Worthington, W. S. T., A.M.I.E.E., The Cottage, Green Lanes, Eltham.

Worthington Pump Co., Ltd., 153, Queen Victoria-st., London, E.C. (Telegs.: "Pumping, London;" & "Steampump, London." Teleph. Bank 301, 302 & 303.)

Wotton, Joseph, scientific & optical instrument maker, 212, New North-rd., Islington, London, N.

Wragg, Harold, A.M.I.E.E., 691, Ecclesall-rd., Hunters Bar, Sheffield.

Wragg, Thos., & Son, Ltd., cable conduit makers, Swadlincote, nr. Burton-on-Trent. (Telegs.: "Wragg, Swadlincote." Nat. Teleph. No. 5.)

Wragge, G., Ltd., lightning conductor manufacturers & erectors, 152, 154, 156 & 165, Chapel-st., Salford, Manchester (Telegs.: "Casements, Manchester." Teleph. No. 2206); 209 & 211, Shaftesbury-ave., London, W.C. (Teleph. No. 1233, Central); & 189, Saint Vincent-st., Glasgow. (Teleph. No. 3817.)

Wraith, H. Osborn, M.I.E.E., Electrical Department, River Don Works, Sheffield.

Wray, Arthur J., A.I.E.E., manager & engineer, Banbury & District Electric Supply Co., Ltd., Banbury, Oxon. (P.O. Teleph. No. 55.)

Wray, Leonard, I.S.O., M.I.E.E., The Laurels, Grayshott, nr. Haslemere, Surrey.

Wray, Peter R., A.I.E.E., A.M.I.C.E., Generating Station, Lot's-rd., Chelsea, S.W.

Wray, Thos., electrical engineer, Petergate, James-st., Harrogate. (Telegs.: "Wigan, Electrician Harrogate." Teleph. No. 51.)

Wray, T. H. R., A.M.I.E.E., Woodford Lodge, Granville Park, Blackheath, London, S.E.

Wray, W. J. R., A.M.I.E.E., electrical engineer, c/o Dick, Kerr & Co., Ltd., 175, West George-st., Glasgow.

Wren, Chas., 30 & 31, St. Swithin's-lane, London, E.C. Director Perth Electric Tramways, Ltd.; director Kalgoorlie Electric Tramways, Ltd.; director North Melbourne Electric Tramways & Lighting Co., Ltd.

Wrench, Wm. G., electrical engineer, 5, Oswald-street, Glasgow.

Wrexham Corporation Electricity Works & Electric Tramways. Borough electrical engineer, W. G. Pickvance, A.M.I.MECH.E. (Telegs.: "Electricity Works, Wrexham." Teleph. No. 103.)

Wrexham & District Electric Tramways, Ltd., The, Electrical Federation Offices, Kingsway, London, W.C. Registered Aug. 26, 1901. Nominal capital: £50,000 in 5000 ordinary & 5000 preference £5 shares, all of which have been issued. A 4½ per cent. debenture, dated Dec. 14, 1906, to secure £4500, has been registered. Directors: J. V. Kitchener, Esq. (chairman); & G. J. Somerville, Esq. Secretary, W. S. Wreathall.

Wright, Arthur, M.I.E.E., consulting engineer, Brighton Corporation Electricity Works, North-rd., Brighton. London office: 2, London Wall-bldgs., E.C. (Telegs.: "Expressage, London." Teleph. No. 9907, London Wall.) Director Rosario Electric Co., Ltd.

Wright, A., engineer, Foots Cray Electric Supply Co., Foots Cray, Kent.

Wright, A. C., engineer-in-charge, Corporation Electricity Works, Salford.

Wright, Arthur Cecil, A.M.I.E.E., Corporation Electricity Works, Pendleton, Manchester.

Wright, A. D., A.M.I.E.E., Durieard, West Albany-ter., Dundee.

Wright, C. H., A.M.I.E.E., Arc Works, Chelmsford.

Wright, E. B., installation contractor, 80, Station-rd., Westcliff-on-Sea.

Wright, E. H., A.M.I.E.E., Urban District Council Electricity Works, Rhyl. (Telephone No. 39.)

Wright, F., marine & electrical engineer, 21, Water-st., Liverpool. (Teleph. No. 82 Y., Central.)

Wright, F. T., charge engineer, Borough of Southwark Newington Electricity Works, Penrose-st., London, S.E. (Teleph. Hop 2697.)

Wright, G. E., electrical agent, 9 & 11, Wilson-st., Finsbury, E.C. (Telegrams: "Tendrils, London.")

Wright, George H., electrical engineer, 33, Albury Park-rd., Tynemouth.

Wright, H. H., A.M.I.E.E., 5, Queen's Gate, Halifax, Yorks. (Teleph. No. 147 Y.)

Wright, J., electrician, 3, Surbiton Park-ter., Kingston-on-Thames.

Wright, M. L., director Malta Tramways, Ltd., Caxton House, Westminster, S.W.

Wright, Thomas, A.I.E.E., Anderson & Munro, 136, Bothwell-st., Glasgow.

Wright, T. B., A.M.I.E.E., Laurelhill, Bearsden, Glasgow.

Wright, T. G., A.M.I.E.E., Ford Bros. & Co., 45, South-st., Wellington, Somerset.

Wright, W. R., M.I.E.E., consulting engineer, 13, Victoria-st., Westminster, London, S.W. (Telegs.: "Pliers, London." Teleph. Westminster 5597.)

Wright, W. S., A.M.I.E.E., "Glenthorne," Wolverton-ave., Kingston Hill, Surrey.

Wright, Walter T., A.I.E.E., installation contractor, George-st., Chatham. (Teleph. No. 415.)

Wright, Alex., & Co., Ltd., photometers & combustion recorders, &c., 1, Westminster Palace-gdns., Victoria-st., London, S.W. (Telegs.: "Precision, London." Teleph. No. 1207, Victoria.)

Wright, Archibald J., Ltd., manufacturing electricians, Leyton Green-rd., London, N.E. (Teleph. No. 637, Walthamstow.)

Wright, A. P., & Co., electrical engineers, 60, Queen Victoria-st., London, E.C. (Telegs.: "Wrikbaar, London." Teleph. No. 1509, Central.)

Wright Bros. & Co., electrical engineers, 27, Garlick Hill, London, E.C.

Wright, C. C., & Co., plumbago importers, 11, Dowgate Hill, E.C. (Telegs.: "Polishing, London." Teleph. No. 3750, Central.)

Wright & Co., of Southwark, Ltd., electrical & general engineers & millwrights, 157, Southwark-bridge-rd., S.E.

Wright, E., & Co., Ltd., brownware & stoneware manufacturers, Wheat-bridge Potteries, Chesterfield.

Wright, G., & Co., art metal workers, 155, Queen Victoria-st., & 1 & 238, Upper Thames-st., London, E.C. (Telegs.: "Maypole, London." Teleph. Bank 921; & London Wall 7443); & 64, Bridge-st., Manchester. Works: Burton Weir, Rotherham.

Wright, John, & Sons, electricians & wiring contractors, 15, Cannon-st., Dover. (Telegs.: "John Wright, Dover." Teleph. No. 383.)

Wright, Joseph, & Co., makers of feed-water heaters, Tipton, Staffs.

Wright, J. & E., telegraph cable manufacturers, Universe Works, Garrison-street, Birmingham. (Telegrams: "Universe, Birmingham." Telephone No. 707.)

Wright, Layman & Umney, manufacturing chemists, 50, Southwark-st., London, S.E. (Telegrams: "Umney, London." Telephone No. 4608, Hop.)

Wright, T. & F., ironmongers & electrical fitters, 12, Cannon-st., Dover.

Wright, T. Howard, Bros., Ltd., feed-water heaters, castings, &c., 72, Victoria-st., Westminster, London, S.W. (Telegs.: "Heaterite, London." A.B.C. Code. Teleph. No. 281, Westminster.)

Wright & Wood, Ltd., dynamo & motor manufacturers, Pellon-lane, Halifax, Yorks. (Telegs. "Motor, Halifax." Teleph. No. 499.) *See advt.* MOTOR MFRS.—ELEC.

Wrigley, John, contract manager, National Telephone Co., Ltd., Commercial-st., Sheffield.

Wunderlich, Adolph, A.M.I.E.E., Woodview, Brambledown-rd., Sanderstead, Surrey.

Wurtemberg Electro-Plate Co., manufacturers of electric light figures & lamps in galvano bronze & electro-plate, copper & brass, Wurtemberg House, Giltspur-st., Holborn Viaduct, London, E.C. (Telegs.: "Elplate, London," Teleph. Holborn 1132.)

Wuthrich, G., A.M.I.E.E., London resident engineer, representative of The Maschinenfabrik Oerlikon, Oswaldestre House, Norfolk-st., Strand, London, W.C. (Telegs.: "Oerlik, London.")

Wyand, F. W., A.M.I.E.E., electrical engineer, Elswick Works, Newcastle-on-Tyne.

Wyatt, Chas., A.M.I.E.E., 109, Farringdon-rd., London, E.C.

Wyatt, J. W. F., A.M.I.E.E., Almora, Leven, Fifeshire.

Wyatt, R. C., 41, Moorgate-st., E.C. Chairman Electricity Supply Co. for Spain, Ltd.; chairman Malaga Electricity Co., Ltd.

Wyatt, T., manufacturing electrical engineer, 11, Neal-st., Long Acre, London, W.C.

Wyatt Bros., manufacturing electrical engineers, Wayland Works, Whitchurch, Salop.

Wyatt, G., & Son, ironmongers & electricians, 67, St. Giles, & 7, North-parade, Oxford.

Wybrants, D. W., Tighndim, Monifieth. Director Dundee, Broughty Ferry & District Tramways Co., Ltd.

Wycherley, A. E., Corbet Arms Hotel, Market Drayton. Director Market Drayton Electric Light & Power Co., Ltd.

Wycliffe Foundry Co., Ltd., malleable iron castings makers, 63, Queen Victoria-st., London, E.C. Works: Lutterworth, Leicester.

Wycombe (Borough) Electric Light & Power Co., Ltd., Lily's Walk, High Wycombe. (Teleph. High Wycombe 43.) Registered June 29, 1897. Nominal capital: £50,000 in ordinary shares of £5 each & 5 per cent. debentures equal to amount of paid-up share capital. Issued: £40,000 ordinary shares, fully paid. Debentures issued: £40,000, secured by trust deed of July 16, 1902, supplemental to a trust deed dated April 27, 1899, & supplemental trust deed of July 16, 1902. Directors: A. Slatter, Esq. (chairman); F. E. Gripper, Esq.; W. Birch, Esq.; J. C. Wigham, Esq.; H. T. Dickens, Esq. Engineer & manager, W. E. Brandreth; secretary, E. A. Slatter. Dividends: 1903, 1904 & 1905, 4 per cent.; 1906, 1907 & 1908, 2 per cent.

Wyld, W., M.I.M.E., M.I.E.E., borough electrical engineer & tramways manager, Corporation Electricity Works & Tramway Office, Laird-st., Birkenhead. (Teleph. Electricity Works 1157 & 335; & Tramway Offices 1110.)

Wyleys, Ltd., manufacturers of scientific apparatus, Wheatley-street, Coventry. (Telephone No. 17.)

Wylie, John, B.A., demonstrator of natural philosophy, Queen's College, Belfast.

Wylie & Lochhead, Ltd., electric lighting contractors, 45, Buchanan-st., Glasgow. (Telegs.: "Wylie, Glasgow." Teleph. Nos.: 686, Royal, Nat.; & 507, P.O.)

Wyllie, Colin C., jun., 10, Launceston-pl., Kensington, London, W. Director Kensington & Knightsbridge Electric Lighting Co., Ltd.

Wyman, W. M., & Son, electrical engineers, Commercial-rd., Gloucester.

Wynn, Timmins & Co., Ltd., manufacturers of all kinds of engineers' & telegraph tools, Century Works, Commercial-st., Birmingham. (Telegrams: "Century, Birmingham." Telephone No. 630.)

Wynne, A. A. W., M.A., A.M.I.C.E., c/o C. A. Parsons & Co., 8, Victoria-st., London, S.W. (Telegs.: "Silently, London." Nat. Teleph. Gerrard 5686.)

Wynne, R., electric light engineer, Corporation Gas Office, Carnarvon.

Wynne, Wm. R., A.M.I.E.E., Wynne & Sons, 3, New-ct., Lincoln's Inn, London, W.C.; & 63, Talgarth Mansions, West Kensington, W.

Wyver, T., & Co., electrical bell fitters, 13, High-street, Whitstable.

X. Syndicate, Ltd., electrical apparatus manufacturers, c/o L. B. Feeny, 19, South Molton-st., London, W.

Yale, T. P. O., A.M.I.E.E., consulting electrician, managing director & electrical engineer Yale Electric Power Co., Ltd., Blaenau-Festiniog, Merionethshire (Telegrams: "Yale, Blaenau-Festiniog"); & 1 & 2, Great Winchester-st., London, E.C.

Yale Electric Power Co., Ltd., Blaenau-Festiniog, Merionethshire (Telegrams: "Yale, Blaenau-Festiniog"); & 1 & 2, Great Winchester-st., London, E.C. Registered 1899. Nominal capital: £20,000 in £25 shares. Issued: 668 shares; & £16,700 has been received. Directors: F. S. Percival, Esq. (chairman); T. P. O. Yale, Esq. (managing); Major-Gen. H. Percival; F. W. Percival, Esq.; & C. E. Green, Esq. Secretary, J. H. Brady. Dividends: 1907 & 1908, 5 per cent.

Yapp, P. A., A.M.I.E.E., 11, The Parade, H.M. Dockyard, Portsmouth.

Yardley, Wm., electrician, Kingston-rd., Leatherhead, Surrey.

Yardley & Co., electrical contractors, Leatherhead.

Yarmouth Corporation Electricity Works, South Denes-rd., Great Yarmouth. (Telegs.: "Electricity, Works, Yarmouth." Teleph. Works 61; Office 138.) Engineer, Gordon Bryant, A.M.I.E.E.

Yarmouth (Isle of Wight) Electricity Supply Co., Ltd., supplying electric light & power, Yarmouth, I.W. Registered April 7, 1898. Nominal capital: £5000 in £5 shares. Issued: 347 shares at £5 per share. R. H. H. Eden, Esq., managing director; H. G. Thomson, secretary.

Yarrow & Co., Ltd., electric launch builders, Glasgow. (Telegs.: "Yarrow, Glasgow." Tel. Partick 2082.)

YARWOOD, GEO., & CO., electrical engineers & contractors, 49, George-st., Balsall Heath, Birmingham.

Yates, A. Ernest, electrical engineer, 30, Brown-st., Manchester. (Telegs.: "Narcissus, Manchester." Teleph. City 3362.)

Yates, A. T., A.M.I.E.E., Newby House, Whitechurch, Cardiff.

Yates & Eagle, electrical & gas engineers, 7, St. Nicholas-st., Leicester.

Yates, John, & Co., Ltd., tramway & railway tool makers for permanent way & overhead, Aston, Birmingham.

Yates & Thom, Ltd., engineers & boiler makers, Canal Engineering & Boiler Works, Blackburn. (Telegs.: "Yates, Blackburn." Teleph. Nos.: Engineering Dept., 43; Commercial Dept., 345.)

Yeaman, C. H., A.I.E.E., borough electrical engineer, 85, Park-rd., Hanley.

Yeates, A. M., F.R.A.S., manufacturer of electrical & optical apparatus, 2, Grafton-st., Dublin.

Yeates & Son, manufacturers of optical, electrical & scientific instruments, 2, Grafton-st., Dublin. (Teleph. No. 2079.)

Yelf & Son, practical electricians, 64, King-st., Southsea.

Yerbury, H. E., M.I.E.E., M.I.MECH.E., chief electrical engineer, Sheffield Corporation Tramways Department, Division-st., Sheffield.

Yetton, J., Co., electrical & general engineers, 4, Carr-st., Limehouse, E. (Telegrams: "Terminal, London." Telephone No. 3356, East.)

Yockney, S. W., 53, Victoria-st., S.W. Director Chepstow Electric Lighting & Power Co., Ltd.

York Corporation Electricity Works. (Nat. Teleph. No. 302.) Engineer, J. W. Hame.

Yorke, J. Paley, teacher in physics & electrical engineering, L.C.C. Technical Institute, Poplar, E.

Yorke, W., A.M.I.E.E., Corporation Electricity Works, Stuart-st., Manchester.

Yorkshire Cable Co., Ltd., cable makers, 68A, Lincoln's Inn Fields, London, E.C. (Telegs.: "Islinsul, London." Teleph. Holborn 287); & Joseph-st., Bradford. (Telegs.: "Insulate, Bradford.")

Yorkshire District Light Railway Syndicate, Ltd., Central Bank-chbrs., Leeds. Registered March 9, 1899. Nominal capital: 50,000 in £1 shares, 20,000 of which have been issued & fully paid. Directors: S. W. Meyer, Esq.; B. Day, Esq.; E. Sisterson, Esq. Secretary, G. Parish.

Yorkshire Electric Power Co., Calder-rd., Thornhill, nr. Dewsbury. (Telegs.: "Power, Dewsbury." Teleph. No. 155, Dewsbury.) Incorporated 1901. Nominal capital: £2,000,000 in £10 shares. Issued: 26,375 shares with £10 per share fully paid. Authorized to borrow £85,000. Borrowed on loan, £72,806. Directors: A. G. Lupton, Esq. (chairman); R. Armitage, Esq., J.P., M.P.; Henry Barran, Esq., J.P.; H. A. Earle, Esq.; H. C. Embleton, Esq., F.R.G.S.; R. Hudson, Esq.; T. O. Callender, Esq.; E. A. Carolan, Esq.; A. H. Meysey-Thompson, Esq., J.P.; W. G. Jackson, Esq., M.I.MIN.E. Secretary, J. J. H. Stansfield, F.C.I.S.; chief resident engineer, W. B. Woodhouse, A.M.I.MECH.E., A.M.I.E.E.

Yorkshire (West Riding) Electric Tramways Co., Ltd., Belle Isle, Wakefield. (Teleph. No. 213, Wakefield.) Registered April 5, 1905. Nominal capital: £250,000 in £5 ordinary shares, £350,000 in £5 preference shares, £400,000 4½ per cent. debenture stock & £21,000 6 per cent. debenture bonds. Issued: £200,000 ordinary shares, £231,305 preference shares & £275,000 4½ per cent. debenture stock secured by trust deed, all fully paid, & £21,000 debentures. Directors: H. S. Leon, Esq. (chairman); W. B. Keen, Esq.; G. E. Leon, Esq.; E. Schenk, Esq. Electrical engineer, C. J. Jewell; secretary, W. H. Andrews. Dividends: 1906, 1907, 1908 & first half of 1909, *nil*.

Yorkshire (Woollen District) Electric Tramways, Ltd., Electrical Federation Offices, Kingsway, London, W.C. (Telegs.: "Woollen, c/o Tramway, London." Teleph. No. 2686, Holborn); & Tramway Depôt, Liversedge, Yorks. (Telegs.: "Tramways, Heckmondwike." Teleph. No. 8.) Registered Nov. 19, 1901. Nominal capital: £500,000 in £1 shares, 200,035 of which have been issued & are fully paid. Debentures authorized: one-half of subscribed capital. Directors: E. Garcke, Esq. (chairman); Lieut.-Col. Sir Thos. E. M. S. Pilkington, Bart.; J. S. Raworth, Esq.; E. A. Paris, Esq. (managing). Secretary, P. N. Gray; engineer, R. C. Goldston. Dividends: 1903, 1904, 1905, 1906 & 1907, 4 per cent.

Young, A. R., Abbotsford, Kirkcaldy. Director Fife Electric Power Co., Ltd.

Young, A. Rowell, electrical engineer, manager, H. A. Jackson & Co., Caxton Works, Salford, Manchester. (Telegs.: "Armoured, Manchester." Teleph. No. 5437.)

Young, A. T., electrical engineer, British Westinghouse Electric & Manufacturing Co., Ltd., Collingwood-bldgs., Collingwood-st., Newcastle-on-Tyne.

Young, B., A.I.E.E., Leek-st., Birmingham.

Young, Geo., B.SC., B.A., A.M.I.E.E., Higher Grade School, Crewe.

Young, H. G., engineer, Town Council Electricity Works, Bo'ness.

Young, Henry Wilson, M.I.E.E., Norwich House, 13, Southampton-st., Bloomsbury, W.C.; & 18, Russell-sq., London, W.C. (Telegs.: "Terranolus, London." Teleph. No. 1266, Gerrard.)

Young, Jas., A.I.E.E., 21, Wheelwright-rd., Gravelly Hill, Birmingham.

Young, John, "Ravenscroft," Hook Heath, Woking. Director Metropolitan District Railway Co.; director Lancashire Power Construction Co., Ltd.; director Paisley District Tramways Co.; director Lancashire Electric Power Co.

Young, James Reid, A.I.E.E., 5, Great Western-ter., Glasgow.

Young, Stanley A., local manager National Telephone Co., Derby.

Young, Thomas, M.I.E.E., 203, West George-st., Glasgow. (Teleph. Nos.: 1114, Argyle; & 4114, P.O.)

Young, T. W., H.D., H.C. copper rod, strip & wire, also brass, German silver & steel wire drawer, 220, Old-st., London, E.C. (Teleph. No. 1499, London Wall.)

Young, W., electrician, Aylesbury, Bucks.
Young, W., station superintendent, Electricity Works, Osborn-st., Whitechapel, London, E.
Young, Walter Frank, electrician, Studley Royal, Ripon.
Young, Alexander (London), Ltd., exporters of electrical material, 160, Newhall-st., Birmingham. (Telegs.: "Eagerness, Birmingham." Teleph. No. 1207.)
Young, B., & Co., electrical engineers, Leek-st., Birmingham.
Young & Garratt, electrical engineers, Railway-ter., Rugby.
Young, H. Wilson, & Co., electrical engineers, Norwich House, 13, Southampton-st., Bloomsbury, London, W.C. (Telegs.: "Terranolus, London." Teleph. No. 1266, Gerrard.)
Young & Marten, Ltd., electrical manufacturers, Caledonian Works, Stratford, London, E. (Telegrams: "Yemart, London." Telephone Nos. 801 & 802, Eastern.)
Young, Percy, & Co., electrical engineers. 494, Hertford-rd,, Lower Edmonton, London, N.
Younger, J. A. C., Braboeuf Manor, Guildford. Director Guildford Electricity Supply Co., Ltd.
Youngs, engineers, Ryland-st. Works, Birmingham. (Telegs.: "Oldens, Birmingham." Teleph. No. 808.)
Ystradgynlais Electric Light Co., Ltd. Registered Sept. 19, 1906. Nominal capital: £3000 in £1 shares.
Yuill, H., New Broad-st. House, New Broad-st., London, E.C. Director Adelaide Electric Tramways, Ltd.
YUILLE, WILLIAM C., & CO., suppliers of all kinds of overhead material for electric traction, 60, Brown-st., Glasgow. (Telegs.: "Tetrad, Glasgow." Teleph. Argyle 2030; & P.O. 4649.)

"Z" Electric Lamp Manufacturing Co., Ltd., incandescent lamp manufacturers, Orient House, New Broad-st., London, E.C.
Zadig, C. A., & Co., light railway & tramway plant contractors, 73, Queen Victoria-st., London, E.C. (Telegrams: "Zadig, London." Telephone No. 776, Central.)
Zani, Arnaldo Paolo, M.I.E.E., c/o Dick, Kerr & Co., Ltd., Abchurch-yard, Cannon-st., London, E.C.
Zedecco Batteries, Ltd., electric battery manufacturers & dealers, 6, Throgmorton-ave., London, E.C.
Zeden, G. A., M.I.E.E., consulting engineer, 9, Queen-st.-pl., London, E.C.
ZEITLIN VACUUM SYND., LTD., 4, Queen Victoria-st., E.C. (Telegs.: "Eminencies, London." Teleph. No. 12321, Central.) Patent high vacuum pumps. The ideal pump for the manufacture of electric glow lamps.
Zimdars, C. E., pneumatic & electric bell manufacturer, 327, Gray's Inn-rd., London, W.C. (Telegrams: "Zimdars, London." Telephone No. 2007, King's Cross.)
Zimmermann, A. & M., chemical merchants, 3, Lloyds-ave., London, E.C. (Telegs.: "Zimmermann, London." Teleph. Nos.: 2144, Avenue; & 3363, Central.)
Zocus Paint Co., manufacturers of the Zocus protective paints, 17, Gracechurch-st., London, E.C. (Telegs.: "Allandale, London." Teleph. No. 9572, Central.)
Zoephel, C. W., A.M.I.E.E., Edison & Swan U.E.L. Co., Ltd., Ediswan-bldgs., Queen-st., London, E.C.
Zoller, A., A.M.I.E.E., 21, Rock-ave., Gillingham, Kent.
Zone Dynamo & Motor Patents Co., Ltd., electrical engineers, Parliament Mansions, Victoria-st., Westminster, London, S.W.
Zurich Incandescence Lamp Co., The. *See* Stearn Electric Lamp Co., Ltd.
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For Telegraphic Addresses & Telephone Numbers, see Alphabetical Section.

Accessories Manufacturers—Electric.

F.—Accessoires pour l'élec.—Fab.
G.—Zubehöre—elek.—Fabr.

Adnil Electric Co., Ltd, Adnil-bldg., Artillery-lane, London, E.C.

ARMORDUCT MANUFACTURING CO., LTD., Farringdon-ave., London, E.C.; & 44, Blackett-st., Newcastle-on-Tyne. Works: Bathurst Works, Witton, nr. Birmingham. (Telegs.: "Armorduct," London, Newcastle-on-Tyne, Birmingham. Teleph. Nos.: London, 400, Holborn (2 lines); Newcastle-on-Tyne, 2827, Central; Witton Works, 812, East.) *See advt. on top edges.*

AUTOMATIC STANDARD SCREW CO., HALIFAX. (TELEGS.: "STANDARD." TELEPH. NO. 992.)

Boddy, G. M., & Co., 15, Gray's Inn-rd., London, W.C.; & St. Peter's-sq., Manchester. *See advt., page* 646.

BRAUCKMANN, ALBERT (sole agent for F. W. Busch, Lüdenscheid), electrical accessories of every description, 16 & 17, Barbican, London, E.C. (Teleph. Nos.: Office, 11380, Central; Stores, 2536, City.)

Bray, Markham & Reiss, Ltd., Blackhorse-lane, Walthamstow, London, E.

BRISCOE, W. H., & CO., 32 & 33, Cox-st., St. Paul's-sq., Birmingham. Manufacturers of small pressed & turned parts for the cycle-chandelier, electrical & motor trades.

British Central Electrical Co., 17, Hatton Garden, London, E.C.

BRITISH INSULATED & HELSBY CABLES, LTD. Head office: Prescot, Lancs. Works: Prescot, Helsby & Liverpool. For branch offices, telegraphic & telephonic addresses, *see* ALPHABETICAL ENTRY. *See advt., page* 437.

British Westinghouse Electric & Manufacturing Co., Ltd., The, Westinghouse Works, Trafford Park, Manchester.

Brook Electrical Works Co., The Crescent, Hockley Brook, Birmingham.

Cable Accessories Co., Ltd., Tividale, Tipton.

Chisholm, Gray & Co., Ltd., Fleet-st., Birmingham.

Cramme, W., & Co., 87 & 88, Long-lane, E.C.

Accessories Manufacturers—Electric—*continued.*

Davies, C. H., & Co., 160, Francis-st., Birmingham.

Drake & Gorham, Ltd., 66, Victoria-st., Westminster, S.W. Works: 1, Felix-st., S.E. For branches, telegrams & telephone numbers, *see* ALPHABETICAL. *See advt., page* 459.

E.M.F., LTD., 10, Ironmonger-lane, E.C. Stores: 172–176, King's Cross-rd.; Works: Victoria Works, Walsall; & 205A, Pentonville-rd, London, W. *See advt., page* 645.

EDISON & SWAN UNITED ELECTRIC LIGHT CO., LTD. Head office, depôt & show-rooms: Ediswan-bldgs., Queen-st., London, E.C.

Electric Ignition Co., Ltd., Royal Wellington Works, Sampson-rd. North, Birmingham.

Electric Lighting & Tramways Accessories Co., 73 & 75, Finsbury Pavement, E.C.

ELECTRIC & ORDNANCE ACCESSORIES, CO., LTD., Cheston-rd., Aston, Birmingham. (Telegs.: "Stellite, Birmingham." Teleph. Nos.: Nat. 176 & 179, East; P.O. 9 (Trunk Calls).) *See page* 134 *for full entry.*

FALK, STADELMANN & CO., LTD., 83, 85 & 87, Farringdon-rd., London, E.C.; & Glasgow.

GALSWORTHY LTD., formerly The London Electrical Fittings Co., Ltd., Roberts Works, Hampstead-rd., N.W. (Telegs.: "Filosofone, London." Teleph. No. 441, North.) Showroom: 15 & 16, Newman-st., Oxford-st., London, W. (Teleph. No. 6621, Gerrard.) *See advts., pages* 593 & 604.

General Electric Co., Ltd. (*G. Byng, chairman*). Head office: 71, Queen Victoria-st., London, E.C. Works: London, Manchester, Birmingham & Witton. For branch offices, telegraphic addresses & telephone numbers, *see* ALPHABETICAL SECTION. *See advts., pages* 446, 707 & 734.

GREVENER, J. & H., Eldon-st. House, Eldon-st., London, E.C.

Groos & Graf, 59–61, Hatton Garden, London, E.C.

Harris, A. E., & Co. (stampings, &c.), 95, Camden-st., Birmingham. *See advt., page* 700.

Helptophone Co., Ltd., 53, New Broad-st., E.C.

Accessories Manufacturers—Electric— *continued.*

Johnson & Phillips, Ltd., Victoria Works, Charlton, S.O., Kent; & 12, Union-ct., Old Broad-st., E.C. *See advt. inside back cover.*

Knowles, C. S., 7, Victoria-st., London, S.W.

London Electrical Fittings Co., Ltd. *See* Galsworthy Ltd.

Lundberg, A. P., & Sons, Pioneer Electrical Works, 477-487, Liverpool-rd., London, N. (Telegs.: "Lundberg, London." Teleph. No. 1746, North.) Agents: Scotland, Messrs. Yuille & Co., 60, Brown-st., Glasgow; other districts: leading wholesale houses.

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MARSH, SON & CO., LTD., 15, Gerrard-st., London, W. (Telegs.: "Voltmeters, London." Teleph. Gerrard 2414.) *See advt.* BELOW.

MÜLLER, CHAS. A., 10, Arcade, Westgate, Bradford, Yorks.

New Barnet Electrical Works, off Station-rd., New Barnet.

NEWTONS LTD., Taunton. (Telegrams: "Arc, Taunton." Telephone No. 9.)

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OUSEY, GEO. RYDER, & CO., 7, Bunhill-row, London, E.C. *See advt., page* 595.

Patterson, Percy, 77, Fore-st., E.C.

RIPPINGILLE MANUFACTURING CO., LTD., Plume-st., Aston, Birmingham. *See inset advt., pages* 597 *&* 598.

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Smart, J., Eagle Chemical Works, Barchester-st., Poplar, London, E.

Sperryn & Co., Ltd., Hospital-st., Birmingham.

SUN ELECTRICAL CO., LTD., 118 & 120, Charing Cross-rd., London, W.C. (Telegrams: "Secabilis, London." Telephone Nos. 2291 & 2292, Gerrard.) *See advt., page* 596.

TETLEY & CO., Falcon Works, Bedford-st., Greengate, Salford.

Traders Supply Co., 40, S. King-st., Manchester.

Trotter, Alex., 1A, Bowling Green-lane, Farringdon-rd., London, E.C.

TUCKER, J. H., & CO., King's-rd., Hay Mills, Birmingham. Branches: London, Glasgow & Belfast. For telegrams & telephone numbers, *see* ALPHABETICAL.

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CELLULOID, LTD., 11, Ironmonger-lane, London, E.C.

CHLORIDE ELECTRICAL STORAGE CO., LTD., Pendlebury, Manchester; & 39, Victoria-st., Westminster. For telegraphic addresses & telephone numbers, *see* ALPHABETICAL ENTRY. *See advt., page* 404.

FALKIRK IRON CO., Craven House, Kingsway, London, W.C. Works: Falkirk, N.B.

Frazer, Norwich, Ltd., Palace Plain Joinery Works, Norwich.

General Electric Co., Ltd. (*G. Byng, chairman*). Head office: 71, Queen Victoria-st., London, E.C. Works: London, Manchester, Birmingham & Witton. For branch offices, telegraphic addresses & telephone numbers, *see* ALPHABETICAL SECTION. *See advts., pages* 446, 707 & 734.

Accumulator Boxes & Trays—Makers of—*continued.*

Harburg & Vienna Indiarubber Co. (of Gt. Britain), Ltd., 9–14, Tower-chbrs., Finsbury Pavement, E.C.

HARRIS, J. F. & G. Offices & mills: 58Q, Wilson-st., Finsbury, London, E.C.; 107–109, Snow's Fields, Newcomen-st., Borough, S.E.; Victoria-wharf, Palmer's-rd., Green-st., Bethnal Green, London, E.; & Roding Joinery Works, Ilford. *See* WOOD CASINGS & CLEATS.

HART ACCUMULATOR CO., LTD., Marshgate-lane, Stratford, London, E. (Telegs.: "Hartmossel, London." Teleph. Nos. 1306 & 1307, East. A.B.C. Code, 5th Edition); Manchester & Birmingham. For branch & telegraphic addresses & telephone numbers, *see* ALPHABETICAL SECTION. *See advt., page* 407.

HESSBERG BROS., 102, Fenchurch-st., London, E.C. (Telegrams: "Pulkha, London." P.O. Telephone No. 9159, Central.)

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Lambert, R., Mansfield-rd. Cabinet Works, Oak-lane, Bradford.

MANNHEIM INDIA RUBBER, GUTTA PERCHA & ASBESTOS WORKS CO., LTD., 61, Leadenhall-st., London, E.C.

Pritchetts & Gold, Ltd., 58, Victoria-st., Westminster, S.W.; & Feltham, Middlesex. *See* ALPHABETICAL. *See advt., page* 429.

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ELECTRIC & ORDNANCE ACCESSORIES CO., LTD., Cheston-rd., Aston, Birmingham. (Telegs.: "Stellite, Birmingham." Teleph. Nos.: Nat. 176 & 179, East; & P.O. 9 (Trunk Calls).) *See page* 134 *for full entry.*

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HODGES, CECIL, & CO., Balfour House, Finsbury Pavement, London, E.C.

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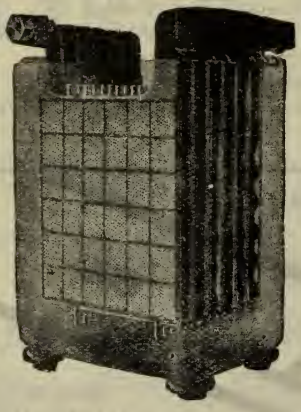

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Cookson & Co., Albion, 59/61, New Oxford-st., London, W.C.

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Dunhill, Alfred, Ltd., 359-61, Euston-rd., N.W.
Electric Battery Co., 180, High Holborn, W.C.
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Fuller, John C., & Son, Woodland Works, Wicklane, Old Ford-rd., Bow, E.
General Electric Co., Ltd. (*G. Byng, chairman*). Head office: 71, Queen Victoria-st., London, E.C. Works: London, Manchester, Birmingham & Witton. For branch offices, telegraphic addresses & telephone numbers, *see* ALPHABETICAL SECTION. *See advts., pages* 446, 707 & 734.
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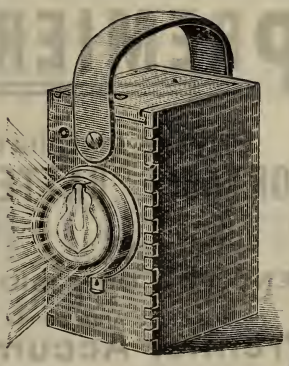

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Pearson Co.'s, 154, Abbott-rd., E.
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PRITCHETTS & GOLD, LTD., stationary & traction type accumulators, 58, Victoria-st., Westminster; & Feltham, Middlesex. *See* ALPHABETICAL. *See advt., page* 429.
Raden, H. W. van, 2, Regent-st., Coventry.
ROOPER, W. O., & CO., Victoria Works, Stafford (Telegs.: "Rooper, Stafford." Teleph. No. 73, Stafford); & 26, Victoria-st., Westminster, S.W. (Telegs.: "Cowcatcher, London." Teleph. No. 1038, Victoria.)
Rowner-Muriel & Co., Colwell-rd. & 170, Lordship-lane, London, S.E.
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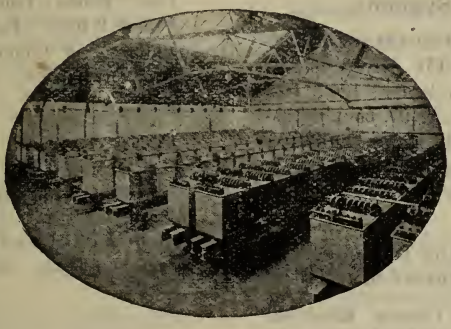

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Andrew, L., & Co., Whitworth-st. W., Deansgate, Manchester.
Andrews, A. J., 86, Leadenhall-st., E.C.
Ardrey, J., 43A, High-st., Belfast.
Barnard, J. W., 4 & 6, Great Winchester-st., London, E.C.
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Crockatt & Pike, Caxton House, Westminster, London, S.W.
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De Grelle, Houdret & Co., 130, London Wall, London, E.C.
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Engelhardt, H., 11, Bradford-ave., London, E.C.

Agents—Electrical—*continued.*

Espir, Fernand, 3, East India-ave., London, E.C. Agent for Tréfileries et Laminoirs du Hâvre (Anciens Établissements Lazare Weiller et Sté. Cooperative de Rugles réunis), electrical copper wire, &c. *See* WIRE MANUFACTURERS—TELEPHONE.

Société Anonyme des Anciennes Usines de Fuisseaux, highly vitrified white porcelain telegraph insulators. *See* PORCELAIN FITTINGS.

Frain, J. S., 15, Queen-st., E.C.

Frain, W., A.I.E.E. (Edison & Swan United Electric Light Co., Ltd.), Castle-st., Dundee.

Fyfe, Wilson & Co., 145, Beth-st., Glasgow.

Gardiner, Sons & Co., Ltd., Nelson-st., Bristol.

Geipel, Wm., & Co. (late Geipel & Lange), Vulcan Works, 72A, St. Thomas-st., London, S.E. (Telegs.: "Patella, London." Teleph. No. 594, Hop. (2 lines).) *See advt., page* 19.

General Electric Co., Ltd. (*G. Byng, chairman*). Head office: 71, Queen Victoria-st., London, E.C. Works: London, Manchester, Birmingham & Witton. For branch offices, telegraphic addresses & telephone numbers, *see* ALPHABETICAL SECTION. *See advts, pages* 446, 707 *&* 734.

Gladstone, Jas. W., 25, Victoria-st., London, S.W.

Graham, J. P., 26, Cloth Market, Newcastle-on-Tyne.

Gray, J., & Co., 212, St. Vincent-st., Glasgow.

Hind Bros., 20, York-st., Belfast.

Ickelheimer, M., 36A, Aldersgate-st., London, E.C.

Jamieson, James, 212A, St. Vincent-st., Glasgow.

Kahler, G., & Co., 29, Fenchurch-st., E.C.

Lester, W., & Co., 11, West Regent-st., Glasgow.

Loudon & Clark, 68, Gordon-st., Glasgow.

MABBS, H. G., Canada-chbrs., Spring-gdns., Manchester.

Sole agent Lancs., Yorks, Cheshire, &c., for Bray, Markham & Reiss, Ltd., motor starters, rheostats, &c.; Arc Lamps, Ltd., "Davy" flame & enclosed arcs; Wm. Sanders & Co., switches & switchboards. (Telegs.: "Megavolt, Manchester." Teleph. City 140.)

Macauley, W., & Co., 125, Great Victoria-st., Belfast.

McCarthy, C. C., & Co., 49, Deansgate, Manchester.

Mayer, H. G., & Co., 67, Aldersgate-st., E.C.

Millar & Stewart, 7, Hanover-st., Edinburgh.

Morley, J. W., Consett-chbrs., Newcastle-on-Tyne.

Murray, I. J. (Sunbeam Lamp Co.), Victoria House, Sandymount, Dublin.

Partington Advertising Co., Victoria Embankment, London, W.C.

Pinching & Walton, 52, Cannon-st., London, E.C.

Plutte, Scheele & Co., Ltd., 18 & 19, Queenhithe, London, E.C. (Agents).

PULFORD BROS., LTD. Head office, showroom & works: 108 & 110, Whitechapel, Liverpool.

Quicke, C. F., & Co., 315, Euston-rd., N.W.

Rudd, J. A., & Co., 68, Gordon-st., Glasgow, representing Browett, Lindley & Co., Ltd.; Sulzer Bros., Bray, Markham & Reiss, Ltd., &c.

Agents—Electrical—*continued.*

Taylor, J. H., 9 & 11, Fenchurch-avenue, London, E.C.

Tozer, Kemsley & Fisher, Ltd., 84, Fenchurch-st., London, E.C.

Truman, W., 4, Newick-rd., Clapton, London, N.E.

Von Glehn, A., & Co., Tower House, 40, Trinity-sq., E.C.

Warden, Willoughby, Messrs. Belliss & Morcom Ltd., 68, Gordon-st., Glasgow.

White, Richard, & Sons, Widnes, Lancs.

Wright, G. E., 9 & 11, Wilson-st., Finsbury, London, E.C.

Agents—Purchasing for Australia.

Davies & Ransome, Caxton House, Westminster, London, S.W. *See advt., page* 14.

Air Compressors.

ESCHER, WYSS & CO. (turbo-blowers), 109, Victoria-st., Westminster, S.W. *See advt., page* 732.

Air Pumps.

EDWARDS AIR PUMP SYND., LTD., THE, 3 & 5, Crown-ct., Old Broad-st., London, E.C.

Alarms (Electric)—Burglar, Fire, Safe, Ship, Train, &c.

F.—Avertisseurs électriques, voleurs—incendie, &c.
G.—Alarm-Apparate (elek.)—Diebstahl, Feuer, Schiff, Eisenbahn.

Adnil Electric Co., Ltd., Adnil-bldg., Artillery-lane, London, E.C.

Aero Fire Alarm, Ltd., 92, Queen Victoria-st., E.C.

Apps, A., 433, Strand, London, W.C.

Badois, V. C., 26, Victoria-st., Windsor.

British L. M. Ericsson Manufacturing Co., Ltd., The, Byron House, 82/85, Fleet-st., London, E.C. Works: Beeston, Notts. *See advt., page* 719.

Clarke, J. F., & Sons, 49, Moorgate-st., London, E.C.

Cooper, John, 333, Gray's Inn-rd., London, W.C.

Croggon & Co., Ltd., 16 & 230, Upper Thames-st., London, E.C.; Colonial-chbrs., Temple-st., Liverpool; & 7, John-st., Glasgow. *See advt., page* 494.

Electrical Contracts & Maintenance Co., Ltd., Sanctuary House, Westminster, S.W.

GENERAL ELECTRIC CO., LTD. (*G. Byng, chairman*). Head office: 71, Queen Victoria-st., London, E.C. Works: London, Manchester, Birmingham & Witton. For branch offices, telegraphic addresses & telephone numbers, *see* ALPHABETICAL SECTION. *See advts., pages* 446, 707 *&* 734.

Hawthorn Fire Detector Co., Ltd., 11, Queen Victoria-st., E.C.

Izant, Alfred, 8, Herbrand-st., Russell-sq., London, W.C.

Koerber, J. A., 41, Frith-st., Shaftesbury-ave., London, W.

Alarms (Electric)—Burglar, Fire, Safe, Ship, Train, &c.—*continued.*

Mayer, A., & Son, 127, Aldersgate-st., London, E.C.

Metz, Paul (fire), 29, Newhall Hill, Birmingham.

Munro Fire Detector Co., Ltd., 64, Victoria-st., S.W.

Pearson Fire Alarm, Ltd., Jewin House, Redcross-st., London, E.C.

Scientific Appliance Manufacturing Co., 15, New Oxford-st., London, W.C.

SIEMENS BROS. & CO., LTD., Caxton House, Westminster, London, S.W. *See advt., page* 573.

Stegmann & Co., Brighton Railway Approach, Clapham Junction, S.W.

Tite, Robt., 113, Lavender Hill, Battersea, London, S.W.

Alkali Manufacturers.

F.—Alcali—Fab. d'
G.—Alkali-Fabrik.

Brunner, Mond & Co., Winnington-park, Northwich.

Castner-Kellner Alkali Co., Ltd., 13, Abchurch-lane, London, E.C.

Morris, H. N., & Co., Gorton Brook Chemical Works, Manchester, S.E. (Telegs.: "Glauber, Manchester." Teleph. No. 75, Openshaw.)

Sullivan & Co., Ltd., British Alkali Works, Widnes, Lancashire.

United Alkali Co., Ltd., 30, James-st., Liverpool.

Alternate Current Generators.

F.—Alternateurs—Fab. d'.
G.—Wechselstrom Dynamos—Fab. von.

Adnil Electric Co., Ltd., Adnil-bldg., Artillery-lane, London, E.C.

CLARKE, CHAPMAN & CO., LTD., Victoria Works, Gateshead-on-Tyne. (Telegrams: "Cyclops, Gateshead.")

CROMPTON & CO., LTD., Salisbury House, London Wall, London, E.C. Works: Chelmsford. *See advt. inside front cover.*

Geipel, Wm., & Co. (late Geipel & Lange), Vulcan Works, 72A, St. Thomas-st., London, S.E. (Telegs.: "Patella, London." Teleph. No. 594, Hop. (2 lines).) *See advt., page* 19.

Hall, J. P., & Co., Ltd., Blackriding Iron Works, Werneth, Oldham. (Telegs.: "Dynamo, Oldham." Teleph. No. 300.)

HOLMES, J. H., & CO., Portland-rd., Newcastle-on-Tyne; 17, Soho-sq., London, W.; Examiner-bldgs., Strutt-st., Manchester; & 19, Waterloo-st., Glasgow.

LAHMEYER ELECTRICAL CO., LTD., 109–111, New Oxford-st., London, W.C. (Telegs.: "Drehstrom, London." Teleph. Nos. 133 & 134, Gerrard.)

MATHER & PLATT, LD., Salford Iron Works, Manchester; & Queen Anne's-chbrs., Westminster, London, S.W. (Telegrams: "Mather, Manchester;" "Sprinkler, London." Nat. Telephone Nos.: 5781, 5782 & 5783, Manchester; & 851 & 852, Westminster.)

Alternate Current Generators—*continued.*

Siemens Bros. Dynamo Works, Ltd., Caxton House, Westminster, London, S.W.

UNION ELECTRIC CO., LTD., Park-st., Southwark, London, S.E. (Telegs.: "Abeam, London." A.B.C. Code. Teleph. Hop. 2970.) *See advt., page* 563.

VICTORIA DYNAMO & MOTOR CO., Craven House, Kingsway, London, W.C.

Alternate Current Motors.

F.—Moteurs pour courant alternatif.
G.—Wechselstrom Motoren.

BROOK, E., LTD., Colne-rd., Huddersfield. (Telegs.: "Phase, Huddersfield." Teleph. No. 606.)

CHURTON, T. HARDING, & CO., Atlas Works, Water-lane, Leeds.

CLARKE, CHAPMAN & CO., LTD., Victoria Works, Gateshead-on-Tyne. (Telegrams: "Cyclops, Gateshead.")

Electrical & Engineering Supplies Co., Ltd., 36 & 37, Upper Thames-st., London, E.C. *See advt., page* 652.

FULLER ELECTRICAL & MANUFACTURING CO., Norfolk House, Laurence Pountney Hill, London, E.C. Single, 2- & 3-phase. (Telegs.: "Fullmage, London." Teleph. No. 3186, London Wall.) *See advt., page* 481.

Geipel, Wm., & Co. (late Geipel & Lange), Vulcan Works, 72A, St. Thomas-st., London, S.E. (Telegs.: "Patella, London." Teleph. No. 594, Hop. (2 lines).) *See advt., page* 19.

Hall, J. P., & Co., Ltd., Blackriding Iron Works, Werneth, Oldham. (Telegs.: "Dynamo, Oldham." Teleph. No. 300.)

HOLMES, J. H., & CO., Portland-rd., Newcastle-on-Tyne; 17, Soho-sq., London, W.; Examiner-bldgs., Strutt-st., Manchester; & 19, Waterloo-st., Glasgow.

LAHMEYER ELECTRICAL CO., LTD., 109–111, New Oxford-st., London, W.C. (Telegs.: "Drehstrom, London." Teleph. Nos. 133 & 134, Gerrard.)

LANGDON-DAVIES MOTOR CO., LTD., Single-phase, Polyphase & Continuous Current Motors (F. B. O. Hawes, managing director), Southwark Works, Deverell-st., London, S.E. (Telegs.: "Damophon, London." Teleph. Hop 4277 (2 lines).)

Marples, Leach & Co. *See* Adnil Electric Co., Ltd.

MATHER & PLATT, LD., Salford Iron Works, Manchester; & Queen Anne's-chbrs., Westminster, London, S.W. (Telegrams: "Mather, Manchester;" "Sprinkler, London." Nat. Telephone Nos.: 5781, 5782 & 5783, Manchester; & 851 & 852, Westminster.)

Sandycroft Foundry Co., Ltd., The, Chester (Telegs.: "Sandycroft, Hawarden"); & 6, Queen-st.-pl., London, E.C.

Siemens Bros. Dynamo Works, Ltd., Caxton House, Westminster, London, S.W.

Alternate Current Motors—*continued.*

UNION ELECTRIC CO., LTD., Park-st., Southwark, London, S.E. (Telegs.: "Abeam, London." A.B.C. Code. Teleph. Hop. 2970.) *See advt., page* 563.

Veritys, Ltd., King-st., Covent Garden, London, W.C.; & Birmingham, Manchester, Glasgow, Bristol, &c. *See* ALPHABETICAL SECTION.

VICTORIA DYNAMO & MOTOR CO., Craven House, Kingsway, London, W.C.

WRIGHT & WOOD, LTD., Century Works, Halifax, Yorks. (Telegs.: "Motor, Halifax." Teleph. No. 499.) *See advt., page* 650.

Aluminium Cable Makers.

Glover, W. T., & Co., Ltd., Trafford Park, Manchester. (Telegs.: "Cables, Manchester." Tel. Central 7200 (6 lines).) London: Parliament Mansions, Orchard-st., S.W. *See* ALPHABETICAL.

Aluminium Manufacturers & Merchants.

F.—Aluminium—Fab. et March. d'.
G.—Aluminium—Fab. und Händler.

Aluminium & General Foundry Syndicate, Ltd., Romford, Essex.

Braby, Frederick, & Co., Ltd., Fitzroy Works, 352-364, Euston-rd., London, N.W. For branches, telegraphic addresses & telephone numbers, *see* ALPHABETICAL ENTRY.

British Aluminium Co., Ltd., 109, Queen Victoria-st., London, S.W. Works at Foyers, Larne Harbour; Milton, Staffs.; & Baker-st., Greenock, Scotland.

BRITISH INSULATED & HELSBY CABLES, LTD. Head office: Prescot, Lancs. Works: Prescot, Helsby & Liverpool. For branch offices, telegraphic & telephonic addresses, *see* ALPHABETICAL ENTRY. *See advt., page* 437.

EVERITT & CO., 40, Chapel-st., Liverpool. (Telegs.: "Persistent, Liverpool." Teleph. No. 1134 (3 lines).) *See advt., page* 640.

Northern Aluminium Co., Ltd., Caxton House, Tothill-st., S.W.

SMITH, FREDERICK, & CO., INCORPORATED IN THE LONDON ELECTRIC WIRE CO. & SMITHS, LTD., Wire Manufacturers, Anaconda Works, Salford, Manchester. Copper wire, hard-drawn H.C. long lengths copper wire, plain soft tinned, & strips for all electrical purposes. Tape & strand for lightning conductors. Silicium bronze wire, "Cog-wheel Brand." Phosphor bronze spring wire, aluminium wire & strip. (Telegs.: "Anaconda, Manchester.") *See advt., page* 747.

Smith & Sons, 42, 44, 46, 47, 50 & 52, St. John's-sq., London, E.C.

American Machinery Agents.

F.—Machines Américains—Agents de.
G.—Amerikanische Maschinen Agenten.

Churchill, Chas., & Co., Ltd., 9-15, Leonard-st., London, E.C.; 2-10, Albert-st., Birmingham; 6, Oxford-st., Manchester; Albion-bldgs., St. James-st., Newcastle-on-Tyne; & 9-11, Wellington-st., Glasgow.

Down, Fred. J., Harpenden, Herts.; & 6, 7 & 8, Crutched Friars, London, E.C. A founder, 1883, of Laing, Wharton & Down.

Ammeters—Makers of.

F.—Ampèremètres—Fab. d'.
G.—Ampèremètres—Fab. von.

Adnil Electric Co., Ltd., Adnil-bldg., Artillery-lane, London, E.C.

BECKETT & PARKER, Tenby-st., Birmingham.

CROMPTON & CO., LTD., Salisbury House, London Wall, London, E.C. Works: Chelmsford. *See advt. inside front cover.*

EDISON & SWAN UNITED ELECTRIC LIGHT CO., LTD. Head office, depôt & show-rooms: Ediswan-bldgs., Queen-st., London, E.C.

ELLIOTT BROS., Century Works, Lewisham, London, S.E. (Telegs.: "Ohm, London." Teleph. Nos. 218 & 237, Deptford.)

Everett, Edgcumbe & Co., Ltd., 117, Victoria-st., London, S.W.; & Collindale Works, Hendon, Middlesex. *See advt., page* 643.

Evershed & Vignoles, Ltd., Acton-lane Works, Chiswick, London, W.

Ferranti Ltd., Hollinwood, Lancs. (Telegs.: "Ferranti, Hollinwood." Teleph. Failsworth 31 & 48); & 78, King-st., Manchester.

Foxcroft & Duncan, Phœnix Works, Mentmore-ter., London Fields, London, N.E.

GEIPEL, WM., & CO. (late Geipel & Lange), Vulcan Works, 72A, St. Thomas-st., London, S.E. (Telegs.: "Patella, London." Teleph. No. 594, Hop. (2 lines).) *See advt., page* 19.

General Electric Co., Ltd. (*G. Byng, chairman*). Head office: 71, Queen Victoria-st., London, E.C. Works: London, Manchester, Birmingham & Witton. For branch offices, telegraphic addresses & telephone numbers, *see* ALPHABETICAL SECTION. *See advts., pages* 446, 707 & 734.

HODGES, CECIL, & CO., Balfour House, Finsbury Pavement, London, E.C. Est. 20 years.

HOLMES, J. H., & CO., Portland-rd., Newcastle-on-Tyne; 17, Soho-sq., London, W.; Examiner-bldgs., Strutt-st., Manchester; & 19, Waterloo-st., Glasgow.

Johnson & Phillips, Ltd., Victoria Works, Charlton, S.O., Kent; & 12, Union-ct., Old Broad-st., E.C. *See advt. inside back cover.*

Ammeters—Makers of—*continued.*

KELVIN & JAMES WHITE, LTD., 18, Cambridge-st., Glasgow (Telegs.: "Meter, Glasgow." Teleph. P.O. Central 4519; Nat., Douglas 172); & 11, Billiter-st., London, E.C. (Telegs.: "Stormglass, London." Teleph. London Wall 9779.)

McWhirter, Wm., & Son, 212, 214 & 216, Holm-st., Glasgow. (Telegs.: "Testing, Glasgow.")

NALDER BROS. & THOMPSON, LTD. (managing director, F. H. Nalder), 34, Queen-st., Cheapside, London, E.C. *See advt., page* 643.

PITKIN, JAMES, & CO., 56, Red Lion-st., Clerkenwell, London, E.C. (Telegs.: "Barograph, London." Teleph. No. 11273, Central.)

SPAGNOLETTI, LTD., Goldhawk Works, Goldhawk-rd., W.

UNION ELECTRIC CO., LTD., Park-st., Southwark, London, S.E. (Telegs.: "Abeam, London." A.B.C. Code. Teleph. Hop. 2970.) *See advt., page* 563.

Walsall Electrical Co., Ltd., 57, Bridge-st., Walsall. For branches, telegrams & telephone numbers, *see* ALPHABETICAL.

WESTON ELECTRICAL INSTRUMENT CO., Audrey House, Ely-pl., London, E.C. *See advts., pages* 615 & 616.

Ammonia Manufacturers.

F.—Ammonia—Fab. d'.
G.—Ammonia—Fab.

Cardiff Alkali Co., Ltd., Cardiff. (Telegrams: "Ammonia, Cardiff." Nat. Telephone No. 767.) SPECIALITY: CRUSHED SALAMMONIAC CRYSTALS, FOR LECLANCHÉ BATTERIES.

Earp, Wm. R., & Co., Halton-rd., Runcorn, Cheshire.

Hills, F. C., & Co., Chemical Works, Deptford, S.E.

Morris, H. N., & Co., Gorton Brook Chemical Works, Manchester, S.E. (Telegs.: "Glauber, Manchester." Teleph. No. 75, Openshaw.)

Anchors (Guy for Pole, &c., Staying).

Down, Fred. J., 6, 7, 8, Crutched Friars, London, E.C.

Animated Photographic Apparatus Makers.

PAUL, ROBT. W., Newton-ave. Works, New Southgate, London, N. Show-rooms: 33, Leicester-sq., London, W.C. *See* ALPHABETICAL. *See advt., page* 617.

Annunciators (Electric)—Makers of.

F.—Tables indicateurs—Fab. de.
G.—Anzeiger (Elektr.)—Fab. von.

Apps, A., 433, Strand, London, W.C.

Foxcroft & Duncan, Phœnix Works, Mentmore-ter., London Fields, London, N.E.

Annunciators (Electric)—Makers of—*continued.*

GENERAL ELECTRIC CO., LTD. (*G. Byng, chairman*). Head office: 71, Queen Victoria-st., London, E.C. Works: London, Manchester, Birmingham & Witton. For branch offices, telegraphic addresses & telephone numbers, *see* ALPHABETICAL SECTION. *See advts., pages* 446, 707 *&* 734.

GENT & CO., LTD., Faraday Works, Leicester; 3A, Upper Thames-st., London; & 67, Highbridge, Newcastle-on-Tyne. (Telegs.: "Lodestone, Leicester;" "Knifeedge, London;" & "Gents, Newcastle." Teleph. Leicester 151; London, Bank 8135; & Newcastle 1135.) *See advts., pages* 451 *&* 721.

Anti-Friction Metal Makers.

F.—Metal Anti-Friction—Fab.
G.—"Anti-Friction"-Metall-Fabrikanten.

Barnard, H. B., & Sons, 144, Lambeth-walk, London, S.E. (Telegs.: "Metalcibles, London." Teleph. Victoria 1714.) City office: 59/60, Gracechurch-st., E.C. (Telegs.: "Soldeerpan, London." Teleph. Central 767.) Birmingham office: Guildhall-bldgs., Navigation-st., Birmingham. (Telegs.: "Metalcibles, Birmingham." Teleph. Midland 732.)

Broughton Copper Co., Ltd., Broughton Copper Works, Manchester.

Delta Metal Co., Ltd. Delta works: East Greenwich, London, S.E.; & at Dartmouth-st., Birmingham. "Delta" white antifriction metals, Babbitt's metal, &c.

Dewrance & Co., 165, Gt. Dover-st., London, S.E.

Hughes, John & Joseph, Albion Metal Works, Woodcock-st., Birmingham. (Telegrams: "Bronze, Birmingham." Telephone No. 118.)

Magnolia Anti-Friction Metal Co. of Great Britain, Ltd., 49, Queen Victoria-st., E.C.

Nautilus Metal Co., Dock House, Billiter-st., E.C.

Storey, I., & Sons, Cornbrook, Manchester.

Willcox, W. H., & Co., Ltd. Office: 23, Southwark-st. Warehouse: 32, 34 & 36, Southwark-st., London, S.E. Works: Castle-st. (Telegs: "Willcox, Southwark-st., London." Teleph. Hop 3740 & 3741.) *See advt. facing inside front cover.*

Anti-Induction Cables—Makers of.

F.—Cables anti-inducteurs—Fab. de.
G.—Anti-Inductions Kabel—Fab. von.

Connolly Bros., Ltd., Blackley Vale Mills, Blackley, Manchester. *See advt., page* 438.

Antimony Refiners & Dealers.

F.—Antimoine—Raffineurs et March. d'.
G.—Antimonium Läuterer und Händler.

Hallett & Fry, 202, Rotherhithe-st., London, S.E.

JOHNSON, MATTHEY & CO., LTD., 74 to 81, Hatton Garden, E.C.

Pratt, James Jerram, & Son, 79, Queen-st., London, E.C.

"Anti-Sulphuric" Enamel.

Griffiths Bros. & Co., Macks-rd., Bermondsey, London, S.E. Inventors, sole makers & only rightful users of the trade name, "Anti-Sulphuric" Enamel. *See advt., page* 18.

Apparatus Makers—Electrical.

F.—Appareils électr.—Fabr. d'.
G.—Elektr. Apparate—Fab. von.

Apps, A., 433, Strand, London, W.C.

Bacon & Curtis, Ltd., 2, Regent's-ter., Bournemouth.

Badger, J., & Co., 11, Summer-row, Birmingham.

Bardill, D. W., & Co., Ltd., Burton-on-Trent.

Bill, S., & Co., 56, Guest-st., Birmingham.

Brady & Martin, Ltd., Northumberland-rd., Newcastle-upon-Tyne.

British Electric Calibrated Fuse Co., The, Harpenden, Herts.

British L. M. Ericsson Manufacturing Co., Ltd., The, Byron House, 82/85, Fleet-st., London, E.C. Works: Beeston, Notts. *See advt., page* 719.

British Thomson-Houston Co., Ltd. Head office & works: Rugby. Registered office: 83, Cannon-st., London, E.C. Branch offices: 91, Wellington-st., Glasgow; 41, Church-st., Sheffield; Collingwood-bldgs., Newcastle-on-Tyne; Star Life-bldgs., 30, Cross-st., Manchester; Maritime-bldgs., Middlesbrough; 115, Colmore-row, Birmingham; & Greek-st.-chbrs., Leeds. (Telegs.: "Asteroidal." Teleph. Nos.: Head office, 54 & 55, Rugby; London office, 135, London Wall (4 lines).)

British Westinghouse Electric & Manufacturing Co., Ltd., The, Westinghouse Works, Trafford Park, Manchester.

Brown, T., & Co., Royal Exchange, Middlesborough.

Buncle, James, 93, Shandwick-pl., Edinburgh.

Burns, J., Ltd., 189, Central-st., London, E.C. *See advt., page* 738.

Cambridge Scientific Instrument Co., Ltd., Chesterton-rd., Cambridge.

CROMPTON & CO., LTD., Salisbury House, London Wall, London, E.C. Works: Chelmsford. Makers of dynamos, switches & other appliances for electric lighting. *See advt. inside front cover.*

Donovan & Co., 22, Barwick-st., Birmingham.

DORMAN & SMITH, Ordsal Electrical Works, Salford, Manchester. (Telegs.: "Current, Manchester." Teleph. No. 1741, Nat.) Agents—London: Sambidge & Co., 17, Victoria-st., S.W. (Telegs.: "Prefix, London." Teleph. No. 530, Victoria.) Scottish: Andrews & Co., 198A, St. Vincent-st., Glasgow. Birmingham: S. T. Pemberton, Council-chbrs., Colmore-row. Newcastle-on-Tyne: F. T. Hanks, 1, Higham-pl. *See also page* 123 *& advt., page* 21.

Apparatus Makers—Electrical—*continued.*

Drake & Gorham, Ltd., 66, Victoria-st., Westminster, London, S.W. Works: 1, Felix-st., S.E. For branches, telegrams & telephone numbers, *see* ALPHABETICAL. *See advt., page* 459.

ELECTRIC & ORDNANCE ACCESSORIES CO., LTD., Cheston-rd., Aston, Birmingham. (Telegs.: "Stellite, Birmingham." Teleph. Nos.: Nat. 176 & 179, East; & P.O. 9 (Trunk Calls).) *See page* 134 *for full entry.*

Electric Stores, Ltd., Royal London-bldgs., Wolverhampton.

Electrical Apparatus Co., Ltd., Queen's-rd., Battersea, S.W.

Faraday & Son, 2 & 3, Berners-st., Oxford-st., London, W.

GENERAL ELECTRIC CO., LTD. (*G. Byng, chairman*). Head office: 71, Queen Victoria-st., London, E.C. Works: London, Manchester, Birmingham & Witton. For branch offices, telegraphic addresses & telephone numbers, *see* ALPHABETICAL SECTION. *See advts., pages* 446, 707 *&* 734.

Green, Ralph, & Co., Bute Street Docks, Cardiff.

Hughes, W. C., & Co., Brewster House, Mortimer-rd., Kingsland, London, N.

I.T.C., Ltd. (Inter-communicating Telephone Co.), 64, Leadenhall-st., E.C.

INDIA RUBBER, GUTTA PERCHA & TELEGRAPH WORKS CO., LTD. Head offices: 106, Cannon-st., E.C. Warehouses: 100 & 102, Cannon-st., London, E.C.; & 97, boul. Sebastopol, Paris. Works: Silvertown, Essex; & Persan, France. For telegraphic addresses & branches, *see advt. outside of back cover.*

Jackson, F., & Co., 14, Cross-st., Manchester.

Johnson & Phillips, Ltd., Victoria Works, Charlton, S.O., Kent; & 12, Union-ct., Old Broad-st., London, E.C. *See advt. inside back cover.*

Kinninmont, J., & Sons, 26, Chilworth-street, Westbourne-terrace, London, W.

Lundberg, A. P., & Sons, Pioneer Electrical Works, 477–487, Liverpool-rd., London, N. (Telegs.: "Lundberg, London." Teleph. No. 1746, North.) Agents: Scotland, Messrs. Yuille & Co., 60, Brown-st., Glasgow; other districts: leading wholesale houses.

REG^D LEKTRIK TRADE MARK

By Royal Warrant to H.M. the King.

See advt., page 710 *& on lower outside edges.*

Mackie, W., & Co., 47½, Old-st., London, E.C. (P.O. Telephone No. 2704, Central.) *See* DYNAMO MAKERS.

Marris, G., & Son, Ltd., Browning-st., Birmingham.

Marsh, Son & Co., Ltd., 15, Gerrard-st., London, W. (Telegrams: "Voltmeters, London." Telephone Gerrard 2414.) *See advt., page* 402.

Muse, Thos., 1, South-view, Newington, Hull.

Apparatus Makers—Electrical—*continued.*

NALDER BROS. & CO., 7, Carteret-st., Queen Anne's Gate, Westminster, S.W. (late 16, Red Lion-st., Clerkenwell).

NALDER BROS. & THOMPSON, LTD. (managing director, F. H. Nalder), 34, Queen-st., Cheapside, E.C. *See advt., page* 643.

National Telewriter Co., Ltd., 20, Bucklersbury; & 30–34, Tabernacle-st., London, E.C.

Paul, Robt. W., Newton-ave. Works, New Southgate, N. Show-rooms: 33, Leicester-sq., W.C. *See* ALPHABETICAL. *See advt., page* 617.

Picard, Henri, & Frere, 24, St. Bride-st., E.C.

Player & Mitchell, Cambridge-st., Birmingham.

Port-Dundas Pottery Co., Ltd. (stoneware), Bishop-st., Port Dundas, Glasgow.

Reid Bros., 12, Wharf-rd., London, N. (Telegrams: "Supra, London." Telephone No. 12249, Central.) *See advt., page* 571.

Reynolds & Branson, Ltd., 14, Commercial-st., Leeds.

Sharpe, Wm., & Son, Ltd., 3, Bucklersbury, E.C.

Siemens Bros. & Co., Ltd., Caxton House, Westminster, S.W. *See advt., page* 573.

Southall Bros. & Barclay, Broad-st., Birmingham.

Stiff, J., & Sons, London Pottery, Lambeth, London, S.E. (Telegrams: "Stiff, London." Telephone No. 627, Hop.) *See advt., page* 10.

Stone, J., & Co., Ltd., Deptford, London, S.E.

TETLEY & CO., Falcon Works, Bedford-st., Greengate, Salford.

Walsall Electrical Co., Ltd., 57, Bridge-st., Walsall. For branches, telegrams & telephone numbers, *see* ALPHABETICAL.

West London Scientific Apparatus Co., Premier-pl., High-st., Putney, S.W.

Wilson, J. R., 20, Oxford-rd., Chorlton-on-Medlock, Manchester.

Apparatus for Lighting Gas—Electric.

F.—Appareils électriques pour allumer le gaz.
G.—Elektrische Apparate zum Anzünden des Gases.

Apps, A., 433, Strand, London, W.C.

GENERAL ELECTRIC CO., LTD. (*G. Byng, chairman*). Head office: 71, Queen Victoria-st., London, E.C. Works: London, Manchester, Birmingham & Witton. For branch offices, telegraphic addresses & telephone numbers, *see* ALPHABETICAL SECTION. *See advts., pages* 446, 707 *&* 734.

Lodge Bros. & Co., 14, New-st., Birmingham.

Sugg, W., & Co., Ltd., Vincent Works, 67, Regency-st., Vincent-st., London, S.W.

Telephos, Ltd., 16–20, Farringdon-ave., E.C.

Arbitrators—Electrical & Mechanical.

F.—Arbitres—d'Électricité et de Mécanique.
G.—Schiedsrichter—Elektr. & Mechanische.

Alabaster, H., Gatehouse & Co., 4, Ludgate Hill, E.C.

DAVIES & RANSOME, Caxton House, Westminster, London, S.W. *See advt., page* 14.

Arbitrators—Electrical & Mechanical—*continued.*

Down, Fred. J., Harpenden, Herts.; & 6, 7 & 8, Crutched Friars, London, E.C. A founder, 1883, of Laing, Wharton & Down.

Eck, Justus, M.A. (Cantab), M.I.E.E., 10, Priory-rd., Chiswick, W.

Huddleston, Percy Frederick, 72, Finsbury Pavement, E.C.

Ker, W. Arthur, A.M.I.C.E., 124, St. Vincent-st., Glasgow.

O'Gorman & Baillie, 82, Victoria-st., Westminster, S.W.

Place, John, M.I.MECH.E., A.M.I.E.E., Wheatley Kirk, Price & Co., 46, Watling-st., London, E.C. (Telegs.: "Indices, London." Teleph. Bank 5077); Manchester & Newcastle-on-Tyne.

Sherley-Price, Ernest A., M.I.S.I., A.I.E.E., 46, Watling-st., London, E.C.; Manchester & Newcastle-on-Tyne.

Sherley-Price, Henry, M.I.MECH.E., M.I.E.E., &c., 46, Watling-st., E.C.; Manchester & Newcastle-on-Tyne.

WHEATLEY KIRK, PRICE & CO., 46, Watling-st., London, E.C. (Telegs.: "Indices, London." Teleph. Bank 5077); Manchester; & Newcastle-on-Tyne. *See advt., page* 422.

Arc Lamp Manufacturers—Electric.

F.—Lampes électriques à Arc—Fab. de.
G.—Bogenlampen—Fabr.

ABBEY ELECTRIC CO., 17, Victoria-st., London, S.W. (Telegs.: "Regolofel, London." Teleph. No. 3077, Victoria.) *See advt.* OPPOSITE.

Apps, A., 433, Strand, London, W.C.

ARC LAMPS, LTD. (Davy Arc Lamps). Works: Sphere Engineering Works, St. Albans, Herts. (Telegs.: "Voltarcon, St. Albans." Teleph. No. 258, St. Albans.) *See advts., pages* 417 *&* 418.

ARMORDUCT MANUFACTURING CO., LTD., Farringdon-ave., London, E.C.; & 44, Blackett-st., Newcastle-on-Tyne. Works: Bathurst Works, Witton, nr. Birmingham. (Telegs.: "Armorduct," London, Newcastle-on-Tyne, Birmingham. Teleph. Nos.: London, 400, Holborn (2 lines); Newcastle-on-Tyne, 2827, Central; Witton Works, 812, East.) *See advt. on top edges.*

Baxendale & Co. (merchants), Miller-st. Works & Warehouses, Manchester; Hanover-st., Edinburgh; Capel-st., Dublin; & Hood-st., Liverpool.

Beck Flame Lamp Ltd., Suffolk House, Laurence Pountney Hill, Cannon-st., E.C.; & Hayes, Middlesex.

Boddy, G. M., & Co., 15, Gray's Inn-rd., London, W.C.; & St. Peter's-sq., Manchester. *See advt., page* 646.

Borland, F. J., & Co., Old Mills, Camp-rd., Leeds.

British Westinghouse Electric & Manufacturing Co., Ltd., The, Westinghouse Works, Trafford Park, Manchester.

Arc Lamp Mfrs.—Electric—*continued.*

BRUSH ELECTRICAL ENGINEERING CO., LTD., THE. London office: Electrical Federation Offices, Kingsway, W.C. Works: Loughborough, Leicestershire. *See* ALPHABETICAL.

CODD ARC LAMP CO., LTD., Standard Works, Dame Agnes-st., Nottingham.

Crathorne & Green Manufacturing Co., Wagner-st., Old Kent-rd., London, S.E. Makers of the Meridian Arc Lamp.

CROMPTON & CO., LTD., Salisbury House, London Wall, London, E.C. Works: Chelmsford. Crompton system. Makers of the Crompton-Blondel flame arc lamp. *See advt. inside front cover.*

DAVIS ELECTRICAL CO., LTD., THE, 17, Moor-st., Cambridge-circus, W. (Telegs.: "Unmatchable, London." Teleph. No. 7253, Central.) *See advt., page* 645.

Drake & Gorham, Ltd., 66, Victoria-st., Westminster, London, S.W. Works: 1, Felix-st., London, S.E. For branches, telegrams & telephone numbers, *see* ALPHABETICAL. *See advt., page* 459.

ELECTRIC & ORDNANCE ACCESSORIES CO., LTD., Cheston-rd., Aston, Birmingham. (Telegs.: "Stellite, Birmingham." Teleph. Nos.: Nat. 176 & 179, East; & P.O. 9 (Trunk Calls).) *See page* 134 *for full entry.*

Foster Arc Lamp & Engineering Co., Ltd., Worple Arcade, Worple-rd., Wimbledon.

Foxcroft & Duncan, Phœnix Works, Mentmore-ter., London Fields, London, N.E.

Frampton & Paine, 29, Old Queen-st., Westminster, S.W.

General Electric Co., Ltd. (*G. Byng, chairman*). Head office: 71, Queen Victoria-st., London, E.C. Works: London, Manchester, Birmingham & Witton. For branch offices, telegraphic addresses & telephone numbers, *see* ALPHABETICAL SECTION. *See advts., pages* 446, 707 *& 734.*

GILBERT ARC LAMP CO., LTD., MANUFACTURERS OF EVERY TYPE ARC LAMP & ACCESSORIES, CHINGFORD, ESSEX. (TELEGS.: "GILBERTS, CHINGFORD." TEL. NO. 59, CHINGFORD.)

Globe Electric Co., Ltd., 11, Farringdon-ave., London, E.C. Works: Holloway, N. (Telegs.: "Santochimo, London." Teleph. Central 4774.)

TRADE MARK

GREVENER, J. & H., Eldon-st. House, Eldon-st., London, E.C.

Holman Flame Lamp Co., 101, St. Vincent-st., Glasgow.

"THE ABBEY"

FLAME ARC LAMP

(PATENTED).

Improved pattern for either Direct or Alternating Current.

Made in two sizes, to burn 12 to 14 hours and 20 to 22 hours with one pair of carbons.

British Manufacture Throughout.

THE ABBEY ELECTRIC CO.,

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Telegrams: "REGOLOFEL."
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ALL COMMUNICATIONS TO BE ADDRESSED TO THE COMPANY.

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Telephone: 14946 Central.
A.B.C. Code, 5th Edition.

ARTHUR JOPLING & Co.,

WHOLESALE ELECTRICAL SUPPLIERS AND SOLE MANUFACTURERS OF

JOPLING'S FLAME & ENCLOSED ARC LAMPS.

HIGHEST EFFICIENCY.
RELIABILITY.
SIMPLICITY.

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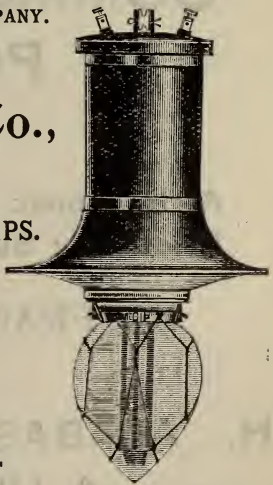
Aldersgate Street, LONDON, E.C.



ENCLOSED LAMP.

Arc Lamp Mfrs.—Electric—*continued.*

INDIA RUBBER, GUTTA PERCHA & TELEGRAPH WORKS CO., LTD. Head offices: 106, Cannon-st., E.C. Warehouses: 100 & 102, Cannon-st., London, E.C.; & 97, boul. Sebastopol, Paris. Works: Silvertown, Essex; & Persan, France. For telegraphic addresses & branches, *see advt. outside back cover.*

JANDUS ARC LAMP & ELECTRIC CO., LTD. Registered offices: 46, Brown-st., Manchester (A. A. Gillies, F.C.A.). Works & Sales Offices: Hartham Works, Holloway, London, N. (A. Denman Jones, A.M.I.E.E., manager). (Telegs.: "Jandunus, London." Teleph. North 892 (2 lines).)

JOPLING, A., & CO., 10, Westmorland-bldgs., Aldersgate-st., London, E.C. *See advt., page* 415.

Keys, J. W., & Co., 162, Lambeth-rd., S.E.

MAXIM LAMP WORKS, LTD., Maxim Works, Walthamstow.

OLIVER ARC LAMP, LTD., Cambridge-pl., Burrage-rd., Woolwich, S.E.

Paul, Robt. W., Newton-ave. Works, New Southgate, London, N. Show-rooms: 33, Leicester-sq., London, W.C. Specialities for Optical Projection. *See* ALPHABETICAL. *See advt., page* 617.

Richardson, A. W., Skew Bridge Works, Patricroft, nr. Manchester.

SIEMENS BROS. DYNAMO WORKS, LTD., Caxton House, Westminster, London, S.W.; & 39, Upper Thames-st., E.C. (Siemens' system.)

Arc Lamp Mfrs.—Electric—*continued.*

Smithson, Sharpe & Co., Sykes-st., Hulme, Manchester.

SUN ELECTRICAL CO., LTD., 118 & 120, Charing Cross-rd., London, W.C. (Telegs.: "Secabilis, London." Teleph. Nos. 2291 & 2292, Gerrard.) *See advt., page* 596.

Turner, A. W., Cobden-bldgs., Birmingham.

UNION ELECTRIC CO., LTD., Park-st., Southwark, S.E. (Telegs.: "Abeam, London." A.B.C. Code. Tel. Hop. 2970.) *See advt., page* 563.

Urban, Chas., Trading Co., Ltd., 48, Rupert-st., London, W.

VERITYS, LTD., King-st., Covent Garden, London, W.C.; & Birmingham, Manchester, Glasgow, Bristol, &c. *See* ALPHABETICAL SECTION. Worsley's patent double & single enclosure lamps & Aston open type lamps.

Waltham Arc Lamp Co., 2, Jackson-rd., Holloway, N.

Westminster Engineering Co., Ltd., Victoria-rd., Willesden Junction, London, N.W. Makers of the Westminster Arc Lamp.

Wilhelm & Co., 7, New Zealand-ave., Barbican, London, E.C.

Arc Lamp Manufacturers.

ENCLOSED (LONG-BURNING).

Arc Lamps, Ltd., Sphere Engineering Works, St. Albans, Herts. (Telegs.: "Voltarcon, St. Albans." Teleph. No. 258, St. Albans.) *See inset advt.* OPPOSITE.

Jandus Arc Lamp & Electric Co., Ltd., Hartham Works, Holloway, London, N.

Price 1/6 net; Post Free 1/7. Limp Cloth, cut flush, round corners, red edges, demy 12mo, suitable for pocket (size 6¾″ by 3¾″).

THE

COMMERCIAL ENGINEER'S POCKET BOOK.

ELECTRICITY SUPPLY.

A Handbook for Publicity Department Managers, Electricity Supply and Contractors' Representatives.

By FRANCIS H. DAVIES, A.M.I.E.E.

H. ALABASTER, GATEHOUSE & CO.,

4, LUDGATE HILL, LONDON, E.C.

TELEGRAMS:
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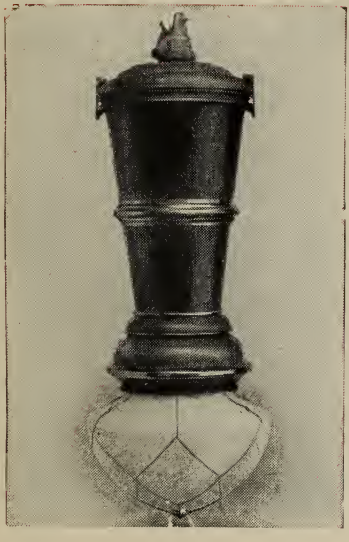
TELEPHONE:
258, ST. ALBANS.

THE DAVY SUNRÆ FLAME ARC LAMPS.

MADE
IN
THREE SIZES.
35-40 hr.
18-20 hr.
10-12 hr.
FOR
DIRECT AND
ALTERNATING
CURRENT
AT
6-8-10 & 12 amps.



FOR LIGHTING
STREETS,
RAILWAYS,
DOCKS,
TRAMWAY
SHEDS,
FACTORIES,
SHOPS, Etc., Etc.

DAVY "SUNRÆ"
(FLAME ARC).

NO SHUNT COILS.

Unquestionably the Best and Most Brilliant Lamp in the Market.

IN USE BY MANY CORPORATIONS & ELECTRIC LIGHT COMPANIES.

THESE LAMPS ARE BRITISH MANUFACTURED
BY . . .

ARC LAMPS, LIMITED,

AT . .

SPHERE ENGINEERING WORKS,
ST. ALBANS, HERTS.

WRITE FOR ILLUSTRATED LIST.

[OVER.

TELEGRAMS:
"VOLTARCON, ST. ALBANS."

TELEPHONE
258, ST. ALBANS.

DAVY ENCLOSED ARC LAMPS.

MADE UNDER DAVY'S CONTROLLING PATENTS.

IN A RANGE OF SIZES AND PATTERNS FOR CONTINUOUS OR ALTERNATING CURRENT FROM 2 TO 15 AMPERES, TO MEET ALL CONDITIONS OF ELECTRIC LIGHTING.

NO SHUNT COILS.

FIG. III. PATENT ENCLOSED.

PHOTO PRINTING.

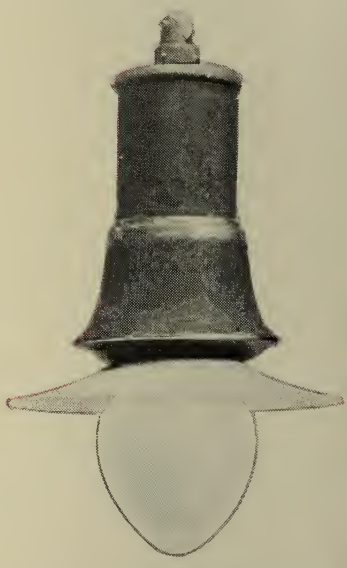


FIG. III. B. PATENT ENCLOSED.

BRITISH MANUFACTURED BY

ARC LAMPS, LIMITED,

AT . . .

SPHERE ENGINEERING WORKS,
ST. ALBANS, HERTS.

WRITE FOR ILLUSTRATED LIST.

OVER.]

Arc Lamp Cords.

Busby, E., & Son, Excelsior Wire Works, Dartmouth-st., Birmingham.

Arc Lamp Fittings.

F.—Accessoires pour lampes à Arc.
G.—Bogenlampen Zubehöre.

Arc Lamps, Ltd. (Davy Arc Lamps). Works: Sphere Engineering Works, St. Albans, Herts. (Telegs.: "Voltarcon, St. Albans." Teleph. No. 258, St. Albans.) *See inset advt.* OPPOSITE.

AUTOMATIC STANDARD SCREW CO., HALIFAX. (TELEGS.: "STANDARD." TELEPH. NO. 992.)

Donovan & Co., 22, Barwick-st., Birmingham.

Drake & Gorham, Ltd., 66, Victoria-st., Westminster, London, S.W. Works: 1, Felix-st., S.E. For branches, telegrams & telephone numbers, *see* ALPHABETICAL. *See advt., page* 459.

ELECTRIC & ORDNANCE ACCESSORIES CO., LTD., Cheston-rd., Aston, Birmingham. (Telegs.: "Stellite, Birmingham." Teleph. Nos.: Nat. 176 & 179, East; & P.O. 9 (Trunk Calls).) *See page* 134 *for full entry.*

Electrical Contracts & Maintenance Co., Ltd., Sanctuary House, Westminster, S.W.

Electrical & Engineering Supplies Co., Ltd., 36 & 37, Upper Thames-st, London, E.C. *See advt., page* 652.

General Electric Co., Ltd. (*G. Byng, chairman*). Head office: 71, Queen Victoria-st., London, E.C. Works: London, Manchester, Birmingham & Witton. For branch offices, telegraphic addresses & telephone numbers, *see* ALPHABETICAL SECTION. *See advts., pages* 446, 707 & 734.

Globe Electric Co., Ltd., 11, Farringdon-ave., London, E.C. Works: Holloway, N. (Telegs.: "Santochimo, London." Teleph. Central 4774.)

TRADE MARK

GREVENER, J. & H., Eldon-st. House, Eldon-st., London, E.C.

INDIA RUBBER, GUTTA PERCHA & TELEGRAPH WORKS CO., LTD. Head offices: 106, Cannon-st., E.C. Warehouses: 100 & 102, Cannon-st., London, E.C.; & 97, boul. Sebastopol, Paris. Works: Silvertown, Essex; & Persan, France. For telegraphic addresses & branches, *see advt. outside of back cover.*

Johnson & Phillips, Ltd., Victoria Works, Charlton, S.O., Kent; & 12, Union-ct., Old Broad-st., E.C. *See advt., inside back cover.*

Arc Lamp Fittings—*continued.*

JOPLING, A., & CO., 10, Westmorland-bldgs., Aldersgate-st., London, E.C. *See advt., page* 415.

London Electric Firm, George-st., Croydon.

Oliver Arc Lamp, Ltd., Cambridge-pl., Burrage-rd., Woolwich, S.E.

Arc Lamp Globes.

F.—Globes pour lampes à arc.
G.—Bogenlicht Glocken.

ARC LAMPS, LTD. (Davy Arc Lamps). Works: Sphere Engineering Works, St. Albans, Herts. (Telegs.: "Voltarcon, St. Albans." Teleph. No. 258, St. Albans.) *See advts.* OPPOSITE.

Bateman, M., & Co., 27, Shoe-lane, London, E.C.

Baxendale & Co., Miller-st. Works & Warehouses, Manchester; Hanover-st., Edinburgh; Capel-st., Dublin; & Hood-st., Liverpool.

Butterworth Bros., Ltd., Newton Heath Glass Works, Manchester. (Telegs.: "Glasses, Newton Heath." Teleph. No. 22, Failsworth.)

City Glass Co., Wharf-rd., Cubitt Town, E.

De Grelle, Houdret & Co., 130, London Wall, E.C.

ELECTRIC & ORDNANCE ACCESSORIES CO., LTD., Cheston-rd., Aston Birmingham. (Telegs.: "Stellite Birmingham." Teleph. Nos. Nat. 176 & 179, East; & P.O. 9 (Trunk Calls).) *See page* 134 *for full entry.*

FALK, STADELMANN & CO., LTD., 83, 85 & 87, Farringdon-rd., London, E.C.; & Glasgow.

Globe Electric Co., Ltd., 11, Farringdon-ave., London, E.C. Works: Holloway, N. (Telegs.: "Santochimo, London." Teleph. Central 4774.)

TRADE MARK

GREVENER, J. & H., Eldon-st. House, Eldon-st., London, E.C.

Johnson & Phillips, Ltd., Victoria Works, Charlton, S.O., Kent; & 12, Union-ct., Old Broad-st., E.C. *See advt. inside back cover.*

Mayer, H. G., & Co., 67, Aldersgate-st., E.C.

Oliver Arc Lamp, Ltd., Cambridge-pl., Burrage-rd., Woolwich, S.E.

Sloan Electrical Co., Ltd. (agents), 15, Fore-st.-ave., London, E.C.

UNION ELECTRIC CO., LTD., Park-st., Southwark, London, S.E. (Telegs.: "Abeam, London." A.B.C. Code. Teleph. Hop. 2970.) *See advt., page* 563.

Arc Lamp Posts.

F.—Poteaux pour lampes à arc.
G.—Bogenlampen Pfosten.

Drake & Gorham, Ltd., 66, Victoria-st., Westminster, London, S.W. Works: 1, Felix-st., S.E. For branches, telegrams & telephone numbers, *see* ALPHABETICAL. *See advt., page* 459.

Arc Lamp Posts—*continued.*

FALKIRK IRON CO., Craven House, Kingsway, London, W.C. Works: Falkirk, N.B.

Globe Electric Co., Ltd., 11, Farringdon-ave., London, E.C. Works: Holloway, N. (Telegs.: "Santochimo, London." Teleph. Central 4774.)

TRADE MARK

Johnson & Phillips, Ltd., Victoria Works, Charlton, S.O., Kent; & 12, Union-ct., Old Broad-st., E.C. *See advt. inside back cover.*

Macfarlane, Walter, & Co., Saracen Foundry, Glasgow. (Telegrams: "Saracen, Glasgow.")

Mackenzie & Moncur, Ltd., Edinburgh.

Maude & Co., Mansfield.

Spencer, J. E. & S., 14, Great St. Thomas Apostle, Cannon-st., London, E.C.

Arc Lamp Suspension Gear.

London Electric Firm, George-st., Croydon.

Arc Lamp Transformers—Makers of.

Neville, Williams & Co., 80A, Southwark-st., London, S.E.

Arc Light & Tram Poles.

SPENCER, JOHN, LTD., Globe Tube Works, Wednesbury; & 14, Great St. Thomas Apostle, London, E.C. (Telegrams: "Tubes, Wednesbury;" "Tubes, London.")

Armature Wire—Compressed & Laminated.

F.—Fil pour Armatures.

G.—Draht für Anker.

LONDON ELECTRIC WIRE COMPY. & SMITHS, LTD., THE, Playhouse-yard, Golden-lane, London, E.C. *See advt. facing inside back cover.*

St. Helen's Cable & Rubber Co., Ltd., Warrington.

Armorduct Conduit.

ARMORDUCT MANUFACTURING CO., LTD., Farringdon-ave., London, E.C.; & 44, Blackett-st., Newcastle-on-Tyne. Works: Bathurst Works, Witton, nr. Birmingham. (Telegs.: "Armorduct," London, Newcastle-on-Tyne, Birmingham. Teleph. Nos.: London, 400, Holborn (2 lines); Newcastle-on-Tyne, 2827, Central; Witton Works, 812, East.) *See advt. on top edges.*

Armoured Cables & Wires—Makers of.

F.—Cables et fil armés—Fabricants de.

G.—Gepanzerte Draht & Kabel—Fabrikanten von.

BRITISH INSULATED & HELSBY CABLES, LTD. Head office: Prescot, Lancs. Works: Prescot, Helsby & Liverpool. For branch offices, telegraphic & telephonic addresses, *see* ALPHABETICAL ENTRY. *See advt., page* 437.

Callender's Cable & Construction Co., Ltd., Hamilton House, Victoria Embankment, London, E.C. *See advt., page* 441.

CONNOLLY BROS., LTD., Blackley Vale Mills, Blackley, Manchester. *See advt., page* 438.

Felten & Guilleaume Lahmeyerwerke Act. Ges., Mülheim am Rhein. (Lahmeyer Electrical Co., Ltd., agents, Bank-bldgs., 109–111, New Oxford-st., London, W.C.)

Geipel, Wm., & Co. (late Geipel & Lange), Vulcan Works, 72A, St. Thomas-st., London, S.E. (Telegs.: "Patella, London." Teleph. No. 594, Hop. (2 lines).) Sole agents for Mannheim Cable Works. *See advt., page* 19.

Geoffroy & Delore (A. H. Hunt), 115–117, Cannon-st., London, E.C. (Telegrams: "Keyage, London." Telephone No. 8114, Bank.)

HENLEY'S, W. T., TELEGRAPH WORKS CO., LTD. Offices: Blomfield-st., London, E.C. *See advt., page* 22.

INDIA RUBBER, GUTTA PERCHA & TELEGRAPH WORKS CO., LTD. Head offices: 106, Cannon-st., E.C. Warehouse: 100 & 102, Cannon-st., London, E.C.; & 97, boul. Sebastopol, Paris. Works: Silvertown, Essex; & Persan, France. For telegraphic addresses & branches, *see advt. outside of back cover.*

Johnson & Phillips, Ltd., Electric Cable Works, Charlton, S.O., Kent. Depôts: Glasgow, Newcastle, &c. *See advt. inside back cover.*

Liverpool Electric Cable Co., Ltd., Vauxhall-rd., Liverpool. (Telegrams: "Concentric, Liverpool." Telephone No. 6563.) *See advt., page* 440.

LONDON ELECTRIC WIRE COMPY. & SMITHS, LTD., THE, Playhouse-yard, Golden-lane, London, E.C. *See advt. facing inside back cover.*

St. Helen's Cable & Rubber Co., Ltd., Warrington, Lancs.

Siemens Bros. & Co., Ltd., Caxton House, Westminster, London, S.W. *See advt., page* 573.

UNION CABLE CO., LTD., THE, Eagle Wharf-rd., London, N. *See advt., page* 4.

Art Metal Workers & Artistic Fittings.

F.—Artistes en ouvrages metalliques et accessoires artistiques.

G.—Kunst Metall Arbeiter u. Künstlerische Armaturen—Fabr.

Baily, Grundy & Barrett, Ltd., 2, St. Mary's Passage, Cambridge.

Art Metal Workers & Artistic Fittings —*continued.*

Caslake & Co., Ltd., Scrubb-lane, Willesden Junction, N.W.
Cope & Timmins, Ltd., 21, Newman-st., London, W.
Cox, Sons, Buckley & Co., 10, Henrietta-st., Covent Garden, London, W.C.
Crittall, R., & Co., 197, Wardour-st., W.
Croggon & Co., Ltd., 16 & 230, Upper Thames-st., London, E.C.; Colonial-chbrs., Temple-st., Liverpool; & 7, John-st., Glasgow. *See advt., page* 494.
GALSWORTHY LTD., formerly The London Electrical Fittings Co., Ltd., Roberts Works, Hampstead-rd., N.W. (Telegs.: "Filosofone, London." Teleph. No. 441, North.) Showroom: 15 & 16, Newman-st., Oxford-st., London, W. (Teleph. No. 6621, Gerrard.) *See advts., pages* 593 *&* 604.
HANDS, ALBERT C., Snow Hill, London, E.C. (Telegrams: "Thraldom, London." Telephone No. 1033, Holborn.)
Hardman, Powell & Co., King Edward's-rd., Birmingham.
Henney, Geo. F., 142B, Fulham-rd., London, S.W.
Hookham, H. J., & Sons, Charles Henry-street, Birmingham.
HUNTALITE, LTD., 23, Newman-st., London, W.
Jesson Birkett & Co., Ltd., 27, Ely-pl., London, E.C.
Jewsbury, J., & Co., 71, Broad-st., Birmingham.
Leefe, F. E., 364, Goswell-rd., London, E.C.
London Electrical Fittings Co., Ltd. *See* Galsworthy Ltd.
Macfarlane, Walter, & Co., Saracen Foundry, Glasgow. (Telegrams: "Saracen, Glasgow.")
McGeoch, William, & Co., Ltd., Warwick Works, 46, Coventry-rd., Birmingham; & 28, West Campbell-st., Glasgow. (Telegs.: "McGeoch," Glasgow, Birmingham, & London. Teleph. Nos.: Nat., 2181 (4 lines); P.O., 101 & 2.)
McGlouglin, J. & C., Ltd., 47–54, Great Brunswick-st., Dublin.
OUSEY, GEO. RYDER, & CO., 7, Bunhill-row, London, E.C. *See advt., page* 595.
Richardson, Wm., & Co., 18, Brownlow-st., High Holborn, W.C.; & Summers Town, Tooting, S.W.
RIPPINGILLE MANUFACTURING CO., LTD., Plume-st., Aston, Birmingham. *See advts., pages* 597 & 598.
Schonfield, A., & Co., Ltd., 21, Hope-st., Glasgow.
Slater, James, & Co., 251, High Holborn, W.C.
Smellie, James, Ltd., Ivanhoe Works, Dudley.
Stone, Joseph, 42, St. George's-road, Southwark, London, S.E.
Tonks, Ltd. (late Tonks, Wm., & Sons), 57, Holborn Viaduct, London, E.C.; & 201, Moseley-st., Birmingham.
Toulmin, E. H., Wotton-under-Edge, Gloucestershire.
Veritys, Ltd., King-st., Covent Garden, London, W.C.; & Birmingham, Manchester, Glasgow, Bristol, &c. *See* ALPHABETICAL SECTION.

Art Metal Workers & Artistic Fittings— *continued.*

Walker, Henry, & Son, Ltd., Gallowgate, & 55, Westgate-rd., Newcastle-on-Tyne.
Waltham & Hill, 3, Duke-st., Adelphi, W.C.
Wright, G., & Co., 155, Queen Victoria-st., & 1 & 238, Upper Thames-st., London, E.C.
Wurtemberg Electro-Plate Co., Wurtemberg House, Giltspur-st., Holborn Viaduct, London, E.C.

Artesian Well Borers.

MATHER & PLATT, LD., Salford Iron Works, Manchester; & Queen Anne's-chbrs., Westminster, London, S.W. (Telegrams: "Mather, Manchester;" "Sprinkler, London." Nat. Telephone Nos.: 5781, 5782 & 5783, Manchester; & 851 & 852, Westminster.)

Asbestos Manufacturers & Merchants.

(*See also* SILICATE COTTON & SLAG WOOL.)

F.—Amiante—Fab. et March. d'.

G.—Asbest-Fabrikanten und Händler.

Anglo Asbesto & Rubber Works Co., 15, Edmund-pl., Aldersgate-st., E.C.
Anglo-Italian Asbestos Co., Marsden-chbrs., Marsden-st., Manchester.
Asbestos & Asbestic Co., Ltd., 5, Lloyds-ave., London, E.C.
Asbestos & Rubber Co., Ltd., Hull.
Bell's Asbestos Co., Ltd., 118, Southwark-st., S.E.
Bell's Asbestos Northern Agency, 8A, South Parade, Manchester (F. R. Putz, sole vendor).
CARSON & EVANS, 3, Fenchurch-bldgs., Fenchurch-st., London, E.C. (Telegs.: "Irishism, London." Teleph. Avenue 2507.) *See advts., pages* 486 *&* 737.
Cresswell Asbestos Co., Ltd., Wellington Mills, Bradford, Yorks.
Dick's Asbestos Co., 51 & 52, Fenchurch-st., E.C.
EVERITT & CO., 40, Chapel-st., Liverpool. (Telegs.: "Persistent, Liverpool." Teleph. No. 1134 (3 lines).) *See advt., page* 640.
General Asbestos Co., Ltd., 5, Lloyds-ave., E.C.
Haacke, A., & Co., Kieselguhr Wharf, Homerton, London, N.E.
Harrison, R. W., & Co. (asbestos fireproof paint), Mill-lane; & works: St. Peter-st., Blackburn. (Telegrams: "Rubber, Blackburn." Telephone No. 34.)
Hill, Fredk. A., & Co., 108, Bishopsgate-st. Within, E.C. (Teleph. No. 9905, Wall.)
LITHOLITE, LTD., 55, Hackney Grove, London, N.E. (Telegs.: "Ferrules, London." Teleph. North 1492.) *See advt., page* 620.
Lonsdale Bros., Ltd., Pump-st., Blackburn.
MANNHEIM INDIA RUBBER, GUTTA PERCHA & ASBESTOS WORKS CO., LTD., 61, Leadenhall-st., London, E.C.

Asbestos Manufacturers & Merchants— *continued.*

Putz, F. R., 8 & 9, South Parade, Manchester; & at 19 & 20, Strand-st., Liverpool.

Smart, A., & Co., Rockcliffe Mills, Collyhurst, Manchester.

United Asbestos Co., Ltd., Dock House, Billiter-st., London, E.C.; & 34, Deansgate, Manchester.

Wallach Bros., Ltd., Royal London House, Finsbury-sq., London, E.C.

Willcox, W. H., & Co., Ltd., office, 23, Southwark-st.; warehouse: 32, 34 & 36, Southwark-st., S.E. Works: Castle-st. (Telegs.: "Willcox, Southwark-st., London." Teleph. Hop 3740 & 3741.) *See advt. facing inside front cover.*

Witty & Wyatt, Ltd., 88, Leadenhall-st., London, E.C.

Asphalt Troughs.

HOWARD ASPHALT TROUGHING CO., LTD., THE, Trafford Park, Manchester.

Assay Office & Laboratory Apparatus Makers.

F.—Bureau d'essai & fabricants d'appareils de laboratoire.

G.—Versuch's Bureau & Verfertiger von Laboratorien-Apparate.

Apps, A., 433, Strand, London, W.C.

Assay Office & Laboratory Apparatus Makers— *continued.*

JOHNSON, MATTHEY & CO., LTD., 74–81, Hatton Garden, E.C.

Smith, J. Ciceri, Raymond House, 32, Theobald's-rd., London, W.C.

Assayers.

F.—Essayeurs.

G.—Edelmetall-Schmelzer.

Gemmell, G. H., Chemical Laboratory, 4, Lindsay-pl., Edinburgh.

JOHNSON, MATTHEY & CO., LTD., 74–81, Hatton Garden, E.C.

Kitto, Benedict, F.G.S., F.I.C., 30 & 31, Saint Swithin's-lane, London, E.C.

Sheffield Smelting Co., Ltd., 1, Berry-st., Clerkenwell-rd., E.C.; & at Sheffield & Birmingham.

Sulman & Picard, 44, London Wall, E.C.

Auctioneers, Valuers & Arbitrators—Electrical & Mechanical.

(*See also* ARBITRATORS AND VALUERS.)

F.—Priseurs—d'Électricité et de la Mécanique.

G.—Versteigerer—Elektr. & Mechanische.

HUDDLESTON, PERCY, & CO., 72, Finsbury Pavement, London, E.C.

Telegrams:
"Indices, London."
"Indicator, Manchester."
"Indicator, Newcastle-on-Tyne."

ESTABLISHED 1850.

Telephones:
London: Bank, 5077.
Manchester: Central, 3218.
Newcastle: Central, 3229.

WHEATLEY KIRK, PRICE & CO.,

ELECTRICAL & MECHANICAL VALUERS and AUCTIONEERS.

ENGINEERING PARTNERSHIPS ARRANGED.

46, Watling Street, London, E.C.
Albert Square, Manchester.
26, Collingwood Street, Newcastle-on-Tyne.

Auctioneers, Valuers & Arbitrators—Electrical & Mechanical—*continued.*

Ison, White & Bedford, 40 & 41, Upper Thames-st., London, E.C.

Sherley-Price, Henry, M.I.MECH.E., M.I.E.E., &c., 46, Watling-st., London, E.C.; Manchester & Newcastle-on-Tyne.

WHEATLEY KIRK, PRICE & CO., 46, Watling-st., London, E.C. (Telegs.: "Indices, London." Teleph. Bank 5077); Manchester & Newcastle-on-Tyne. *See advt.* OPPOSITE.

WOOD & NEWLAND, 42, Spring-gardens, Manchester.

Auto-Cut-Outs for use with Metallic Filament Lamps.

Auto-Transformers for use with Metallic Filament Lamps.

Adnil Electric Co., Ltd., Adnil-bldg., Artillery-lane, London, E.C.

CATEAUX, J. L., & CO., 10, Bush-lane, London, E.C. (Telegs.: "Cleodora, London." Teleph. No. 2895, London Wall.) High efficiency auto-transformers for metallic filament lamps & arc lamps.

Electrical Contracts & Maintenance Co., Ltd., Sanctuary House, Westminster, S.W.

Electrical & Engineering Supplies Co., Ltd., 36 & 37, Upper Thames-st., London, E.C. *See advt., page* 652.

Globe Electric Co., Ltd., 11, Farringdon-ave., London, E.C. Works: Holloway, N. (Telegs.: "Santochimo, London." Teleph. Central 4774.)

TRADE MARK

Automatic Cut-Outs.

F.—Coupe-courant automatique.
G.—Automatische Ausschalter.

ADAMS MANUFACTURING CO., LTD., 106, New Bond-st., London, W.; & Bedford. (Telegs.: "Admocar, London;" & "Admocar, Bedford." Teleph. Mayfair 3962; & P.O., Bedford 2.)

ARC LAMPS, LTD. (Davy Arc Lamps). Works: Sphere Engineering Works, St. Albans, Herts. (Telegs.: "Voltarcon, St. Albans." Teleph. No. 258, St. Albans.) *See advts., pages* 417 *&* 418.

Bray, Markham & Reiss, Ltd., Blackhorse-lane, Walthamstow, E.

British Westinghouse Electric & Manufacturing Co., Ltd., The, Westinghouse Works, Trafford Park, Manchester.

Automatic Cut-Outs—*continued.*

DORMAN & SMITH, Ordsal Electrical Works, Salford, Manchester. (Telegs.: "Current, Manchester." Teleph. No. 1741, Nat.) Agents—London: Sambidge & Co., 17, Victoria-st., S.W. (Telegs.: "Prefix, London." Teleph. No. 530, Victoria.) Scottish: Andrews & Co., 198A, St. Vincent-st., Glasgow. Birmingham: S. T. Pemberton, Council-chbrs., Colmore-row. Newcastle-on-Tyne: F. T. Hanks, 1, Higham-pl. *See also page* 123 *& advt., page* 21.

Drake & Gorham, Ltd., 66, Victoria-st., Westminster, S.W. Works: 1, Felix-st., S.E. For branches, telegrams & telephone numbers, *see* ALPHABETICAL. *See advt., page* 459.

Ferguson, Jas., M.I.E.E., 61, Pollok-st., Pollokshaws, Glasgow.

Geipel, Wm., & Co. (late Geipel & Lange), Vulcan Works, 72A, St. Thomas-st., London, S.E. (Telegs.: "Patella, London." Teleph. No. 594, Hop. (2 lines).) *See advt., page* 19.

HODGES, CECIL, & CO., Balfour House, Finsbury Pavement, London, E.C.

Johnson & Phillips, Ltd., Victoria Works, Charlton, S.O., Kent; & 12, Union-ct., Old Broad-st., E.C. *See advt. inside back cover.*

Morris & Lister, Ltd., Carlton Works, Lockhurst-lane, Coventry.

Moy, Ernest F., Ltd., Greenland-pl., Camden Town, London, N.W. (Telegrams: "Movedor, London.") *See advt., page* 709.

NALDER BROS. & THOMPSON, LTD. (managing director, F. H. Nalder), 34, Queen-st., Cheapside, E.C. *See advt., page* 643.

Siemens Bros. Dynamo Works, Ltd., Caxton House, Westminster, London, S.W.

SPAGNOLETTI, LTD., Goldhawk Works, Goldhawk-rd., W.

SWITCHGEAR CO., LTD., Wilfred-st., Sherborne-st., Manchester.

Walsall Electrical Co., Ltd., 57, Bridge-st., Walsall. For branches, telegrams & telephone numbers, *see* ALPHABETICAL.

WHIPP & BOURNE, makers of "RELIANCE" circuit breakers, starting & regulating rheostats & all kinds of switchboards, Castleton, nr. Manchester. (Teleph. No. 563.)

Automatic Electric Signalling Apparatus Makers.

F.—Appareils électr. de signaux automat.—Fab. de.
G.—Elektr. Signal Apparate (automatisch)—Fab. von.

Adnil Electric Co., Ltd., Adnil-bldg., Artillery-lane, London, E.C.

DEWHURST, ED., Mount-st. Electrical Works, Preston. (Telegs.: "Electric, Preston." Teleph. No. 81.) Dewhurst's patent single & multi-car signals are used on the most important municipal tramway systems.

Electrical Contracts & Maintenance Co., Ltd., Sanctuary House, Westminster, S.W.

Hall Signal Co., Queen Anne's-chbrs., Tothill-st., S.W.

Automatic Electric Signalling Apparatus Makers—*continued.*

INDIA RUBBER, GUTTA PERCHA & TELEGRAPH WORKS CO., LTD. Head offices: 106, Cannon-st., E.C. Warehouse: 100 & 102, Cannon-st., London E.C.; & 97, boul. Sebastopol, Paris. Works: Silvertown, Essex; & Persan, France. For telegraphic addresses & branches, *see advt. outside of back cover.*

Railway Electrical Fog Signal Syndicate, Ltd., St. Peter's Church-walk, Nottingham.

Siemens Bros. & Co., Ltd., Caxton House, Westminster, London, S.W. *See advt., page* 573.

SPAGNOLETTI, LTD., Goldhawk Works, Goldhawk-rd., London, W.

Automatic Lifts.

STANNAH, J., Skin Market-pl., Bankside, London, S.E. *See advt., page* 631.

Automatic Motor Starters.

ELECTRIC & ORDNANCE ACCESSORIES CO., LTD., Cheston-rd., Aston, Birmingham. (Telegs.: "Stellite, Birmingham." Teleph. Nos.: Nat. 176 & 179, East; & P.O. 9 (Trunk Calls).) *See page* 134 *for full entry.*

GEIPEL, WM., & CO. (late Geipel & Lange), Vulcan Works, 72A, St. Thomas-st., London, S.E. (Telegs.: "Patella, London." Teleph. No. 594, Hop. (2 lines).) *See advt., page* 19.

Automatic Regulators—Makers of.

F.—Régulateurs autom.—Fab. de.
G.—Automatische Regulatoren—Fab. von.

ADAMS MANUFACTURING CO., LTD., 106, New Bond-st., London, W.; & Bedford. (Telegs.: "Admocar, London;" & "Admocar, Bedford." Teleph. Mayfair 3962; & P.O., Bedford 2.)

ELECTRICAL REGULATORS & ECONOMISERS, LTD., 51, North John-st.; & 16, Cumberland-st., Liverpool. MARTIN REGULATORS. *See advt., page* 679.

Geipel, Wm., & Co. (late Geipel & Lange), Vulcan Works, 72A, St. Thomas-st., London, S.E. (Telegs.: "Patella, London." Teleph. No. 594, Hop. (2 lines).) *See advt., page* 19.

SPAGNOLETTI, LTD., Goldhawk Works, Goldhawk-rd., London, W.

THOMAS, BERTRAM. Works: Worsley-st., Hulme, Manchester. (Telegs.: "Breaker, Manchester." Teleph. No. 215.) Maker of automatic regulators for batteries, dynamos, motors, &c.

Automatic & Self-Starting Rheostats.

ADAMS MANUFACTURING CO., LTD., 106, New Bond-st., London, W.; & Bedford. (Telegs.: "Admocar, London;" & "Admocar, Bedford." Teleph. Mayfair 3962; & P.O., Bedford 2.)

ELECTRIC CONTROL, LTD., 177, Reid-st., Bridgeton, Glasgow. (Telegs.: "Control, Glasgow." Teleph. No. 2847, Bridgeton.) Manufacturers of "Empire" Auto-Starters.

Automatic Transformer Switches.

Neville, Williams & Co., 80A, Southwark-st., London, S.E.

Automobile Lamps.

Neville, Williams & Co., 80A, Southwark-st., London, S.E. Sole agents for the Howard Multiple Filament & Spot Light Lamps.

Balance (Induction) Makers.

F.—Balances (Induction)—Fab.
G.—Waagen—Fab. (Induktion).

Apps, A., 433, Strand, London, W.C.

Swinburne, O'Gorman & Baillie, 82, Victoria-st., Westminster, S.W.

Batteries—Dry.

F.—Piles Sèches.
G.—Batterien—Trockene.

Associated Battery Co., Ltd., Mid Kent Works, Penge, S.E.

ATLAS CARBON & BATTERY CO., LTD., 19, Ewer-st., London, S.E. (Telegrams: "Altisonant, London.") Sole Makers of the "DANIA" Dry Cells.

British L. M. Ericsson Manufacturing Co., Ltd., The, Byron House, 82/85, Fleet-st., London, E.C. Works: Beeston, Notts. (Telegrams: "Ericsson, London." Teleph. No. 5340, Holborn (2 lines). Western Union & A.B.C., 5th Edition, Codes used.) *See advt., page* 719.

CROGGON & CO., LTD., 16 & 230, Upper Thames-st., E.C.; Colonial-chbrs., Temple-st., Liverpool; & 7, John-st., Glasgow. *See advt., page* 494.

ECCO BATTERY & ELECTRICAL CO., Invicta Works, Bow Common-lane, London, E. (Telegs.: "Medikaster, London." Teleph. East 3633.) Contractors to H.M. Government.

EDISON & SWAN UNITED ELECTRIC LIGHT CO., LTD. Head office, depôt & show-rooms: Ediswan-bldgs., Queen-st., E.C.

Electrical & Engineering Supplies Co., Ltd., 36 & 37, Upper Thames-st., London, E.C. *See advt., page* 652.

Batteries—Dry—*continued.*

ELECTRICAL POWER STORAGE CO., LTD. SOLE MANUFACTURERS OF THE CELEBRATED E.C.C. DRY CELLS. OFFICES: 4, GREAT WINCHESTER-ST., E.C. WORKS: MILLWALL, LONDON, E. (TELEGS.: "STORAGE, LONDON." TELEPH. NO. 1253, LONDON WALL.) *See advt., page* 427.

FALK, STADELMANN & CO., LTD., 83, 85 & 87, Farringdon-rd., London, E.C.; & Glasgow.

Fuller, John C., & Son, Woodland Works, Wicklane, Old Ford-rd., Bow, E.

General Electric Co., Ltd. (*G. Byng, chairman*). Head office: 71, Queen Victoria-st., London, E.C. Works: London, Manchester, Birmingham & Witton. For branch offices, telegraphic addresses & telephone numbers, *see* ALPHABETICAL SECTION. *See advts., pages* 446, 707 *& 734.*

HEAP & IOHNSON, 28, Hatton Garden, E.C. *See advt., page* 444.

Hunt, A. H., 115–117, Cannon-st., E.C. (Telegs.: "Keyage, London." Teleph. Bank 8114.) *See advt., page* 442.

JOPLING, A., & CO., 10, Westmorland-bldgs., Aldersgate-st., London, E.C. *See advt., page* 415.

RICKARD, WILLIAM, LTD., Ashbourne-rd. Mills, Derby. (Telegs.: "Rickard, Derby." Teleph. No. 18.) *See advt. facing title page.*

Rose Bros., 38 & 39, Beech-st., Barbican, London, E.C. Sole agents for Schmidt & Co., Berlin. (Telegs.: "Cryselco." Teleph. Central 7043.)

SIEMENS BROS. & CO., LTD., Caxton House, Westminster, S.W. *See advt., page* 573.

Veritys, Ltd., King-st., Covent Garden, London, W.C.; & Birmingham, Manchester, Glasgow, Bristol, &c. *See* ALPHABETICAL SECTION.

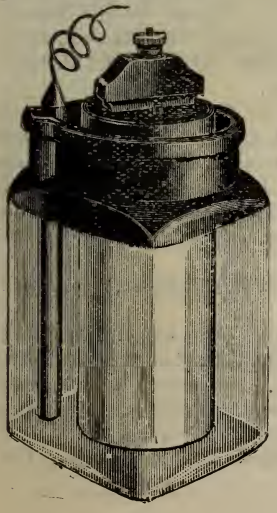
Walter's Electrical Manufacturing Co., Ltd., 249 & 251, Kensal-rd., London, W. (P.O. Teleph. No. 653, Western.)

Batteries—Galvanic.

F.—Piles galvaniques. G.—Batterien—Galvanische.

Apps, A., 433, Strand, London, W.C.

ATLAS CARBON & BATTERY CO., LTD., 19, EWER-ST., LONDON, S.E. (Telegrams: "Altisonant, London.")



Leclanché Cells. Large Stocks.

Makers of the "Dania" Dry Cell.

Batteries—Galvanic—*continued.*

BRISTOL ELECTRIC SAFETY LAMP WORKS. Offices & Works: 40, Gt. Smith-st., S.W. *See advt., page* 405.

British L. M. Ericsson Manufacturing Co., Ltd., The, Byron House, 82/85, Fleet-st., London, E.C. Works: Beeston, Notts. *See advt., page* 719.

Croggon & Co., Ltd., 16 & 230, Upper Thames-st., London, E.C.; Colonial-chbrs., Temple-st., Liverpool; & 7, John-st., Glasgow. *See advt., page* 494.

ECCO BATTERY & ELECTRICAL CO., Invicta Works, Bow Common-lane, London, E. (Telegs.: "Medikaster, London." Teleph. East 3633.) Contractors to H.M. Government.

General Electric Co., Ltd. (*G. Byng, chairman*). Head office: 71, Queen Victoria-st., London, E.C. Works: London, Manchester, Birmingham & Witton. For branch offices, telegraphic addresses & telephone numbers, *see* ALPHABETICAL SECTION. *See advts., pages* 446, 707 *& 734.*

Hey, M., 6, Henrietta-st., Covent Garden, W.C.

Mottershead & Co., 7, Exchange-st., Manchester.

Siemens Bros. & Co., Ltd., Caxton House, Westminster, S.W. *See advt., page* 573.

Batteries—Ignition.

Associated Battery Co., Ltd., Mid Kent Works, Penge, S.E.

BRISTOL ELECTRIC SAFETY LAMP WORKS. Offices & Works: 40, Great Smith-st., S.W. *See advt., page* 405.

Batteries—Portable.

F.—Piles—Portatives.
G.—Batterien—Tragbare.

Armstrong & Co., Twickenham, London, S.W.

Associated Battery Co., Ltd., Mid Kent Works, Penge, S.E.

Atlas Carbon & Battery Co., Ltd., 19, Ewer-st., London, S.E.

Benford, J., 38, Kimberley-rd., Nunhead, S.E.

BRISTOL ELECTRIC SAFETY LAMP WORKS. Offices & Works: 40, Great Smith-st., S.W. *See advt., page* 405.

ELECTRICAL POWER STORAGE CO., LTD., SOLE MANUFACTURERS OF THE CELEBRATED E.P.S. STORAGE BATTERIES. HEAD OFFICE: 4, GREAT WINCHESTER-ST., E.C. WORKS: MILLWALL, LONDON, E. Storage battery makers by Royal Warrant to His Majesty the King. (TELEGS.: "STORAGE, LONDON." TELEPH. LONDON WALL 1253.) *See advt., page* 427.

HART ACCUMULATOR CO., LTD., Marshgate-lane, Stratford, London, E.; Manchester & Birmingham. For branch & telegraphic addresses & telephone numbers, *see* ALPHABETICAL SECTION. *See advt., page* 407.

Batteries—Portable—*continued.*

Lithanode Co., 190, Queen's-rd., Battersea, London, S.W.

Longstreth's, Ltd., 190, Queen's-rd., Battersea, London, S.

PETO & RADFORD, LTD., 100, Hatton Garden, E.C.

Pritchetts & Gold, Ltd., 58, Victoria-st., Westminster, S.W.; & Feltham, Middlesex. *See* ALPHABETICAL. *See advt., page* 429.

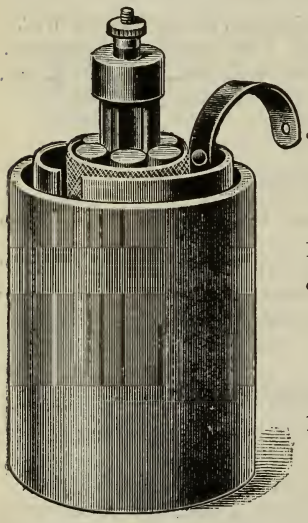
Batteries—Primary.

F.—Piles Electriques (primaires).

G.—Batterien (Primäre).

Associated Battery Co., Ltd., Mid Kent Works, Penge, S.E.

ATLAS CARBON & BATTERY CO., LTD.,



19, Ewer-st., London, S.E. (Telegrams: "Altisonant, London.")

Leclanché Cells & "Dania" Dry Cells.

All kinds of Batteries.

Prices on application.

Boron Battery Electrical Supply Co., 131, St. Domingo-rd., Liverpool.

BRISTOL ELECTRIC SAFETY LAMP WORKS. Offices & Works: 40, Great Smith-st., S.W. *See advt., page* 405.

BRITISH INSULATED & HELSBY CABLES, LTD. Head office: Prescot, Lancs. Works: Prescot, Helsby & Liverpool. For branch offices, telegraphic & telephonic addresses, *see* ALPHABETICAL ENTRY. *See advt., page* 437.

Falk, Stadelmann & Co., Ltd., 83, 85 & 87, Farringdon-rd., London, E.C.; & Glasgow.

HEAP & JOHNSON, 28, Hatton Garden, London, E.C. *See advt., page* 444.

INDIA RUBBER, GUTTA PERCHA & TELEGRAPH WORKS COMPANY, LTD. Head offices: 106, Cannon-st., E.C. Warehouses: 100 & 102, Cannon-st., London, E.C.; & 97, boul. Sebastopol, Paris. Works: Silvertown, Essex; & Persan, France. For telegraphic addresses & branches, *see advt. outside of back cover.*

Batteries—Primary—*continued.*

Le Carbone (formerly Lacombe & Co.), 17, Waterlane, E.C. Works: Levallois-Perret, Paris. (Telegs.: "Lacombe, London." P.O. Teleph. No. 14671, Central.) *See advts., pages* 478 *&* 480.

Seabrook Bros., 32–34, Featherstone-st., City-rd., E.C.

SIEMENS BROS. & CO., LTD., Caxton House, Westminster, S.W. *See advt., page* 573.

Batteries—Storage.

F.—Accumulateurs.

G.—Batterien Accumulator.

Accumulator Industries, Ltd., Woking.

Armstrong & Co., Twickenham, London, S.W.

Beeston Accumulator Syndicate, Ltd., Post Office-sq., Beeston, Notts.

BRISTOL ELECTRIC SAFETY LAMP WORKS. Offices & Works: 40, Great Smith-st., S.W. *See advt., page* 405.

Butler, J., & Co., Stanningley, Leeds.

CHLORIDE ELECTRICAL STORAGE CO., LTD., Pendlebury, Manchester; & 39, Victoria-st., Westminster. For telegraphic addresses & telephone numbers, *see* ALPHABETICAL ENTRY. *See advt., page* 404.

D. P. BATTERY CO., LTD. Works & offices: Lumford Mills, Bakewell, Derbyshire. (Telegs.: "Battery, Bakewell." Teleph. No. 2, Bakewell.) London address: 11, Victoria-st., Westminster, S.W. (Telegs.: "Cumulose." Teleph. No. 291, Westminster.) *See advt., page* 428.

EDISON & SWAN UNITED ELECTRIC LIGHT CO., LTD. Head office, depôt & show-rooms: Ediswan-bldgs., Queen-st., London, E.C.

ELECTRICAL POWER STORAGE CO., LTD., SOLE MANUFACTURERS OF THE CELEBRATED E.P.S. STORAGE BATTERIES. HEAD OFFICE: 4, GREAT WINCHESTER-ST., E.C. WORKS: MILLWALL, LONDON, E. Storage battery makers by Royal Warrant to His Majesty the King. (TELEGS.: "STORAGE, LONDON." TELEPH. LONDON WALL 1253.) *See advt.* OPPOSITE.

General Electric Co., Ltd. (*G. Byng, chairman*). Head office: 71, Queen Victoria-st., London, E.C. Works: London, Manchester, Birmingham & Witton. For branch offices, telegraphic addresses & telephone numbers, *see* ALPHABETICAL SECTION. *See advts., pages* 446, 707 *&* 734.

Gifkins, A. V., & Co., 68, Victoria-st., Westminster, S.W.

HART ACCUMULATOR CO., LTD., Marshgate-lane, Stratford, London, E.; Manchester & Birmingham. For branch & telegraphic addresses & telephone numbers, *see* ALPHABETICAL SECTION. *See advt., page* 407.

Lithanode Co., 190, Queen's-rd., Battersea, London, S.W.

E.P.S STORAGE BATTERIES

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Telegrams: "STORAGE, LONDON." Telephone No. 1253, London Wall.

Batteries—Storage—*continued.*

Longstreth's, Ltd., 190, Queen's-rd., Battersea, London, S.W.

PETO & RADFORD, LTD.,100, Hatton Garden, London, E.C.

PREMIER ACCUMULATOR CO., LTD., Cattle Market-rd., Northampton. *See advt., page* 406.

PRITCHETTS & GOLD, LTD., stationary & traction batteries, 58, Victoria-st., Westminster, S.W.; & Feltham, Middlesex. *See* ALPHABETICAL. *See advt.* OPPOSITE.

ROOPER, W. O., & CO., Victoria Works, Stafford (Telegrams: "Rooper, Stafford." Telephone No. 73, Stafford); & 26, Victoria-st., Westminster, S.W. (Telegs.: "Cowcatcher, London." Teleph. No. 1038, Victoria.)

Tudor Accumulator Co., Ltd., 119, Victoria-st., London, S.W. (Telegrams: "Subconical, London.") Works at Dukinfield, nr. Manchester. *See advt., page* 407.

Tudor Storage Battery Export Syndicate, Milton House, Surrey-st., Strand, London, W.C.

Victoria Engineering Co., Ltd., 21½, Market-pl., Wednesbury.

Battery Jar Manufacturers.

F.—Vases pour piles elec.—Fab.
G.—Batterie Topf Fab.

Bourne, Joseph, & Son, 23, Euston-rd., London, N.W. Works: Denby Pottery, nr. Derby.

Cannington, Shaw & Co., Ltd., Sherdley Glass Works, St. Helen's, Lancs.; 84, Silk-st., Manchester; 14, West Campbell-st., Glasgow; & L. & N. W. R. Depôt, Worship-st., London, E.C.

De Grelle, Houdret & Co., 130, London Wall, London, E.C.

DOULTON & CO., LTD., Royal Doulton Potteries, Lambeth, London, S.E.; Rowley Regis, Staffs.; Burslem, Staffs.; St. Helen's, Lancs.; & Paisley, N.B. Depôts: Birmingham, Liverpool, Manchester & Glasgow. Head office: Lambeth, London, S.E. *See advt., page* 439.

Espir, Fernand, 3, East India-ave., London, E.C. *See advts., pages* 662 & 751.

Fulham Pottery & Cheavin Filter Co., Ltd., The, Fulham, London, S.W.

Harburg & Vienna Indiarubber Co. (of Great Britain), Ltd., 9–14, Tower-chbrs., Finsbury Pavement, London, E.C.

Hardcastle, W. H., 172, Alexandra-road, Sheffield.

THE D.P. BATTERY CO., LTD.

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Battery Jar Manufacturers—*continued.*

INDIA RUBBER, GUTTA PERCHA & TELEGRAPH WORKS CO., LTD. Head offices: 106, Cannon-st., E.C. Warehouse: 100 & 102, Cannon-st., London, E.C.; & 97, boul. Sebastopol, Paris. Works: Silvertown, Essex; & Persan, France. For telegraphic addresses & branches, *see advt. outside of back cover.*

PRICE, POWELL & CO., BRISTOL. (Telegs.: "Pottery, Bristol." Nat. Teleph. No. 279.)

South Wales Glass Manufacturing Co., Ltd., Crindau, Newport, Mon.

Stiff, James, & Sons, London Pottery, Lambeth, S.E. (Telegrams: "Stiff, London." Telephone No. 627, Hop.) *See advt., page* 10.

VULCANITE WORKS, DR. HEINR. TRAUN & SONS, LONDON AGENCY (formerly Harburg Indiarubber C. Co.) (F. Winter, manager), (ebonite or vulcanite), 8, Redcross-st., London, E.C. (Telegrams: "Instantly, London." Telephone No. 3186, Central.) *See advts., pages* 486 *&* 737.

Battery Plates—Makers of.

F.—Plaques à piles—Fabr. de.
G.—Batterien Platten—Fabr.

Atlas Carbon & Battery Co., Ltd., 19, Ewer-st., London, S.E. (Telegs.: "Altisonant, London.")

Barns, Wm., & Son, Globe Works, Queensland-rd., Holloway, N.

Battery Plates—Makers of—*continued.*

Braby, Frederick, & Co., Ltd., Fitzroy Works, 352 to 364, Euston-rd., London, N.W. For branches, telegraphic addresses & telephone numbers, *see* ALPHABETICAL ENTRY.

CHLORIDE ELECTRICAL STORAGE CO., LTD., Pendlebury, Manchester; & 39, Victoria-st., Westminster. For telegraphic addresses & telephone numbers, *see* ALPHABETICAL ENTRY. *See advt., page* 404.

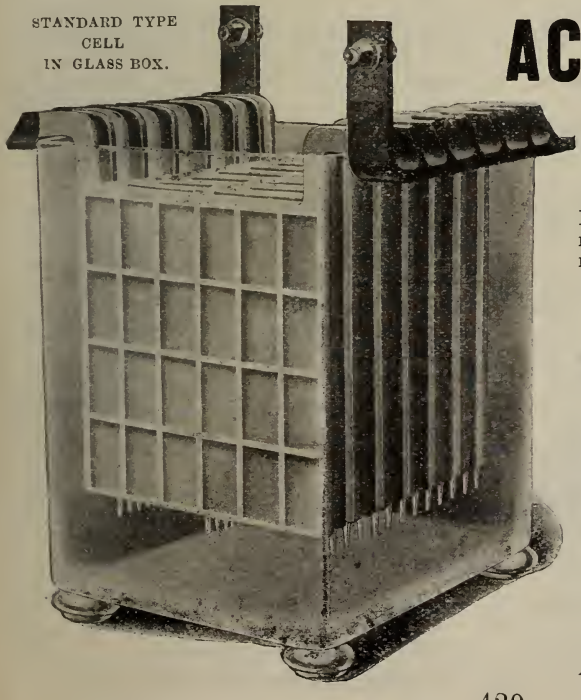
De Grelle, Houdret & Co., 130, London Wall, London, E.C.

D. P. BATTERY CO., LTD. Works & offices: Lumford Mills, Bakewell, Derbyshire. (Telegs.: "Battery, Bakewell." Teleph. No. 2, Bakewell.) London address: 11, Victoria-st., Westminster. (Telegs.: "Cumulose, London." Teleph. No. 291, Westminster.) *See advt.* OPPOSITE.

INDIA RUBBER, GUTTA PERCHA & TELEGRAPH WORKS CO., LTD. Head offices: 106, Cannon-st., E.C. Works: 100 & 102, Cannon-st., London, E.C.; & 97, boul. Sebastopol, Paris. Works: Silvertown, Essex; & Persan, France. For telegraphic addresses & branches, *see advt. outside of back cover.*

Le Carbone, formerly Lacombe & Co. (CARBONS FOR). Works: Levallois-Perret, Paris. 17, Water-lane, London, E.C. (Telegs.: "Lacombe, London.") *See advts., pages* 478 *&* 480.

Lithanode Co., 190, Queen's-rd., Battersea, London, S.W.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Battery Plates—Makers of—*continued.*

Longstreth's, Ltd., 190, Queen's-rd., Battersea, London, S.W.

PRITCHETTS & GOLD, LTD., stationary & traction type accumulator plates, 58, Victoria-st., Westminster, S.W.; & Feltham, Middlesex. *See* ALPHABETICAL. *See advt., page* 429.

Siemens Bros. & Co., Ltd., Caxton House, Westminster, London, S.W. *See advt., page* 573.

Tudor Accumulator Co., Ltd., 119, Victoria-st., London, S.W. (Telegrams : "Subconical, London.") Works at Dukinfield, nr. Manchester. *See advt., page* 407.

Victoria Engineering Co., Ltd., 21½, Market-pl., Wednesbury.

Bearings—Roller.

ELECTRIC & ORDNANCE ACCESSORIES CO., LTD., Chesterton-rd., Aston, Birmingham. (Telegs.: "Stellite, Birmingham." Teleph. Nos. : Nat. 176 & 179, East; & P.O. 9 (Trunk Calls).) *See page* 134 *for full entry.*

Bell Fitters & Contractors—Electric.

F.—Sonneries électriques—Poseurs de.
G.—Elektrische Glocken—Einrichter.

Adams & Son, 26, Bury-st., St. James's, London, S.W.

Apps, A., 433, Strand, London, W.C.

Archway Hardware Stores, 98, Archway-road, Highgate, London, N.

Atkey, Pascall, & Son, Ltd., 29 & 30, High-st., West Cowes, Isle of Wight.

Baily, Wm., & Sons, 71, Gracechurch-st., London, E.C.

Banfield, Sons & Cole, 127, Western-rd., Hove, Sussex.

Barzire Bros., 9 & 11, Corporation-rd., Middlesbrough.

Bevan, H., 99, Frederick-st., Cardiff.

Blackley, D. & J., Gilmore-park, Edinburgh.

Boulting, John, & Sons, 5 & 6, Upper Marylebone-st., London, W.

Brierley, R., 27, Fylde-st., Preston.

Bugler, J. U., Ltd., 35 & 37, High-st., Ashford, Kent.

Callas, Sons & May, Ltd., 68–76, Oxford-st., Reading.

Cannon, W. G., & Sons, Ltd., 106 & 107, London-rd., London, S.E.

Carr, Charles, Ltd., Woodland Works, Grove-lane, Smethwick, Birmingham.

Caverhill, W. C., & Co., Ltd., Berwick-on-Tweed.

Ching, Comyn & Co., Ltd., 54, 56 & 58, Castle-st., Long Acre, London, W.C.

Clarke, J. F., & Sons, 49, Moorgate-st., London, E.C.

Clemens, E. T., 187, Union-st., Plymouth.

Cooper, G., & Son, 17, Sheet-st., Windsor.

Bell Fitters & Contractors—Electric—*continued.*

Coy, T. J., 164, Ferndale-rd., Brixton, London, S.W.

Crisp & Smith, Orwell-pl., Ipswich.

Cross Bros., 21, Working-st., Cardiff.

Crowhurst & Lee, 2, Alexandra-rd., Wimbledon, Surrey.

Dargue, Griffiths & Co., Ltd., 51, North John-st., Liverpool.

Dexter, W., & Son, Wellingborough.

Dovey, C. H., Camborne.

Duke, James, 4, Bethlehem-st., Great Grimsby.

Eade & Sons, Balcombe-rd., Horley.

Eastmond & Sons, Torrington.

Electrical Contracts & Maintenance Co., Ltd., Sanctuary House, Westminster, S.W.

Ellwood, J., Queen's Docks, Whitehaven.

Flint, W., High-st., Uckfield, Sussex.

Fowle Bros., Gravesend.

Francis & Son, High Cross-st., St. Austell, Cornwall.

Gardiner & Co., 53, St. Vincent-st., Glasgow.

Garland, J. S., 51–55, Bridge-st., Warrington, Lancs.

GENT & HURLEY, 24, Belvoir-st., Leicester. (Nat. Telephone No. 535.)

Ghrimes, Wm., High-st., Ringwood, Hants.

Gifkins, A.V., & Co., 68, Victoria-st., Westminster, S.W.

Glanvill, J. C., 13, Ruston-st., Birmingham.

GLOVER, F. A., & CO., LTD., Vine-st., Clerkenwell-rd., E.C.

Goude & Son, Syer's-lane, Whittlesea, Cambridgeshire.

Gough & Felgate, Uxbridge-st., Burton-on-Trent.

Gray, James, & Son, 89, George-st., Edinburgh.

Gray & Palmer, 144, King-st., Great Yarmouth.

Griffiths, Harry D., Griffithstown, Monmouth.

Grubb, W., 83, Blackstock-rd., Finsbury Park, London, N.

Gurl, G. Jacob, 54, Mitcham-rd., Croydon.

Hall & Co., Dale-rd., Matlock.

Ham, C., 212, Church-rd., Hove.

Hammond & Hussey, Ltd., 23 & 25, High-st., Croydon.

Hancock, W., 22, Stratford-road, London, W.

Harrap, T., & Son, Cardigan-rd., Leeds.

Harrow & Co., 13 & 14, Portland-st., London, W.

Hart & Sons, 13 & 14, Gun-st., Reading.

Hawke, G., & Son, St. Austell, Cornwall.

Headley & Edwards, Ltd., Corn Exchange-st., Cambridge.

Heap, C., & Co., 14 & 15, Leicester-st., London, W.C.

Higgs, F. & H. F., Surrey Works, Cobham, Surrey.

Hislop, R. G., 7 & 9, Pitt-st., Edinburgh.

Kerridge, W. B., Wimborne.

Kershaw, John, & Co., Ltd., Market-st., Heywood, nr. Manchester.

Lake, A., Old Fore-st., Sidmouth.

Lee, Charles, & Son, Stall-st., Bath.

Bell Fitters & Contractors—Electric—*continued.*

Lee, L., & Son, 13 & 15, Gt. George-st., Liverpool.
Lemon, J., & Son, Enniskillen, Ireland.
Libby, J., Camborne.
Loveridge, Ltd., Docks, Cardiff.
Lowther, P. Y., 60, Queen's-rd, Bayswater, London, W.
McHardy, D., & Son, 54, Netherkirk-gate, Aberdeen.
Marriage, T. S., & Co., Bell-street, Reigate.
Martin, Chas. H., 11, Corporation-road, Middlesborough.
Martin & Newby, 2, Fore-st., Ipswich.
Matterson, Huxley & Nutson, Ltd., Cross Cheaping, Coventry.
Naylor, John, & Son, Cheapside, Halifax.
Noble & Rogers, Wellingborough.
Orton, John, & Co., 43, Butter-market, Ipswich.
Packham & Son, 144, Western-rd., Brighton.
Parker Brothers, Newton Abbot.
Patent Electric Shot Firing Co., Sheffield-rd., Chesterfield.
Paterson, W., & Son, 1, Bothwell Circus, Glasgow.
Plummer, F. S., Ipswich-st., Stowmarket.
Pullar, J., & Co., West Wynd, Dundee.
Purser, G. & W., Trafalgar Works, Palmer-street, Birmingham.
Pyle, H., & Co., 196, Poplar High-st., London, E.
Rennison, J. C., Bondgate, Darlington.
Richardson, R. J., Baskerville-pl., Broad-st., Birmingham.
Roberts, R. H., 15, High-st., Bala.
Roles, Wm., & Sons, Bell-st. & Newton-lane, Romsey, Hants.
Shaw, G., & Co., Manchester-st., Oldham.
Sloper, C., & Son, 11, 12, 14 & 15, Brittox, Devizes.
Smith, G. W., 15, Middle-street, Brighton.
Smith, W. H., 28, Queen-st., Gravesend.
Smyth Bros., 56, Fore-st., Ipswich.
Spencer, J. T., 25, London-rd., Reading.
Stearn, Alfred, & Son, 21, Upper Brook-st., Ipswich.
Stegmann & Co., Brighton Railway Approach, Clapham Junction, London, S.W.
Stewart & Co., 79, Victoria-rd., Surbiton.
Stewart, T., & Sons, Ltd., The Cross, Kilmarnock, Scotland.
Swindell, H. C., 144, Tower-rd., Aston, Birmingham.
Taplin, H. C., 105, Clifford-st., Southampton.
TATE, LEONARD G., & CO., 20, Bucklersbury, London, E.C., Room 582 (Telegs.: "Entraining, London." Teleph. No. 881, Bank); & Vineyard House, Richmond.
Taylor, E., 68, Prince's-st., Stockport.
Taylor, J., & Co., Loughborough.
Temple & Crook, 6, Motcomb-street, Belgrave-square, London, S.W.
Terry, Isaac, 32, High-st., Ayr.
Tyack, W. J., & Co., Ltd., Camborne, Cornwall.
Vaughan, J. M., 9, Triangle South, Bristol.
Wadsworth, Russell, 121, Vauxhall Bridge-rd., London, S.W.

Bell Fitters & Contractors—Electric—*continued.*

Walker, Henry, & Son, Ltd., Gallowgate, & 55, Westgate-rd., Newcastle-on-Tyne.
Webb, G. S., 148, High-st., & Benhill-st., Sutton, Surrey.
Webb, T., 45, Great Knollys-st., Reading.
Weeks, G., & Sons, High-st., Bromley.
Welby, C. W., Herne Bay, Kent.
Westwood, A., & Son, 30, Bank-st., Dundee; & 21, Princes-st., Perth.
Williams & Co., High-st., Colchester.
Williams, J., & Sons (Cardiff), Ltd., 9–17, Queen-st., & Globe Foundry, Cardiff.
Willis, J. E., 3, Melita Villas, Regent's Park-rd., Finchley, N.
Wills, C., & Sons, Alumhurst-rd., West Bournemouth.
Wilson & Smith, 7 & 8, King William-st., Strand, W.C.; & 7, Manette-st., Soho, W.
Wright, T. & F., 12, Cannon-st., Dover.
Wyatt, G., & Son, 67, St. Giles, Oxford.
Zimdars, C. E., 327, Gray's Inn-rd., London, W.C.

Bell Fittings Makers—Electric.

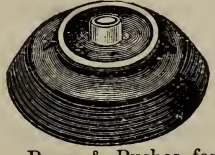
F.—Montage pour Sonneries électr.
G.—Elektr. Klingel Teile—Fabr. von.

AUTOMATIC STANDARD SCREW CO., HALIFAX. (TELEGS.: "STANDARD." TELEPH. NO. 992.) *See* SCREWS, &c.
Bonnella, D. H., & Son, Ltd., 58 & 60, Mortimer-st., W. Works: Kirby-st., Hatton Garden, London, E.C. (Telegs.: "Boncinello, London." Teleph. Gerrard 1882 & 9784.) *See advt., page* 626.
Ross & Co., 62, Robertson-st., Glasgow.

Bell Fittings Makers (Electric)—China.

F.—Montage pour Sonneries électr.—Porcelaine.
G.—Elektr. Klingel Teile (Porcelain)—Fabr. von.

MACINTYRE, J., & CO., LTD., Washington China Works, Burslem. (Telegrams: "Macintyre, Burslem." Telephone No. 338, Burslem.) *See* PORCELAIN & CHINA FITTINGS.
Stegmann & Co., Brighton Railway Approach, Clapham Junction, London, S.W.
TAYLOR, TUNNICLIFF & CO., LTD., manufacturers of SPECIALITIES IN CHINA



SCREWED SWITCH BASES, CEILING ROSES, CUT-OUTS, &c., &c., for ELECTRIC LIGHTING APPARATUS. Also China Roses & Pushes for Electric Bells, &c., Eastwood, Hanley. London Agent, C. M. Bradley, 23, Holborn-viaduct, E.C. (Telegrams: "Eastwood, Hanley.")
Veritys, Ltd., King-st., Covent Garden, London, W.C.; & Birmingham, Manchester, Glasgow, Bristol, &c. *See* ALPHABETICAL SECTION.

Bell Founders—Electric.

F.—Sonnettes électriques—Fondeurs de.
G.—Glockengiesser.

Allcock Brothers, 24, 26 & 28, King Edward's-road, Birmingham.

General Electric Co., Ltd. (*G. Byng, chairman*). Head office: 71, Queen Victoria-st., London, E.C. Works: London, Manchester, Birmingham & Witton. For branch offices, telegraphic addresses & telephone numbers, *see* ALPHABETICAL SECTION. *See advts., pages* 446, 707 *&* 734.

Smith & Sons, 42, 44, 46, 47, 50, 52, St. John's-sq., London, E.C.

Bell Manufacturers—Electric.

F.—Sonneries électriques—fab. de.
G.—Elektrische Glocken-Fabrikanten.

Adnil Electric Co., Ltd., Adnil-bldg., Artillery-lane, London, E.C.

Apps, A., 433, Strand, London, W.C.

Archer, W. F., & Sons, 73, Lord-st., Liverpool.

Ashby, Geo. F., 184, King's-rd., Chelsea, London, S.W.

Baxendale & Co. (merchants), Miller-st. Works & Warehouses, Manchester; Hanover-st., Edinburgh; Capel-st., Dublin; & Hood-st., Liverpool.

Bhisey Patents Syndicate, 323, Essex-rd., London, N.

Bilsborough, J., Alderley Edge, Manchester.

Bonnella, D. H., & Son, Ltd., 58 & 60, Mortimer-st., W. Works: Kirby-st., Hatton Garden, London, E.C. (Telegs.: "Boncinello, London." Tel. Gerrard 1882 & 9784.) *See advt., page* 626.

Campbell, Peter, 68, George-st., Perth, Scotland.

Cole, John R., 61, Freeman-st., Great Grimsby.

Cox-Walkers, Ltd., Darlington. *See advt., page* 15.

CROGGON & CO., LTD. (makers), 16 & 230, Upper Thames-st., London, E.C.; Colonial-chbrs., Temple-st., Liverpool; & 7, John-st., Glasgow. *See advt., page* 494.

DAVIS ELECTRICAL CO., LTD., THE, 17, Moor-st., Cambridge-circus, W. (Telegs.: "Unmatchable, London." Teleph. No. 7253, Central.) *See advt., page* 645.

Day, C. F., 110, High-st., Stoke Newington, London, N.

Dinning & Cooke, 91–95, Percy-st., Newcastle-on-Tyne.

Dodd, F. K., York-st., Broadstairs.

Drury Bros., Stock Orchard-st., Holloway, London, N.

EDISON & SWAN UNITED ELECTRIC LIGHT CO., LTD. Head office, depôt & show-rooms: Ediswan-bldgs., Queen-st., London, E.C.

FALK, STADELMANN & CO., LTD., 83, 85 & 87, Farringdon-rd., London, E.C.; & Glasgow.

Farmiloe, G., & Sons, Ltd., 34, St. John-st., London, E.C.

Bell Manufacturers—Electric—*continued.*

France, E., Cannon Passage, Cannon-st., Birmingham.

GENERAL ELECTRIC CO., LTD. (*G. Byng, chairman*). Head office: 71, Queen Victoria-st., London, E.C. Works: London, Manchester, Birmingham & Witton. For branch offices, telegraphic addresses & telephone numbers, *see* ALPHABETICAL SECTION. *See advts., pages* 446, 707 *&* 734.

GENT & CO., LTD., Faraday Works, Leicester; 3A, Upper Thames-st., London; & 67, High-bridge, Newcastle-on-Tyne. (Telegs.: "Lodestone, Leicester;" "Knifeedge, London;" & "Gents, Newcastle." Teleph. Leicester 151; London, Bank 135; & Newcastle 1135.) *See advts., pages* 451 *&* 721.

Gill, Alfred, 1, Arthur-st.-west, London, E.C.

Gray, J. W., & Co., 5, Philpot-lane, E.C.; & 69, Commercial-st., London, E.

Harpur, F. A., & Son, Ballinasloe, Ireland.

Hill, E., Reliance Works, Steelhouse-lane, Birmingham.

Hounsell, J., & Son, 3, Southover-st., Brighton.

INTERNATIONAL ELECTRIC CO. (H. Oppenheimer, manager), 111–115, Salusbury-rd., Kilburn, London, N.W. *See advt., page* 19.

Joslins, Ltd., 108, 109 & 145, High-st., & Maidenburgh-st., Colchester; & Market-pl., Chelmsford.

Lanaway, R. S., Church-rd., Burgess-hill, R.S.O., Sussex.

Lancashire Watch Co., Ltd., Prescot, Lancs.

Lewis, Joseph, 5 & 6, Great Winchester-st., London, E.C. (Telegrams: "Weathervane, London." Telephone No. 3053, Central.) *See* LIGHTNING CONDUCTORS, *also* WIRE ROPE MANUFACTURERS.

Luck, J. M., Godalming.

Peppercorn Bros., 16–19, Broadway, Deptford, London, S.E.

Porter, George, 31, Lime-st., London, E.C.

Reed, Ch., 65, Cardiff-street, Aberdare.

Rogers, F. W., New-st., Cromer, Norfolk.

Rose, William, & Co., Salford, Manchester.

Siemens Bros. & Co., Ltd., Caxton House, Westminster, London, S.W. *See advt., page* 573.

Stegmann & Co., Brighton Railway Approach, Clapham Junction, London, S.W.

SUN ELECTRICAL CO., LTD., 118 & 120, Charing Cross-rd., London, W.C. (Telegrams: "Secabilis, London." Teleph. Nos. 2291 & 2292, Gerrard.) *See advt., page* 596.

Talbot, O., High-st., Mortlake, London, S.W.

Walter's Electrical Manufacturing Co., Ltd., 251, Kensal-rd., London, W. (P.O. Teleph. No. 653, Western.)

Weller, Thomas, 11, Westhill-road, Brighton.

WESTERN ELECTRIC CO., Norfolk House, Victoria Embankment, London, W.C. Works: North Woolwich. *See advts., pages* 439 *&* 720.

Whitney, E., 117, City-road, London, E.C.

Winstone & Co., 17, Cross-st., Finsbury, E.C.

Wyver, T., & Co., 13, High-st., Whitstable.

Belting Manufacturers.

LONDON SHAFTING & PULLEY CO., 26, Collingwood-st., Blackfriars-rd., London, S.E.

Bicycle Lamps—Electric.

BRISTOL ELECTRIC SAFETY LAMP WORKS. Offices & works: 40, Great Smith-st., S.W. *See advt., page* 405.

Bitumen & Asphaltic Concrete.

HOWARD ASPHALT TROUGHING CO., LTD., THE, Trafford Park, Manchester.

Bitumen & Box Compound.

British Electrical Trade Supply & Bitumen Co., The. Offices & works: Canal Bank, Trundley-rd., Deptford, S.E. (Telegrams: "Trinidite, London." Telephone No. 794, Deptford.)

Bitumen Cable Makers.

BRITISH INSULATED & HELSBY CABLES, LTD. Head office: Prescot, Lancs. Works: Prescot, Helsby & Liverpool. For branch offices, telegraphic & telephonic addresses, *see* ALPHABETICAL ENTRY. *See advt., page* 437.

Glover, W. T., & Co., Ltd., Trafford Park, Manchester. (Telegs.: "Cables, Manchester." Tel. Central 7200 (6 lines).) London: Parliament Mansions, Orchard-st., S.W. *See* ALPHABETICAL.

Bitumen for Electrical Purposes & Insulating Compounds.

F.—Bitume pour l'usage élec. et composés isolants.
G.—Bitumen für Elek. Zwecke und Isolations—Verbindungen.

Bradshaw & Co., 52, Queen Victoria-st., London, E.C.

BRITISH ELECTRICAL TRADE SUPPLY & BITUMEN CO., THE. Offices & works: Canal Bank, Trundley-rd., Deptford, S.E. (Telegs.: "Trinidite, London." Teleph. No. 794, Deptford.)

Catchpole, E., & Sons, Plough Bridge, Rotherhithe, London, S.E.

Down, Fred. J, Harpenden, Herts.

EVERITT & CO., 40, Chapel-st., Liverpool. (Telegs.: "Persistent, Liverpool." Teleph. No. 1134 (3 lines).) *See advt., page* 640.

Globe Electric Co., Ltd., 11, Farringdon-ave., London, E.C. Works: Holloway, N. (Telegs.: "Santochimo, London." Teleph. Central 4774.)

TRADE MARK

Grindley & Co., Ltd., Poplar, London, E.

Bitumen for Electrical Purposes & Insulating Compounds—*continued.*

Keys, W. H., Ltd., Hall End Works, West Bromwich.

Silico-Bitumen Co., Ltd., 13, Walbrook, London, E.C.

TURNERS & MANVILLE, LTD., 5, Lloyd's-ave., E.C. (Telegs.: "Vulbeston, London." Teleph. No. 1458, Avenue.)

Blasting Apparatus Makers—Electric.

F.—Appareils pour l'étirage à la poudre.
G.—Elektr. Sprengapparate—Fab. von.

Adnil Electric Co., Ltd., Adnil-bldg., Artillery-lane, London, E.C.

Apps, A., 433, Strand, London, W.C.

BRITISH INSULATED & HELSBY CABLES, LTD. Head office: Prescot, Lancs. Works: Prescot, Helsby & Liverpool. For branch offices, telegraphic & telephonic addresses, *see* ALPHABETICAL ENTRY. *See advt., page* 437.

DAVIS, JOHN, & SON (DERBY), LTD., All Saints' Works, Derby, for high & low tension fuses. (Telegrams: "Davis, Derby." Telephone No. 240, Derby.)

Electric Blasting Apparatus Co. (makers), Cinderford, Gloucestershire.

Nobel's Explosives Co., Ltd., 195, West George-st., Glasgow; & 220, Winchester House, Old Broad-st., London, E.C.

Siemens Bros. & Co., Ltd., Caxton House, Westminster, London, S.W. *See advt., page* 573.

Watson, J. R., 35, Queen Victoria-st., London, E.C.

Blaze Flame Arc Lamps.

ARMORDUCT MANUFACTURING CO., LTD., Farringdon-ave., London, E.C.; & 44, Blackett-st., Newcastle-on-Tyne. Works: Bathurst Works, Witton, nr. Birmingham. (Telegs.: "Armorduct," London, Newcastle-on-Tyne, Birmingham. Teleph. Nos.: London, 400, Holborn (2 lines); Newcastle-on-Tyne, 2827, Central; Witton Works, 812, East.) *See advt. on top edges.*

Boiler Makers.

F.—Chaudières—Fab. de.
G.—Dampfkessel—Fab. von.

Abbott & Co. (Newark), Ltd., Newark-on-Trent.

BABCOCK & WILCOX LTD., Oriel House, 30, Farringdon-st., London, E.C.; 29, St. Vincent-pl., Glasgow; 14, Deansgate, Manchester; & Renfrew. *See advt., page* 6.

Burnet, Lindsay, & Co., Moore Park Boiler Works & Burnet's Siding (goods), Govan, Glasgow. (Telegrams: "Burnet, Glasgow." Telephone Nos. 52, Govan, P.O. & Nat.)

CLARKE, CHAPMAN & CO., LTD., Victoria Works, Gateshead-on-Tyne. (Telegrams: "Cyclops, Gateshead.")

Boiler Makers—*continued.*

Coltman, H., & Sons, Loughborough.
Coltman, W. W., & Co., Loughborough.
Dalglish, A. & W., Glasgow.
DAVEY, PAXMAN & CO., LTD., Standard Iron Works, Colchester. (Telegrams: "Paxman, Colchester.") *See advt., page* 531.
Dodman, A., & Co., Ltd., Highgate Foundry, King's Lynn.
Dodsworth, G., Depôt-rd. Boiler Works, Middlesborough, Yorks.
FRASER & FRASER, LTD., Bromley-by-Bow, London, E. (Telegrams: "Pressure, London." Telephone No. 66, Eastern.)
Fraser, J., & Son, Ltd., Millwall Boiler Works, Wharf-rd., London, E.
Gimson & Co. (Leicester), Ltd., Vulcan-st., Leicester.
Knap, C., & Co., Ltd., 11, Queen Victoria-st., London, E.C.
Lindsay Burnet & Co., Moore Park Boiler Works, Govan, N.B.
Meldrum Bros., Ltd., Timperley, Manchester.
Musgrave, J., & Sons, Ltd., Globe Iron Works, Bolton, Lancashire.
Olrick, L., & Co., 16, Howick-pl., Victoria-st., Westminster, S.W.
Penman & Co., Ltd., Strathclyde-st., Glasgow.
Renshaw, W. R., & Co., Ltd., Phœnix Works, Stoke-on-Trent.
Root Steam Boiler Co., 11, Queen Victoria-st., London, E.C.
Rowland, B. R., & Co., Ltd., Reddish, nr. Manchester.
Rushton Bros., Gas-st. Foundry, Bolton.
Shand, Mason & Co., 75, Upper Ground-st., Blackfriars-rd., London, S.E. Patent quick-steaming high-pressure boilers. (Telegrams: "Shand, London.")
Sinclair, G., & Sons, Leith.
STIRLING BOILER CO., LTD., THE, makers of the "STIRLING" WATER TUBE BOILER, 25, Victoria-st., Westminster, London, S.W.; 17, St. Ann's-sq., Manchester; 10, East Parade, Leeds; Milburn House, Newcastle; 65, Pen-y-wain-rd., Roath Park, Cardiff; & 45, Hope-st., Glasgow. (Telegs.: "Stirlinico," London, Manchester, Leeds, Newcastle, Cardiff, Glasgow.)
Thompson, John, Ettingshall, Wolverhampton.
Tinker, Shenton & Co., Ltd., Hyde.
Tinkers, Ltd., Daisy Field Boiler Works, Hyde, Manchester; & 52, Queen Victoria-st., London, E.C. Price & Belsham, agents.

Boiler Composition Makers.

F.—Composition pour chaudières.
G.—Kesselstein—Chemikalien für Verhinderung.

Anti-Incrustation Boiler Composition Co., The (J. A. Evans, manager), 150, Leadenhall-st., London, E.C.

Boiler Composition Makers—*continued.*

Gillespie & Beales, Amberley House, Norfolk-st., Strand, London, W.C.
Goodman, C., & Co., Balfour House, Finsbury Pavement, London, E.C.
Hubbuck, T., & Son, Ltd., 24, Lime-st., E.C.; & Hubbuck's-wharf, 44-48, Broad-st., Ratcliffe, E.
Leroy, F., & Co., 11, Gray-st., Commercial-rd., E.
Lonsdale Bros., Pump-st., Blackburn.
Newalls Insulation Co., Ltd., 31, Moseley-st., Newcastle-on-Tyne.
SUTCLIFFE BROS., sole makers of the

effectually prevents & removes incrustation in steam boilers—most effective, absolutely harmless. As supplied to H.M. Government, &c Grosvenor Works, Godley, Manchester. (Telegs.: "Sutcliffe Bros., Hyde." Teleph. No. Hyde, 70.) Established 1869.
Willcox, W. H., & Co., Ltd. Office: 23, Southwark-st. Warehouse: 32, 34 & 36, Southwark-st., London, S.E. Works: Castle-st. (Telegs.: "Willcox, Southwark-st., London." Teleph. Hop. 3740 & 3741.) *See advt. facing inside front cover.*

Boiler Coverings Makers.

Broadbent, J. C., & Co., Ltd., 73, Basinghall-st., London, E.C.; & Redcar.
Crown Coverings for boilers, piping, &c., in asbestos, magnesia & slag wool encased in

steel sheeting & removable. Over 96 per cent. saving in radiation. Unequalled for superheated steam. Cannot be impaired, however intense the heat Greatest saving, longest service, most return. Sole makers: Sutcliffe Bros., Grosvenor Works, Godley, nr. Manchester. (Telegs.: "Sutcliffe Bros., Hyde." Teleph. No. 70, Hyde.)
Duff, William, & Co., 60, Elliott-st., Glasgow.
Jones & Horsfield, Denton, nr. Manchester.
SUTCLIFFE BROS., sole makers of the

unquestionably the most durable & the most profitable covering in use. Cost repaid several times every year. More steam, less wear & tear. Nearly 5000 References. Grosvenor Works, Godley, Manchester. (Telegs.: "Sutcliffe Bros., Hyde." Teleph. No. Hyde, 70.) Established 1869.

Boiler & Steam Engine Fittings Manufacturers.

F.—Chaudières et Machines à vapeur—Fab. d'accessoires de.
G.—Teile für Dampfmasch. & Kessel.

Kirkpatrick & Rastall, Victoria Foundry, Barrack-st., Hulme, Manchester.
Lambeth Brass & Iron Co., Ltd., 91 & 93, Southwark-st., London, S.E.
Noakes, T., & Sons, Ltd., 4 & 5, Osborn-pl., Bricklane, Whitechapel, London, E.
Payne & Griffiths, Ladywood-rd., Birmingham.
RANKINE PATENT FEED-WATER FILTER CO., LTD., 14, Water-st., Liverpool. (Telegrams: "Percolate, Liverpool." Telephone No. 1933.) London office: Aldermary House, 60, Watling-st., E.C. (Telegrams: "Ricto, London." Telephone No. 497, Bank.)
Steven & Struthers, Anderston Brass Foundry, Glasgow. (Telegs.: "Bronze, Glasgow." Nat. Teleph. Nos.: 133, Argyle; Corp., 1775.)
Turnbull, Alex, & Co., Ltd., Bishopbriggs, Glasgow.
Willcox, W. H., & Co., Ltd. Office: 23, Southwark-st. Warehouse: 32, 34 & 36, Southwark-st., London, S.E. Works: Castle-st. (Telegs.: "Willcox, Southwark-st., London." Teleph. Hop. 3740 & 3741.) *See advt. facing inside front cover.*
Winn, Chas., & Co., St. Thomas Works, Birmingham.

Bolts, Screws, Nuts, &c.—Makers of.

F.—Ecrous, vis—Fabr. de.
G.—Bolzen, Schrauben, Muttern—Fabr. von.

Armstrong, Stevens & Son, Whittall-st., Birmingham.
AUTOMATIC STANDARD SCREW CO., HALIFAX. (TELEGS.: "STANDARD." TELEPH. NO. 392.)
Barwells, Ltd., Brookfield-rd., & 28, Pickford-st., Birmingham; & 118, Cannon-st., London, E.C.
DAVIS & TIMMINS, LTD., York-rd., King's Cross; & Wood Green, N. (Telegs.: "Conductivity, London." Teleph. 11070, Central.) *See advt., page* 687.
Gadd, Thomas, Ross Rivet Works, Rowley Regis, nr. Birmingham.
Guest, Keen & Nettlefolds, Ltd., London Works, nr. Birmingham.
Kirby Bank Screw Co., Ltd., Meadow-lane, Leeds.
Moy, Ernest F., Ltd., Greenland-pl., Camden Town, London, N.W. (Telegrams: "Movedor, London.") *See advt., page* 709.
Schonfield, A., & Co., Ltd., 21, Hope-st., Glasgow.
Simpson, James, & Sons, Darlaston, Staffs.
Willcox, W. H., & Co., Ltd. Office: 23, Southwark-st. Warehouse: 32, 34 & 36, Southwark-st., S.E. Works: Castle-st. (Telegs.: "Willcox, Southwark-st., London." Teleph. Hop. 3740 & 3741.) *See advt. facing inside front cover.*

Boosters.

F.—Survolteurs.
G.—Zusatzdynamo.

Adnil Electric Co., Ltd., Adnil-bldg., Artillery-lane, London, E.C.
BRUSH ELECTRICAL ENGINEERING CO., LTD., THE. London office: Electrical Federation Offices, Kingsway, W.C. Works: Loughborough, Leicesterhire. *See* ALPHABETICAL.
ELECTRIC & ORDNANCE ACCESSORIES CO., LTD., Cheston-rd., Aston, Birmingham. (Telegs.: "Stellite, Birmingham." Teleph. Nos.: Nat. 176 & 179, East; & P.O. 9 (Trunk Calls).) *See page* 134 *for full entry.*
Hartnell, Wilson, & Co., Ltd., Volt Works, Kirkstall-rd., Leeds.
Johnson & Phillips, Ltd., Victoria Works, Charlton, S.O., Kent; & 12, Union-ct., Old Broad-st., E.C. *See advt. inside back cover.*
MATHER & PLATT, LD., Salford Iron Works, Manchester; & Queen Anne's-chbrs., Westminster, London, S.W. (Telegrams: "Mather, Manchester;" "Sprinkler, London." Nat. Telephone Nos.: 5781, 5782 & 5783, Manchester; & 851 & 852, Westminster.)
MAWDSLEY'S LTD., manufacturing electrical engineers. Makers of the "Mawdsley" patent "Zone" dynamos & motors. Zone Works, Dursley, Glos. (Telegs.: "Zone, Dursley." Teleph. No. 6, Dursley.)
PHŒNIX DYNAMO MANUFACTURING CO., LTD. Head offices: Thornbury Works, Bradford. (Telegs.: "Dynamo, Bradford." Teleph. No. 952.) London office: 17, Victoria-st., S.W.

Boxes for Accumulators.

(*See* ACCUMULATOR BOXES.)

Brackets & Pendants.

(*See* ELECTROLIERS.)

Braiding Machines for Covering Wire.

F.—Machines à soutacher.
G.—Wirkerstühle zum Bespinnen von Drähten.

Glover, W. T., & Co., Ltd., Trafford Park, Manchester. (Telegs.: "Cables, Manchester." Tel. Central 7200 (6 lines).) London: Parliament Mansions, Orchard-st., S.W. *See* ALPHABETICAL.
James, H., Roden-st., Nottingham.
Johnson & Phillips, Ltd., Victoria Works, Charlton, S.O., Kent; & 12, Union-ct., Old Broad-st., E.C. *See advt. inside back cover.*
LARMUTH, T., & CO., LTD., Salford, Manchester.
SELIG, SONNENTHAL & CO., 85, Queen Victoria-st., London, E.C. (Telegs.: "Selig, London." Teleph. Nos.: 341, Bank; & 11779, Central.) *See advt., page* 637.

Brass & Iron Drawn Rods for Screws, Terminals & Electrical Parts.

F.—Laiton et Fer étirer pour vis bornes et autres ustensiles électriques.

G.—Messing & Eisengezogene Stangen für Schrauben, Klemmen & elektrischen Teile.

Bates, Joseph & Edward, & Sons, Ltd., Temple-st., Wolverhampton.

Delta Metal Co., Ltd. (sole makers of "DELTA" & "DIXTRUDO" HIGH-SPEED BRASS TURNING & SCREWING RODS). Head offices & works: East Greenwich, London, S.E. Branch works: Dartmouth-st., Birmingham.

Rollet, H., & Co., 12 & 13, Coldbath-sq., Rosebery-ave., London, E.C.

SHROPSHIRE IRON CO., LTD., Hadley, nr. Wellington, Salop. (Telegrams: "Sun, Wellington, Salop.") *See advt., page* 750.

Smith & Sons, 42, 44, 46, 47, 50 & 52, St. John's-sq., E.C.

Brass Founders, Finishers & Manufacturers to the Electrical Trades.

F.—Fond. et Fab. de laiton pour l'électricité.

G.—Messing Giesser & Fab.

Bolding, J., & Sons, Ltd., Grosvenor Works, Davies-st., Berkeley-sq., London, W.

Bowen & Co., 6, Mount-pleasant, Gray's Inn-rd., London, W.C.

Foster, E., & Son, Ltd., Central Brass Works, Halifax.

Harris, A. E., & Co., die sinkers, press tool makers, stampings from copper, brass, zinc, G.S., & aluminium, to sketch or sample, for patentees & electricians, 95, Camden-st., Birmingham. *See advt., page* 700.

Jones & Foster, 39, Bloomsbury-st., Birmingham.

Kensington Stamping Co., Ltd., Kensington-st., Aston, Birmingham. (Telegs.: "Supports, Birmingham." Teleph. Northern 83.)

Kirkpatrick & Rastall, Victoria Foundry, Barrack-st., Hulme, Manchester. (Telegs.: "Wonderful, Manchester." Tel. Central 4416.)

Lister, T., & Co., Brassfounders, Ltd., Brighouse, Yorks.

McGeoch, William, & Co., Ltd., Warwick Works, 46, Coventry-rd., Birmingham; & 28, West Campbell-st., Glasgow. (Telegs.: "McGeoch," Glasgow, Birmingham & London. Teleph. Nos.: Nat. 2181 (4 lines); P.O. 101 & 2.)

Martineau, Beames & Madeley, Ltd., 58–62, Holloway Head, Birmingham.

Mills, John, & Sons, Walker Gate Brass Works, Newcastle.

Probert, W., & Son, Boulton Works, South-rd., Hockley, Birmingham.

Reid & Co., 108, High-st., Ayr, N.B.

Brass Founders, Finishers & Mfrs. to the Electrical Trades—*continued.*

RIPPINGILLE MANUFACTURING CO., LTD., Plume-st., Aston, Birmingham. *See advts., pages* 597 *&* 598.

Rolland, M'Kirdy & Co., 22, St. James-sq., & 7 & 9, Elder-st., Edinburgh.

Smith, J., & Co. (Derby), Ltd., Cotton-lane, Derby.

Smith, Sydney, & Sons, Ltd., Basford Brass Works, Nottingham.

Wilkinson, P., & Sons, Tottenham-mews Foundry, nr. Tottenham-court-rd., London, W.

Williams Bros., Green-lane, Sheffield.

Yuille, Wm. C., & Co., 60, Brown-st., Glasgow.

Brass Merchants.

F.—Marchands—Laiton.

G.—Händler von Messing.

Espir, Fernand, 3, East India-avenue, London, E.C. Speciality of French screw brass rodding. *See advts., pages* 662 *&* 751.

Bronzers—Electro.

F.—Electro Bronzeurs.

G.—Electro Bronzierer.

Sturtevant & Co., Ltd., 105–111, Euston-st., London, N.W. *See advt., page* 15.

Brush Makers.

(*See* Dynamo Brush Manufacturers.)

Cabinet Work—Electrical.

(*See also* Case Makers.)

F.—Ebénisterie électr.

G.—Elektr. Holzarbeiter.

Bond Bros., 16 & 21, Sunbury Workshops, Calvert-ave., Shoreditch, E.C.

Brown & Co., 73–85, McAlpine-st., Glasgow. *See advt., page* 447.

Guy & Co., 38 & 40, Bridlesmith Gate, Nottingham.

Lambert, R., Mansfield-rd. Cabinet Works, Oaklane, Bradford.

Moore Bros., 8, Powell-st., Goswell-rd., London, E.C.

Nottingham Camera Co., Bridlesmith Gate, Nottingham.

Richardson & Co., Nelson-st., Stretford-rd., Manchester. (Telegs.: "Fuses, Manchester." Teleph. City 6468, Manchester.)

SIEMENS BROS. & CO., LTD., Caxton House, Westminster, London, S.W. *See advt., page* 573.

Cable Bridges, Asphalt.

HOWARD ASPHALT TROUGHING CO., LTD., THE, Trafford Park, Manchester.

British Insulated & Helsby Cables,

LIMITED.

Electrical Cable Makers and Engineers.

Head Office:
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LANCASHIRE.

REGD. TRADE MARK.

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Tramway Trolley Wire (Circular, Non-Fouling and Special Sections).
Tramway Line Fittings of every description. Resinkor Solder.
Switchboards. Feeder, Distribution and Transformer Pillars.
Joint Boxes, Distribution Boxes and Fuse Boxes.
Meters and Demand Indicators. Electric Welders.
Paper Pinions and Spur Wheels. Patent Annealing Furnaces.
Motor Car Tyres and Inner Tubes. Motor Car Cables. Golf Balls.
Silk-covered Wires. Cotton-covered Wires. Flexible Cords.
Telephone Switchboards. Telephone Instruments.
Telegraph Switchboards. Telegraph Instruments.
Magnetic Lamp Holders. Portable Hand Lamps.
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GAUGE, SECTION OR SPECIFICATION.

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WIRE, STRIP, SHEET AND SECTIONS.

COPPER-CLAD STEEL WIRE.

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The Erection and Complete Equipment of

TRAMWAY, POWER TRANSMISSION, LIGHTING, TELEGRAPH & TELEPHONE SYSTEMS.

For telegraphic addresses & telephone numbers, see Alphabetical Section.

Cable Bridges—Stoneware.

Stiff, J., & Sons, London Pottery, Lambeth, E.C. (Telegs.: "Stiff, London." Teleph. No. 627, Hop.) Cream-glazed Stoneware Cable-Bridges for use in Troughing. *See advt., page* 10.

Cable Cos.

(*See* TELEGRAPH & CABLE COS.)

Cable Couplings—Makers of.

SIMMONDS BROS., LTD., 4, 6 & 8, Newton-st., High Holborn, London, W.C. (Telegs.: "Niphon, London." Teleph. Nos.: 2600, Gerrard; & 12061, Central.) Coupling for electric cables & movable armoured installations. NIPHAN SYSTEM. *See advt., page* 739.

Cable Drum Carriage Makers.

Glover, W. T., & Co., Ltd., Trafford Park, Manchester. (Telegs.: "Cables, Manchester." Tel. Central 7200 (6 lines).) London: Parliament Mansions,Orchard-st., S.W. *See* ALPHABETICAL.

Ruscoe, John, & Co., Ltd., Albion Works, Hyde, Manchester.

Cable Jointing Material—Makers of.

Glover, W. T., & Co., Ltd., Trafford Park, Manchester. (Telegs.: "Cables, Manchester." Tel. Central 7200 (6 lines).) London: Parliament Mansions,Orchard-st., S.W. *See* ALPHABETICAL.

Cable Joints.

Glover, W. T., & Co., Ltd., Trafford Park, Manchester. (Telegs.: "Cables, Manchester." Tel. Central 7200 (6 lines).) London: Parliament Mansions,Orchard-st., S.W. *See* ALPHABETICAL.

Cable Machinery (Electric)—Makers of.

F.—Cables électr.—Fab. de Machines pour.

G.—Elektr. Kabel Maschinen—Fab. von.

Glover, W. T., & Co., Ltd., Stranding Machines, Lead Presses, Wire Drawing Machines, Tinning Plant, Rubber Manufacturing, Rubber Covering & Bitumen Covering Plant, Trafford Park, Manchester. (Telegs.: "Cables, Manchester." Tel. Central 7200 (6 lines).) London: Parliament Mansions,Orchard-st., S.W. *See* ALPHABETICAL.

Johnson & Phillips, Ltd., Victoria Works, Charlton, S.O., Kent; & 12, Union-ct., Old Broad-st., E.C. *See advt. inside back cover.*

Maschinenbauanstalt für Kabelfabrikation, Conrad Felsing, jun., Coepenick, nr. Berlin. *See advt., page* 14.

Washington & Co., Ltd., Sowerby Bridge, Yorks. (Telegrams: "Washington, Sowerby Bridge.")

Cable Manufacturers.

F.—Cables—Fab. de.

G.—Kabel-Fabrikanten.

Anchor Cable Co., Ltd., Leigh, Lancs.

CONNOLLY BROS., LTD

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DOULTON TROUGHS AND BRIDGE-INSULATORS } FOR "SOLID SYSTEM" CABLES.

DOULTON CONDUITS FOR "DRAWN-IN" CABLES.

DOULTON & CO., Limited, Lambeth, London, S.E.

Cable Manufacturers—*continued.*

Armorduct Manufacturing Co., Ltd., Farringdon-ave., London, E.C.; & 44, Blackett-st., Newcastle-on-Tyne. Works: Bathurst Works, Witton nr. Birmingham. (Telegs.: "Armorduct," London, Newcastle-on-Tyne, Birmingham. Teleph. Nos.: London, 400, Holborn (2 lines); Newcastle-on-Tyne, 2827, Central; Witton Works, 812, East.) *See advt. on top edges.*

BRITISH INSULATED & HELSBY CABLES, LTD. Head office: Prescot, Lancs. Works: Prescot, Helsby & Liverpool. For branch offices, telegraphic & telephonic addresses, *see* ALPHABETICAL ENTRY. *See advt., page* 437.

Cable Manufacturers—*continued.*

Callender's Cable & Construction Co., Ltd., Hamilton House, Victoria Embankment, London, E.C. *See advt., page* 441.

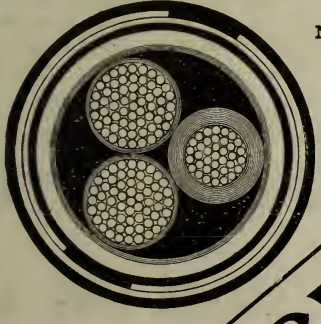
CONNOLLY BROS., LTD., Blackley Vale Mills, Blackley, Manchester. *See advt.* OPPOSITE.

De Grelle, Houdret & Co., 130, London Wall, E.C.

Frankenburg, I., & Sons, Ltd., Greengate Rubber & Cable Works, Salford, Manchester.

Fuller, John C., & Son, Woodland Works, Wick-lane, Old Ford-rd., Bow, London, E.

CABLES FOR ELECTRIC LIGHT, POWER AND TELEPHONY.



Works: NORTH WOOLWICH, E.

Telephone: EAST 1400.

Norfolk House, Victoria Embankment, LONDON, W.C.

Telegrams: "RELAY, LONDON." Telephone Nos.: GERRARD, 5349; & 2389, CENTRAL.

WESTERN ELECTRIC CO.

BRITISH MADE.

LOW & HIGH TENSION and EXTRA HIGH TENSION.

SUITABLE FOR EVERY CLIMATE.

In use in all Parts of the World.

And at SYDNEY, N.S.W.—163, PITT STREET; & JOHANNESBURG—P.O. Box 1571.

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LIMITED.

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MIDDLESBOROUGH.—2, Exchange Place . .	„	491, NATIONAL.
BELFAST.—13, Queen's Square . . .	„	392, „
LEEDS.—Cabinet Chambers, Basinghall Street	„	590x, „

Cable Manufacturers—*continued.*

Geipel, Wm., & Co. (late Geipel & Lange), Vulcan Works, 72A, St. Thomas-st., London, S.E. (Telegs.: "Patella, London." Teleph. No. 594, Hop. (2 lines).) Sole agents for Mannheim Cable Works. *See advt., page* 19.

General Electric Co., Ltd. (*G. Byng, chairman*). Head office: 71, Queen Victoria-st., London, E.C. Works: London, Manchester, Birmingham & Witton. For branch offices, telegraphic addresses & telephone numbers, *see* ALPHABETICAL SECTION. *See advts., pages* 446, 707 *& 734.*

Geoffroy & Delore (A. H. Hunt), 115–117, Cannon-st., London, E.C. (Telegrams: "Keyage, London." Teleph. Bank 8114.)

Globe Electric Co., Ltd., 11, Farringdon-ave., London, E.C. Works: Holloway, N. (Telegs.: "Santochimo, London." Teleph. Central 4774.)

TRADE MARK

Cable Manufacturers—*continued.*

Glover, W. T., & Co., Ltd., Trafford Park, Manchester. (Telegs.: "Cables, Manchester." Tel. Central 7200 (6 lines).) London: Parliament Mansions, Orchard-st., S.W. *See* ALPHABETICAL.

GREVENER, J. & H., Eldon-st. House, Eldon-st., London, E.C.

Hannams, Peninsular House, Monument-st., E.C.

HAWKINS BROS. & CO., LTD., Hatfield-st., & Basterfield-st., Golden-lane, London, E.C. *See advt.* BELOW.

HENLEY'S, W. T., TELEGRAPH WORKS CO., LTD., Blomfield-st., London, E.C. *See advt., page* 22.

Indestructible Cable Co., 47, 49 & 51, Park-st., London, E.C.

INDIA RUBBER, GUTTA PERCHA & TELEGRAPH WORKS CO., LTD. Head offices: 106, Cannon-st., E.C. Warehouse: 100 & 102, Cannon-st., London, E.C.; & 97, boul. Sebastopol, Paris. Works: Silvertown, Essex; & Persan, France. For telegraphic addresses & branches, *see advt. outside of back cover.*

HAWKINS BROS. & CO., LTD.

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HATFIELD ST. & BASTERFIELD ST., GOLDEN LANE, E.C.

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SILK & COTTON COVERED WIRES OF EVERY DESCRIPTION

for Electrical Instruments, Dynamos, Telephones and Electric Bells.

Also

Electric Light Cables. Multiple Telephone Cables. Bell Wires and Cords. Vulcanized Indiarubber, and Pure Rubber Flexibles in Silk and Cotton. Pure Tin, Lead, and Tinned Copper Fuse Wires.

Telegraphic Address: "FEUDATORY, LONDON." **Telephone No. 9178, London Wall.**

CALLENDER'S

CABLE & CONSTRUCTION CO., Limited.

HEAD OFFICE:
HAMILTON HOUSE,
VICTORIA EMBANKMENT, E.C.
Telegrams: "CALLENDER, LONDON."
Telephone No. 1911, Holborn.

WORKS:
BELVEDERE, KENT.
Telegrams:
"CALLENDER'S WORKS, BELVEDERE STATION."
Telephone No. 11, Woolwich.

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LIGHTING, POWER & MINING CABLES

AND ALL ACCESSORIES.

LAYING CALLENDER MAINS IN LAGOS SOUTHERN NIGERIA.

For telegraphic addresses & telephone numbers, see Alphabetical Section.

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Lead Covered Cable
Single and Twin

High and Low Tension
Automobile Wires

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COMPETITIVE PRICES

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Compounded Cable

Silk, Cotton and
Workshop Flexibles

DELIVERY FROM STOCK

A. H. HUNT, 115/117, CANNON ST., LONDON, E.C.

Cable Manufacturers—*continued.*

Johnson & Phillips, Ltd., Electric Cable Works, Charlton, S.O., Kent. Depôts: Glasgow, Newcastle, Cardiff, Bristol, &c. *See advt. inside back cover.*

Kalker, E., & Co., Much Park-st., Coventry. (Telegs.: "Kalker, Coventry." Telephone No. 24 X.)

Liverpool Electric Cable Co., Ltd., Vauxhall-rd., Liverpool. (Telegrams: "Concentric, Liverpool." Teleph. No. 6503.) *See advt., page* 440.

LONDON ELECTRIC WIRE COMPY. & SMITHS, LTD., THE, Playhouse-yard, Golden-lane, London, E.C. *See advt. page facing inside back cover.*

MIDLAND ELECTRIC WIRE CO., LTD., Leicester. (Telegs.: "Conductors, Leicester." Teleph. No. 45.) *See advt., page* 482.

National Conduit & Cable Co., Ltd., 1, 2 & 3, Oxford-ct., Cannon-st., London, E.C.

Nussbaum, G. A., C.E., 29, Ludgate Hill, London, E.C.

O'Gorman & Baillie (experts to), 82, Victoria-st., Westminster, S.W.

Piggott Electrical Co., 24, New Bridge-st., London, E.C. (Telegs.: "Enticeable, London." Nat. Teleph. Holborn 2208.)

St. Helens Cable & Rubber Co., Ltd., Warrington.

Scottish Indiarubber Co., 9, Howard-st., Glasgow.

SIEMENS BROS. & CO., LTD., Caxton House, Westminster, London, S.W. *See advt., page* 573.

SMITH, FREDERICK, & CO., INCORPORATED IN THE LONDON ELECTRIC WIRE CO. & SMITHS, LTD., Wire Manufacturers, Anaconda Works, Salford, Manchester. Copper wire, hard-drawn H.C. long lengths copper wire, plain soft-tinned, & strips for all electrical purposes. Tape & strand for lightning conductors. Silicium bronze wire, "Cog-wheel Brand." Phosphor bronze spring wire, aluminium wire & strip. (Telegs.: "Anaconda. Manchester.") *See advt., page* 747.

Cable Manufacturers—*continued.*

Standard Cable Manufacturing Co., Ltd., 18 & 19, Queenhithe, E.C.

Swinburne, O'Gorman & Baillie (experts to), 82, Victoria-st., Westminster, S.W.

UNION CABLE CO., LTD., THE, Eagle Wharf-rd., London, N. *See advt., page* 4.

UNSWORTH, G. B., & SONS, LTD., Green-lane Mills, Derby. (Telegrams: "Unsworth, Derby.") *See advt., page* 742.

WESTERN ELECTRIC CO., Norfolk House, Victoria Embankment, London, W.C. Works: North Woolwich. *See advts., page* 439 & TELEPHONE APPARATUS MAKERS.

Yorkshire Cable Co., Ltd., 68A, Lincoln's Inn Fields, E.C.

Cable Manufacturers—Electric Light.

F.—Fil ou cable electrique—Fab. de.

G.—Kabel für Elektrisches Licht.

Baxendale & Co. (merchants), Miller-st. Works & Warehouses, Manchester; Hanover-st., Edinburgh; Capel-st., Dublin; & Hood-st., Liverpool.

BAXTER & CAUNTER, 86, Charing Cross-rd., W.C. (Telegs.: "Rapidolite, London." Teleph. Gerrard 3463 & 4.)

BRITISH INSULATED & HELSBY CABLES, LTD. Head office: Prescot, Lancs. Works: Prescot, Helsby & Liverpool. For branch offices, telegraphic & telephonic addresses, *see* ALPHABETICAL ENTRY. *See advt., page* 437.

Callender's Cable & Construction Co., Ltd., Hamilton House, Victoria Embankment, London, E.C. *See advt., page* 441.

CONNOLLY BROS., LTD., Blackley Vale Mills, Blackley, Manchester. *See advt., page* 438.

DAVIS ELECTRICAL CO., LTD., THE, 17, Moor-st., Cambridge-circus, W. (Telegs.: "Unmatchable, London." Teleph. No. 7253, Central.) *See advt., page* 645.

Cable Manufacturers—Electric Light—*continued.*

Donovan & Co., 22, Barwick-st., Birmingham.

EDISON & SWAN UNITED ELECTRIC LIGHT CO., LTD. Head office, depôt & show-rooms: Ediswan-bldgs., Queen-st., London, E.C.

Geipel, Wm., & Co. (late Geipel & Lange), Vulcan Works, 72A, St. Thomas-st., London, S.E. (Telegrams: "Patella, London." Telephone No. 594, Hop. (2 lines).) Sole agents for Mannheim Cable Works. *See advt., page* 19.

Geoffroy & Delore (London manager, A. H. Hunt), 115-117, Cannon-st., London, E.C. (Telegrams: "Keyage, London." Telephone No. 8114, Bank.)

Gillespie & Beales, Amberley House, Norfolk-st., Strand, London, W.C.

Glover, W. T., & Co., Ltd., Trafford Park, Manchester. (Telegs.: "Cables, Manchester." Tel. Central 7200 (6 lines).) London: Parliament Mansions, Orchard-st., S.W. *See* ALPHABETICAL.

GREVENER, J. & H., Eldon-st. House, Eldon-st., London, E.C.

HENLEY'S, W. T., TELEGRAPH WORKS CO., LTD., Blomfield-st., London, E.C. *See advt., page* 22.

INDIA RUBBER, GUTTA PERCHA & TELEGRAPH WORKS CO., LTD. Head offices: 106, Cannon-st., E.C. Warehouses: 100 & 102, Cannon-st., London, E.C.; & 97, boul. Sebastopol, Paris. Works: Silvertown, Essex; & Persan, France. For telegraphic addresses & branches, *see advt. outside of back cover.*

Johnson & Phillips, Ltd., Victoria Works, Charlton, S.O., Kent; & 12, Union-ct., Old Broad-st., London, E.C. *See advt. inside back cover.*

Liverpool Electric Cable Co., Ltd., Vauxhall-rd., Liverpool. (Telegrams: "Concentric, Liverpool." Teleph. No. 6563.) *See advt., page* 440.

LONDON ELECTRIC WIRE COMPY. & SMITHS, LTD., THE, Playhouse-yard, Golden-lane, London, E.C. *See advt. facing inside back cover.*

Mackintosh, C., & Co., Ltd., 58, Dale-st., Liverpool.

MIDLAND ELECTRIC WIRE CO., LTD., Leicester. (Telegs.: "Conductors, Leicester." Teleph. No. 45.) *See advt., page* 482.

NEW GUTTA PERCHA CO., LTD., Dashwood House, New Broad-st., London, E.C. *See advt., page* 400.

NORTHERN ELECTRIC WIRE CO., THE, SEDBURGH MILLS, HALIFAX. (TELEGRAMS: "CABLES, HALIFAX." TELEPHONE NO. 127.) *See* WIRE COVERERS—SILK.

RICKARD, WILLIAM, LTD., Ashbourne-rd. Mills, Derby. (Telegrams: "Rickard, Derby." Teleph. No. 18.) *See advt. facing title page.*

Cable Manufacturers—Electric Light—*continued.*

Saxonia Electrical Wire Co., Ltd., Roan Works, Roan-st., Greenwich, S.E.

SIEMENS BROS. & CO., LTD., Caxton House, Westminster, London, S.W. *See advt., page* 573.

Smith, H. W., & Co., Lydbrook, Gloucestershire.

Straus, G., & Co., Ltd., 211, Upper Thames-st., London, E.C.

SUN ELECTRICAL CO., LTD., 118 & 120, Charing Cross-rd., London, W.C. (Telegs.: "Secabilis, London." Teleph. Nos. 2291 & 2292, Gerrard.) *See advt., page* 596.

UNION CABLE CO., LTD., Eagle Wharf-rd., London, N. *See advt., page* 4.

UNSWORTH, G. B., & SONS, LTD., Greenlane Mills, Derby. (Telegrams: "Unsworth, Derby.") *See advt., page* 742.

WARD & GOLDSTONE, Sampson Works, Salford, Manchester. (Telegs.: "Multum, Manchester." Teleph. Nos. 7084 & 7085, Trunk line.) *See advt., page* 756.

Cable Manufacturers' Sundries—Mkrs.

F.—Specialités pour Fab. de Cables.

G.—Specialitäten für Kabel-Fabrikanten.

Anderton & Halstead, Ltd., Albert Mill, & Ewood Bridge Mill, Haslingden.

Bole Hall Mill Co., Tamworth.

Burns, J., Ltd., 189, Central-st., London, E.C. *See advt., page* 738.

Glover, W. T., & Co., Ltd., Trafford Park, Manchester. (Telegs.: "Cables, Manchester." Tel. Central 7200 (6 lines).) London: Parliament Mansions, Orchard-st., S.W. *See* ALPHABETICAL.

Johnson & Phillips, Ltd., Victoria Works, Charlton, S.O., Kent; & 12, Union-ct., Old Broad-st., E.C. *See advt. inside back cover.*

Leech & Sinkinson, Ltd., Leeds.

Rawlinson, S., & Sons, Audley Range & Baker-st., Blackburn.

Siemens Bros. & Co., Ltd., Caxton House, Westminster, London, S.W. *See advt., page* 573.

Cable Net-work Boxes.

Glover, W. T., & Co., Ltd., Trafford Park, Manchester. (Telegs.: "Cables, Manchester." Tel. Central 7200 (6 lines).) London: Parliament Mansions, Orchard-st., S.W. *See* ALPHABETICAL.

Cable Suspenders (Electric)—Makers of.

Brunton, W. N., & Son, Musselburgh, Scotland.

Cable Wire Manufacturers.

SHROPSHIRE IRON CO., LTD., Hadley, nr. Wellington, Salop. (Telegrams: "Sun, Wellington, Salop.") *See advt., page* 750.

Cables—Fire-resisting.

Glover, W. T., & Co., Ltd., Trafford Park, Manchester. (Telegs.: "Cables, Manchester." Tel. Central 7200 (6 lines).) London: Parliament Mansions, Orchard-st., S.W. *See* ALPHABETICAL.

Candles—Electric.

Lux Candle Co., Ltd., The, 240, High Holborn, London, W.C.

Capstans—Electric.

CLARKE, CHAPMAN & CO., LTD., Victoria Works, Gateshead-on-Tyne. (Telegrams: "Cyclops, Gateshead.")

Car Moving Levers.

Down, Fred. J., 6, 7 & 8, Crutched Friars, London, E.C.

Carbide of Calcium Manufacturers.

Albion Products Co., Ltd., 11, Queen Victoria-st., London, E.C.
British Carbide Factories, Ltd., 178, Tower Bridge-rd., London, S.E.
Dargue Acetylene Gas Co., Ltd., Newcastle-on-Tyne.
National Carbide Co., Ltd., 11, Queen Victoria-st., London, E.C.

Carbon Brushes—Makers of.

F.—Balais de charbons.

G.—Kohlen-Bürsten.

Atlas Carbon & Battery Co., Ltd., 19, Ewer-st., London, S.E.
Cartwright, John T., 50, Wellington-st., Glasgow.
De Grelle, Houdret & Co., 130, London Wall, London, E.C.
Geipel, Wm., & Co. (late Geipel & Lange), Vulcan Works, 72A, St. Thomas-st., S.E. Sole agents for Fabius Henrion of Nancy, France. (Telegs.: "Patella, London." Teleph. No. 594, Hop. (2 lines).) *See advt., page* 19.

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"National," "Partridge," "Columbia" and "Solar" Makes.

"COLUMBIA" DRY CELLS

For Telephones, Electric Clocks, Engine Ignition, etc.

Copper Gauze Brushes

Glass Brushes

For polishing Commutators.

"Stratton" STEAM SEPARATORS

99 % Dry Steam guaranteed.

CARBON Switch Contacts, Telephone Discs, etc.

Telephone: 6602 Central. Telegrams: "UNISONALLY, LONDON."

28, HATTON GARDEN, E.C.

Carbon Brushes—Makers of—*continued.*

Globe Electric Co., Ltd., 11, Farringdon-ave., London, E.C. Works: Holloway. N. (Telegs.: "Santochimo, London." Teleph. Central 4774.)

TRADE MARK

GRAPHITOIDE CO., 23, Fitzroy-sq., London, W.

GREVENER, J. & H., Eldon-st. House, Eldon-st., London, E.C.

HEAP & IOHNSON, 28, Hatton Garden, London, E.C. Glass brushes for cleaning commutators. *See advt.* OPPOSITE.

Le Carbone (late Lacombe & Cie.). Brushes for all types of machines. Write for descriptive list. (Works: Levallois-Perret, Paris); 17, Water-lane, London, E.C. (Telegs.: "Lacombe, London." P.O. Teleph. No. 14671, Central.) *See advts., pages* 478 *&* 480.

Mayer, H. G., & Co., 67, Aldersgate-st., London, E.C.

MORGAN CRUCIBLE CO., LTD., THE, sole manufacturers of "MORGANITE" Brushes, Dashpot Plungers & Bearings, & "BATTERSEA CARBON" Brushes, Battersea Works, Church-rd., Battersea, London, S.W. (Telegs.: "Crucible, London." Teleph. Nos.: Nat. 1670, Battersea; & P.O. 1034, Western.)

SLOAN ELECTRICAL CO., LTD., 15, Fore-st.-ave., London, E.C. Sole agents for C. Conradty of Nurnberg. Specialty: Bronskol Brushes (patented).

Carbon (Gas Retort).

Dasnières, V., 10, St. Mary Axe, London, E.C. (Telegs.: "Dasnières, London." Teleph. No. 408, Central.)

Carbon Makers & Suppliers.

F.—Charbons électr.—Fab. et March. de.

G.—Kohlen—Fab. und Lief. von.

ABBEY ELECTRIC CO., 17, Victoria-st., London, S.W. (Telegs.: "Regolofel, London." Teleph. No. 3077, Victoria.) *See advt., page* 415.

Aitken, M. A., & Son, Mitcham, Surrey.

Atlas Carbon & Battery Co., Ltd., 19, Ewer-st., London, S.E. (Telegs.: "Altisonant, London.")

Bailey, S. G., & Co., Ltd., Stafford Mills, Stroud, Gloucester. London office: 9, Moorgate-ct., E.C.

Baxendale & Co., Miller-st. Works & Warehouses, Manchester; Hanover-st., Edinburgh; Capel-st., Dublin; & Hood-st., Liverpool.

Birmingham Carbon Works, Witton, Birmingham.

Carbon Makers & Suppliers—*continued.*

Braulik, G., 8, Lambeth Hill, London, E.C.

Browne, G. Massiot, & Co., 108, Argyle-st., Glasgow.

Cartwright, John T., 50, Wellington-st., Glasgow.

Compagnie Française de Charbons pour l'Électricité, 13, Idol-lane, London, E.C.

Crompton & Co., Ltd., Salisbury House, London Wall, London, E.C. Works: Chelmsford. Best quality carbons supplied from stock at lowest prices, for arc lamps & electrolytic purposes. Prices & discounts on application. *See advt. inside front cover.*

De Grelle, Houdret & Co., London Wall, London, E.C.

Drake & Gorham, Ltd., 66, Victoria-st., Westminster, London, S.W. Works: 1, Felix-st., S.E. For branches, telegrams & telephone numbers, *see* ALPHABETICAL. *See advt., page* 459.

Electric Batteries & Carbons, Ltd., 709, Salisbury House, E.C.

Foxcroft & Duncan, Phœnix Works, Mentmore-ter., London Fields, London, N.E. (Telegs.: "Foxship, London.")

Gaster, Leon, 32, Victoria-st., Westminster, S.W. (Telegrams: "Gaster, London." Telephone No. 5215, Westminster.) (Acheson graphite electrodes supplier.)

Geipel, Wm., & Co. (late Geipel & Lange), Vulcan Works, 72A, St. Thomas-st., S.E. Sole agents for Fabius Henrion of Nancy, France. (Telegs.: "Patella, London." Teleph. No. 594, Hop. (2 lines).) *See advt., page* 19.

General Electric Co., Ltd. (*G. Byng, chairman*). Head office: 71, Queen Victoria-st., London, E.C. Works: London, Manchester, Birmingham & Witton. For branch offices, telegraphic addresses & telephone numbers, *see* ALPHABETICAL SECTION. *See advts., pages* 446, 707 *&* 734.

Gifkins, A. V., & Co., 68, Victoria-st., S.W.

Globe Electric Co., Ltd., 11, Farringdon-ave., London, E.C. Works Holloway, N. (Telegs.: "Santochimo, London." Teleph. Central 4774.)

TRADE MARK

HILL-JONES, THOS., Invicta Mills, Bow Common-lane, London, E. (Telegs.: "Medikaster, London." Teleph. East 3633.) Contractors to H.M. Government.

INDIA RUBBER, GUTTA PERCHA & TELEGRAPH WORKS CO., LTD. Head offices: 106, Cannon-st., E.C. Warehouses: 100 & 102, Cannon-st., London, E.C.; & 97, boul. Sebastopol, Paris. Works: Silvertown, Essex; & Persan, France. For telegraphic addresses & branches, *see advt. outside of back cover.*

Jandus Arc Lamp & Electric Co., Ltd., Hartham Works, Holloway, London, N.

Carbon Makers & Suppliers—*continued.*

Johnson & Phillips, Ltd., Victoria Works, Charlton, S.O., Kent; & 12, Union-ct., Old Broad-st., London, E.C. *See advt. inside back cover.*

Le Carbone (Works: "Levallois-Perret, Paris"), 17, Water-lane, London, E.C. (Telegs.: "Lacombe, London." P.O. Teleph. No. 14671, Central.) *See advts., pages* 478 *&* 480.

Oliver Arc Lamp, Ltd., Cambridge-pl, Burrage-rd., Woolwich, S.E.

Ship Carbons, Ltd., 67, Aldersgate-st., E.C. (Telegs.: "Gloriole, London." P.O. Teleph. No. 12367, Central.)

Siemens Bros. Dynamo Works, Ltd., Caxton House, Westminster, London, S.W.

Sirius-Werke Electrical Carbon Mfg. Co., 6, Henrietta-st., Covent Garden, W.C.

SLOAN ELECTRICAL CO., LTD., 15, Fore-st.-ave., E.C. Sole agents for C. Conradty of Nurnberg. Speciality: "Norris-Excello" (metal core) Flame Carbons (patented).

Tuchman, H., 2, Dyer's-bldgs., Holborn, E.C.

Veritys, Ltd., King-st., Covent Garden, London, W.C.; & Birmingham, Manchester, Glasgow, Bristol, &c. *See* ALPHABETICAL SECTION.

Webster, C. W., A.I.E.E., Cecil House, Park-ave., Bradford.

Carbon Rods & Battery Plates Manufacturers.

F.—Verges à charb. et plaques à pile—Fab. de.
G.—Kohlenstange und Batterie Platten—Fabr. von.

Apps, A., 433, Strand, London, W.C.

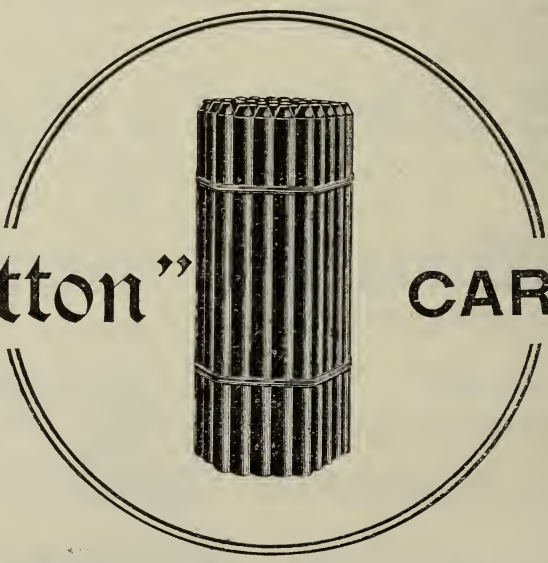
ATLAS CARBON & BATTERY CO., LTD., 19, EWER-ST., LONDON, S.E. (Telegs.: "Altisonant, London.")

Manganese Agglomerate Blocks.

Leclanché Cells.
"Dania" Dry Cells.

Braulik, G., 8, Lambeth Hill, London, E.C.

De Grelle, Houdret & Co., 130, London Wall, London, E.C.



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BRANCHES: Manchester, Birmingham, Glasgow, Cardiff, Newcastle, Dublin, Belfast, Paris, Madrid, Capetown, Johannesburg, etc.
WORKS: Witton, Manchester, Birmingham, London.

REGD TRADE MARK

Carbon Rods & Battery Plates Manufacturers—*continued.*

Espir, Fernand, 3, East India-ave., London, E.C. *See advts., pages* 662 *&* 751.

Geipel, Wm., & Co., (late Geipel & Lange), Vulcan Works, 72A, St. Thomas'-st., S.E. Sole agents for Fabius Henrion of Nancy, France. (Telegs.: "Patella, London." Teleph. Hop 594 (2 lines).) *See advt., page* 19.

GENERAL ELECTRIC CO., LTD. (*G. Byng, chairman*). Head office: 71, Queen Victoria-st., London, E.C. Works: London, Manchester, Birmingham & Witton. For branch offices, telegraphic addresses & telephone numbers, *see* ALPHABETICAL SECTION. *See advts., pages* 707, 734 *&* OPPOSITE.

INDIA RUBBER, GUTTA PERCHA & TELEGRAPH WORKS CO., LTD. Head offices: 106, Cannon-st., E.C. Warehouses: 100 & 102, Cannon-st., London, E.C.; & 97, boul. Sebastopol, Paris. Works: Silvertown, Essex; & Persan, France. For telegraphic addresses & branches, *see advt. outside of back cover.*

LE CARBONE (formerly Lacombe & Co.), manufacturers of carbons for dynamo & motor brushes, batteries, telephones, &c. (Works: Levallois-Perret, Paris); 17, Water-lane, E.C. (Telegs.: "Lacombe, London." P.O. Teleph. No. 14671, Central.) *See advts., pages* 478 *&* 480.

Mayer, H. G.. & Co., 67, Aldersgate-st., E.C.

Ship Carbons, Ltd., 67, Aldersgate-st., London, E.C. (Telegs.: "Gloriole, London." P.O. Teleph. Central 12367.)

Siemens Bros. & Co., Ltd., Caxton House, Westminster, London, S.W. *See advt., page* 573.

UNION ELECTRIC CO., LTD., Park-st., Southwark, S.E. (Telegs.: "Abeam, London." A.B.C. Code. Teleph. Hop. 2970.) *See advt., page* 563.

Case Makers—For Telegraph, Telephone & Electrical Instruments.

F.—Etuis pour instruments téleg., téléph. et élec.—Fabr. de.

G.—Kasten Fabr. für Teleg., Teleph. & Elek. Instrumenten.

Beech, George, 69, Dalston-lane, London, E.

HARRIS, J. F. & G. Offices & mills: 58Q, Wilson-st., Finsbury, London, E.C.; 107–109, Snow's Fields, Newcomen-st., Borough, S.E.; Victoria-wharf, Palmer's-rd., Green-st., Bethnal Green, London, E.; Roding Joinery Works, Ilford. *See* WOOD CASINGS & CLEATS.

Case Makers—For Telegraph, Telephone & Electrical Instruments—*continued.*

Lambert, R., Mansfield Road Cabinet Works, Oak-lane, Bradford.

Palmer, T., & Son, 15, Acanthus-rd., London, S.W.

Richardson & Co., Nelson-st., Stretford-rd., Manchester. (Telegs.: "Fuses, Manchester." Teleph. City 6468, Manchester.)

Tight, Charles, 12, Percival-st., London, E.C.

VULCANITE WORKS, DR. HEINR. TRAUN & SONS, LONDON AGENCY (formerly Harburg Indiarubber C. Co.) (F. Winter, manager), 8, Redcross-st., London, E.C. (Telegrams: "Instantly, London." Telephone No. 3186, Central.) *See* EBONITE & VULCANITE.

Casings.

(*See also* WOOD CASINGS & CLEATS FOR WIRES.)

ADDINGTON TIMBER, SLATE & CEMENT CO., LTD., Cold Blow-rd., Brocklehurst-st., Hatcham, London, S.E.

Bennett, J. M., & Sons, Hyde, Ardwick, Manchester.

Brown & Co., Waterloo Saw Mills, 73–85, McAlpine-st., Glasgow. *See advt.* BELOW.

Causley, S. & C., 33, High-st., Kingsland, London, N.E.

Dodimead, J., & Son, 50, Tottenham Court-rd., London, W.

Fire-Resisting Corporation, Townmead-rd., Fulham, London, S.W.

Jones, P. Lloyd. Romeo-st., Canada Dock, Bootle, Lancs.

Langton, S., & Sons, Mersey Brass Works, Stockport.

McGaw & Co. (wholesale), Moulding Works, York-rd., Lambeth, London, S.E.

Matthews, H., & Sons, Stockport-rd., Manchester.

VIGERS SONS & CO., Eagle Wharf & Mills, High-st., Peckham. (Telegs.: "Vigers, Peckham." Teleph. Hop 332 & 333.) Branches at Stanley Bridge, Fulham, Sloane-sq. & Poland-st., W.

Castings for Dynamos, &c.

F.—Fonte pour Dynamos.

G.—Giessereien für Dynamos.

Allen, Edgar, & Co., Ltd., Imperial Steel Works, Sheffield. London: 52, Queen Victoria-st., E.C.

Bellow & Son, Leominster.

Blair, Campbell & McLean, Ltd., Woodville-st., Govan, Glasgow.

Carron Co., Carron, Stirlingshire, N.B.

BROWN & CO., Waterloo Saw Mills, 73 to 85, McAlpine St., Glasgow.

Telegrams: "BOXES, GLASGOW." Telephone Nos.: 566, 567, Argyle; 567, P.O.

Cabinet and Woodwork for Electricians.

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Castings for Dynamos, &c.—*continued.*

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Dalman, J. C., & Sons, River-st., Birmingham.
Darlington Forge Co., Ltd., Darlington.
FALKIRK IRON CO., Craven House, Kingsway, London, W.C. Works: Falkirk, N.B.
Ferrofix Brazing Co., Dock House, Billiter-st., London, E.C.
Foundry & Engineering Works, Plantaganet-rd., New Barnet.
Hadfield's Steel Foundry Co., Ltd., makers of steel castings of high permeability for dynamos, East Hecla Works, Sheffield; & Norfolk House, Laurence Pountney Hill, London, E.C.
Holcroft, Thomas, & Sons, Ltd., Ettingshall Foundry, Wolverhampton.
Martin & Co., Albion Works, East-rd., West Ham, London, E.
Northgate Ironworks Co., Bury St. Edmunds, Suffolk.
Osborn, S., & Co., Ltd., Clyde Steel Works, Sheffield.
Rennies' Steel Casting Co., Tollcross, Glasgow.
Rogerson, John, & Co., Ltd., Stanners Closes Steel Works, Wolsingham S.O., co. Durham.
Spencer, John, & Sons, Ltd., Newburn Steel Works, Newcastle-on-Tyne.
Wilkinson, P., & Sons, Tottenham Mews Foundry, nr. Tottenham Court-rd., London, W.

Castings for Electrical Purposes.

F.—Fonte pour l'usage élec.
G.—Giessereien für elek. Zwecke.

Billington & Newton, Longport, Staffs.
Catton & Co., Ltd., Black Bull-st., Hunslet, Leeds.
Dronfield Malleable Casting Co., Dronfield, nr. Sheffield.
FALKIRK IRON CO., Craven House, Kingsway, London, W.C. Works: Falkirk, N.B.
Mcansh, J. T., 32, Hornsey Rise-gdns., London, N.
Macfarlane, Walter, & Co., Saracen Foundry, Glasgow. (Telegrams: "Saracen, Glasgow.")
SIMPLEX CONDUITS, LTD. Head office: Garrison-lane, Birmingham. Works: Maxstoke-st., Birmingham; & 113, 115, 117, Charing Cross-rd., London, W.C.; 16, Corporation-st., Manchester; 72A, Waterloo-st., Glasgow; Newcastle; Bristol; & Liverpool. *See advts., pages* 455 & 456.
Smith, Sydney, & Sons, Ltd., Basford Brass Works, Nottingham.
Steel Nut & Joseph Hampton, Ltd., Wednesbury.
Symmons, Syd. H., representing Wm. Cottis & Sons, Ltd., 10, Great St. Helen's, London, E.C.
Thornton & Crebbin, Hammerton-st. Ironworks, Bradford, Yorks.
Wallwork, Henry, & Co., Ltd., Roger-st., Manchester.

Ceiling Rose Manufacturers.

F.—Rosaces pour plafonds—Fabr. de.
G.—Decken-Rosetten Fabr.

Adnil Electric Co., Ltd., Adnil-bldg., Artillery-lane, London, E.C.

Baxendale & Co., Miller-st. Works & Warehouses, Manchester; Hanover-st., Edinburgh; Capel-st., Dublin; & Hood-st., Liverpool.

Braulik, G., 8, Lambeth Hill, London, E.C.

Bullers, Ltd. (porcelain). London office: 6, Laurence Pountney Hill, E.C. Works: Tipton & Hanley. (Telegs.: "Bullers, London." Teleph. Nos. 4907/8, London Wall.) *See advt., page* 15.

DORMAN & SMITH, Ordsal Electrical Works, Salford, Manchester. (Telegs.: "Current, Manchester." Teleph. No. 1741, Nat.) Agents —London: Sambidge & Co., 17, Victoria-st., S.W. (Telegs.: "Prefix, London." Teleph. No. 530, Victoria.) Scottish: Andrews & Co., 198A, St. Vincent-st., Glasgow. Birmingham: S. T. Pemberton, Council-chbrs., Colmore-row. Newcastle-on-Tyne: F. T. Hanks, 1, Higham-pl. *See also page* 123 & *advt., page* 21.

EDISON & SWAN UNITED ELECTRIC LIGHT CO.. LTD. Head office, depôt & show-rooms: Ediswan-bldgs., Queen-st., London, E.C.

ELECTRIC & ORDNANCE ACCESSORIES CO., LTD., Cheston-rd., Aston, Birmingham. (Telegs.: "Stellite, Birmingham." Teleph. Nos.: Nat. 176 & 179, East; & P.O. 9 (Trunk Calls).) *See page* 134 *for full entry.*

Kensington Stamping Co., Ltd., Kensington-st., Aston, Birmingham. (Telegs.: "Supports, Birmingham." Teleph. Northern 83.)

Lundberg, A. P., & Sons, Pioneer Electrical Works, 477-487, Liverpool-rd., London, N. (Telegs.: "Lundberg, London." Teleph. No. 1746, North.) Agents: Scotland, Messrs. Yuille & Co., 60, Brown-st., Glasgow; other districts: leading wholesale houses.

REGD LEKTRIK TRADE MARK

By Royal Warrant to H.M. the King.
See advt., page 710 *& on lower outside edges.*

MACINTYRE, J., & CO., LTD., Washington China Works, Burslem. (Telegs.: "Macintyre, Burslem." Teleph. No. 338, Burslem.) *See* PORCELAIN & CHINA FITTINGS MAKERS.

Marsh, Son & Co., Ltd., 15, Gerrard-st., London, W. (Telegs.: "Voltmeters, London." Teleph. No. 2414, Gerrard.) *See advt., page* 402.

Rhenish Rubber & Celluloid Co. (1908), Ltd., 38, Basinghall-st., London, E.C.

Cement—Insulating.

Massachusetts Chemical Co., 6, 7 & 8, Crutched Friars, London, E.C.

Central Stations.

See ELECTRICITY WORKS.

Central Station Supplies.

General Electric Co., Ltd. (*G. Byng, chairman*). Head office: 71, Queen Victoria-st., London, E.C. Works: London, Manchester, Birmingham & Witton. For branch offices, telegraphic & telephone numbers, *see* ALPHABETICAL SECTION. *See advts., pages* 446, 707 *&* 734.

Central Station Volt & Ammeters.

NALDER BROS. & THOMPSON, LTD. (managing director, F. H. Nalder), 34, Queen-st., Cheapside, E.C. *See advt., page* 643.

Chemical Glass & Apparatus Manufacturers.

F.—Verrerie et appareils de Chimie.
G.—Chemisches Glas & Apparate—Fab.

Butterworth Bros., Ltd., Newton Heath Glass Works, Manchester. (Telegs.: "Glasses, Newton Heath." Teleph. No. 22, Failsworth.)
Hart, F.W., 168, Stoke Newington-rd., London, N.
Johnson, J. H. & S., 6, 8 & 10, Whitechapel, & 7, Church-st., Liverpool.
Stiff, J., & Sons, London Pottery, Lambeth, S.E. (Telegrams: "Stiff, London." Telephone No. 627, Hop.) *See advt., page* 10.

Chemical Manufacturers.

F.—Fab. de Produits chimiques.
G.—Chemikalien—Fabriken.

Allen, F., & Sons, Phœnix Chemical Works, 164, Upper North-street, Poplar, London, E.
Baird & Tatlock, 45, Renfrew-st., Glasgow.
Berk, F. W., & Co., 1, Fenchurch-ave., E.C.; & Abbey Mills Chemical Works, Stratford, London, E. (Telegrams: "Berk, London." A.B.C. Code. Telephone No. 4013, Avenue.) Chloride of Ammonia, large & small crystals, Persulphate of Mercury, Bichromate of Potash, &c. *See advt., page* 403.
Boor, G., & Co., 21, Mincing-lane, London, E.C.
Bryce & Rumpff (agents), 58, Fountain-st., Manchester.
Cardiff Alkali Co., Ltd., Cardiff. (Telegrams: "Ammonia, Cardiff." Nat. Telephone No. 767.) SPECIALITY: CRUSHED SALAMMONIAC CRYSTALS FOR LECLANCHÉ BATTERIES.

Chemical Manufacturers—*continued.*

CELLULOID, LTD., 11, Ironmonger-lane, E.C.
Chapman Spencer, & Messel, Ltd., 36, Mark-lane, E.C.; Silvertown, E.; & Bow, E.
Duckham, Alex., & Co., Ltd., Phœnix Wharf, Millwall, E.
Earp, W. R., & Co., Halton-rd., Runcorn.
EVERITT & CO. (Manganese, Carbon, &c.), 40, Chapel-st., Liverpool. (Telegs.: "Persistent, Liverpool." Teleph. No. 1134 (3 lines).) *See advt., page* 640.
Garroway, R. & J., 58, Buchanan-st., Glasgow.
Glasgow Alum & Ammonia Co., Ltd., 401, West-st., Glasgow.
Hardman, Josiah, Milton, Staffordshire.
Harris, P., & Co., Ltd., 144, Edmund-st., Birmingham; & 182, St. Brunswick-st., Dublin.
HILL-JONES, THOS., Invicta Mills, Bow Common-lane, London, E. (Telegs.: "Medikaster, London." Teleph. East 3633.) Contractors to H.M. Government.
Hope, Alex., Junr., & Co., Ltd., Anchor Chemical Works, Provanmill, Glasgow.
Howards & Sons, Ltd., 74, Stratford High-st., London, E.; & Uphall Works, Ilford, Essex.
Hurlet & Campsie Alum Co., 115, Wellington-street, Glasgow.
Hyde, J., High-street, Wednesfield.
Irvine Chemical Co., Ltd., 204, St. Vincent-street, Glasgow.
Johnson & Hooper, Stratford, London, E.
JOHNSON, MATTHEY & CO., LTD., 74-81, Hatton Garden, E.C.
Johnson & Sons, Manufacturing Chemists, Ltd., 23, Cross-st., Finsbury, London, E.C.
Jutson & Sons, Liverpool-st., Birmingham.
Kendall, J. A., Lonesome Chemical Works, Streatham Common, London, S.W.
Marion & Co., Ltd., 22 & 23, Soho-sq., London, W.
Mawson & Swan, Ltd., 11, 13 & 15, Mosley-st., Newcastle-on-Tyne.
May & Baker, Ltd., Garden Wharf, Battersea, S.W.
Mersey Chemical Co., Chestergate, Stockport.
Miller, J., Son & Co., 79, W. Nile-st., Glasgow.
Morris, H. N., & Co., Gorton Brook Chemical Works, Manchester, S.E. (Telegs.: "Glauber, Manchester." Teleph. No. 75, Openshaw.)
Polglase & Co., Tyne Vale Chemical Works, Skinnerburn-rd., Forth Banks, Newcastle-on-Tyne.
Poynter, John, Son, & Macdonald, 72, Gt. Clyde-st., Glasgow.
Richardson, John, & Co. (Leicester), Ltd., Friar-lane, Leicester.
Robinson, J., & Co., Ltd., Huddersfield.
Royse, S. W., & Co., 20, Albert-sq., Manchester.
Sadler & Co., Ltd., Cleveland Chemical Works, Middlesbrough.
Shorthouse, J., & Sons, 48, Great Charles-st., Birmingham.
Tennants & Co., 1, Booth-st., Manchester.
Typke & King, Ltd., 16, Mincing-lane, E.C.
Wright, Layman & Umney, 50, Southwark-st., London, S.E.

Chemical Merchants & Agents.

F.—Marchands—produits chemiques.

G.—Händler in Chemikalien.

Bruce, W. T., & Co., 3, Lombard-ct., London, E.C.
Canning, W., & Co., electroplaters' chemicals. Head office & works: 133–137, Great Hampton-st., Birmingham; & 18–20, St. John-sq., Clerkenwell, London, E.C.
Fuerst Bros., 17, Philpot-lane, London, E.C.
James, John, & Son, 21, Lime-street, London, E.C.
Morris, H. N., & Co., Gorton Brook Chemical Works, Manchester, S.E. (Telegs.: "Glauber, Manchester." Teleph. No. 75, Openshaw.)
Polglase & Co., Tyne Vale Chemical Works, Skinnerburn-rd., Forth Banks, Newcastle-on-Tyne.
Poths, H., & Co. (importers), 4, 5 & 6, Bury-ct., St. Mary Axe, London, E.C.
Saunders, Todd & Co., Maritime-bldgs., King-st., Newcastle.
Smith, B. A., & Co., Church-row, Aldgate, E.C.
Spencer & Watson, Ward's-bldgs., High Bridge, Newcastle-on-Tyne.
Zimmermann, A. & M., 3, Lloyd's-ave., London, E.C.

Chemists—Analytical.

F.—Chimistes Analytiques.

G.—Chemiker—Analytiker.

Aspinall, Wm. L., Chemical Laboratory, Cowper-st., E.C.; & 3, Savage-gdns., E.C.
Baker, C. K., A.R.S.M. & F.I.C., 16, Change-alley, Sheffield.
Barker, C. D., 2, Beverley-rd., Chiswick, London, W.
Dupré, F. H. & P. V., 2, Edinburgh Mansions, Howick-pl., London, S.W.
Gerland, Dr. B. W., PH.D., Plantation-st., Accrington.
Hughes, J., F.C.S., 79, Mark-lane, London, E.C.
JOHNSON, MATTHEY & CO., LTD., 74–81, Hatton Garden, London, E.C.
Jones, E. W. T., F.I.C., F.C.S., 10, Victoria-st., Wolverhampton.
Kershaw, J. B. C., West Lancashire Laboratory, Waterloo, Liverpool.
Norman, J. T., F.C.S., City Central Laboratory, 23, Leadenhall-st., E.C.
Pendlebury, H. L., F.C.S., 22, Blackfriars-st., Manchester.
Redwood & de Hailes, 15, Red Lion-sq., London, W.C.
Reeks & Hughes, 106, Queen Victoria-st., London, E.C.
Smetham, Alfred, F.S.C., F.I.C., 16, Brunswick-st., Liverpool.
Smith, H. D., 8 & 10, Side, Newcastle-on-Tyne.
Teed, F. L., D.SC., 9, Mincing-lane, London, E.C.
Warnes, A. R., 1, Havelock-rd., Saltley, Birmingham.

Chemists—Consulting.

F.—Chimistes—consultants.

G.—Chemiker—Beratende.

Armstrong, E. F., PH.D., 55, Granville Park, Lewisham, S.E.
Bolas, T., F.C.S., F.I.C., 60, Grove-park-terrace, Chiswick, London, W.
Dibdin, W. J., F.I.C., F.C.S., 2, Edinburgh Mansions, Howick-pl., Victoria-st., S.W.
Dickson, S., F.C.S., 2, Broadway, Westminster, S.W.
Hartley, W. N., D.SC., F.R.S., F.I.C., Royal College of Science, Stephen's-green, Dublin.
Japp, F. R., LL.D., F.R.S., The University, Aberdeen, N.B.
MacArthur, J. S., 6, Broad-st.-pl., E.C.
Meldola, Raphael, F.R.S., F.R.A.S., F.C.S., F.I.C., 6, Brunswick-square, London, W.C.
Ramsay, Sir William, K.C.B., PH.D., F.R.S., University College, Gower-st., London, W.C.
Sexton, Prof. A. Humboldt, F.I.C., F.C.S., Glasgow & West of Scotland Technical College, 204, George-st., Glasgow.
Swinburne, James, 82, Victoria-st., S.W. (Telegs.: "Swooper, London." Teleph. Westminster 292; & Oxted 10.)
Swinburne, O'Gorman & Baillie, electro-metallurgists, 82, Victoria-st., S.W.
Thomson, W., Royal Institution Laboratory, 79A, Princess-st., Manchester.
Threlfall, R., M.I.E.E., F.R.S., Oakhurst, Church-rd., Birmingham.
Warren, H. N., & Co., 131, St. Domingo-rd., Liverpool.

Chemists—Electro.

F.—Electro-Chimistes.

G.—Elektro-Chemiker.

Allen & Hanburys, Ltd., Three Colt-la., Bethnal Green Junction, E., Plough-ct., 37, Lombard-st., E.C.; & 7, Vere-st., Cavendish-sq., W., London.
Blount, Bertram, F.I.C., 76–78, York-st., Westminster, London, S.W.
Clarke, Wm. Barton, A.M.I.E.E., M.S.C.I., Edison & Swan United Electric Light Co., Ltd., Ponder's End, Middlesex.
Cloud, T. C., 4, Lloyd's-ave., London, E.C.
Digby, W. P., A.M.I.MECH.E., A.M.I.E.E., 666, Victoria-st., Westminster, London, S.W.
Hutton, R. S., D.SC., A.I.E.E., West-st., Sheffield.
KERSHAW, J. B. C., West Lancashire Laboratory, Waterloo, Liverpool.
Le Carbone (formerly Lacombe & Co.) (Electrodes & Crucibles for). Works: Levallois-Perret, Paris; 17, Water-lane, E.C. (Telegs.: "Lacombe, London." P.O. Teleph. No. 14671, Central.) *See advts., pages* 478 & 480.
Maccallum, J. Malcolm, 43, Union-st., Greenock.
Oxychlorides, Ltd., Winchester House, Old Broad-st., London, E.C.
Parker, Thos., J.P., F.R.S.E., M.I.C.E., M.I.E.E., M.I.M.E., Iron Bridge, Salop. (Teleph. No. 20.)
Steinhart, Vogel & Cloud, 4, Lloyd's-ave., London, E.C.

Chimney Stalk Repairers.

TOSH, D., & SON, 77, Queen-st., Glasgow. Works: 12, Houston-st., Greenock. (Telegrams: "David Tosh, Greenock." Telephone No. 256.)

Circuit Breakers.

DORMAN & SMITH, Ordsal Electrical Works, Salford, Manchester. (Telegs.: "Current, Manchester." Teleph. No. 1741, Nat.) Agents—London: Sambidge & Co., 17, Victoria-st., S.W. (Telegs.: "Prefix, London." Teleph. Victoria 530.) Scottish: Andrews & Co., 198A, St. Vincent-st., Glasgow. Birmingham: S. T. Pemberton, Council-chbrs., Colmore-row. Newcastle-on-Tyne: F. T. Hanks, 1, Higham-pl. *See also page* 123 & *advt., page* 21.

ELECTRIC & ORDNANCE ACCESSORIES CO., LTD., Cheston-rd., Aston, Birmingham. (Telegs.: "Stellite, Birmingham." Teleph. Nos.: Nat. 176 & 179, East; & P.O. 9 (Trunk Calls).) *See page* 134 *for full entry.*

Engholm, A. Goldie, 30, Church-st., Birmingham. (Telegs.: "Engholm, Birmingham." Teleph. No. 925, Central.)

Circuit Breakers—*continued.*

I. T. E. ELECTRIC CO. (1907), LTD., 72, Finsbury Pavement, London, E.C.

NALDER BROS. & THOMPSON, LTD. (managing director, F. H. Nalder), 34, Queen-st., Cheapside, London, E.C. *See advt., page* 643.

THOMAS, BERTRAM. Works: Worsley-st., Hulme, Manchester. (Telegrams: "Breaker, Manchester." Telephone No. 215.) Magnetic Blow-out Loose Handle Maximum & Reverse Current Breakers.

Cleats—Makers of.

(*See* WOOD CASINGS & CLEATS.)

Clock Wheels, Pinions, &c.—Makers of.

F.—Roues d'horlogerie.
G.—Uhrräder-Fabriken.

Brunner, L. F., 279, Romford-rd., Forest Gate, E.

Smith & Sons, 42, 44, 46, 47, 50, 52, St. John's-sq., E.C.

Clocks & Synchronization—Electric.

F.—Horloges électriques et synchronisation.
G.—Elektrische Uhren und Zeitmesser.

Adnil Electric Co., Ltd., Adnil-bldg., Artillery-lane, London, E.C.

ELECTRIC CLOCKS

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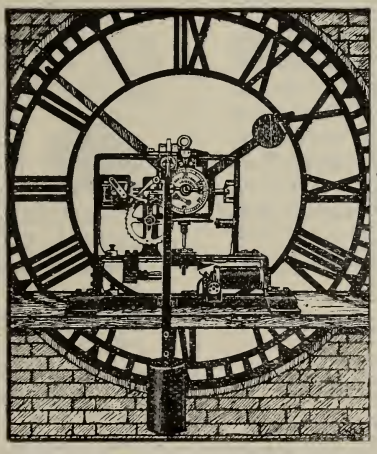

FOR CHECKING NIGHT WATCHMEN.

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ALL THE CLOCKS IN AN ESTABLISHMENT KEPT
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3a, Upper Thames St., *London, E.C.* 67, High Bridge, *Newcastle-on-Tyne.*

Clocks & Synchronization—Electric—*continued.*

Apps, A., 433, Strand, London, W.C.
Barr & Stroud, Anniesland, Glasgow.
BATTY, WM., & SONS, LTD., 7 & 9, Market-st., Manchester.
Electrical Contracts & Maintenance Co., Ltd., Sanctuary House, Westminster, S.W.
Everett, Edgcumbe & Co., Ltd., 117, Victoria-st., London, S.W.; & Collindale Works, Hendon, Middlesex. *See advt., page* 643.
Gent & Co., Ltd., electric impulse clocks, Faraday Works, Leicester; 3A, Upper Thames-st., London; & 67, High Bridge, Newcastle-on-Tyne. (Telegs.: "Lodestone, Leicester;" "Knife-edge, London;" & "Gents, Newcastle." Teleph. Leicester 151; London, Bank 8135; & Newcastle 1135.) *See advts., pages* 451 & 721.
Lancashire Electrical Engineering Co., Ltd., Volt Works, Old-st., Ashton-under-Lyne.
Leecla Watch Co., 215, Old-st., Ashton-under-Lyne.
Lowne Electric Clock & Appliances Co., Ltd., Ravenscroft, 108, Bromley-rd., Catford, S.E.
MAGNETA TIME CO., LTD. (Installed in chief Postal Buildings), Electric Clock & Synchronized Time Systems without batteries or contacts, Chatham House Works, Turnham Green, Chiswick, W. (Telegs.: "Dial, London." Teleph. Chiswick 902.) Manufacturing under seven British Patents.
Partington, W. E., & Co., 19, Station-rd. Stores: 177, Stockport-rd., Levenshulme, Manchester. (Telegs.: "Partington, Levenshulme." Teleph. H.M. 112.)
SIEMENS BROS. & CO., LTD., Caxton House, Westminster, London, S.W. *See advt., page* 573.
SILENT ELECTRIC CLOCK CO. (G. B. & H. T. W. BOWELL), manufacturers of SILENT electric clocks, 192, Goswell-rd., London, E.C. (Telegs.: "Silectocks, London." Teleph. City 2820.)
Synchronome Co., 32 & 34, Clerkenwell-rd., London, E.C.
Wattis, G. & F. E., Lower Temple-st., Birmingham.

Clutch Manufacturers.

F.—Griffes de transmission.
G.—Kuppelungen.

Bagshaw, J., & Sons, Ltd., Victoria Foundry, Batley, Yorkshire.
Bridge, D., & Co., Castleton Iron Works, Castleton, Manchester.
Cowlishaw, Walker & Co., Ltd., Etruria, Stoke-on-Trent.
Edmeston, A., & Sons, Patricroft.
Hall, C. E., 58, Foster's-bldgs., High-st., & Standard Iron Works, Sheffield.

Clutch Manufacturers—*continued.*

LUGARD, C. E., & CO., Field's-bldgs., Middlesbrough. Makers of electro-magnetic clutches, reversing & non-reversing up to 3000 H.P.
MATHER & PLATT, LD., Salford Iron Works, Manchester; & Queen Anne's-chbrs., Westminster, London, S.W. (Telegrams: "Mather, Manchester;" "Sprinkler, London." Nat. Telephone Nos.: 5781, 5782 & 5783, Manchester; & 851 & 852, Westminster.)
Watson, Laidlaw & Co., Dundas-street, South Glasgow.

Coal Handling Plants.

GIBBONS BROS., LTD., Dibdale Works, Dudley, Worcs. (Telegs.: "Gibbons, Lower Gornal." Teleph. No. 10A); London & Manchester. *See also* ALPHABETICAL ENTRY. *See advt., page* 528.

Coil Winders.

F.—Bobines—Fab. de.
G.—Spulen Winder.

Roche, J. J., & Co., 83, Queen Victoria-st., E.C.
Varley Magnet Co., Cambridge-pl., Burrage-rd., Woolwich.
Walters Electrical Manufacturing Co., Ltd, 249 & 251, Kensal-rd., London, W. (P.O. Teleph. No. 653, Western.)

Coils—Medical & Intensity.

F.—Bobines—Medicines et intensité.
G.—Spulen Medicinische & Intenzität.

Apps, A., 433, Strand, London, W.C.
Braulik, G., 8, Lambeth Hill, London, E.C.
ELECTRIC & ORDNANCE ACCESSORIES CO., LTD., Cheston-rd., Aston, Birmingham. (Telegs.: "Stellite, Birmingham." Teleph. Nos.: Nat. 176 & 179, East; & P.O. 9 (Trunk Calls).) *See page* 134 *for full entry.*
GENERAL ELECTRIC CO., LTD. (*G. Byng, chairman*). Head office: 71, Queen Victoria-st., London, E.C. Works: London, Manchester, Birmingham & Witton. For branch offices, telegraphic addresses & telephone numbers, *see* ALPHABETICAL SECTION. *See advts., pages* 446, 707 & 734.
Jolin, P., & Co., 25, Temple-st., Bristol.
Newton & Co., 3, Fleet-st., E.C.; & Newton Works, 471, Hornsey-rd., London, N.
Plutte, Scheele & Co., 18 & 19, Queenhithe, E.C.
Scientific Appliance Manufacturing Co., 15, New Oxford-st., London, W.C.

Cold Storage Temperature Measuring Apparatus.

SIEMENS BROS. & CO., LTD., Caxton House, Westminster, London, S.W. *See advt., page* 573.

Colliery Cable Makers.

Glover, W. T., & Co., Ltd., Trafford Park, Manchester. (Telegs.: "Cables, Manchester." Tel. Central 7200 (6 lines).) London: Parliament Mansions, Orchard-st., S.W. *See* ALPHABETICAL.

Colonial Agents.

BRITISH COLUMBIA. Wm. Walter, 15, Serjeant's Inn, Temple, E.C.

CANADA. Lord Strathcona & Mount Royal, G.C.M.G., G.C.V.O., High Commissioner. W. L. Griffith, permanent secretary, 17, Victoria-st., S.W. (Telegs.: "Dominion, London." Teleph. Westminster 686.)

CAPE OF GOOD HOPE. Sir Somerset R. French, K.C.M.G. Secretary, T. Slingsby Nightingale, 100, Victoria-st., S.W. (Teleph. Westminster 112.)

NATAL. Acting Agent-General, Robt. Russell, M.A., B.C.L., 26, Victoria-st., S.W.

NEW BRUNSWICK. Hon. C. A. Duff-Miller, 17, Leather Market, S.E. (Telegrams: "Dufmiler, London." Telephone No. 1186, Hop.)

NEW SOUTH WALES. T. A. Coghlan, I.S.O. T. G. White, secretary, 123 & 125, Cannon-st., E.C. (Telegs.: "Alicujus, London." Teleph. No. 2814, London Wall.)

NEW ZEALAND. High Commissioner, Hon. Wm. Hall-Jones. Secretary, C. Wray Palliser, Westminster-chbrs., 13, Victoria-st., S.W. (Telegs.: "Deputy, London." Teleph. Victoria 766.)

NOVA SCOTIA. John Howard, 57A, Pall Mall, London, S.W.

QUEENSLAND. Hon. Sir Horace Tozer, K.C.M.G. Acting secretary, accountant & indent clerk, A. B. Paine, 1, Victoria-st., S.W.

SOUTH AUSTRALIA. Hon. A. A. Kirkpatrick. Secretary & registrar, J. B. Whiting, 85, Gracechurch-st., E.C. (Telegs.: "Icarian, London.") Commercial agent, A. E. M. Norton. (Teleph. London Wall 6414 & 6415.)

TASMANIA. Agent-General, Hon. John McCall, M.D. Secretary, D'Arcy W. Addison, Westminster-chbrs., 5, Victoria-st., S.W. (Teleph. Westminster 244.)

VICTORIA. Agent-General, Hon. J. W. Taverner. Secretary, H. G. W. Neale, Melbourne-pl., Strand, London, W.C. (Telegs.: "Yarra London." Teleph. Gerrard 3050.)

WESTERN AUSTRALIA. Agent-General, Hon. Sir C. H. Rason. Secretary, R. C. Hare. E. E. Salter, inspecting engineer, 15, Victoria-st., S.W. (Telegs.: "Karrakatta, London." Teleph. Westminster 353.)

Crown Agents for the Colonies.

Whitehall Gardens, S.W.
Telegs.: "Crown, London."
Teleph. Nos. 1632 & 1633, Victoria.

Reginald Laurence Antrobus, C.B.; Major M. A. Cameron, C.M.G., late R.E.; W. Hepworth Mercer, C.M.G. Secretary, P. H. Ezechiel. Head of engineering & works branch, Major J. F. H. Carmichael, late R.E.; assistant head of works branch, W. H. Lancaster; head of general stores branch, H. F. Smith; head of shipping branch, W. E. James; consulting engineers for telegraph & electric lighting, Messrs. Preece & Cardew.

Colour Makers.

Bowley, S., & Son, Wellington Works, Battersea Bridge, London, S.W. (Telegs: "Bolyanson, London." Teleph. Battersea 1 & 2. A.B.C. Code.)

GRIFFITHS BROS. & CO., Macks-road, Bermondsey, London, S.E., special non-conducting colours for electrical work; dry or ground colours of all kinds. *See advt., page* 18.

Combined Switch & Wall Socket Mfrs.

F.—Emboitures avec commutateurs combinés—Fabr. de.

G.—Combinirte Ausschalter & Steckkontact Fabr.

Lundberg, A. P., & Sons, Pioneer Electrical Works, 477–487, Liverpool-rd., London, N. (Telegs.: "Lundberg, London." Teleph. No. 1746, North.) Agents: Scotland, Messrs. Yuille & Co., 60, Brown-st., Glasgow; other districts: leading wholesale houses.

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See advts., page 710 *& on lower outside edges.*

Marsh, Son & Co., Ltd., 15, Gerrard-st., London, W. (Telegrams: "Voltmeters, London." Teleph. No. 2414, Gerrard.) *See advt., page* 402.

Commutator Bars & Segments.

F.—Segments de Commutateurs.

G.—Commutator Segmenten.

Bolton, Thomas, & Sons, Ltd., Mersey Copper Works, Widnes (Registered Offices) (Telegrams: "Rolls, Widnes"); Oakamoor, North Staffs. (Telegrams: "Bolton, Oakamoor"); Broad-st. Metal Works, Birmingham (Telegs.: "Boltons, Birmingham"); & 88, Bishopsgate-st. Within, London, E.C. (Telegs.: "Wiredrawn, London." Teleph. No. 632, Central.) Also Drop Forged Commutator Bars.

Broughton Copper Co., Ltd., Broughton Copper Works, Manchester.

Dyer & Young, Stanstead, Essex.

Commutator Bars & Segments—*continued.*

Forest City Electric Co., Collier-st., Greengate, Salford. (Telegs.: "Rolldrop, Manchester.")

LONDON ELECTRIC WIRE COMPY. & SMITHS, LTD., THE, Playhouse-yard, Golden-lane, London, E.C. *See advt. facing inside back cover.*

Commutator Segments.

Delta Metal Co., Ltd., Delta Works, East Greenwich, London, S.E.; & at Dartmouth-st., Birmingham. Manufacturers of H.C. Copper Commutator Segments.

Compass Cap Makers.

F.—Boussoles—couvert. pour.
G.—Kompass Kappen—Fab. von.

Compass Makers.

F.—Boussoles—Fab. de.
G.—Kompasse—Fab. von.

Castle & Co., English-st., Hull.

Willmott, J. W., Iddesleigh Villa, Runnemede-st., Egham.

Concentric Flexibles & Cables.

F.—Flexibles concentriques et Cables.
G.—Concentrischen & Biegsamer Kabeln.

Armorduct Manufacturing Co., Ltd., Farringdon-ave., London, E.C.; & 44, Blackett-st., Newcastle-on-Tyne. Works: Bathurst Works, Witton, nr. Birmingham. (Telegs.: "Armorduct," London, Newcastle-on-Tyne, Birmingham. Teleph. Nos.: London, 400, Holborn (2 lines); Newcastle-on-Tyne, 2827, Central; Witton Works, 812, East.) *See advt. on top edges.*

Geoffroy & Delore (A. H. Hunt), 115–117, Cannon-st., London, E.C. (Telegrams: "Keyage, London." Telephone No. 8114, Bank.)

Glover, W. T., & Co., Ltd., Trafford Park, Manchester. (Telegs.: "Cables, Manchester." Tel. Central 7200 (6 lines).) London: Parliament Mansions, Orchard-st., S.W. *See* ALPHABETICAL.

INDIA RUBBER, GUTTA PERCHA & TELEGRAPH WORKS CO., LTD. Head offices: 106, Cannon-st., E.C. Warehouses: 100 & 102, Cannon-st., London, E.C.; & 97, boul. Sebastopol, Paris. Works: Silvertown, Essex; & Persan, France. For telegraphic addresses & branches, *see advt. outside of back cover.*

Condensers—Makers of.

F.—Condensateurs—Fabr. de.
G.—Condensatoren Fabr.

BELLISS & MORCOM LTD., Ledsam-st. Works, Birmingham. London office: 8, Victoria-st., S.W. (Telegs.: "Belliss, Birmingham." Teleph. Nos. 4480 & 4481.) *See advt., page* 533.

BERTRAMS LTD., St. Katherine's Works, Sciennes, Edinburgh. General mechanical plant for electrical power stations.

Concentric Condensers, Ltd., 22, Henrietta-st., W.C.

EDWARDS AIR PUMP SYND., LTD., THE, 3 & 5, Crown-ct., Old Broad-st., London, E.C.

Glasgow Patents Co., Ltd., Wellington Works, Kinning Park, Glasgow.

Korting Bros., Ltd., 53, Victoria-st., London, S.W.

Liverpool Eng. & Condenser Co., Ltd., Perry-st., Liverpool.

MATHER & PLATT, LD., Salford Iron Works, Manchester; & Queen Anne's-chbrs., Westminster, London, S.W. (Telegrams: "Mather, Manchester;" "Sprinkler, London." Nat. Telephone Nos.: 5781, 5782 & 5783, Manchester; & 851 & 852, Westminster.)

Mirrlees Watson Co., Ltd. Head office & works: Scotland-st., Glasgow. London office: 225, Gresham House, Old Broad-st., E.C.

PULSOMETER ENGINEERING CO., LTD., Nine Elms Iron Works, Reading, Berks. London office: 61 & 63, Queen Victoria-st., E.C. *See advt., page* 735.

RANKINE PATENT FEED WATER FILTER CO., LTD., 14, Water-st., Liverpool. (Telegrams: "Percolate, Liverpool." Telephone No. 1933.) London office: Aldermary House, 60, Watling-st., E.C. (Telegrams: "Ricto, London." Telephone No. 497, Bank.)

Telegraph Condenser Co., 175A, Peckham Park-rd., S.E.

Condensing & Cooling Plant Mfrs.

Midland Engineering Co., Ltd., 2, Victoria-sq., Birmingham.

Condensers (Electric)—Makers of.

BRITISH INSULATED & HELSBY CABLES, LTD. Head office: Prescot, Lancs. Works: Prescot, Helsby & Liverpool. For branch offices, telegraphic & telephonic addresses, *see* ALPHABETICAL ENTRY. *See advt., page* 437.

Fuller, John C., & Son, Woodland Works, Wicklane, Old Ford-rd., Bow, E.

NALDER BROS. & CO., 7, Carteret-st., Queen Anne's-gate, Westminster, S.W. (late 16, Red Lion-st., Clerkenwell). (Telegs.: "Secohm, London." Teleph. Gerrard 779.)

Siemens Bros. & Co., Ltd., Caxton House, Westminster, London, S.W. *See advt., page* 573.

Walter's Electrical Mfg. Co., Ltd., 249 & 251, Kensal-rd., W. (P.O. Teleph. No. 653, Western.)

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Conduit Systems of House Wiring.

F.—Systèmes conduites de fil élec.—Fab. de.
G.—Draht Leitung für Haüser—Systeme.

Adnil Electric Co., Ltd., Adnil-bldg., Artillery-lane, London, E.C.

ARMORDUCT MANUFACTURING CO., LTD., Farringdon-ave., London, E.C.; & 44, Blackett-st., Newcastle-on-Tyne. Works: Bathurst Works, Witton, nr. Birmingham. (Telegs.: "Armorduct," London, Newcastle-on-Tyne, Birmingham. Teleph. Nos.: London, 400, Holborn (2 lines); Newcastle-on-Tyne, 2827, Central; Witton Works, 812, East.) *See advt. on top edges.*

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BARTON & SONS, LTD., Beehive Foundry, Birchills, Walsall.

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BROTHERTON TUBES & CONDUITS, LTD., Excelsior Works, Commercial-rd., Wolverhampton. *See* ALPHABETICAL.

DAVIS ELECTRICAL CO., LTD., THE, 17, Moor-st., Cambridge-circus, W. (Telegs.: "Unmatchable, London." Teleph. Central 7253.) *See advt., page* 645.

EDISON & SWAN UNITED ELECTRIC LIGHT CO., LTD. Head office, depôt & show-rooms: Edis'wan-bldgs., Queen-st., London, E.C.

Electrical Contracts & Maintenance Co., Ltd., Sanctuary House, Westminster, S.W.

General Electric Co., Ltd. (*G. Byng, chairman*). Head office: 71, Queen Victoria-st., London, E.C. Works: London, Manchester, Birmingham & Witton. For branch offices, telegraphic addresses & telephone numbers, *see* ALPHABETICAL SECTION. *See advts., pages* 446, 707 & 734.

Key Engineering Co., Ltd., The, 4, Queen Victoria-st., London, E.C.; & 38, Deansgate, Manchester. Works: Trafford Park, Manchester.

Land, T., & Son, 73, Robertson-st., Glasgow.

OLDBURY STEEL CONDUITS, LTD., Paddock Works, Oldbury.

PIGGOTT ELECTRICAL CO., 24, New Bridge-st., E.C. (Telegs.: "Enticeable, London." Teleph. Holborn 2208.)

Conduit Systems of House Wiring—*continued.*

SIMPLEX CONDUITS, LTD. Head office: Garrison-la., Birmingham. Works: Maxstoke-st., Birmingham; also at 113, 115, 117, Charing Cross-rd., London, W.C.; 16, Corporation-st., Manchester: 72A, Waterloo-st., Glasgow; Newcastle; Bristol; & Liverpool. L. M. Waterhouse, A.M.I.C.E., M.I.E.E., managing director. *See inset advt.* OPPOSITE.

SUN ELECTRICAL CO., LTD., 118 & 120, Charing Cross-rd., London, W.C. Kalkos Tinned Tube System. *See advt., page* 596.

Conduits (Underground) & Culverts.

F.—Conduites Sousterraines—Fab. de.
G.—Untererdische Rohren Fab.

ALBION CLAY CO., LTD., Albion Works, Woodville, Burton-on-Trent; 38, Victoria-st., S.W.; & Midland Railway New Goods Station, Euston-rd., London, N.W.

Ames Crosta Sanitary Engineering Co., Ltd., 12, Victoria-st., Nottingham.

Armoured Concrete Construction Co., 5, Westminster Palace-gardens, London, Westminster, S.W.

Barton & Sons, Ltd., Beehive Foundry, Birchills, Walsall.

BRITISH INSULATED & HELSBY CABLES, LTD. Head office: Prescot, Lancs. Works: Prescot, Helsby & Liverpool. For branch offices, telegraphic & telephonic addresses, *see* ALPHABETICAL ENTRY. *See advt., page* 437.

Callender's Cable & Construction Co., Ltd., Hamilton House, Victoria Embankment, E.C. *See advt., page* 441.

Credenda Conduits Co., 70, Scholefield-st., Birmingham.

DOULTON & CO., LTD., Royal Doulton Potteries, Lambeth, London, S.E.; Rowley Regis, Staffs.; Burslem, Staffs.; St. Helen's, Lancs.; & Paisley, N.B. Depôts: Birmingham; Liverpool; Manchester; & Glasgow. Head office: Lambeth, S.E. The Doulton underground electrical troughs & conduits. *See advt., page* 439.

Ellistown Collieries Co., Ellistown, near Leicester.

Eureka Conduits & Fittings Co., Queen-st., Walsall.

Freeman Hines, Ltd., 20, Victoria-st., London, S.W.

Gibbons Bros., Ltd., Dibdale Works, Dudley, Worcs. *See advt., page* 528.

Glover, W. T., & Co., Ltd., Trafford Park, Manchester. (Telegs.: "Cables, Manchester." Tel. Central 7200 (6 lines).) London: Parliament Mansions, Orchard-st., S.W. *See* ALPHABETICAL.

Griffiths, Isaac, & Sons, Imperial Tube Works, Wednesbury.

Conduits (Underground) & Culverts—*continued.*

Hamblet's Blue Brick Co., Ltd., Piercy Works, West Bromwich.
HOWARD ASPHALT TROUGHING CO., LTD., THE, Trafford Park, Manchester.
Jennings, C., & Co., Pennywell-rd., Bristol.
Key Engineering Co., Ltd., The, 4, Queen Victoria-st., London, E.C.; & 38, Deansgate, Manchester. Works: Trafford Park, Manchester.
Macfarlane, Walter, & Co., Saracen Foundry, Glasgow. (Telegrams: "Saracen, Glasgow.")
Perfecta Seamless Steel Tube & Conduit Co., Ltd., Plume-st., Birmingham; & 64, Victoria-st., Westminster, London, S.W.
RIPPINGILLE MANUFACTURING CO., LTD., Plume-st., Aston, Birmingham. *See advts., pages* 597 *&* 598.
Safety Tread Syndicate, Ltd., 15, Barbican, London, E.C.
Shackleton, J. F., & Son, Goole, Yorks.
Sharp, Jones & Co., Parkstone, Dorset.
Siemens Bros. & Co., Ltd., Caxton House, Westminster, London, S.W. *See advt., page* 573.
Spencer, J. E. & S., 14, Great St. Thomas Apostle, Cannon-st., London, E.C.
Stanley Bros., Ltd., Nuneaton. Branch works: Burslem, Staffs.; Willenhall, nr. Coventry.
Steel Conduit Co., Ltd., Conduit Works, Witton, Birmingham.
Stiff, Jas., & Sons, London Pottery, Lambeth, London, S.E. (Telegrams: "Stiff, London." Telephone No. 627, Hop.) *See advt., page* 10.
Walsall Hardware Manufacturing Co., Walsall, Staffs.
Watson, Gow & Co., Ltd., Etna Foundry, Lilybank-rd., Glasgow; & Etna Iron Works, Grahamston, Falkirk, N.B.
Woodward, James, Ltd., Swadlincote, nr. Burton-on-Trent.
Wragg, Thos., & Son, Ltd., Swadlincote, nr. Burton-on-Trent.

Contractors—Electric Light & Power.

(*See also* CONTRACTORS—INSTALLATION.)

F.—Eclairage électrique—Entrepreneurs d'.
G.—Elektrisches Licht—Unternehmer.

Acme Motor & Traction Co., 72, Finsbury Pavement, E.C. Works: The Ham, Brentford.
Austin & Son, 4 & 6, Sandall-rd., London, N.W.
Bacchus, H., Bedford.
Bailie, J. D., Messrs. C. A. Parsons & Co., Prudential-bldgs., Park-row, Leeds. (Telegs.: "Turbo, Leeds." Teleph. No. 1194.)
BARKER, JOHN, & CO., LTD., 52-60, Kensington High-st., W.
Barnett, Rowland. Office & works: 3, Hanover-sq., Newcastle-on-Tyne. Branch: 17, Dean-st., Newcastle-on-Tyne.
Baughan & Co., London-st., Reading.

Contractors—Electric Light & Power—*continued.*

BELLISS & MORCOM LTD., Ledsam-st. Works, Birmingham. London office: 8, Victoria-st., S.W. (Telegs.: "Belliss, Birmingham." Teleph. Nos. 4480 & 4481.) *See advt., page* 533.
Benford, E. G., 194, Western-rd., Brighton.
Bigge, D. Selby, & Co., 27, Mosley-st., Newcastle-on-Tyne; & 4, Park-pl., Cardiff.
Boddy, G. M., & Co., 15, Gray's Inn-rd., London, W.C.; & St. Peter's-sq., Manchester. *See advt., page* 646.
Boond, S., Town-chbrs., Market-st., Leigh, Lancs.
BOWDEN, G. HARLAND, & CO., Royal London-bldgs., 196, Deansgate, Manchester (Telegs.: "Engineered, Manchester." Teleph. Nos. 7190 & 7191); Baltic-chbrs., 50, Wellington-st., Glasgow (Telegs.: "Bowden, Glasgow." Teleph. Argyle 221); 5, Laurence Pountney Hill, Cannon-st., London, E.C. (Telegs.: "Harbowdeco, London." Teleph. London Wall 7417); & at Dundee, Cardiff & Gloucester.
Bowden, Higlett & Co., Onslow-st., Guildford.
Brewer Bros. & Co., 17, Quay-st., Cardiff.
BRITISH INSULATED & HELSBY CABLES, LTD. Head office: Prescot, Lancs. Works: Prescot, Helsby & Liverpool. For branch offices, telegraphic & telephonic addresses, *see* ALPHABETICAL ENTRY. *See advt., page* 437.
British Thomson-Houston Co., Ltd. Head office & works: Rugby. Registered office: 83, Cannon-st., London, E.C. Branch offices: 91, Wellington-st., Glasgow; 41, Church-st., Sheffield; Collingwood-bldgs., Newcastle-on-Tyne; Star Life-bldgs., 30, Cross-st., Manchester; Maritime-bldgs., Middlesbrough; 115, Colmore-row, Birmingham; & Greek-st.-chbrs., Leeds. (Telegs.: "Asteroidal." Teleph. Nos.: Head office, Rugby 54 & 55; London office, London Wall 135 (4 lines).)
British Westinghouse Electric & Manufacturing Co., Ltd., The, Westinghouse Works, Trafford Park, Manchester.
Bryson, R., 130, High-st., Kirkcaldy, N.B.
Burdett, H. J., 32, Earl-st., Coventry.
Burns, David, & Co., 18, Lowther-st., Whitehaven.
Butcher, C. E., 7, Cochrane-st., Wellington-pl., St. John's Wood, N.W.
Callender's Cable & Construction Co., Ltd., Hamilton House, Victoria Embankment, E.C. *See advt., page* 441.
Camburn, A. J., 1, Dover-rd., Folkestone.
Carrington & Button, 9, High-st., Crewe.
Chalmers, Wm., 142, Bath-st., Glasgow.
Charlesworth, S., & Co., 6, Clegg-st., Oldham, Lancs. (Telegs.: "Charlesworth, Engineers, Oldham." Teleph. No. 63.)
Chase, F., & Co., 9, Greyhound-rd., Tottenham, N.
Cheetham, A., 287, Upper-st., Islington, London, N.
CHRISTY BROS. & CO., LTD., Broomfield-rd. Works, Chelmsford. (Telegs.: "Engineering, Chelmsford." Teleph. No. 8.)

Contractors—Electric Light & Power— *continued.*

Churton, T. Harding, & Co., Atlas Works, Water-lane, Leeds.
Clark, W. H., St. Laurence's-lane, Norwich.
CLARKE, CHAPMAN & CO., LTD., Victoria Works, Gateshead-on-Tyne. (Telegrams: "Cyclops, Gateshead.")
Cock, J., & Co., 90, Battersea Rise, S.W.
Connal, D. L., & Co., Hunter-pl., Greenock.
Cook, W. F., 150, High-st., Plumstead, London, S.E.
Cookson, M., 79, London-st., Southport.
Corlett Electrical Engineering Co., Ltd., Wilcock-st., Wigan.
Corrick, W. W., 141, Liverpool-rd., London, N.
Corse, W. J., & Co., 45, Union-st., Plymouth. (Teleph. No. 871.)
Cottrell & Beszant, 5, Cases-st., Liverpool, W.
Cox & Childs, Mansfield.
Cox-Walkers, Ltd., Darlington. *See advt., page* 15.
CROMPTON & CO., LTD., Salisbury House, London Wall, London, E.C. Works: Chelmsford. *See advt. inside front cover.*
DAVEY, PAXMAN & CO., LTD., Standard Iron Works, Colchester; & 78, Queen Victoria-st., London, E.C. (Telegrams: "Paxman, Colchester;" "Paxman, London." Telephone No. 52, Colchester.) *See advt., page* 531.

Contractors—Electric Light & Power— *continued.*

DICK, KERR & CO., LTD. Head offices: Abchurch-yard, Cannon-st., London, E.C. For branch offices, telegrams & telephone numbers, *see* ALPHABETICAL.
Dickins, A. C., 14, Kingswell-st., Northampton.
Dixon, T., & Sons, 44, Buckingham Palace-rd., Lr. Belgrave-st., London, S.W.
Dodson, John, 29, Fetter-lane, Fleet-st., E.C.
DORMAN & SMITH, Ordsal Electrical Works, Salford, Manchester. (Telegs.: "Current, Manchester." Teleph. No. 1741, Nat.) Agents—London: Sambidge & Co., 17, Victoria-st., S.W. (Telegs.: "Prefix, London." Teleph. No. 530, Victoria.) Scottish: Andrews & Co., 198A, St. Vincent-st., Glasgow. Birmingham: S. T. Pemberton, Council-chbrs., Colmore-row. Newcastle-on-Tyne: F. T. Hanks, 1, Higham-pl. *See also page* 124 *& advt., page* 21.
DRAKE & GORHAM, LTD., 66, Victoria-st., Westminster, London, S.W. Works: 1, Felix-st., S.E. For branches, telegrams & telephone numbers, *see* ALPHABETICAL. *See advt.* BELOW.
Dunn, H., & Son, 32, Newington Causeway, London, S.E.
Dutton, F., 9, Croft-st., Heckmondwike, Yorks.
Edgar, Wm., 23 & 24, Lower Mall, Hammersmith, W.
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ELECTROMOTORS LTD., Openshaw, Manchester. London office: 49, Queen Victoria-st., E.C.

Farncombe, I., 84, London-rd., Brighton.

Felten & Guilleaume Lahmeyerwerke Actien Gesellschaft, Mülheim am Rhein. (The Lahmeyer Electrical Co., Ltd., agents, 109–111, New Oxford-st., London, W.C.)

Ferguson & Carver, 28, Swan-st., Brechin.

Foggo, J. T., Halifax-rd., Dewsbury, Yorks.

Contractors—Electric Light & Power— *continued.*

Foggo, J., & Sons, 37, St. Patrick-sq., Edinburgh.

Foote & Milne, Ltd., 66, Victoria-st., London, S.W. (Telegrams: "Pedetentim, London." Telephone No. 352, Westminster.)

Gibbin, Wm., & Son, 21–24, Pickering-pl., W.

Gifkins, A.V., & Co., 68, Victoria-st., Westminster, S.W.

GLOVER, F. A., & CO., LTD., Vine-st., Clerkenwell-rd., E.C.

Glover, W. T., & Co., Ltd., Trafford Park, Manchester. (Telegs.: "Cables, Manchester." Tel. Central 7200 (6 lines).) London: Parliament Mansions, Orchard-st., S.W. *See* ALPHABETICAL.

Goddard, Massey & Warner, Ltd., Nottingham.

Goldston, E., late Lea & Warren, 28, Marefair, Northampton.

Grubb, A., 129, Streatham High-rd., London, S.W.

Gunn, G. A., 159, Falcon-rd., Clapham Junction, S.W.

GUNNS, ERNEST WILLIAM, 37, Oxford-rd., Lowestoft.

Hall, Beddall & Co., Pitfield-wharf, Commercial-rd., Lambeth, S.E.; & 31, Bread-st., E.C.

Hall, H. E., & Co., 90, High-st., Tonbridge.

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Hartnell, Wilson, & Co., Ltd., Volt Works, Kirkstall-rd., Leeds.

Hatcher, E., & Co., 65, Charles-st., Cardiff.

Hellier, Wm., 48, East-st., Baker-st., London, W.

HENLEY'S, W. T., TELEGRAPH WORKS CO., LTD. Offices: Blomfield-st., E.C. *See advt., page* 22.

Higgins, G. W., & Co., 34, Connaught-st., W.

Hill & Co., 42, Broadway, Crouch End, London, N.

Hill, Jas., & Sons, Bolton-st., Bury, Lancs.

HOLMES, J. H., & CO., Portland-road, Newcastle-on-Tyne; also at 17, Soho-square, London, W.; Examiner-bldgs., Strutt-st., Manchester; & 19, Waterloo-st., Glasgow.

Hoskins, F. C., & Co., 4, Tufton-st., Westminster, S.W.

Hurry Bros., 6, Sugarhouse-lane, Greenock.

Hussey, T., & Sons, 110, Craven Park-rd., Harlesden, N.W.

INDIA RUBBER, GUTTA PERCHA AND TELEGRAPH WORKS CO., LTD. Head offices: 106, Cannon-st., E.C. Warehouses: 100 & 102, Cannon-st., London, E.C.; & 97, boul. Sebastopol, Paris. Works: Silvertown, Essex; & Persan, France. For telegraphic addresses & branches, *see advt. outside of back cover.*

Johnson & Phillips, Ltd., Victoria Works, Charlton, S.O., Kent; & 12, Union-court, Old Broad-st., London, E.C. *See advt. inside back cover.*

Jones Bros., 348–366, Holloway-rd., N.

Kettle, H. G., & Co., 24, Lower Brook-st., Ipswich.

Kinghorn Gas Light Co., Ltd., Kinghorn, Fifeshire.

Kinnear, J., & Son, 27, Market-st., Brechin.

LAHMEYER ELECTRICAL CO., LTD., 109–111, New Oxford-st., London, W.C. (Telegs.: "Drehstrom, London." Teleph. Nos. 133 & 134, Gerrard.)

Lammond, J., & Son, 32, Market-st., Brechin.

LANCASHIRE DYNAMO & MOTOR CO., LTD. Offices & works: Trafford Park, Manchester; 28, Victoria-st., London, S.W.; 87, Union-st., Glasgow; Northumberland-st., Newcastle-on-Tyne; St. Mary-st., Cardiff; & 3, New-st., Birmingham. *See advt., page* 729.

Law, G., Kidderminster.

Lea, Son & Co., Ltd., Pengwerne Works, Shrewsbury (Telegrams: "Lea, Son, Shrewsbury." Telephone No. 60); & St. Mary's Walk, Stafford. (Telegrams: "Lea Son, Stafford." Teleph. No. 1 Y.)

Lester, J. E., 2, Cank-st., Leicester.

Letts, F. S., Electra House, Naseby, Rugby.

Lewellen, F. W., & Co., Clacton-on-Sea.

Lockett & Handley, 21, Camomile-st., E.C.

Lord, W. Turner, & Co., 120, Mount-st., London, W.

LOWDON BROS. & CO., Temple Electric Works, Dundee; 50, Frederick-st., Edinburgh; 150, Holm-st., Glasgow; 2, Abbot-st., Dunfermline; & Fleming-pl., St. Andrews.

Contractors—Electric Light & Power— *continued.*

McClure & Whitfield, Mersey Dynamo Works, Adswood, Stockport. (Telegrams: "Motors, Stockport." Telephone No. 180.)

MACKIE, W., & CO., 47½, Old-st., London, E.C. (P.O. Teleph. No. 2704, Central.) *See advt., page* 483.

McMorland, J. & J., 17, Brymner-st., Greenock.

McWhirter, Wm., & Son, 212, 214 & 216, Holm-st., Glasgow. (Telegs.: "Testing, Glasgow.")

Mansfield Engineering Co., Mansfield.

Marsden & Maudesley, New Queen-st., Morecambe.

MATHER & PLATT, LD., Salford Iron Works, Manchester; & Queen Anne's-chbrs., Westminster, London, S.W. (Telegrams: "Mather, Manchester;" "Sprinkler, London." Nat. Telephone Nos.: 5781, 5782 & 5783, Manchester; & 851 & 852, Westminster.)

Matthew, G. W., & Co., Castle-st., Cardiff.

Maund, A., 13, Corporation-st., Southport, Lancs.

Meggitt, B., Mansfield.

Meighan, J., & Son, 328–332, Abercromby-st., Calton, Glasgow.

Middlesex Electric Co., 51, Berners-st., & 137–143, High-rd., Chiswick, London, W.

Midland Lighting Corporation, Ltd., Fitzwilliam-st., Sheffield.

Morris, J., & Son, 87, Park-st., London, W.

Muirhead & Co., Ltd., Elmers End, Kent. (Telegs.: "Muirheads, Elmers-End." Teleph. Bromley 50.) Show-rooms: 7, Carteret-st., Queen Anne's-gate, Westminster, S.W. (Telegs.: "Muirheads, London." Teleph. Gerrard 779.) *See advt., page* 619.

Neill, D. T., & Co., 166, Great Junction-st., Leith, N.B.

Newman, K. C. H., A.M.I.E.E., A.M.I.MECH.E., Broadbank-chbrs., 16, Oxford-st., Harrogate.

NEWTONS LTD., Taunton. (Telegrams: "Arc, Taunton." Telephone No. 9.)

Northern Electrical Co., 117, Cleethorpe-rd., Grimsby.

Odhams, J. & G., 206 & 207, Upper Thames-st., London, E.C.

Oetzmann & Co., 62–79, Hampstead-rd., London.

Parish, H. J., 119, Dereham-rd., Norwich.

PARSONS, E. M., 67, King Edward-st., Hull.

Parsons, F., & Son, Albion-rd., Stoke Newington, London, N.

Partington, W. E., & Co., 19, Station-rd. Stores: 177, Stockport-rd., Levenshulme, Manchester. (Telegs.: "Partington, Levenshulme." Teleph. H.M. 112.)

Peto & Radford, Ltd., 100, Hatton Garden, London, E.C.

Phelps, Wintour & Sons, Broad-st., Teddington, Middlesex.

PHIPPS, RASHLEIGH, & CO., 147, Oxford-st., London, W. (Telegs.: "Diffuser, London." Tel. Nos.: 3973, Gerrard; & 12155, Central.)

Pitman & Son, 30, Newgate-st., London, E.C.

Potter & Co., 196A, St. Vincent-st., Glasgow.

Contractors—Electric Light & Power— *continued.*

Pratt, C., & Sons, North Parade, Bradford.

PRESTON ELECTRIC CO., LTD., Warwick-chbrs., Corporation-st., Birmingham. (Telegs.: "Practical, Birmingham." Teleph. Central 6052.)

Pringle, J., & Co., 61–63, Westow-st., Norwood, London, S.E.

PULFORD BROS., LTD. Head office, show-room & works: 108 & 110, Whitechapel, Liverpool.

Quartermaine, H., Chertsey-rd., Woking.

Radyr Electric Co., Ltd., Radyr, Glam.

RASHLEIGH PHIPPS & CO., 147, Oxford-st., London, W. (Telegs.: "Diffuser, London." Tel. Nos.: 3973, Gerrard; & 12155, Central.)

Ritson & Co., Redheugh Bridge-rd., Gateshead.

Robb, Walter, 11, Drury-lane, Wakefield.

Roberts, C. P., & Co., 138, St. Paul's-rd., London, N.

Roberts, T. R., Ltd., 216–219, 225 & 228, Upper-st., Islington, London, N.

ROOPER, W. O., & CO., Victoria Works, Stafford (Telegs.: "Rooper, Stafford." Teleph. No. 73, Stafford); & 26, Victoria-st., Westminster, S.W. (Telegs.: "Cowcatcher, London." Teleph. No. 1038, Victoria.)

Rose & Co., James-st. Docks, Cardiff.

Royal Electrical Engineering Co., Town Hall-sq., Bradford.

Ryan, Wm., & Son, 59, Bulwer-rd., Leytonstone.

Sainsbury, A. W., 89, Arundel-st., Sheffield.

Saunders, J. B., & Co., White Mansion, 91, York-st., Westminster, S.W.; & at Cardiff, Brecon, Welshpool, Swindon, Builth, Portmadoc, Barrow-in-Furness, Barnstaple & Isle of Wight.

SCHOLES, GEORGE H., & CO., Blantyre-st., Manchester. (Telegrams: "Kilowatt, Manchester." Telephone No. 4061, Nat.)

Seager, Laurance, London-rd., Sittingbourne, Kent.

Seale, Austen & Barnes, Ltd., 86, High-st., Tonbridge.

Sharples, Hill & Co., 24, Brazennose-st., Manchester.

Sheppard Bros., Snakes-lane, Woodford Green.

Sherwood, Frank G., 12, Fleet-st., Dublin.

Shirley, F. C., 10, Nightingale Parade, Blandfields-st., Balham, S.W.

Siemens Bros. Dynamo Works, Ltd., Caxton House, Westminster, London, S.W.

Smeeton & Page, 63, Queen Victoria-st., E.C.

Smith, F. W., 64, Heath-st., Hampstead, N.W.

Somerset Eccles & Co., 22, Stanhope-st., N.W.

SPAGNOLETTI, LTD., Goldhawk Works, Goldhawk-rd., London, W.

Speedy, Eynon & Co., 3, Adelaide-st., Charing Cross, W.C.

Spence, J., & Sons, Bellsdyke Works, Airdrie, N.B.

Stegmann, G., 10, North Side, Wandsworth Common, S.W. (Teleph. No. 618A, Battersea.)

Contractors—Electric Light & Power— *continued.*

Stegmann & Co., Brighton Railway Approach, Clapham Junction, London, S.W.

Stephens, Brain & Co., Ltd., 9, High-st., Bideford.

Stephens & Co., 9, High-st., Bideford.

Strange & Sons, Ltd., 34, London-rd., Tunbridge Wells.

Sullock, J., & Sons, St. George's-rd., Wimbledon, S.W.

Supplies, Ltd., Prescot, Lancs.

Switchgear Co., Ltd., Wilfred-st., Sherborne-st., Manchester.

Sykes, R., & Co., 12, Dixon-st., Glasgow.

Symons, P., & Sons, Oxford-st., Swansea.

TATE, LEONARD G., & CO., 20, Bucklersbury, London, E.C., Room 582 (Telegs.: "Entraining, London." Teleph. No. 881, Bank); & Vineyard House, Richmond.

Taylor, P., 87 & 89, Bank-st., Coatbridge.

TAYLOR, T. H., 181, Queen Victoria-st., London, E.C.; & Dodworth, Yorks.

Taylor, W., & Sons, 58A, Brompton-rd., London, S.W.

Thornton, N., 839, Harrogate-rd., Greengates, Bradford.

Toms, H. J., & Sons, Henry-st., Gray's Inn, London, W.C.

Union Cable Co., Ltd., The, Eagle Wharf-rd., London, N. *See advt., page* 4.

Vickers Sons & Maxim, Ltd., 28–32, Victoria-st., S.W.; & River Don Works, Sheffield.

Wainwright Bros., Pritchard-st., Manchester.

Wakefield Electrical Engineering Co., Southgate, Wakefield.

Walker, J., & Son, Tangier-st., Whitehaven.

WALSALL ELECTRICAL CO., LTD., 57, Bridge-st., Walsall. For branches, telegrams & telephone numbers, *see* ALPHABETICAL.

Ward, H. E., 3, Paradise Parade, King's Lynn.

Ward Bros., 28A, Basinghall-st., London, E.C.

Warden, J. L., Montrose, N.B.

Watson & Sons, 17, Birmingham-st., Oldbury, Lancs.

Western Electric Co., Norfolk House, Victoria Embankment, London, W.C. Works: North Woolwich. *See advts., pages* 439 & 720.

Weston, G., & Sons, 153, Fenchurch-st., London, E.C.

WHIPP & BOURNE, makers of "RELIANCE" circuit breakers, starting & regulating rheostats & all kinds of switchboards, Castleton, nr. Manchester. (Teleph. No. 563.)

Whitaker, J., & Son, 187, Earl's Court-rd., London, S.W.

WOODVILLE ELECTRIC CO., 21, Hengist-rd., Belvedere, S.E.

Woolley, J., Mansfield.

Workman & Son, Hightown, Hereford.

YARWOOD, GEO., & CO., 49, George-st., Balsall Heath, Birmingham.

Contractors for Equipping Cable-Repairing Ships.

F.—Bateaux pour la réparation de cables—Constructeurs de.

G.—Unternehmer zur vollständigen Ausrüstung von Kabel Reparatur Schiffen.

INDIA RUBBER, GUTTA PERCHA & TELEGRAPH WORKS CO., LTD. Head offices: 106, Cannon-st., E.C. Warehouses: 100 & 102, Cannon-st., London, E.C.; & 97, boul. Sebastopol, Paris. Works: Silvertown, Essex; & Persan, France. For telegraphic addresses & branches, *see advt. outside of back cover.*

Johnson & Phillips, Ltd., Victoria Works, Charlton, S.O., Kent; & 12, Union-ct., Old Broad-st., London, E.C. *See advt. inside back cover.*

RIPPINGILLE MANUFACTURING CO., LTD., Plume-st., Aston, Birmingham. *See advts., pages* 597 *&* 598.

Siemens Bros. & Co., Ltd., Caxton House, Westminster, London, S.W. *See advt., page* 573.

Contractors—Installation.

(*See also* CONTRACTORS—ELECTRIC LIGHT & POWER.)

F.—Installations—Entrepreneurs d'.

G.—Unternehmer—Einsetzung.

Abbot & Co., Brock-st., Lancaster.

Aberdeen Electrical Engineering Co., Ltd., 15, Belmont-st., Aberdeen.

Acme Electrical Co., 248, Stanley-rd., Bootle, Liverpool.

Adams & Jarrett, St. Leonards-on-Sea.

Adams, R., & Son, 63 & 65, Shandwick-pl., Edinburgh.

Aish's Stores, Ltd., 89 & 91, Old Christchurch-rd., Bournemouth.

Alger, R., & Sons, 160, Dock-st., Newport.

Allam, E. P., & Co., 28, Gray's Inn-rd., W.C.

Allen & Mannooch, Ltd., 128, Mount-st., 11, Farm-st., W.

Alliance Electrical Co., Ltd., 23, Grafton-st., London, W.

Amies & Son, Long Causeway, Peterborough.

Ampere Electrical Co., 6, Fleet-st., Dublin.

Anderson, A., 24, Regent Moray-st., Glasgow.

Anderson, Wm., 118, Douglas-st., Glasgow.

Anderson & Munro, 136, Bothwell-st., Glasgow.

Angold, S. A., Bury St. Edmunds.

Apps, A., 433, Strand, London, W.C.

Archer, W. H., Hanover-rd., Scarborough.

Armitage, T. A., 44, Buxton-rd., Huddersfield.

Armstrong & Hogg, 43, Grindlay-st., Edinburgh.

Army & Navy Auxiliary Co-operative Supply, Ltd., Francis-st., Victoria-st., S.W.

Arnison, G. N., & Sons, 42, Borough-rd., Sunderland.

Arnold, A. G., & Son, Market-st., Newport.

Arvon Electric Co., 28, New-st., Carnarvon.

Ashton, T. A., Ltd., Norfolk-st., Sheffield.

Atkinson & Co., Ltd., 11–14, Addington-st., York-rd., S.E.

Contractors—Installation—*continued.*

Attwaters, W., St. George's-lane, Canterbury.

Aublet, Harry, & Co., Ltd, 53, Curtain-rd., London, E.C.

Bagguley, J., & Son, 23, High-st., Newcastle, Staffs.

Bailey, G., & Sons, Berry-st., Wolverhampton.

Baily, Grundy & Barrett, Ltd., 2, St. Mary's Passage, Cambridge.

Baker, J. A., College-st., Northampton.

Baker Bros., Corporation-rd., Middlesbrough.

Baker Bros., Yarm-lane, Stockton-on-Tees.

Bakewell, W., Volt Works, Worksop-rd., Sheffield.

Bamsay, E., 126, Fore-st., Exeter.

Barker, E. D., Lynn-st., West Hartlepool.

Barker, Henry, Ltd., Angel-row, Nottingham.

Barlow Bros. & Co., 237, Shaftesbury-ave., London, W.C.

Barnett & Soans, West-st., Kettering.

Barron, J., & Co., 16A, Fraser-st., Liverpool, W.

Barton, W., & Son, 11, Forrest-rd., Edinburgh.

Bastin, F. H., 35, Albert-st., St. Paul's, Cheltenham.

Bates, R. J., & Co., 33, Abbeygate-st., Bury St. Edmunds.

Bazley & Co., 120, High-st., Lewisham, S.E.

Beattie, R. B., 7, Standish-st., Burnley.

Beckett, J. P., & Co., Victoria-st., Grimsby.

Beech, E., Lincoln-rd., Peterborough.

Beer, J., 73, Summerland-st., Exeter.

BELLISS & MORCOM LTD., Ledsam-st. Works, Birmingham. London Office: 8, Victoria-st. S.W. (Telegs.: "Belliss, Birmingham." Teleph. Nos. 4480 & 4481.) *See advt., page* 533.

Bemrose, W. S., 37, High-st., Rochester.

Bennett, G., 231, Bury New-rd., Manchester.

Bennett, M., & Co., 43, Elford-grove, Roundhay-rd., Leeds.

Bennett & Rutherford, 217, St. Vincent-st., Glasgow.

Bessant, A. J., 32, Grove-rd., Eastbourne.

Beynon & Son, Fleet-st., Torquay, Devon.

Birch, T. E., 135B, Blackburn-rd., Accrington.

Blackburn, C., & Son, 75, Redcliff Hill, Bristol.

Blackburn, R. S., & Co., Commercial-st., Hebden Bridge, via Manchester.

Blackmore, A., 5, Montpelier-st., S.W.

Blackwood, W. E., 19, Pavilion-rd., Knightsbridge, S.W.

Blaikie, J., & Sons, 218, Union-st., Aberdeen.

Blake, O., 90, Station-rd., Westcliff-on-Sea.

Blaker & Sons, Leatherhead.

Bloomfield, F. J., 71A, King-st., Maidenhead.

Boothroyd, H. T., Ltd., Akenside-st., Bootle, Lancs.

Bould, E., & Son, 36, Westgate & Green-st, Huddersfield.

Bovey, E. P., & Son, Victoria Parade, Torquay.

Bowerman Bros., 31 & 35, Osborne-rd., Southsea.

Bracher, F. & W., Redcliff-st., Bristol.

Brading & Co., Ltd., 66, Grove-rd., Eastbourne.

Brantingham Bros., 3, Toward-rd., Sunderland.

Brightwell, R., 34, King-st., Cheapside, London, E.C.

Contractors—Installation—*continued.*

Briscoe, C. T., & Son, Simmons-st., Blackburn.
British Electric & Telephone Co., Queen Anne's-chbrs., Westminster, S.W.
BRITISH INSULATED & HELSBY CABLES, LTD. Head office: Prescot, Lancs. Works: Prescot, Helsby & Liverpool. For branch offices, telegraphic & telephonic addresses, *see* ALPHABETICAL ENTRY. *See advt., page* 437.
British Thomson-Houston Co., Ltd. Head office & works: Rugby. Registered office: 83, Cannon-st., London, E.C. Branch offices: 91, Wellington-st., Glasgow; 41, Church-st., Sheffield; Collingwood-bldgs., Newcastle-on-Tyne; Star Life-bldgs., 30, Cross-st., Manchester; Maritime-bldgs., Middlesbrough; 115, Colmore-row, Birmingham; & Greek-st.-chbrs., Leeds. (Telegs.: "Asteroidal." Teleph. Nos.: Head office, Rugby 54 & 55; London office, London Wall 135 (4 lines).).
Brook, E., Ltd., Colne-rd., Huddersfield.
Brown, John S., 21, 22 & 62, Oxford-st., Swansea.
Bryden, J., & Son, 63, West Regent-st., Glasgow.
Bryden, Wm., & Son, 206, Bath-st., Glasgow.
Bubb, J. T., St. James's Churchyard, Bristol.
Buchanan & Curwen, 64, Victoria-st., London, S.W.
Buckley & Beach, Shawfield-st., Chelsea, S.W.
Burbury & Co., 2, Earl-st., Coventry.
Burley, F. M., & Co., 37, Hamlet Court-rd., Westcliff-on-Sea.
Bush, T. C., Wells-rd., Bath.
Butcher, Maxwell, & Co., 77A, Queen Victoria-st., London, E.C.
Caffyn Bros., 29, Grove-rd., Eastbourne.
Caldwell & Co., Ltd., Inverkeithing, N.B.
Callender's Cable & Construction Co., Ltd., Hamilton House, Victoria Embankment, E.C. *See advt., page* 441.
Callow, Wright & Hewlett, Ltd., 91, High-rd., Willesden Green, N.W.
Camble, F., 4, Castle-st., Exeter.
Campbell & Isherwood, Ltd., Raleigh-st., Bootle, Liverpool.
Carr, O., Headingley, Leeds.
Carr & Parr, 67, Edgware-rd., London, W.
Cater, Stoffell & Fortt, Ltd., High-st., Bath.
Cavendish House Co., Ltd., Promenade, Cheltenham.
Challice, G., 69, Sidwell-st., Exeter.
Challoner, T., & Sons, Parker-st., Blackpool.
Chapman, A., & Co., Temple-ter., Chatham.
Chappel, T., Leigh-rd., Westcliff-on-Sea.
Christie, J. C., 3 & 5, Mansell-st., London, E.
Clark, A. W., & Co., 8½, Douglas-st., Glasgow.
CLARKE, CHAPMAN & CO., LTD., Victoria Works, Gateshead-on-Tyne. (Telegrams: "Cyclops, Gateshead.")
Clarke, T., & Co., 129, Sloane-st., London, S.W.
Cleary, T., 56A, Haverstock Hill, London, N.W.
Climpson, W. S., 162, Queen's-rd., Hastings.
Cockayne, T. B. & W., Ltd., Angel-st., Sheffield.
Cole, Wm., 20, Greenhill Parade, Harrow.
Collier, J., & Co., King-st. West, Manchester.

Contractors—Installation—*continued.*

Collinson Bros., 3, Millergate, Bradford.
Colquhoun, T. M., & Co., 153, Canning-st., Bridgeton, Glasgow.
Cook, F. W., & Co., Bargate-st., Southampton.
Coombes, H. C., 6, Nelson-st., Southend-on-Sea.
Cope, F., & Co., 5, Whitcombe-st., London, S.W.
Corlett Electrical Engineering Co., Ltd., Wilcock-st., Wigan.
Cotton Bros., Back Church-st., Blackpool.
Cox-Walkers, Ltd., Darlington. *See advt., page* 15.
Critchley, C. A., Church-st., St. Helens.
Critchley Bros., Hall-st., St. Helens.
Crook, H. W., & Son, 195, Westbourne Grove, London, W.
Crookell, W., & Co., Water-st. Works, Middleton, nr. Manchester.
Crozier, M., Mendora-rd., Fulham, S.W.
Crust, R., 14, Booth-st., Bradford.
Cummins & Sons, 12, Lower Abbey-st., Dublin.
Curtis, Wm., & Sons, 98 & 99, Mid Abbey-st., Dublin.
Cutler, Wardle & Co., Ltd., 25 & 37, St. Peters-st., Manchester.
Dagleas & Sons, Fowler-st., South Shields.
Dargue, Griffiths & Co., Ltd., 51, North John-st., Liverpool.
Davenport Vernon & Co., Ltd., High-st., High Wycombe, Bucks.
DAVEY, PAXMAN & CO., LTD., Standard Iron Works, Colchester; & 78, Queen Victoria-st., London, E.C. (Telegrams: "Paxman, Colchester;" "Paxman, London." Telephone No. 52, Colchester.) *See advt., page* 531.
Davies, J., 69, High Bridge, Newcastle.
Davis, Henry, All Saints' Works, Derby.
Davis, H. C., & Son, 39, St. James-st., Brighton.
Dawson, Roger, & Co., 62, Berners-st., London, W.
Denner, E. G., & Co., West-st., Sheffield.
Dennis, F. H., A.M.I.E.E., High-st., Chelmsford.
Dent, E., & Co., 41, Stonegate, York.
Derbyshire, P., Duke-st., St. Helens.
Dibben & Barclay, 170, Sloane-st., S.W.
District Electric Co., Ltd., 39 & 40, Berry-st., Wolverhampton.
Dixon, S., & Son, Ltd., 31, Swinegate, Leeds.
Donnison, Sillem & Co., 116, Great Portland-st., W.
DORMAN & SMITH, Ordsal Electrical Works, Salford, Manchester. (Telegs.: "Current, Manchester." Teleph. No. 1741, Nat.) Agents—London: Sambidge & Co., 17, Victoria-st., S.W. (Telegs.: "Prefix, London." Teleph. No. 530, Victoria.) Scottish: Andrews & Co., 198A, St. Vincent-st., Glasgow. Birmingham: S. T. Pemberton, Council-chbrs., Colmore-row. Newcastle-on-Tyne: F. T. Hanks, 1, Higham-pl. *See also page* 123 *& advt., page* 21.
Dow, W., & Son, St. Marnock-st., Kilmarnock.
Downer, H., 110, High-st., Watford.
Drake & Gorham, Ltd., 66, Victoria-st., Westminster, London, S.W. Works: 1, Felix-st., S.E. For branches, telegrams & telephone numbers, *see* ALPHABETICAL. *See advt., page* 459.

Contractors—Installation—*continued.*

Duckenfield, E. E. Vernon, & Co., Northampton.
Duff, H. J., Dumbarton-rd., Stirling.
Dugdill, E. J., & Co., Failsworth, nr. Manchester.
Dyson, J. E., Shambles-lane, Huddersfield.
Eagleston & Son, St. Clement's, Oxford.
Easten, S., Ltd., 23, Bath-lane, Newcastle-on-Tyne.
Eastlakes, Ltd., 1, Carteret-st., Westminster, London, S.W.
Edey, F. G., & Co., 25, Warwick-lane, London, E.C.
Edmunds, H., M.I.C.E., M.I.E.E., Parliament Mansions, Victoria-st., London, S.W.
Edmundson, H. W., 22, St. Albans-ter., Gateshead-on-Tyne.
Edmundsons Electricity Corporation, Ltd., Broad Sanctuary-chbrs., Westminster, S.W.
Edwards & Armstrong, 53, Queen-st., Cardiff; Hereford; & Merthyr.
Egan & Tatlow, 20, Fleet-st., & 4, Prices-lane, Dublin.
Electrical Contracting Co., 425, Fulham Palace-rd., Fulham, S.W.
Electrical Contracts & Maintenance Co., Ltd., Sanctuary House, Westminster, S.W.
Electrical & General Engineering Co., 17, Gracechurch-st., London, E.C.
Elgar, H. T., 19, Middle-st., Hastings.
Else, J. E. C., Duke-st., St. Helens.
Emerson, S. F., Acacia-grove, West Kirby, Lancashire.
Espie, James, 70, Douglas-st., Glasgow.
Evans, E. M., & Son, 18A, Fountain-st., Manchester.
Fabbro & Co., 158, Falcon-rd., & 41, St. John's-rd., Clapham Junction, London, S.W.
Falconar, Cross & Co., 7 & 9, Ridley-pl., Newcastle-on-Tyne.
Fearnhead, Alex., 354, Caledonian-rd., London, N.
Fellowes, H., & Co., 3, Grosvenor-bldgs., Westbourne, Bournemouth.
Ferguson, Thos., 9, W. Maitland-st., Edinburgh.
Ferris, S., 12, Wellington-st., Swindon.
Finlay, J., & Co., Ltd., 18, Renfield-st., Glasgow.
Finlay, Wm., & Co., 27, Frederick-st., Edinburgh.
Fleming & Co., 9, Lothian-st., Edinburgh.
Foote & Milne, Ltd., 66, Victoria-st., London, S.W. (Telegrams: "Pedetentim, London." Telephone No. 352, Westminster.)
Force, S. R., & Sons, 15, Sidwell-st., Exeter.
Forrester, E., & Co., 8 & 10, Moorfields, & 20, Pall Mall, Liverpool.
Francis, T. E., 64, Colston-st., Bristol.
Francis, Wm., Guildhall-st., Folkestone.
Francis, T., & Sons, Hampden-st., Bolton.
Fraser & Borthwick, 91 & 93, Waterloo-st., Glasgow.
Freeman, W. S., Invicta Works, Otford, Kent.
Freeman & Co., 21, Swallow-st., Piccadilly, London, W.
Friend, J., 6, Iron Bridge, Exeter.
Fryer, W. J., & Co., Bravington Road Works, Paddington, London, W.

Contractors—Installation—*continued.*

Furneaux, A. L., 11 & 12, Wind-st., Swansea.
Gadsby, F., Loughborough.
Garton & King, 190, High-st., Exeter.
Gath Electrical Engineering Co., Horton-st., Halifax.
Geary, Adams & Co., Ltd., 25, Central Arcade, Wolverhampton.
GENERAL ELECTRIC CO., LTD. (*G. Byng chairman*). Head office: 71, Queen Victoria-st., London, E.C. Works: London, Manchester, Birmingham & Witton. For branch offices, telegraphic addresses & telephone numbers, *see* ALPHABETICAL SECTION. *See advts., pages* 446, 707 & 734.
GENT & HURLEY, 24, Belvoir-st., Leicester. (Nat. Telephone No. 535.)
Gifkins, A. V., & Co., 68, Victoria-st., Westminster, London, S.W.
Gilbert, W. C., Shobnall-st., Burton-on-Trent.
Gill & Reigate, Ltd., 73–85, Oxford-st., London, W.
Gillett, S., 40, Blackett-st., Newcastle-on-Tyne.
Gillies & Hornidge, 6, Holborn Viaduct, London, E.C.; & Electric Light Works, Buckingham.
GLOVER, F. A., & CO., LTD., Vine-st., Clerkenwell-rd., E.C.
Godsland & Son, 51, South-st., Exeter.
Goldston, E., late Lea & Warren, 28, Marefair, Northampton.
Gordon, J., Cathedral-st., Glasgow.
Gozzett, G. P., 108, North-rd., Southend-on-Sea.
Graham & Graham, 2, Weymouth-st., London, W.
Graham & Morton, King-st., Stirling.
Green, A. Henderson, & Co., 34, Ann-st., Glasgow.
Gregory, W., & Son, 28, Steep Hill, Lincoln.
Grindlay, Ross & Co., 278, St. Vincent-st., Glasgow.
Grosvenor Electrical Co., 16, Eccleston-st., London, S.W.
Hacking, W. B., 95, Gloucester-rd., London, S.W.
Haddow & Co., 107, Douglas-st., Glasgow.
Hales, G. E., Wyvern, Leicester.
Hall, E. A., Old Market-pl., Great Grimsby.
Halsey, J. T., 103, High-st., Southend-on-Sea.
Hamilton & Co., 230, Berkley-st., Glasgow.
Handley & Shanks, 12, Dawson-st., Dublin; & 40, Great Charles-st., Birmingham.
Hanningtons, Ltd., 171–172, North-st., Brighton.
Hannocks, J., & Co., Elm-rd., Leigh, Westcliff-on-Sea.
Harding, T. L., & Sons, Market-st., Torquay.
Harford & Co., 47, Tithebarn-st., Liverpool.
Harpin, J. H., & Co., 47, Temple-row, Birmingham.
Harris, J. B., Osborne-rd., Newcastle-on-Tyne.
Harris & Son, Market Parade, Gloucester.
Harrison, W. L., 30 & 31, George-st., Hull.
Hartnell, Wilson, & Co., Ltd., Volt Works, Kirkstall-rd., Leeds.
Hattersley & Davidson, Ltd., Norfolk-st., Sheffield.
Hawkins, A. W., 23, Hill Rise, Richmond.
Hayes, Edward, 9, Bridge-st., Westminster, London, S.W.
Haynes, F., 20, North-st., Ashby-de-la-Zouch.

Contractors—Installation—*continued.*

Haynes Bros., Ltd., Gabriell's Hill, Maidstone.
Hayward & Son, 4, Walcot-st., Bath.
Hazzledine, H. T., A.I.E.E., South Sherwood-st., Nottingham.
Head, F. D. & H., & Head & Thurlow, 166, High-st., Notting Hill Gate, London, W.
Heath, T. W., & Son, 154 & 154A, Cromwell-rd., S.W.; & Pembroke Works, Pembroke-sq., Kensington, W.
Hellyar & Sons, 196, King-st., Hammersmith, London, W.
Hemingway & Pritt, 10, Eton-st., Richmond, Surrey; & 39, Victoria-st., London, S.W.
Henderson, T. P., 84, Grove-st., Edinburgh.
Henderson & Bonham, Cuthbert-st., South Shields.
Herd, W. M., & Co., 3, Redcross-st., Liverpool.
Hewetson, Milner & Thexton, Ltd., 209-215, Tottenham Court-rd., London, W.
Heyes, H., Cedar-st., Blackpool.
Heywood, S. H., & Co., Ltd., 37A, Fountain-st., Manchester.
Hill, R. M., & Sons, Castle-st., Carlisle.
Hillyard, F. A., 79, Princes-st., Ipswich.
Hinchcliffe, Green & Co., Aire-st., Leeds.
Hind & Son, Stockton-on-Tees.
Hinson & Co., Ltd., 69, 71 & 73, Argyll-st.; & Hinson-st., Birkenhead.
Hiscock, T., 181, High-st., Hounslow.
Hislop, R. G., 7 & 9, Pitt-st., Edinburgh.
Hodge, G., Hill-st., Blackpool.
Hodge, H. P., Lower-st., Kettering.
Hodgson, R. D., Albert-rd., Middlesbrough.
Hodgson, Frederick, & Co., 24, Queen Victoria-st., London, E.C.
Holgate & Redwin, 1, Malden-ter., High-st., Hampton Wick.
Holman & Co., 132, Commercial-rd., Newport, Mon.
HOLMES, J. H., & CO., Portland-rd., Newcastle-on-Tyne; 17, Soho-sq., London, W.; Examiner-bldgs., Strutt-st., Manchester; & 19, Waterloo-st., Glasgow.
Holmes, W. C., & Co., Turnbridge, Huddersfield.
Hood, G. J., Arcade, Dewsbury.
Hooker, F. Stacey, 52, Baron's Court-rd., West Kensington, W.
Hooton, W. M., Southgate, Sleaford.
Hounsell Bros., 22 & 24, High-st., Sheerness.
House, A. W., 4A, Stonegate, York.
Howard, G. A., 24, Silver-st., Lincoln.
Howe Electrical Engineering Co., 16, Redcross-st., Liverpool.
Howell, L., 10, Victoria-rd., Swindon.
Hucklebridge & Son, 1, Exe-bridge, Exeter.
Hughes, R. T., & Co., 37, Sheen-lane, Mortlake.
Humphreys, Hugh, Co., North Parade, Aberystwith.
Hunter & Jack, 101, St. Vincent-st., Glasgow.
Hunter, J., & Co., 11, Paradise-st., Liverpool.
Hutcheson, A., 211, West Campbell-st., Glasgow.
Hutcheson, J., 211, West Campbell-st., Glasgow.
Hutchinson, W. E., 5, Batoum Gardens, W.
Hyde, A. W., 73, Pasture-st., Great Grimsby.

Contractors—Installation—*continued.*

INDIA RUBBER, GUTTA PERCHA & TELEGRAPH WORKS CO., LTD. Head offices: 106, Cannon-st., E.C. Warehouses: 100 & 102, Cannon-st., London, E.C.; & 97, boul. Sebastopol, Paris. Works: Silvertown, Essex; & Persan, France. For telegraphic addresses & branches, *see advt. outside of back cover.*
Inglis, J. M., 19, Queensferry-st., Edinburgh.
Jack, J. W., A.M.I.E.E., 37, Queensferry-st., Edinburgh.
Jackson, John, 131, Union-st., Oldham.
Jeboult Bros., 194, Broadhurst-gdns., West Hampstead, N.W.
Jefferys & Evans, Leigh-rd., Westcliff-on-Sea.
Jevons, S., Ltd., Constitution Hill, Birmingham.
Johnson, B. W., Railway-rd., King's Lynn, Norfolk.
Johnson & Co., Leopold-st., Sheffield.
Johnson & Phillips, Ltd., Victoria Works, Charlton, S.O., Kent; & 12, Union-ct., Old Broad-st., E.C. *See advt. inside back cover.*
Johnston, Park & Co., 15, Oswald-st., Glasgow.
Johnstone's, 36, Kensington-gdns., Brighton.
Jones, B., Castle Hill, Lynton.
Jones, P. E., 287, High-st., Bangor.
Jones, Bernard G., & Co., 33, Commercial-st., Newport, Mon.
Jones, O., & Co., 7, Victoria-bldgs., Beckenham-rd., Beckenham.
Joyce, T. J., 78, North Strand-rd., Dublin.
Kaiser, J., Ltd., 57, Dale End, Birmingham.
Kear, S., Red Cross-st., Bristol.
Keen, H. E., & Co., 36, Great Smith-st., Westminster, S.W.
Kendall, R., & Sons, 21, Milsom-st., Bath.
Kerr & Co., George's Quay, Dublin.
Kerridge, H. E., Market-pl., Yarmouth.
Kilpatrick, Jas., & Son, Terrace-bldgs., High-st., Paisley.
King, P. T., Manchester-st., Luton.
King & Co., Leith Electric Works, Leith.
King & Co., Ltd., South Church Side, Hull.
Kitcher, A. E., St. Swithun's-rd., Bournemouth.
Knight & Co., 36, Terminus-rd., Eastbourne.
Lamb, J., Mill-rd., Yarmouth.
Lambert & Sons, Broad-st., Bath.
Lawry, H., Ltd., Old Town-st., Plymouth.
Lawson, J., 24, High-row, Darlington.
Lea & Warren, Glenroy Works, Kettering.
Leake, H., & Co., St. Anne's-on-Sea.
Lee, A. M., 28, Houndsditch, London, E.C.
Lee, Edwin, 111, Union-st., Torquay.
Letheren, T. W., 29, Friars Walk, Exeter.
Lewin, S. H., & Co., 154, Walton-st., London, W.
Lightfoot Bros., 15A, Cooper-st., Manchester.
Livens, C. M., 172, High-st., Burton-on-Trent.
Locke, T. A., Crown-st., Bolton.
Lockie, J. R., 118, Mains-st., Glasgow.
London Power & Light Installation Co., 23, Chapel-st., Cripplegate.
Lord, G. H., 128A, Linthorpe-rd., Middlesbrough.
Lord, W., Albert-rd., Middlesbrough.
Lowden, Jas., & Co., Ann-st., Belfast.

Contractors—Installation—*continued.*

Lowdon, J. W., 65, Reform-st., Dundee.
Lund Bros. & Co., 78 & 80, Queen Victoria-st., London, E.C.
McAlpin & Co., Cumbergate, Peterborough.
Macartney, McElroy & Co., Ltd., Caxton House, Westminster, London, S.W.
McBain Bros., Alnwick.
McCall, T., & Co., 116A, Mains-st., Glasgow.
McCormack, H. T. & Jas., 42, Summer-st., Belfast.
McCoull, C., 4, Leazes Park-rd., Newcastle-on-Tyne.
McGrady, J., & Co., 33, Old Lodge-rd., Belfast.
McIndoe, J. B., A.I.E.E., 7, East Canal-st., Coatbridge, N.B.
Mackersie, J., & Co., 10, Bank-st., Dundee.
Mackey, W. G., 17, Clayton-st., Newcastle-on-Tyne.
McKone, W. H., 68, Beckenham-rd., Penge, London, S.E.
Mackwell, A., Park-st., Masham, Yorks.
MacLellan, A., & Co., 63, Waterloo-st., Glasgow.
McNelly & Co., Church-st., St. Helen's, Lancs.
Madge, F., 42, Inverness-pl., Cardiff.
Makin & Co., Ltd., Townhead-st., Sheffield.
Male, Wm., & Son, Ltd., 1A, Village-rd., Birkenhead.
Mann, Egerton & Co., Ltd., Bank Plain, Norwich; 59, London-rd. N., Lowestoft; & Ipswich.
Mann & Sons, Ltd., High-st., Worcester.
Maple & Co., Ltd., 141–149, Tottenham-ct.-rd., W.
Marr, J. J., & Co., 18, Moorfields, Liverpool.
Marryat & Place. Head office: 28, Hatton Garden, London, E.C.; & 30, Kirby-st., E.C. Factory: Askew Works, Shepherd's Bush, W.
Marshall, R. E. & C., Ltd., 5, Clarence-st., Cheltenham.
Marshall, W. & T., Burnside Works, Stirling.
Martin, Fitt, Thomas & Co., 7, High-st., Grantham.
Martin, M., & Sons, 1, Cornfield-ter., Eastbourne.
Martin, W. C., & Co., 10, West Campbell-st., Glasgow.
Martin, W. C., & Co., Gloucester Mansions, Charing Cross-rd., London, W.C.
Mather Bros., 36, Farringdon-st., E.C.; & 278, Caledonian-rd., N., London.
MATHER & PLATT, LD., Salford Iron Works, Manchester; & Queen Anne's-chbrs., Westminster, London, S.W. (Telegrams: "Mather, Manchester;" "Sprinkler, London." Nat. Telephone Nos.: 5781, 5782 & 5783, Manchester; & 851 & 852, Westminster.)
Mawby, Wm., & Son, Cross-st., Birkenhead.
Mawle, J., & Sons, 22 & 65, High-st., Banbury.
Meiklejohn, J. B., 115 & 115A, Bath-st., Glasgow.
Middlesex Electric Co., 41, Berners-st.; & 137–143, High-rd., Chiswick, London, W.
Middleton, V. G., Broadway-chbrs., Westminster, S.W.
Middleton & Townsend, 56, Belford-rd., Edinburgh.
Midland Agencies, Ltd., Summer-row, Birmingham.
Miles, D., 17, Swiss-ter., Folkestone.

Contractors—Installation—*continued.*

Miller & Sons, Ltd., Conduit-st., London, W.
Mills, S. J. A., A.M.I.MECH.E., A.M.I.M.E., Strawberry Bank, Blackburn.
Mills & Donald, 47, London-st., Edinburgh.
Mills, English & Co., Ltd., 35 & 36, Wind-st. Swansea.
Milne, Jas., & Son, Ltd., Milton House Works, & 14, Clyde-st., Edinburgh; 59, Farringdon-rd., London, E.C.; 111, St. Vincent-st., Glasgow; & 34, Wellington-st., Leeds.
Milton, A., 18, High-st., Crewe.
Miskin & Rice, 110, St. Martin's-lane, London, W.C.; & St. Albans, Herts.
Mitchell, L.C., & Co., 15, St. Aldgate-st., Gloucester.
Moore, E., Doncaster.
Morris Jones & Co., 5, Foregate-st., Worcester.
Morrish, J. M., 26, Linthorpe-rd., Linthorpe, Middlesbrough.
Moser Electrical Engineering Co., 128, Palace-chbrs., Bridge-st., S.W.
Mossop, Walter, & Co., 52, Queen Victoria-st., London, E.C.
Mould's, Ltd., High-st., Leatherhead.
Muirhead & Co., Ltd., Elmers End, Kent. (Telegrams: "Muirheads, Elmers-End;" & "Muirheads, London." Teleph. No. 50, Bromley.) *See advt., page* 619.
Murray & Sons, Sheerness.
Murrell Bros., Warham Works, Warham-rd., Harringay, N.
Naylor, J., & Sons, Peters-lane, York.
New Century Electric Co., 354, Caledonian-rd., London, N.
Newbald, E., & Co., Court-rd., High-st., Sutton, Surrey.
Newby, G., A.I.E.E., Imperial-chbrs., James-st., Harrogate.
Newmans, 4, Cranbrook-rd., Ilford.
Nicholson, J. H., 69, Wright-st., Hull.
Nicholson & Wadley, 14, Neville-st., Newcastle-on-Tyne.
Noblet, T., & Co., Totnes, Devon & Exeter.
Northern Electrical Engineering & Plating Co., Ltd., Borough-rd., North Shields.
Northern Electrical & Ventilating Co., 49, Dale-st. Works: Batchelor-st., Liverpool.
Northwood Electric Wiring Co., Green-lane, Northwood, Middlesex.
Norton, H. G., & Co., 417, High-st., Cheltenham.
Oates, T., Charlotte-ter., South Shields.
O'Brien, R., & Co., 5, Brazennose-st., Manchester.
Oliver Arc Lamp, Ltd., Cambridge-pl., Burrage-rd., Woolwich, S.E.
Oliver, Clark & Co., Ltd., 20A, Goldhawk-rd., Shepherd's Bush, London, W.
Organ, R., Winchcombe-st., Cheltenham.
Osborne & Hunter, 108A, W. Regent-st., Glasgow.
Owensmith, W., 15, Davies-st., W.
Pain, J., 62, High-st., Hythe.
Palmer & Co., 18, Castle-st., Bristol.
Parfitt, Webber & Co., Denmark-st., Bristol.
Parmley & Baxter, 5, Station-rd., South Shields.
Parsons Bros., 4, Queen-st., Gloucester.

Contractors—Installation—*continued.*

Parsons, Sherwin & Co., Ltd., Nuneaton.
Parsons, W., & Co., 66, Regent-st., Leamington.
Partington, W. K., & Co., 28, Minories, London, E.C.
Patrick, J. & T., 46, Union-rd., Rotherhithe, London, S.E.
Patterson, R., & Co., 57 & 59, High-st., Belfast.
Patton, G., Bath-lane, Newcastle-on-Tyne.
Peacock, F., 59, Station-rd., Colchester.
Pearson, H., 4, Cotham Vale-rd., Bristol.
Pearson Bros., 54–56, Long-row, Nottingham.
Pearson & Co., 51, Mosley-st., Manchester.
Pemberton, Arber & Co., 8, Gray's Inn Passage, W.C.
Percival, Gerald, 30, Old George's-st., Cork.
Percival & Co., 11, Snargate-st., Dover.
Percy, S., Osborne-rd., Newcastle-on-Tyne.
Perman, E., 157, Dock-st., Newport, Mon.
Perry, John, Edgcumbe-st., Stonehouse, Plymouth.
Peterborough City Garage Co., Cowgate, Peterborough.
Peto & Radford, Ltd., 100, Hatton Garden, London, E.C.
PHIPPS, RASHLEIGH, & CO., 147, Oxford-st., London, W. (Telegs.: "Diffuser, London." Tel. Nos.: 3973, Gerrard; & 12155, Central.)
Pilkington, B. A., 13, Melville-pl., Queensferry-st., Edinburgh.
Pinkerton, G. M., Lloyd's Avenue House, Lloyd's-ave., E.C.
Pioneer Complete Furnishing Stores, 9–19, Bold-st., Liverpool.
Poole, H. C., 21, Springbridge-rd., Ealing, London, W.
Porte, F. C., & Co., 27, Marlborough-st., Cork.
Porter, E. C., 221, High-rd., Ilford.
Postlethwaite & Stacey, Printing Office-st., Doncaster.
Pounder, P. E., 43, Milton-rd., West Hartlepool.
Pratt Bros., 109, Dalry-rd., Edinburgh.
Preston, E., 42, Grange-rd. West, Birkenhead.
Price, Friend & Co., Stiles Brewery-yard, Bridgend.
Price, P., & Co., 115, Lawrence Hill, Bristol.
Rainsford & Lynes, 113, Emily-st., Birmingham.
RANKINE PATENT FEED WATER FILTER CO., LTD., 14, Water-st., Liverpool. (Telegrams: "Percolate, Liverpool." Telephone No. 1933.) London office: Aldermary House, 60, Watling-st., E.C. (Telegrams: "Ricto, London." Telephone No. 497, Bank.)
RASHLEIGH PHIPPS & CO., 147, Oxford-st., London, W. (Telegs.: "Diffuser, London." Teleph. Nos.: 3973, Gerrard; & 12155, Central.)
Ratcliff, G. F., & Co., 43, Baker-st., W.
Rawlings Bros., Ltd., 82, Gloucester-rd., South Kensington, S.W.; & Pembroke Works, Halkin-st., S.W.
Reavell Bros., Alnwick.
Reed, C. G., & Sons, Ltd., 26, North-st., Brighton.
Reid, F., Ferens & Co., Orchard-st.-bldgs., Orchard-st., Newcastle-on-Tyne; & Sunderland.

Contractors—Installation—*continued.*

Remote Control Switch Co., 5, Montpelier-st., London, S.W.
Revel, F., & Co., King-st., South Shields.
Ridout & Co., 6, Park-rd., Regent's Park, London, N.W.
Rivers-Smith, E., 13A, Heath-st., Hampstead, N.W.
Roberts, A., & Co., Ltd., 74, Earl's Court-rd., Kensington, W.
Robertson, H. T., & Co., 12, Harvie-st., Glasgow.
Robertson, J. C., & Son, 15, Preston-st., Exeter.
Robson & Coleman, Haymarket-lane, Newcastle.
Roffey, A. F., 268, Vauxhall Bridge-rd., S.W.
Roman, L., 78, Mallinson-rd., Clapham Common, S.W.
Rook, T., & Co., Grainger-st., Newcastle-on-Tyne.
ROOPER, W. O., & CO., Victoria Works, Stafford (Telegs.: "Rooper, Stafford." Teleph. No. 73, Stafford); & 26, Victoria-st., Westminster, S.W. (Telegs.: "Cowcatcher, London." Teleph. No. 1038, Victoria.)
Ross, C., 21, Leicester-st., Walsall.
Rouse Bros., 576, Streatham High-rd., S.W.
Russell & Co., Ltd., St. Anne's-on-Sea.
Rye & Co., Faringdon-st., Swindon.
Sage, Fredk., & Co., 58–62, Gray's Inn-rd., W.C.
Sanderson, C. L., 8, Valley Bridge, Scarborough.
Sanzen-Baker, G. R., 52, Stowell Park, Newcastle-on-Tyne.
Saunders, E. J., & Co., 81, Albany-st., Regent's Park, N.W.
Saunders, J. B., & Co., White Mansion, 91, York-st., Westminster, S.W.; & at Cardiff, Brecon, Welshpool, Swindon, Builth, Portmadoc, Barrow-in-Furness, Barnstaple & Isle of Wight.
Scholes, George H., & Co., Blantyre-st., Manchester.
Scholey, V. C., 94, High-st., Hythe.
Scott, J., 128, Main-st., Stirling.
Scott & Scott, Poole-rd., Westbourne, Bournemouth.
Scovell Bros., 6, Thavies Inn, E.C.; & Manor Park.
Sendall, W. F., & Co., 18, East-st., Horsham.
Seward, A., & Co., Market-st, Lancaster.
Seymour, W., Ltd., 1 & 7, Ellis-st., Sloane-st., S.W.
Sharpe & Son, Huntley-grove, Peterborough.
Sharples, Hill & Co., 24, Brazennose-st., Manchester.
Shaw, G. H., & Son, Town Hall-st., Blackburn.
Shaw, Wm. A., & Co., 10–16, Warren-st, Stockport.
SHEARS & SON, East Central Works, Bournemouth.
Sheffield Electrical Engineering Co., 99, Rockingham-lane, Sheffield.
Sheldrick, E., & Co., 19, Thurlestone-rd., West Norwood, S.E.
Shiels, R. J., 34, Upton-lane, Forest Gate, E.
Shoolbred & Connell, 231, Strand, London, W.C.; & 11, Cheapside, Luton.
Shoolbred, J., & Co., 151–156, Tottenham-court-road, London, W.
Shrivell, W., 49 & 50, George-st., Brighton.
Shuttleworth, H., Cross-ct., Briggate, Leeds.
Silcox, H., Fountain-bldgs., Bath.
Sill, G., Market-pl., Yarmouth.

Contractors—Installation—*continued.*

SIMMONDS BROS., LTD., 4, 6 & 8, Newton-st., High Holborn, W.C. *See advt., page* 739.
Simper, F.W., 23,Wards-rd., Seven Kings, Essex.
Simpson, W., 446, Union-st., Aberdeen.
Simpson Bros., Hapton, nr. Burnley.
Simpson & Webb, Loughborough.
Slater, Batty & Co., Hitchin.
Smeeton & Page, 63, Queen Victoria-st., London, E.C.
Smethurst & Co., 16, Bernard-st., Southampton.
Smith, E. J., 35, High-st., Bedford.
Smith, E. J., 58, Nunhead-lane, Peckham, S.E.
Smith, P., 18, Mill-st., Warrington.
Smith, A. W., & Co., London-rd., Barking.
Smith & Croft, 3, Colonnade, Westgate, Bradford.
Smith, E. J., & Co., 58, Nunhead-lane, Peckham, London, S.E.
Smith, J., & Son, 33 & 34, North-rd., Brighton.
Smith, T. E., & Co., Ltd., Cavendish-st., Keighley.
Somerville, J., 27 & 29, Helen-st., Govan, N.B.
Southee, T. W., 19, Brockman-rd., Folkestone.
SPAGNOLETTI, LTD., Goldhawk Works, Goldhawk-rd., London, W.
Sparks, J. C., 51, Waldegrave-rd., Brighton.
Speedy, Eynon & Co., 3, Adelaide-st., Charing Cross, London, W.C.
Spreadbury,W.H.,St.Michael's-rd.,Bournemouth.
Sproates, H. G., 104, Linthorpe-rd., Middlesbrough.
Standard Electric Co., Boundary-rd., Middlesbrough.
Stanwell, A., 50, Kirkdale-rd., Liverpool.
Star Electric Light Co., 6, St. Swithin's-lane, London, E.C.
Starlight Electrical Engineering Co., 38, Alexandra-st., Southend-on-Sea.
Steel, J., 22, Murray-pl., Stirling.
Steel, H. E., Ltd., High-st., Cheltenham.
Stegmann, G., 10, North Side, Wandsworth Common, S.W. (Teleph. No. 618A, Battersea.)
Stegmann & Co., Brighton Railway Approach, Clapham Junction, London, S.W.
Steinthal, G. A., & Boydell, Ltd., 1B, Cooper-st., Manchester; & 41, Piccadilly, Bradford.
Stevenson, J. R., A.M.I.E.E., 7A, Young-st., Edinburgh.
Stewart, W. J., & Co., 15A, Little Queen-st., Edgware-rd., London, W.
Stobart,S.,&Co., Laidlaws-ct.,Newcastle-on-Tyne.
Stoddart, J. G., Green-st., Sunderland.
Stone & Co., Plough Corner, Leigh-rd., Westcliff-on-Sea.
Strang, R., & Sons, 17, Montpellier-walk, Cheltenham.
Street & Sons, Christchurch-rd., Boscombe.
Strode & Co., 48, Osnaburgh-st., N.W. Showroom: 67, St. Paul's-churchyard, E.C.
Sudall & Heap, Dean-st., South Shore, Blackpool.
Sunderland, L., 31, Hill Rise, Richmond.
Sunderland, Leo, & Co., 39, Victoria-st., London, S.W.
Surtees, E, 64, King-st., South Shields.
Swire, W., George-st., St. Helens.

Contractors—Installation—*continued.*

Tasker, Ernest A., 1, Richmond-rd., Montpelier, Bristol.
Tasker, Sons & Co., Ltd., Angel-st., Sheffield.
TATE, LEONARD G., & CO., 20, Bucklersbury, London, E.C., Room 582 (Telegs.: "Entraining, London." Teleph. No. 881, Bank); & Vineyard House, Richmond.
Taylor, D., 4, Athenæum-st., Sunderland.
Taylor, F. W., Milnsbridge, nr. Huddersfield.
Taylor, J. H., & Son, Macauley-st., Huddersfield.
Taylor, W., & Sons, 209, Broad-st., Pendleton, Manchester.
Thompson, W., 57, Victoria-st., Blackburn.
Thompson & Co., Wellington-st., Kettering.
Thornton, F., & Co., 6, Howe-st., Burnley.
Tilley Bros., 53, Kingsland-rd., London, N.E.
Timpson, H. S., 29 & 30, High-st., Ealing, London, W.
Tizzard, J., M.I.M.E., Sunny Mount, Hatfield-rd., Torquay.
Todd, D., 249, Canterbury-st., Gillingham.
Troup, Curtis & Co., 102, Fenchurch-st., E.C.; & 282, Victoria Dock-rd., Custom House, E.
Troy & Co., 194, Finchley-rd., N.W.
Tucker, W., & Co., 3, High-st., Putney, London, S.W.
Tyler & Freeman, 20, New Bridge-st., London, E.C.
Underhill, W. R., A.I.E.E., 79, Bath-st., Glasgow.
Usher, Thos. G., & Co., 44, Leazes Park-rd., Newcastle.
Valler, A. W., & Co., 4, Sydney-st., Brighton.
Vanstone & Roper, 11, Exchange-st., Norwich.
Varley, W., & Sons, Market-st., Colne.
Vaughan Engineering Installations, Ltd., 298 & 300, Goswell-rd., London, E.C.
Veasey, W. H., King-st., Leicester.
Vigor & Co., 15, King-st., Poplar, E.; & 49, Southampton-row, London, W.C.
Virgo, G., 40, Edward-st., Brighton.
Vitty & Hopper, High-st,, Ramsgate.
Wade, F., 112, Blackfriars-rd., Yarmouth.
Walker Bros., Upper Priory, Birmingham.
Walker, F. W., & Co., 124 & 125, Queen-st., Portsea.
Walker & Hutton, 37, Huntriss-row, Scarborough.
Wallis & Watson, Trinity-st., Boar-lane, Leeds.
Walsall Electrical Co., Ltd., 57, Bridge-st., Walsall.
Walsh, John, Ltd., 44–64, High-st., Sheffield.
Walters & Co., Ocean-chbrs., Waterloo-st., Birmingham.
Ward & Son, Broad-st., Worcester.
Ward, T. W., Ltd., Albion Works, Sheffield.
Waring & Withers, 10A, Soho-sq., W.
Warren, Beattie & Co., Ltd., Lower Commercial-st., Middlesbrough.
Watson & Co., 10, Glasshouse-st., London, W.
Watson, Duncan, & Co., 102, Charing Cross-rd., London, W.C.
Watson, G. W., & Son, 14, Hurst-st., Oxford.
Watson, T. B., & Son, Bishopton-lane, Stockton-on-Tees.

Contractors—Installation—*continued.*

Webb, F., & Son, 15, Cank-st., Leicester.
Webster, G. M., 71, Upper Parliament-st., Nottingham.
Welch, Fry & Skelton, 18, South-pl., Finsbury Pavement, London, E.C.
Wellings & Son, Iron Market, Newcastle-under-Lyme.
Wentworth & Co., 102, Newgate-st., London, E.C.
West End Decorating Co., 38, Sloane-st., S.W.
Weston, G., 94, Leigh-rd., Westcliff-on-Sea.
Weston, G., A.M.I.E.E., 153, Fenchurch-st., E.C.
Whipple & Co., Cook-st., Liverpool.
White, J., & Co., 19, So. St. Andrew-st., Edinburgh.
Whitehead Bros., 21, Hill-rd., Wimbledon.
Whiting, J. L., 12, Arboretum-ave., Lincoln.
Wigley, F., 121, Colmore-row, Birmingham.
Wilkinson, J. B., Bedford-st., Sunderland.
Willey & Dalley, 3, Catherine-st., Exeter.
Williamson, W. M., 104, Peckham Rye, S.E.
Williamson Bros., Iliffe-yard, Crampton-st., Walworth, S.E.
Wilson, J. R. S., Wards-bldgs., Newcastle-on-Tyne.
Wilson, R. P., 22, King-st., Lancaster.
Wilson Bros., 12, Bedford-st., Belfast.
Wilson, F. H., & Co., 1, Newgate-st., Newcastle-on-Tyne.
Windsor Electrical Installation Co., Ltd., 53, Thames-st., Windsor.
Winter, J. H., & Co., Narrow Wine-st., Bristol.
Wippell Bros. & Row, 243 & 244, High-st., Exeter.
Woodfin, F., & Co., 138, Northgate-st., Chester.
Woodger, Glenister & Co., 307, Goldhawk-rd., Shepherd's Bush, W.
Woodward & Co., 147 & 149, Renfield-st., Glasgow.
Worster-Hounslow Electrical Engineering Co., 12, Albany-st., Regent's Park, N.W.
Wright, E. B., 80, Station-rd., Westcliff-on-Sea.
Wright, W. T., George-st., Chatham.
Wright, J., & Sons, 15, Cannon-st., Dover.
Wylie & Lochhead, Ltd., 45, Buchanan-st., Glasgow.

Contractors—Telegraph.

F.—Télégraphes—Entrepreneurs de.
G.—Telegraphenbau—Unternehmer.

BRITISH INSULATED & HELSBY CABLES, LTD. Head office: Prescot, Lancs. Works: Prescot, Helsby & Liverpool. For branch offices, telegraphic & telephonic addresses, *see* ALPHABETICAL ENTRY. *See advt., page* 437.
Bullers, Ltd. London office: 6, Laurence Pountney Hill, E.C. Works: Tipton & Hanley. (Telegs.: "Bullers, London." Teleph. Nos. 4907/8, London Wall.) *See advt., page* 15.
Electrical Contracts & Maintenance Co., Ltd., Sanctuary House, Westminster, S.W.
GLOVER, F. A., & CO., LTD., Vine-st., Clerkenwell-rd., E.C.
HENLEY'S, W. T., TELEGRAPH WORKS CO., LTD. Offices: Blomfield-st., London, E.C. *See advt., page* 22.

Contractors—Telegraph—*continued.*

INDIA RUBBER, GUTTA PERCHA & TELEGRAPH WORKS CO., LTD. Head offices: 106, Cannon-st., E.C. Warehouses: 100 & 102, Cannon-st., London, E.C.; & 97, boul. Sebastopol, Paris. Works: Silvertown, Essex; & Persan, France. For telegraphic addresses & branches, *see advt. outside of back cover.*
Johnson & Phillips, Ltd., Victoria Works, Charlton, S.O., Kent; & 12, Union-ct., Old Broad-st., E.C. *See advt. inside back cover.*
Muirhead & Co., Ltd., Elmers End, Kent. (Telegrams: "Muirheads, Elmers-End;" & "Muirheads, London." Telephone No. 50, Bromley.) *See advt., page* 619.
REID BROTHERS, 12, Wharf-rd., London, N. (Telegrams: "Supra, London." Telephone No. 12249, Central.) *See advt., page* 571.
Saunders, J. B., & Co., White Mansion, 91, York-st., Westminster, S.W.; & at Cardiff, Brecon, Welshpool, Swindon, Builth, Portmadoc, Barrow-in-Furness, Barnstaple & Isle of Wight. (Telegs.: "Lightable, London." Tel. No. 961, Victoria.)
SHROPSHIRE IRON CO., LTD., Hadley, nr. Wellington, Salop. (Telegrams: "Sun, Wellington, Salop.") *See advt., page* 750.
Siemens Bros. & Co., Ltd., Caxton House, Westminster, London, S.W. *See advt., page* 573.
SPAGNOLETTI, LTD., Goldhawk Works, Goldhawk-rd., London, W.
Speedy, Eynon & Co., 3, Adelaide-st., Charing Cross, London, W.C.
Tyer & Co., Ltd., 16, Ashwin-st., Dalston Junction, London, N.E.; & Metcalfe-st., Carlisle.
Union Cable Co., Ltd., The, Eagle Wharf-rd., London, N. *See advt., page* 4.
Walter's Electrical Manufacturing Co., Ltd., 249 & 251, Kensal-rd., London, W. (P.O. Teleph. No. 653, Western.)
Western Electric Co., Norfolk House, Victoria Embankment, London, W.C. Works: North Woolwich. *See advts., pages* 439 *&* 720.

Contractors—Telephone.

F.—Téléphones—Entrepreneurs de.
G.—Telephonen—Unternehmer.

Bell, Francis George, A.M.I.E.E., 41, Wilmington-gdns., New Barking.
BRITISH INSULATED & HELSBY CABLES, LTD. Head office: Prescot, Lancs. Works: Prescot, Helsby & Liverpool. For branch offices, telegraphic & telephonic addresses, *see* ALPHABETICAL ENTRY. *See advt., page* 437.
Bullers, Ltd. London office: 6, Laurence Pountney Hill, E.C. Works: Tipton & Hanley. (Telegs.: "Bullers, London." Teleph. Nos. 4907/8, London Wall.) *See advt., page* 15.
Electrical Contracts & Maintenance Co., Ltd., Sanctuary House, Westminster, S.W.
Electrical Installations, Ltd., Bassishaw House, Basinghall-st., E.C.
Gent & Hurley, 24, Belvoir-st., Leicester. (Nat. Telephone No. 535.)

Contractors—Telephone—*continued.*

GLOVER, F. A., & CO., LTD., Vine-st., Clerkenwell-rd., E.C.
Grant, J. Macpherson, Kingussie, N.B.
HENLEY'S, W. T., TELEGRAPH WORKS CO., LTD. Offices: Blomfield-st., London, E.C. *See advt., page* 22.
Hislop, R. G., 7 & 9, Pitt-st., Edinburgh.
Lamb, E. H., 37, King William-st., London, E.C.
Legg, John, & Sons, 18, Nelson-st., Swansea.
Nussbaum, G. A., C.E., 29, Ludgate Hill, London, E.C.
Private Telephone Co., Ltd., 27, Chancery-lane, W.C.
PULFORD BROS., LTD. Head office, showroom & works: 108 & 110, Whitechapel, Liverpool.
REID BROTHERS, 12, Wharf-rd., London, N. (Telegrams: "Supra, London." Telephone No. 12249, Central.) *See advt., page* 571.
Rogers, Stewart & Co., 5, Gt. Winchester-st., E.C.
Saunders, J. B., & Co., White Mansion, 91, York-st., Westminster, S.W.; & at Cardiff, Brecon, Welshpool, Swindon, Builth, Portmadoc, Barrow-in-Furness, Barnstaple & Isle of Wight.
SHROPSHIRE IRON CO., LTD., Hadley, near Wellington, Salop. (Telegrams: "Sun, Wellington, Salop.") *See advt., page* 750.
SIEMENS BROS. & CO., LTD., Caxton House, Westminster, London, S.W. *See advt., page* 573.
Stegmann, G., 10, North Side, Wandsworth Common, S.W. (Teleph. No. 618A, Battersea.)
Stegmann & Co., Brighton Railway Approach, Clapham Junction, London, S.W.
Union Cable Co., Ltd., The, Eagle Wharf-rd., London, N. *See advt., page* 4.
Western Electric Co., Norfolk House, Victoria Embankment, London, W.C. Works: North Woolwich. *See advts., pages* 439 & 720.

Controllers.

ELECTRIC & ORDNANCE ACCESSORIES CO., LTD., Cheston-rd., Aston, Birmingham. (Telegs.: "Stellite, Birmingham." Teleph. Nos.: Nat. 176 & 179, East; & P.O. 9 (Trunk Calls).) *See page* 134 *for full entry.*
Richardson, Herbert G., & Co., Shaw-st., Walsall.
Wellman, Seaver & Head, Ltd., 47, Victoria-st., London, S.W.

Cooking.

(*See* HEATING & COOKING APPARATUS.)

Copper & Brass Founders.

F.—Fondeurs de cuivre et laiton.
G.—Kupfer & Messing Giesser.

BRITISH INSULATED & HELSBY CABLES, LTD. Head office: Prescot, Lancs. Works: Prescot, Helsby & Liverpool. For branch offices, telegraphic & telephonic addresses, *see* ALPHABETICAL ENTRY. *See advt., page* 437.

Copper & Brass Founders—*continued.*

Hughes, John & Joseph, Albion Metal Works, Woodcock-st., Birmingham. (Telegrams: "Bronze, Birmingham." Telephone No. 118.)
Kensington Stamping Co., Ltd., Kensington-st., Aston, Birmingham. (Telegs.: "Supports, Birmingham." Teleph. Northern 83.)
Kirkpatrick & Rastall, Victoria Foundry, Barrack-st., Hulme, Manchester.
Smith, Sydney, & Sons, Ltd., Basford Brass Works, Nottingham.

Copper & Brass Merchants.

F.—Marchands—Cuivre et Laiton.
G.—Händler von Kupfer und Messing.

Broughton Copper Co., Ltd., Broughton Copper Works, Manchester.
Espir, Fernand, 3, East India-ave., London, E.C. Agent for Tréfileries & Laminoirs du Hâvre (Anciens Établissements Lazare Weiller et Sté. Cooperative de Rugles réunis). *See advts., pages* 662 & 751.
Harford & Bristol Brass Co., Golden Heart Wharf, Dowgate, London, E.C.
Harries, W. J., 85, Gracechurch-st., London, E.C.
Lander & Larsson, 164, Edmund-st., Birmingham.
Layborn, Daniel, & Co., Dutton-st., Liverpool.
Richardson Bros., Cathedral-bldgs., Newcastle-on-Tyne.
Roberts, W., & Co., Garston, Ltd., Crown Copper Mills, Garston, Liverpool.
St. Helen's Copper Co., Ltd., Ravenhead, St. Helens.
Seville Sulphur & Copper Co., Ltd., 30, George-sq., Glasgow.
Smith & Sons, 42, 44, 46, 47, 50 & 52, St. John's-sq., London, E.C.
Vivian & Sons, 4, Crooked-lane, Liverpool; & Hafod Copper Works, Swansea.
Williams & Michell, 7 & 8, Cross-st., Swansea.

Copper Depositors.

F.—Galvanoplastic.
G.—Galvanoplastik.

Bolton, Thomas, & Sons, Ltd., Mersey Copper Works, Widnes; Oakamoor, North Staffs.; Broad-st. Metal Works, Birmingham; & 88, Bishopsgate-st. Within, London, E.C.
Broughton Copper Co., Ltd., Broughton Copper Works, Manchester.

Copper Smelters.

Bolton, Thomas, & Sons, Ltd., Mersey Copper Works, Widnes (Registered Offices) (Telegs.: "Rolls, Widnes"); Oakamoor, North Staffs. (Telegs.: "Bolton, Oakamoor"); Broad-st. Metal Works, Birmingham (Telegs.: "Boltons, Birmingham"); & 88, Bishopsgate-st. Within, London, E.C. (Telegs.: "Wiredrawn, London." Teleph. No. 632, Central.)

Copper Smelters—*continued.*

Espir, Fernand, 3, East India-ave., London, E.C. Agent for Tréfileries & Laminoirs du Hâvre (Anciens Établissements Lazare Weiller et Sté. Cooperative de Rugles réunis). *See advts., pages* 662 *&* 751.

Copper Tape Manufacturers.

F.—Cuivre laminé—Fab. de.

G.—Kupfer Band—Fab. von.

Bolton, Thomas, & Sons, Ltd., Mersey Copper Works, Widnes; Oakamoor, North Staffs.; Broad-st. Metal Works, Birmingham; & 88, Bishopsgate-st. Within, London, E.C.

Delta Metal Co., Ltd., Delta Works, East Greenwich, London, S.E.; & at Dartmouth-st., Birmingham. Manufacturers of H.C. Copper Commutator Segments, also flat, square, hexagon, tape & other sections.

Espir, Fernand, 3, East India-ave., London, E.C. Agent for Tréfileries & Laminoirs du Hâvre (Anciens Établissements Lazare Weiller et Sté. Cooperative de Rugles réunis). *See advts., pages* 662 *&* 751.

Johnson & Phillips, Ltd., Electric Cable Works, Charlton, S.O., Kent. Depôts: Glasgow, Newcastle, &c. *See advt. inside back cover.*

LONDON ELECTRIC WIRE COMPY. & SMITHS, LTD., THE, Playhouse-yard, Golden-lane, London, E.C. *See advt. facing inside back cover.*

ORMISTON, P., & SONS, 79, Clerkenwell-rd., E.C. (Telegrams: "Ormiston, London." Teleph. No. 13259, Central.) *See advt., page* 601.

SHROPSHIRE IRON CO., LTD., Hadley, nr. Wellington, Salop. (Telegrams: "Sun, Wellington, Salop.") *See advt., page* 750.

SMITH, FREDERICK, & CO., INCORPORATED IN THE LONDON ELECTRIC WIRE CO. & SMITHS, LTD., Wire Manufacturers, Anaconda Works, Salford, Manchester. Copper wire, hard-drawn H.C. long lengths copper wire, plain soft tinned, & strips for all electrical purposes. Tape & strand for lightning conductors. Silicium bronze wire, "Cog-wheel Brand." Phosphor bronze spring wire, aluminium wire & strip. (Telegs.: "Anaconda, Manchester.") *See advt., page* 747.

Smith & Sons, 42, 44, 46, 47, 50 & 52, St. John's-sq., London, E.C.

Copper Wire Drawers.

Espir, Fernand, 3, East India-ave., London, E.C. Agent for Tréfileries & Laminoirs du Hâvre (Anciens Établissements Lazare Weiller et Sté. Cooperative de Rugles réunis). *See advts., pages* 662 *&* 751.

Copper Wire Drawers—*continued.*

MIDLAND ELECTRIC WIRE CO., LTD., Leicester. (Telegs.: "Conductors, Leicester." Teleph. No. 45.) *See advt., page* 482.

ORMISTON, P., & SONS, 79, Clerkenwell-rd., E.C. (Telegs.: "Ormiston, London." Teleph. Central 13259.) *See advt., page* 601.

SHROPSHIRE IRON CO., LTD., Hadley, nr. Wellington, Salop. (Telegrams: "Sun, Wellington, Salop.") *See advt., page* 750.

Coppersmiths.

Hopkins, G., & Sons (Clerkenwell), Ltd., 148, 150, 152 & 154, St. John-st., London, E.C.

Core Serving Machine Manufacturers.

F.—Machines à faire les âmes de Câbles.

G.—Maschinen zur Herstellung der Seele fur Drahtseile.

Johnson & Phillips, Ltd., Victoria Works, Charlton, S.O., Kent; & 12, Union-ct., Old Broad-st., E.C. *See advt. inside back cover.*

Maschinenbauanstalt für Kabelfabrikation, Conrad Felsing, jun., Coepenick, nr. Berlin. *See advt., page* 14.

Cotton Waste Merchants.

F.—Déchets de Coton.

G.—Putzlappen-Händler.

Gilliat, R., & Sons, 15, Medlock-st., Oldham, Lancs.

Johnson, E., & Co., Mary Ann-st., Birmingham.

Rose, Sir W. A., & Co., 66, Upper Thames-st., London, E.C.; & Rose's Wharf, Millwall, London, E.

Vickers & Co., Grenville-bldgs., Birmingham.

Willcox, W. H., & Co., Ltd. Office: 23, Southwark-st. Warehouse: 32, 34 & 36, Southwark-st., London, S.E. Works: Castle-st. (Telegs.: "Willcox, Southwark-st., London." (Teleph. Hop 3740 & 3741.) *See advt. facing inside front cover.*

Counter Weights.

Braulik, G., 8, Lambeth Hill, London, E.C.

Couplings for Arc Lamps (Patent).

Braulik, G., 8, Lambeth Hill, London, E.C.

Crane Controllers—Electric.

ELECTRIC & ORDNANCE ACCESSORIES CO., LTD., Cheston-rd., Aston, Birmingham. (Telegs.: "Stellite, Birmingham." Teleph. Nos.: Nat. 176 & 179, East; & P.O. 9 (Trunk Calls).) *See page* 134 *for full entry.*

Cranes (Electric)—Manufacturers of.

F.—Grues élec.—Fab. de.

G.—Krahnen—elek.—Fabr. von.

Applebys, Ltd., 58, Victoria-st., Westminster, London, S.W.

Booth, Joseph, & Bros., Ltd., Rodley, Leeds; & 75A, Queen Victoria-st., London, E.C.

Bowman, J., & Co., Johnstone, N.B.

British Thomson-Houston Co., Ltd. Head office & works: Rugby. Registered office: 83, Cannon-st., London, E.C. Branch offices: 91, Wellington-st., Glasgow; 41, Church-st., Sheffield; Collingwood-bldgs., Newcastle-on-Tyne; Star Life-bldgs., 30, Cross-st., Manchester; Maritime-bldgs., Middlesbrough; 115, Colmore-row, Birmingham; & Greek-st.-chbrs., Leeds. (Telegs.: "Asteroidal." Teleph. Nos.: Head office, Rugby 54 & 55; London office, London Wall 135 (4 lines).)

Broadbent, T., & Sons, Ltd., Queen-st. S., Huddersfield.

BRUSH ELECTRICAL ENGINEERING CO., LTD., THE (& Hoists). London office: Electrical Federation Offices, Kingsway, W.C. Works: Loughborough, Leicestershire. *See* ALPHABETICAL.

Carrick, James, & Sons, Ltd., 108, Dalry-rd., Haymarket, Edinburgh.

Carrick & Ritchie, Ltd., Waverley Engineering Works, Abbeyhill, Edinburgh. BY HAND, POWER, STEAM, OR ELECTRICITY.

Chambers, Scott & Co., Crane & Winch Works, Motherwell.

CLARKE, CHAPMAN & CO., LTD., Victoria Works, Gateshead-on-Tyne. (Telegs.: "Cyclops, Gateshead.") Electric cranes of all descriptions.

Cowans, Sheldon & Co., Ltd., Carlisle.

Craven Bros., Ltd., Osborne-st., Rochdale-rd., Manchester.

CROMPTON & CO., LTD., Salisbury House, London Wall, London, E.C. Works: Chelmsford. *See advt. inside front cover.*

Electric Construction Co., Ltd. (Motor), Wolverhampton. Head office: Dashwood House, 9, New Broad-st., E.C.

Grafton & Co., Vulcan Works, Bedford.

Grieve, John, & Co., Motherwell.

Hall, J. P., & Co., Ltd., Blackriding Iron Works, Werneth, Oldham. (Telegs.: "Dynamo, Oldham." Teleph. No. 300.)

Henderson, John M., & Co., King-st. Engineering Works, Aberdeen.

Higginbottom & Mannock, Ltd., Crown Ironworks, West Gorton, Manchester.

Jack, Alex., & Co., Whitegates Engineering Works, Motherwell, N.B.

LAHMEYER ELECTRICAL CO., LTD., 109–111, New Oxford-st., London, W.C. (Telegs.: "Drehstrom, London." Teleph. Nos. 133 & 134, Gerrard.)

Marshall, Fleming & Co., Dellburn Works, Motherwell, N.B.

Cranes (Electric)—Manufacturers of—*continued.*

MATHER & PLATT, LD., Salford Iron Works, Manchester; & Queen Anne's-chbrs., Westminster, London, S.W. (Telegrams: "Mather, Manchester;" "Sprinkler, London." Nat. Telephone Nos.: 5781, 5782 & 5783, Manchester; & 851 & 852, Westminster.)

Morley Electrical Engineering Co., Ltd., Troy Works, Stanningley, nr. Leeds.

Penn, W. Cooper, & R. P. Thorp, 25, Victoria-st., Westminster, S.W.

Ransomes & Rapier, Ltd., 32, Victoria-st., Westminster, S.W.; & Waterside Iron Works, Ipswich.

Richardson, Herbert G., & Co., Shaw-st., Walsall.

Royce, Ltd., Trafford Park, Manchester.

Russell, George, & Co., Ltd., builders of electric cranes of all types & sizes, Alpha Works, Motherwell, N.B. (Telegrams: "Russell, Motherwell." Telephone No. 4.)

Siemens Bros. Dynamo Works, Ltd., Caxton House, Westminster, London, S.W.

SMITH, THOMAS, & SONS, Steam & Electric Crane Works, Old Foundry, Rodley, Leeds. (Telegrams: "Smith, Rodley;" "Accrocher, London." Telephones 18 & 12, Stanningley.) London offices: 9, Victoria-st., S.W. (P.O. Telephone No. 64, Victoria.)

Spencer, James, & Co., Chamber Iron Works, Hollinwood, Manchester; & 5, Dowgate Hill, London, E.C.

STANNAH, J., Skin Market-pl., Bankside, London, S.E. *See advt., page* 631.

Stephens, Smith & Co., Ltd., 1, Cuba-st., Millwall, London, E. (Telegrams: "Reckenzaun, London.")

Stothert & Pitt, Ltd., Bath.

Taylor & Hubbard, Leicester.

Vaughan & Son, Ltd., West Gorton, Manchester.

Creosote Manufacturers.

F.—Creosote—Fab. de.

G.—Kreosot—Fab. von.

Dickinson, A. J., Surrey Canal, Deptford, S.E.

Fort, J., 5, St. Domingo Vale, Liverpool.

Gabriel, T., & Son, Thames-st., Rotherhithe, London, S.E.

Crucible Manufacturers.

F.—Creusets—Fab. de.

G.—Schmelztiegel—Fab.

DOULTON & CO., LTD., Royal Doulton Potteries, Lambeth, London, S.E.; Rowley Regis, Staffs.; Burslem, Staffs.; St. Helens, Lancs.; & Paisley, N.B. Depôts: Birmingham, Liverpool, Manchester & Glasgow. Head office: Lambeth, London, S.E. Superior Plumbago Crucibles. *See advt., page* 439.

Graphite Plumbago Crucible Co., Ltd., Heald-st., Tanner's Hill, Deptford, S.E.

Crucible Manufacturers—*continued.*

Le Carbone (formerly Lacombe & Co.). Works: Levallois-Perret, Paris; 17, Water-lane, E.C. (Telegs.: "Lacombe, London." P.O. Teleph. No. 14671, Central.) *See advts., pages* 478 *&* 480.

Morgan Crucible Co., Ltd., The, sole manufacturers of Morgan's & Salamander Crucibles, Morgan's Plumbago, Battersea Refractory Bricks, &c., Battersea Works, London, S.W. (Telegs.: "Crucible, London." Teleph. Nos.: Nat. 1670, Battersea; & P.O. 1034, Western.)

Waterhouse, Jas. C., Ltd., Soho Works, Wakefield.

Wright, C. C., & Co., 11, Dowgate Hill, London, E.C.

Cut-Outs (Magnetic)—Makers of.

F.—Coupe-circuits.

G.—Unterbrecher (magnetische)—Fab. von.

ADAMS MANUFACTURING CO., LTD., 106, New Bond-st., London, W.; & Bedford. (Telegs.: "Admocar, London;" "Admocar, Bedford." Teleph. Mayfair 3962; & P.O. Bedford 2.)

British Thomson-Houston Co., Ltd. Head office & works: Rugby. Registered office: 83, Cannon-st., London, E.C. Branch offices: 91, Wellington-st., Glasgow; 41, Church-st., Sheffield; Collingwood-bldgs., Newcastle-on-Tyne; Star Life-bldgs., 30, Cross-st., Manchester; Maritime-bldgs., Middlesbrough; 115, Colmore-row, Birmingham; & Greek-st.-chbrs., Leeds. (Telegs.: "Asteroidal." Teleph. Nos.: Head office: Rugby 54 & 55; London office, London Wall 135 (4 lines).)

Drake & Gorham, Ltd., 66, Victoria-st., Westminster, London, S.W. Works: 1, Felix-st., S.E. For branches, telegrams & telephone numbers, *see* ALPHABETICAL. *See advt., page* 459.

Geipel, Wm., & Co. (late Geipel & Lange), Vulcan Works, 72A, St. Thomas-st., London, S.E. (Telegrams: "Patella, London." Telephone No. 594, Hop. (2 lines).) *See advt., page* 19.

I. T. E. ELECTRIC CO. (1907), LTD., 72, Finsbury Pavement, London, E.C.

NALDER BROS. & THOMPSON, LTD. (managing director, F. H. Nalder), 34, Queen-st., Cheapside, London, E.C. *See* MEASURING INSTRUMENT MAKERS—ELECTRIC.

SPAGNOLETTI, LTD., Goldhawk Works, Goldhawk-rd., London, W.

TETLEY & CO., Falcon Works, Bedford-st., Greengate, Salford.

UNION ELECTRIC CO., LTD., Park-st., Southwark, London, S.E. (Telegs.: "Abeam, London." A.B.C. Code. Teleph. Hop. 2970.) *See advt., page* 563.

VERITYS, LTD., King-st., Covent Garden, London, W.C.; & Birmingham, Manchester, Glasgow, Bristol, &c. *See* ALPHABETICAL SECTION.

Cut-Outs (Magnetic)—Makers of—*contd.*

Walsall Electrical Co., Ltd., 57, Bridge-st., Walsall. For branches, telegrams & telephone numbers, *see* ALPHABETICAL.

WHIPP & BOURNE, makers of "RELIANCE" circuit breakers, starting & regulating rheostats, & all kinds of switchboards, Castleton, nr. Manchester. (Teleph. No. 563.)

Cut-Outs—Makers of.

F.—Coupe-Circuits fusibles—Fab. de.

G.—Strom-Unterbrecher—Fab. von.

Apps, A., 433, Strand, London, W.C.

Birmingham Electrical Fittings Co., Dunton Works, Deritend Bridge, Birmingham.

Braulik, G., 8, Lambeth Hill, London, E.C.

British Electric Calibrated Fuse Co., The, Harpenden, Herts.

BRITISH INSULATED & HELSBY CABLES, LTD. Head office: Prescot, Lancs. Works: Prescot, Helsby & Liverpool. For branch offices, telegraphic & telephonic addresses, *see* ALPHABETICAL ENTRY. *See advt., page* 437.

Bullers, Ltd. (porcelain). London office: 6, Laurence Pountney Hill. Works: Tipton & Hanley. (Telegs.: "Bullers, London." Teleph. Nos. 4907/8, London Wall.) *See advt., page* 15.

Cotton Powder Co., Ltd., 32, Queen Victoria-st., London, E.C.

Curtis's & Harvey, Ltd., 3, Gracechurch-st., London, E.C.

Donovan & Co., 22, Barwick-st., Birmingham.

DORMAN & SMITH, Ordsal Electrical Works, Salford, Manchester. (Telegs.: "Current, Manchester." Teleph. No. 1741, Nat.) Agents—London: Sambidge & Co., 17, Victoria-st., S.W. (Telegs.: "Prefix, London." Teleph. Victoria 530.) Scottish: Andrews & Co., 198A, St. Vincent-st., Glasgow. Birmingham: S. T. Pemberton, Council-chbrs., Colmore-row. Newcastle-on-Tyne: F. T. Hanks, 1, Higham-pl. *See also page* 123 *& advt., page* 21.

EDISON & SWAN UNITED ELECTRIC LIGHT CO., LTD. Head office, depôt & show-rooms: Ediswan-bldgs., Queen-st., London, E.C.

GALSWORTHY LTD., formerly The London Electrical Fittings Co., Ltd., Roberts Works, Hampstead-rd., London, N.W. (Telegs.: "Filosofone, London." Teleph. No. 441, North.) Show-rooms: 15 & 16, Newman-st., Oxford-st., London, W. (Teleph. No. 6621, Gerrard.) *See advts., pages* 593 *&* 604.

General Electric Co., Ltd. (*G. Byng, chairman*). Head office: 71, Queen Victoria-st., London, E.C. Works: London, Manchester, Birmingham & Witton. For branch offices, telegraphic addresses & telephone numbers, *see* ALPHABETICAL SECTION. *See advts., pages* 446, 707 *&* 734.

Cut-Outs—Makers of—*continued.*

London Electrical Fittings Co., Ltd. *See* Galsworthy Ltd.

McCARTNEY, GEO., & CO., BURNSIDE WORKS, CUMNOCK, N.B. Sole makers of the "Orb" Electrical Switchgear, &c., &c.

Macintyre, J., & Co., Ltd., Washington China Works, Burslem. (Telegs.: "Macintyre, Burslem." Teleph. No. 338, Burslem.) *See* PORCELAIN & CHINA FITTINGS.

Marsh, Son & Co., Ltd., 15, Gerrard-st., London, W. (Telegs.: "Voltmeters, London." Tel. No. 2414, Gerrard.) *See advt., page* 402.

Morris & Lister, Ltd., Carlton Works, Lockhurst-lane, Coventry.

Moy, Ernest F., Ltd., Greenland-pl., Camden Town, London, N.W. (Telegrams: "Movedor, London.") *See advt., page* 709.

NALDER BROS. & THOMPSON, LTD. (managing director, F. H. Nalder), 34, Queen-st., Cheapside, London, E.C. *See advt., page* 643.

Roburite Explosives Co., Ltd., 103, Cannon-st., London, E.C. Works: Gathurst, near Wigan.

Siemens Bros. Dynamo Works, Ltd., Caxton House, Westminster, London, S.W.

Tetley & Co., Falcon Works, Bedford-st., Greengate, Salford.

Thames Ammunition Works, Ltd., Erith.

TUCKER, J. H., & CO., King's-rd., Hay Mills, Birmingham. Branches: London, Glasgow & Belfast. For telegrams & telephone numbers, *see* ALPHABETICAL.

TELAC
REG. TRADE MARK.

UNION ELECTRIC CO., LTD., Park-st., Southwark, London, S.E. (Telegs.: "Abeam, London." A.B.C. Code. Teleph. Hop. 2970.) *See advt., page* 563.

Veritys, Ltd., King-st., Covent Garden, London, W.C.; & Birmingham, Manchester, Glasgow, Bristol, &c. *See* ALPHABETICAL SECTION.

Demand Indicators—Makers of.

Reason Manufacturing Co., Ltd. Offices & works: Lewes-rd., Brighton. (Telegs.: "Reason, Brighton.")

Dental Appliances (Electric)—Makers of.

F.—Appareils électriques de dentistes—Fabricants d'.

G.—Elektrische Zahnärztliche Apparate—Fabrikanten von.

BRISTOL ELECTRIC SAFETY LAMP WORKS. Offices & works: 40, Great Smith-st., S.W. *See advt., page* 405.

BRITISH PROMETHEUS CO., LTD., Salop Street Works, Highgate, Birmingham. London show-rooms: 27, Ely-pl., E.C.

Dental Appliances (Electric)—Makers of—*continued.*

Electrical Contracts & Maintenance Co., Ltd., Sanctuary House, Westminster, S.W.

General Electric Co., Ltd. (*G. Byng, chairman*). Head office: 71, Queen Victoria-st., London, E.C. Works: London, Manchester, Birmingham & Witton. For branch offices, telegraphic addresses & telephone numbers, *see* ALPHABETICAL SECTION. *See advts., pages* 446, 707 *&* 734.

Depositors—Electro.

F.—Electro depositions.

G.—Galvanisatoren für Kunstsachen.

Broughton Copper Co., Ltd., Broughton Copper Works, Manchester.

Sturtevant & Co., Ltd., 105–111, Euston-st., London, N.W. *See advt., page* 15.

Designers & Draughtsmen.

F.—Dessinateurs.

G.—Zeichner.

Ashford, H. L., 5, John-st., Adelphi, London, W.C.

Carter, T., A.M.I.E.E., Dene View, Heaton-rd., Newcastle-on-Tyne.

Gifkins, A. V., & Co., 68, Victoria-st., Westminster, S.W.

Gregory, V. H., A.I.E.E., 59, Park-rd., Chiswick, London, W.

Pailthorpe, H. Noel, patent-drawings draughtsman, 3, Featherstone-bldgs., Holborn. Estab. 1872. Drawings skilfully prepared from model, sketch or description, for all countries. Blue prints from tracings.

Scott, F. M. C., 89, Victoria-street, Liverpool, W.

THOMPSON, W. P., & CO., 285, High Holborn, London. (Telegs.: "Discovery, London." Teleph. No. 823, Holborn.) For branches, telegraphic addresses & telephone numbers, *see* ALPHABETICAL. *See advt., page* 658.

Destructors—Makers of.

Horsfall Destructor Co., Ltd., Lord-st., Holbeck, Leeds.

Distribution Accessories.

Glover, W. T., & Co., Ltd., Trafford Park, Manchester. (Telegs.: "Cables, Manchester." Tel. Central 7200 (6 lines).) London: Parliament Mansions, Orchard-st., S.W. *See* ALPHABETICAL.

Distribution Boards.

(*See* FUSE BOARDS.)

Distributors & Suppliers of Electricity.

F.—Electricité—Fournit. d'.
G.—Elektricität—Lieferanten von.

Callender's Cable & Construction Co., Ltd., Hamilton House, Victoria Embankment, London, E.C. *See advt., page* 441.

Divider—Mathematical.

F.—Diviseur de précision.
G.—Mathematische Einteiler.

VINTER, W., 10 & 11, Dyer's-buildings, Holborn, London, E.C. (Teleph. No. 12713, Central.) Every variety of SCIENTIFIC INSTRUMENTS accurately DIVIDED & ENGRAVED. *See advt., page* 588.

Door-Plate Manufacturer & Engraver.

VINTER, W., 10 & 11, Dyer's-buildings, Holborn, London, E.C. (Teleph. No. 12713, Central.) Dynamo-plates, door-plates, bell-pushes, &c. Large or small work executed promptly, at moderate charges. *See advt., page* 588.

Drain Pipe Manufacturers—Iron.

F.—Tuyaux de drainage en Fer—Fab. de.
G.—Abzugsröhren—Fab. (Eisen).

Macfarlane, Walter, & Co., Saracen Foundry, Glasgow. (Telegrams: "Saracen, Glasgow.")

Drain Pipe Manufacturers—Stoneware.

F.—Tuyaux en Poterie—Fab. de.
G.—Tonröhren Fabriken.

DOULTON & CO., LTD., Royal Doulton Potteries, Lambeth, London, S.E.; Rowley Regis, Staffs.; St. Helens, Lancs.; Burslem, Staffs.; & Paisley, N.B. Depôts: Birmingham, Liverpool, Manchester & Glasgow. Head office: Lambeth, London, S.E. *See advt., page* 439.

Stiff, Jas., & Sons, London Pottery, Lambeth, London, S.E. (Telegrams: "Stiff, London." Telephone No. 627, Hop.) *See advt., page* 10.

Drilling Machines—Electrical.

Armorduct Manufacturing Co., Ltd., Farringdon-ave., London, E.C.; & 44, Blackett-st., Newcastle - on - Tyne. Works: Bathurst Works, Witton, nr. Birmingham. (Telegs.: "Armorduct," London, Newcastle-on-Tyne, Birmingham. Teleph. Nos.: London, 400, Holborn (2 lines); Newcastle-on-Tyne, 2827, Central; Witton Works, 812, East.) *See advt. on top edges.*

Drills—Electric.

Armorduct Manufacturing Co., Ltd., Farringdon-ave., London, E.C.; & 44, Blackett-st., Newcastle - on - Tyne. Works: Bathurst Works, Witton, nr. Birmingham. (Telegs.: "Armorduct," London, Newcastle-on-Tyne, Birmingham. Teleph. Nos.: London, 400, Holborn (2 lines); Newcastle-on-Tyne, 2827, Central; Witton Works, 812, East.) *See advt. on top edges.*

Driving Band Fastener Makers.

F.—Courroies—Fabr. de.
G.—Treibriemen—Fabr. von Befestigungstiftchen für.

Willcox, W. H., & Co., Ltd. Office: 23, Southwark-st. Warehouse: 32, 34 & 36, Southwark-st., London, S.E. Works: Castle-st. (Telegrams: "Willcox, Southwark-st., London." Teleph. Hop 3740 & 3741.) *See advt. facing inside front cover.*

Driving Band Makers—Balata.

COOKE, E. J., 2,4,5, Parsonage, MANCHESTER.
Every description of Single, Double & Treble, Oak & Chrome Tanned Leather Belting.
Leather Link Belting.
Elevator Bands in Leather, Hair or Cotton.
Endless Leather Bands for Portable Engines.
Best Quality Balata Belting.
Rough & Curried Belting Butts.
Rough & Curried Ranges & Shoulders.
Bark Tanned Dressing Hides.
Best Quality Hose Pipe Butts.
Engine Backs for Pump Buckets.
Waterproof Pump Butts.
Friction Butts & Bends.
Gin Leather for Ginning Cotton.
Walrus & Bull Neck Leather for Polishing.
Tanned Buffalo Butts & Bends.
Rolled Hard Leather for Polishing, &c.
Buff Leather in Hides, Butts & Strips.
Hard Raw Hide Mallets specially made for workers in Brass, Silver, Copper, &c., &c.
Large Buff & Glazer Wheels covered with Bull Neck or Walrus Leather.
All kinds of Leathers for Mining, Engineering & Metal Polishing Trades.
(Telegraphic Address: "HIDES, MANCHESTER." Tel. No. 1544.)

Driving Band Makers—Cotton.

F.—Courroies de Transmission—Coton.
G.—Maschinenriemen—Baumwolle.

Fleming, Birkby & Goodall, Ltd., West Grove Mill, Halifax; & 39, Lime-st., London, E.C.

Gibbons Bros., Ltd., Dibdale Works, Dudley, Worcs. *See advt., page* 528.

Driving Band Makers—Cotton—*contd.*

Illingworth, T. H. & W. R., Ridgehill-lane, Stalybridge.

KENYON, WILLIAM, & SONS, LTD., Chapel Field Ropery, Dukinfield, Cheshire. (Telegs.: "Kenyon, Dukinfield." Teleph. Ashton 494.)

Reddaway, F., & Co., Ltd., 50 & 51, Lime-st., London, E.C.; & Mills, Pendleton, Manchester.

Willcox, W. H., & Co., Ltd. Office: 23, Southwark-st. Warehouse: 32, 34 & 36, Southwark-st., London, S.E. Works: Castle-st. (Telegrams: "Willcox, Southwark-st., London." Teleph. Hop 3740 & 3741.) *See advt. facing inside front cover.*

Driving Band Makers—Hair.

F.—Courroies—Poil.

G.—Triebriemen—Haare.

Sutcliffe Bros., Grosvenor Works, Godley, Manchester. (Telegs.: "Sutcliffe Bros., Hyde." Teleph. No. 70, Hyde.)

Willcox, W. H., & Co., Ltd. Office: 23, Southwark-st. Warehouse: 32, 34 & 36, Southwark-st., London, S.E. Works: Castle-st. (Telegrams: "Willcox, Southwark-st., London." Teleph. Hop 3740 & 3741.) *See advt. facing inside front cover.*

Driving Band Makers—Indiarubber & Gutta-Percha.

F.—Courroies de transmission—Caoutchouc.

G.—Maschinenriemen—Gummi.

Cobbett, W. Willson, Ltd., 59, Southwark-st., London, S.E.

Cort, Arthur, & Co., 303½, Camberwell-rd., London, S.E. Factory: Bullace Works, Camberwell.

Dick, R. & J., Glasgow. Factory: Greenhead.

Gibbons Bros., Ltd., Dibdale Works, Dudley, Worcs. *See advt., page* 528.

INDIA RUBBER, GUTTA PERCHA & TELEGRAPH WORKS CO., LTD. Head offices: 106, Cannon-st., E.C. Warehouses: 100 & 102, Cannon-st., London, E.C.; & 97, boul. Sebastopol, Paris. Works: Silvertown, Essex; & Persan, France. For telegraphic addresses & branches, *see advt. outside of back cover.*

Willcox, W. H., & Co., Ltd. Office: 23, Southwark-st. Warehouse: 32, 34 & 36, Southwark-st., London, S.E. Works: Castle-st. (Telegrams: "Willcox, Southwark-st., London." Teleph. Hop 3740 & 3741.) *See advt. facing inside front cover.*

Driving Band Makers—Leather.

F.—Courroies de Transmission—Cuir.

G.—Maschinenriemen—Leder.

Anderson, Frank L., 1, Furnival-st., London, E.C.

Angus, G., & Co., Ltd., Newcastle-on-Tyne.

Driving Band Makers—Leather—*contd.*

Ashton, J., & Son, Ltd., Gorton Tannery, nr. Manchester.

Best Belting Co., Ltd., 13, Cullum-st., London, E.C.

COOKE, E. J., 2, 4, 5, Parsonage, MANCHESTER.
Every description of Single, Double & Treble, Oak & Chrome Tanned Leather Belting.
Leather Link Belting.
Elevator Bands in Leather, Hair or Cotton.
Endless Leather Bands for Portable Engines.
Best Quality Balata Belting.
Rough & Curried Belting Butts.
Rough & Curried Ranges & Shoulders.
Bark Tanned Dressing Hides.
Best Quality Hose Pipe Butts.
Engine Backs for Pump Buckets.
Waterproof Pump Butts.
Friction Butts & Bends.
Gin Leather for Ginning Cotton.
Walrus & Bull Neck Leather for Polishing.
Tanned Buffalo Butts & Bends.
Rolled Hard Leather for Polishing, &c.
Buff Leather in Hides, Butts & Strips.
Hard Raw Hide Mallets specially made for workers in Brass, Silver, Copper, &c., &c.
Large Buff & Glazer Wheels covered with Bull Neck or Walrus Leather.
All kinds of Leathers for Mining, Engineering & Metal Polishing Trades.
(Telegraphic Address: "HIDES, MANCHESTER." Tel. No. 1544.)

Evans, W., 24, High-st., Newport.

Gibb, J., & Co., Ltd., 99, Fenchurch-st., London, E.C.

Hendry, J., Main-st., Bridgeton, Glasgow.

Liscombe, J., 10, Commercial-st., Newport, Mon.; & Cardiff.

Oldfield, J., & Sons, Ltd., 8 & 20, Dixon-st. & Fox-st., Glasgow.

Ormerod, J., & Sons, Ltd., Castleton, nr. Manchester.

Sampson & Co., Ltd., Stroud, Gloucestershire.

Sutcliffe Bros., Grosvenor Works, Godley, Manchester. Sole depôt for their "Lion" Leather Belts. (Telegs.: "Sutcliffe Bros., Hyde." Teleph. No. 70, Hyde.)

Sutcliffe & Sutcliffe, Magnet Works, Manchester.

Tullis, John, & Son, Ltd., St. Ann's Leather Works, John-st., Bridgeton, Glasgow.

WEBB & SON, Combs Tannery, Stowmarket. (Telegrams: "Webb, Combs.")

Willcox, W. H., & Co., Ltd. Office: 23, Southwark-st. Warehouse: 32, 34 & 36, Southwark-st., London, S.E. Works: Castle-st. (Telegrams: "Willcox, Southwark-st., London." Teleph. Hop 3740 & 3741.) *See advt. facing inside front cover.*

Driving Chain Makers—Steel.

F.—Chaînes d'entraînement.

G.—Treibketten (Stahl)—Fab. von.

Renold, Hans, Ltd., Brook-st., Manchester, S.E.

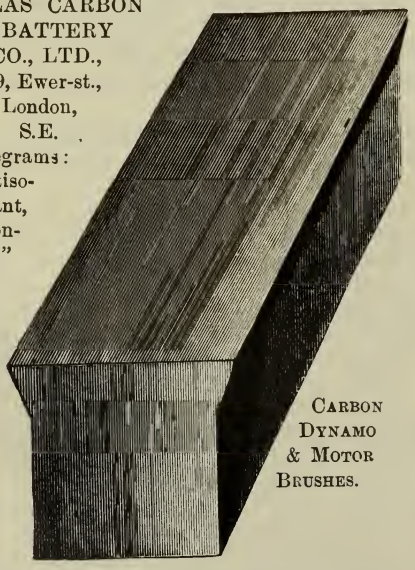
THE PATENT
PROCESS WIRE WEAVING CO.
(THE UNITED WIRE WORKS, Ltd.)
Facile Princeps for all kinds of
WIRE CLOTH,
WIRE GAUZE,
DYNAMO BRUSHES.
81, DALE STREET, BRIDGETON, GLASGOW.
Telegrams: "Durable, Glasgow." Contractors to the Admiralty & War Office.

Dynamo Brushes.

F.—Brosses de dynamos.
G.—Dynamo Bürsten.

Acme Motor & Traction Co. (Carbon), 72, Finsbury-pave., E.C. Works: The Ham, Brentford.

ATLAS CARBON & BATTERY CO., LTD., 19, Ewer-st., London, S.E. (Telegrams: "Altisonant, London."



CARBON DYNAMO & MOTOR BRUSHES.

Dynamo Brushes—*continued.*

Christie, W., & Co., 50, Wellington-st., Glasgow.

Dickson, James, patentee & sole maker of the "TIECITON DYNAMO BRUSH." Also maker of any kind of Carbon or Metal Brushes, the Ideal Electric Lamp Guard, &c., 48, Gray's Inn-rd., London, W.C. (Telegs.: "Dicksonia, London." Nat. Teleph. No. 4650, Holborn.)

Globe Electric Co., Ltd., 11, Farringdon-ave., London, E.C. Works: Holloway, N. (Telegs.: "Santochimo, London.' Teleph. Central 4774.)

TRADE MARK

Green, W., Son & Waite, 134, Albany-rd., London, S.E.

GREVENER, J. & H., Eldon-st. House, Eldon-st., London, E.C.

HEAP & IOHNSON, 28, Hatton Garden, London, E.C. *See advt., page* 444.

Johnson & Phillips, Ltd., Victoria Works, Charlton, S.O., Kent; & 12, Union-ct., Old Broad-st., E.C. *See advt. inside back cover.*

Johnson, R., Clapham & Morris, Ltd., 24–26, Lever-st., Manchester; & 23, Cheapside, Liverpool.

BOUDREAUX
FOLIATED ROLLED METAL DYNAMO & MOTOR BRUSHES of ANTIFRICTION METAL.
Owing to the composition of the metal & the construction of the brushes, their conductivity is much higher than those of copper of equal section. They last three to four times longer than copper brushes, & keep the commutator in splendid condition. Invaluable on high-speed machines.
GOLD MEDAL, PARIS EXHIBITION, 1900.
Agents: LE CARBONE, 17, Water Lane, Great Tower Street, E.C.

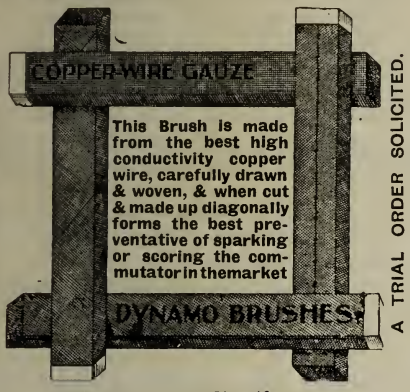
W. PATTERSON,

SOLE MAKER of the

"Matchless" Self-Lubricating

and the ORIGINAL MAKER of the

STRAIGHT WIRE BRUSHES for TURBO-GENERATORS a Speciality.



A TRIAL ORDER SOLICITED.

Prices on Application.

THE CITY WIRE WORKS,

Walker Gate, Newcastle-on-Tyne.

Telegrams: "WIREWORK, NEWCASTLE-ON-TYNE."

Dynamo Brushes—*continued.*

Le Carbone (formerly Lacombe & Co.). Brushes for all types of machines. Works: Levallois-Perret, Paris; 17, Water-lane, E.C. (Telegs.: "Lacombe, London." P.O. Teleph. No. 14671, Central.) *See advts., page* 480 & OPPOSITE.

Leroux, L. A., 3, Aldermanbury-bldgs., London, E.C.

LONDON ELECTRIC WIRE COMPY. & SMITHS, LTD, THE, Playhouse-yard, Golden-lane, London, E.C. *See advt. facing inside back cover.*

PATENT PROCESS WIRE WEAVING CO., BRIDGETON, GLASGOW. (TELEGRAMS: "DURABLE, GLASGOW.") *See advt.* OPPOSITE.

PATTERSON, WILLIAM (ordinary type, Turbo & "Matchless" self-lubricating), Walker Gate, Newcastle-on-Tyne. (Telegs.: "Wirework, Newcastle-on-Tyne." Teleph. No. 510, Nat.) *See advt.* ABOVE.

POTTER, F. W., & CO., Phipp-st., Great Eastern-st., E.C. (Telegrams: "Wirework, London." Telephone No. 1169, London Wall.) Soar's Patent Dovetail & other gauze brushes.

Dynamo & Electric Machine Manufacturers.

F.—Machines dynamo et magneto électriques.
G.—Dynamo-Maschinen.

Acme Motor & Traction Co., 72, Finsbury-pavement, E.C. Works: The Ham, Brentford.

Dynamo & Electric Machine Manufacturers—*continued.*

Adnil Electric Co., Ltd., Adnil-bldg., Artillery-lane, E.C.

Apps, A., 433, Strand, London, W.C.

Avery, A. H., A.I.E.E., Fulmen Works, Park-st., Tunbridge Wells.

Baily, Grundy & Barrett, Ltd., 2, St. Mary's Passage, Cambridge.

Barton, Thomas, Ainsworth-st., Blackburn.

BAXTER & CAUNTER, 86, Charing Cross-rd., W.C. (Telegs.: "Rapidolite, London." Teleph. Gerrard 3463 & 4.)

Beach, James, & Sons, St. James'-st., Taunton.

Becker, R., & Co., 53, City-rd., London, E.C.

Blackburn, Starling & Co., Ltd., Gresham Works, Nottingham; 72, Piccadilly, Hanley; & 197, Wardour-st., London, W.

Braulik, G., 8, Lambeth Hill, London, E.C.

British Thomson-Houston Co., Ltd. Head office & works: Rugby. Registered office: 83, Cannon-st., London, E.C. Branch offices: 91, Wellington-st., Glasgow; 41, Church-st., Sheffield; Collingwood-bldgs., Newcastle-on-Tyne; Star Life-bldgs., 30, Cross-st., Manchester; Maritime-bldgs., Middlesbrough; 115, Colmore-row, Birmingham; & Greek-st.-chbrs., Leeds. (Telegs.: "Asteroidal." Teleph. Nos.: Head office, Rugby 54 & 55; London office, London Wall 135 (4 lines).)

British Westinghouse Electric & Manufacturing Co., Ltd., The, Westinghouse Works, Trafford Park, Manchester.

Brooks, H. B., Granville Works, Tennant-st., Birmingham.

BROWN, BOVERI & CO., LIMITED, Caxton House, Westminster, S.W.

BRUSH ELECTRICAL ENGINEERING CO., LTD., THE. London office: Electrical Federation Offices, Kingsway, W.C. Works: Loughborough, Leicestershire. *See* ALPHABETICAL.

Charlesworth, S., & Co., 6, Clegg-st., Oldham, Lancs. (Telegs.: "Charlesworth, Engineers, Oldham." Teleph. No. 63.)

CHURTON, T. HARDING, & CO., Atlas Works, Water-lane, Leeds.

CLARKE, CHAPMAN & CO., LTD., Victoria Works, Gateshead-on-Tyne. (Telegrams: "Cyclops, Gateshead.")

CROMPTON & CO., LTD., Salisbury House, London Wall, London, E.C. Works: Chelmsford (Crompton system). Makers of direct & alternating current machines. Dynamos made to any specification. *See advt. inside front cover.*

Crypto Electrical Co., 155, 157 & 159, Bermondsey-st., London, S.E.

Cutting Bros., Ltd., Park Works, Stamford, Lincs.

DAVIS, JOHN, & SON (DERBY), LTD., All Saints' Works, Derby. (Telegrams: "Davis, Derby." Telephone No. 240, Derby.)

Dynamo & Electric Machine Manufacturers—*continued.*

DICK, KERR & CO., LTD. Head office: Abchurch-yard, Cannon-st., London, E.C. For branch offices, telegrams & telephone numbers, *see* ALPHABETICAL.

Dynamotor, Ltd., Bush-lane House, Cannon-st., London, E.C.

Electric Construction Co., Ltd., Wolverhampton. Head office: Dashwood House, 9, New Broad-st., E.C.

ELECTRIC & ORDNANCE ACCESSORIES CO., LTD., Cheston-rd., Aston, Birmingham. (Telegs.: "Stellite, Birmingham." Teleph. Nos.: Nat. 176 & 179, East; & P.O. 9 (Trunk Calls).) *See page* 134 *for full entry.*

Electrical & Engineering Supplies Co., Ltd., 36 & 37, Upper Thames-st., London, E.C. *See advt., page* 652.

ELECTRICAL POWER ENGINEERING CO., Stechford, nr. Birmingham. (Telegs.: "Torque, Stechford." Teleph. Stechford 21.)

ELECTROMOTORS, LTD., Openshaw, Manchester. London office: 49, Queen Victoria-st., E.C.

FULLER ELECTRICAL & MANUFACTURING CO., Norfolk House, Laurence Pountney Hill, E.C. Single phase & 3-phase. (Telegs.: "Fullmage, London." Teleph. No. 3186, London Wall.) *See advt.* OPPOSITE.

Garty, Bone & Co., Anderston Electrical Works, 61, Bishop-st., Anderston, Glasgow. Radio patent light weight ball bearing dynamos.

Geipel, Wm., & Co. (late Geipel & Lange), Vulcan Works, 72A, St. Thomas-st., London, S.E. (Telegs.: "Patella, London." Teleph. No. 594, Hop. (2 lines).) *See advt., page* 19.

Dynamo & Electric Machine Manufacturers—*continued.*

General Electric Co., Ltd. (*G. Byng, chairman*). Head office: 71, Queen Victoria-st., London, E.C. Works: London, Manchester, Birmingham & Witton. For branch offices, telegraphic addresses & telephone numbers, *see* ALPHABETICAL SECTION. *See advts., pages* 446, 707 & 734.

GREENWOOD & BATLEY, LTD., Albion Works, Leeds; & 16, Great George-st., Westminster, S.W. (Telegrams: "Greenwood, Leeds;" & "Outflank, London.") *See advt. page* 20.

Hall, J. P., & Co., Ltd., Blackriding Iron Works, Werneth, Oldham. (Telegs.: "Dynamo, Oldham." Teleph. No. 300.)

Hammar & Co., 25, Victoria-st., London, S.W.

Hartnell, Wilson, & Co., Ltd., Volt Works, Kirkstall-rd., Leeds.

HOLMES, J. H., & CO., Portland-rd., Newcastle-on-Tyne; also at 17, Soho-sq., London, W.; Examiner-bldgs., Strutt-st., Manchester; & 19, Waterloo-st., Glasgow.

Hunter & Co., Lanier Works, Lewisham, S.E.

INDIA RUBBER, GUTTA PERCHA & TELEGRAPH WORKS CO., LTD. Head offices: 106, Cannon-st., E.C. Warehouses: 100 & 102, Cannon-st., London, E.C.; & 97, boul. Sebastopol, Paris. Works: Silvertown, Essex; & Persan, France. For telegraphic addresses & branches, *see advt. outside back cover.*

Johnson & Phillips, Ltd., Victoria Works, Charlton, S.O., Kent; & 12, Union-ct., Old Broad-st., London, E.C. *See advt. inside back cover.*

Jones, Henry, 14, High-st., Lambeth, S.E.

Keighley Electrical Engineering Co., Ltd., Vulcan Works, Keighley, Yorks.

LE CARBONE (LATE LACOMBE & CIE.),

CONTRACTORS TO H.M. GOVERNMENT AND PRINCIPAL RAILWAYS AND LIGHTING COMPANIES OF THE UNITED KINGDOM.

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Dynamo & Electric Machine Manufacturers—*continued.*

LAHMEYER ELECTRICAL CO., LTD., 109–111, New Oxford-st., W.C. (Telegs.: "Drehstrom, London." Telephone Gerrard 133 & 134.)

LAIDLER, RITCHIE & CO., LTD., Nutsford Vale Works, Longsight, Manchester.

LANCASHIRE DYNAMO & MOTOR CO., LTD. Offices & works: Trafford Park, Manchester; 28, Victoria-st., London, S.W.; 87, Union-st., Glasgow; Northumberland-st., Newcastle-on-Tyne; St. Mary-st., Cardiff; & 3, New-st., Birmingham. *See advt., page* 729.

Langbein Pfanhauser Works, Ltd., 18, 24 & 26, Constitution Hill, Birmingham.

LAURENCE, SCOTT & CO., LTD., Gothic Works, Norwich. (Telegrams: "Gothic, Norwich." Nat. Telephone No. 246.)

Littlewood, Beaumont, & Co., Thirston Ironworks, Honley, Yorks.

Lumb, A., Lower Rough Head, Hebden Bridge, Yorks.

McClure & Whitfield, Mersey Dynamo Works, Adswood, Stockport. (Telegrams: "Motors, Stockport." Telephone No. 180.)

MACKIE, W., & CO., 47½, Old-st., London, E.C. (P.O. Telephone Central 2704.) *See advt.* OPPOSITE.

MATHER & PLATT, LD., Salford Iron Works, Manchester; & Queen Anne's-chbrs., Westminster, London, S.W. (Telegrams: "Mather, Manchester;" "Sprinkler, London." Nat. Telephone Nos.: 5781, 5782 & 5783, Manchester; & 851 & 852, Westminster.)

Dynamo & Electric Machine Manufacturers—*continued.*

MAWDSLEY'S LTD., manufacturing electrical engineers. Makers of the "Mawdsley" patent "Zone" dynamos & motors. Zone Works, Dursley, Glos. (Telegs.: "Zone, Dursley." Teleph. No. 6, Dursley.)

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MORLEY ELECTRICAL ENGINEERING CO., LTD., Troy Works, Stanningly, nr. Leeds.

National Fan & Motor Co., Ltd., East Bog, Bo'ness, N.B.

NEWTON BROS. Offices: Market-pl., Derby. Works address: Alfreton-rd., Derby. (Telegs.: "Dynamo, Derby." Teleph. Nos.: 413, Offices: 207, Works.)

NEWTONS LTD., Taunton. (Telegrams: "Arc, Taunton." Telephone No. 9.)

Overend & Jones, Burnett-st., Bradford.

PHŒNIX DYNAMO MANUFACTURING CO., LTD. Head offices: Thornbury Works, Bradford. (Telegs.: "Dynamo, Bradford." Teleph. No. 952.) Speciality: Enclosed motors, for work in the open air, damp & dusty places, &c. London office: 17, Victoria-st., S.W.

Railway & General Engineering Co., Ltd., Midland Engineering Works, Meadow-lane, Nottingham.

REES ROTURBO MANUFACTURING CO., LTD., Wednesfield-rd., Wolverhampton.

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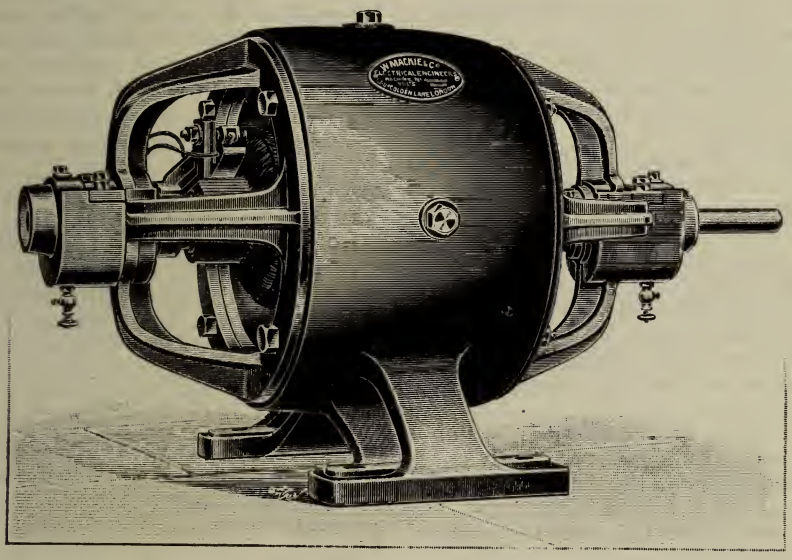

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Roy, A. W., 151, Shields-rd., Heaton, Newcastle-on-Tyne.

Sandycroft Foundry Co., Ltd., The, Chester (Telegrams: "Sandycroft, Hawarden"); & 6, Queen-st.-pl., London, E.C.

Saxon Engineering Co., Ltd., Fenton, Stoke-on-Trent.

Scott, H. J., & Co., Ravenhill-ave., Belfast.

SIEMENS BROS. DYNAMO WORKS, LTD., Caxton House, Westminster, London, S.W. (Siemens' continuous & alternating systems.)

Small Power Dynamo & Motor Co., Ltd., Old-lane, Higher Openshaw, Manchester.

Stephens, Smith & Co., Ltd., 1, Cuba-st., Millwall, London, E.

Thornycroft, J. I., & Co., Ltd., Caxton House, Westminster, London, S.W.

UNION ELECTRIC CO., LTD., Park-st., Southwark, London, S.E. (Telegs.: "Abeam, London." A.B.C. Code. Teleph. Hop. 2970.) *See advt., page* 563.

VERITYS, LTD., King-st., Covent Garden, London, W.C.; & Birmingham, Manchester, Glasgow, Bristol, &c. *See* ALPHABETICAL SECTION.

VICKERS SONS & MAXIM, LTD., 28–32, Victoria-st., London, S.W.; & River Don Works, Sheffield.

VICTORIA DYNAMO & MOTOR CO., Craven House, Kingsway, London, W.C.

Walsall Electrical Co., Ltd., Bridge-st., Walsall. For branches, telegrams & telephone numbers, *see* ALPHABETICAL.

Walton, D., Eaves Bottom Electrical Works, Hebden Bridge, Yorkshire.

Westminster Engineering Co., Ltd., Victoria-rd., Willesden Junction, London, N.W.

White, Jacoby & Co., Ltd., 54, Bayham-pl., Camden Town, N.W.

Whiteley, William, & Sons, Ltd., Prospect Iron Works, Lockwood, Yorkshire.

Wilson-Wolf Engineering Co., Ltd., Thornton-rd., Bradford.

Woolnough, F., St. Stephen's Works, Norwich.

WRIGHT & WOOD, LTD., Century Works, Halifax, Yorks. (Telegs.: "Motor, Halifax." Teleph. No. 499.) *Sve advt., page* 650.

Yarwood, Geo., & Co., 49, George-st., Balsall Heath, Birmingham.

Dynamo-Magnets (Steel) Manufacturers.

Allen, Edgar, & Co., Ltd., Imperial Steel Works, Sheffield. London: 52, Queen Victoria-st., E.C.

Dynamo & Motor Repairs.

Harvie, Wm., & Co., Ltd., 24, McAlpine-st., Glasgow.

Home & Rowland, Troughton-rd., Charlton, London, S.E.

Dynamo & Motor Repairs—*continued.*

Woodville Electric Co., repairs & rewindings to generators & motors, makers of coils for all purposes, 21, Hengist-rd., Belvedere, London, S.E.

Dynamo Wires.

F.—Fil pour Dynamos.

G.—Draht für Dynamos.

BRITISH INSULATED & HELSBY CABLES, LTD. Head office: Prescot, Lancs. Works: Prescot, Helsby & Liverpool. For branch offices, telegraphic & telephonic addresses, *see* ALPHABETICAL ENTRY. *See advt., page* 437.

Glover, W. T., & Co., Ltd., Trafford Park, Manchester. (Telegs.: "Cables, Manchester." Tel. Central 7200 (6 lines).) London: Parliament Mansions, Orchard-st., S.W. *See* ALPHABETICAL.

HAWKINS BROS. & CO., LTD., Hatfield-st., & Basterfield-st., Golden-lane, London, E.C. *See advt., page* 440.

INDIA RUBBER, GUTTA PERCHA & TELEGRAPH WORKS CO., LTD. Head offices: 106, Cannon-st., E.C. Warehouses: 100 & 102, Cannon-st., London, E.C.; & 97, boul. Sebastopol, Paris. Works: Silvertown, Essex; & Persan, France. For telegraphic addresses & branches, *see advt. outside of back cover.*

Johnson & Phillips, Ltd., Electric Cable Works, Charlton, S.O., Kent. Depôts: Glasgow, Newcastle, &c. *See advt. inside back cover.*

LONDON ELECTRIC WIRE COMPY. & SMITHS, LTD., THE, Playhouse-yard, Golden-lane, London, E.C. *See advt. facing inside back cover.*

MIDLAND ELECTRIC WIRE CO., LTD., Leicester. (Telegrams: "Conductors, Leicester." Telephone No. 45.) *See advt., page* 482.

NORTHERN ELECTRIC WIRE CO., THE, SEDBURGH MILLS, HALIFAX. (TELEGRAMS: "CABLES, HALIFAX." TELEPHONE NO. 127.) *See advt., page* 744.

Rickard, William, Ltd., Ashbourne-rd. Mills, Derby. (Telegrams: "Rickard, Derby." Telephone No. 18.) *See advt. facing title page.*

St. Helen's Cable & Rubber Co., Ltd., Warrington.

SMITH, FREDERICK, & CO., INCORPORATED IN THE LONDON ELECTRIC WIRE CO. & SMITHS, LTD., Wire Manufacturers, Anaconda Works, Salford, Manchester. Copper wire, hard-drawn H.C. long lengths copper wire, plain soft-tinned, & strips for all electrical purposes. Tape & strand for lightning conductors. Silicium bronze wire, "Cog-wheel Brand." Phosphor bronze spring wire, aluminium wire & strip. (Telegs.: "Anaconda, Manchester.") *See advt., page* 747.

Dynamometers.

WALKER, W. G., & CO., Emery Hill-st., Victoria-st., Westminster, S.W. (Telegs.: "Walker, Emery Hill Street, London." Tel. No. 1622, Victoria.) *See advts.* BELOW *& page* 590.

Earthenware Manufacturers.

(FOR ELECTRICAL PURPOSES.)

F.—Appareils en grès.

G.—Tonwaaren-Fabrikanten.

Cauldon, Ltd., Cauldon-pl. Works, Shelton, Staffs.

Clementson Bros., Phœnix Works, Broad-st., Hanley.

DOULTON & CO., LTD., Royal Doulton Potteries, Lambeth, London, S.E.; & Burslem, Staffs. City office: 14, St. Andrew's-st., London, E.C. Head office: Lambeth, London, E.C. *See advt., page* 439.

Empire Porcelain Co., Stoke-rd., Stoke-on-Trent.

Gaskell & Grocott, Longport, Stoke-on-Trent.

Grimwade Ltd., Winton Pottery, Stoke-rd., Hanley, Staffs.

Kirkhams, London-road, Stoke-on-Trent.

Lockitt, W. H., Wellington Pottery, Commercial-rd., Hanley.

MACINTYRE, J., & CO., LTD., Washington China Works, Burslem. (Telegs.: "Macintyre, Burslem." Teleph. No. 338, Burslem.) *See* PORCELAIN & CHINA FITTINGS MAKERS.

Meakins, J. & G., Ltd., Lichfield-st., Hanley.

Ridgways, Ltd., Bedford Works, Bedford-rd., Shelton, Staffs.

TAYLOR, TUNNICLIFF & CO., LTD., Eastwood, Hanley. London agent: C. M. Bradley, 23, Holborn Viaduct, London, E.C. (Telegs.: "Eastwood, Hanley.")

Twyfords, Ltd., Cliffe Vale Works, Shelton, Staffs.

Wright, E., & Co., Ltd., Wheat-bridge Potteries, Chesterfield.

Earthing Devices.

DRAKE & GORHAM, LTD., 66, Victoria-st., Westminster, London, S.W. Works: 1, Felix-st., S.E. For branches, telegrams & telephone numbers, *see* ALPHABETICAL. *See advt., page* 459.

Ebonite Cells.

St. Helen's Cable & Rubber Co., Ltd., Warrington.

Ebonite Manufacturers.

(*See also* VULCANITE MANUFACTURERS.)

F.—Ebonite—Fab. d'.

G.—Ebonite-Fabrikanten.

American Hard Rubber Co., Basma House, 13A, Fore-st., London, E.C. (Telegs.: "Eboniseth, London." Teleph. No. 12754, Central.) Ebonite & vulcanite manufacturers. Large stock sheet, rod & tubing kept in London.

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BRITISH INSULATED & HELSBY CABLES, LTD. Head office: Prescot, Lancs. Works: Prescot, Helsby & Liverpool. For branch offices, telegraphic & telephonic addresses, *see* ALPHABETICAL ENTRY. *See advt., page* 437.

BURNS, J., LTD., 189, Central-st., London, E.C. *See advt., page* 738.

CARSON & EVANS, 3, Fenchurch-bldgs., Fenchurch-st., London, E.C. (Telegs.: "Irishism, London." Teleph. 2507, Avenue.) *See advt., pages* 486 *& 737.*

Fireproof Celluloid Synd., Ltd., 82, Victoria-st., London, S.W.

GENERAL ELECTRIC CO., LTD. (*G. Byng, chairman*). Head office: 71, Queen Victoria-st., London, E.C. Works: London, Manchester, Birmingham & Witton. For branch offices, telegraphic addresses & telephone numbers, *see* ALPHABETICAL SECTION. *See advts., pages* 446, 707 *& 734.*

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HESSBERG BROS., 102, Fenchurch-st., London, E.C. (Telegrams: "Pulkha, London.' P.O. Telephone No. 9159, Central.)

HILL, FREDK. A., & CO., 108, Bishopsgate-st. Within, London, E.C. (Telegs.: "Blasting, London." Teleph. No. 9905, Wall.)

Hurst, A., & Co., 53, Leadenhall-st., E.C.

INDIA RUBBER, GUTTA PERCHA & TELEGRAPH WORKS CO., LTD. Head office: 106, Cannon-st., E.C. Warehouses: 100 & 102, Cannon-st., London, E.C.; & 97, boul. Sebastopol, Paris. Works: Silvertown, Essex; & Persan, France. For telegraphic addresses & branches, *see advt. outside of back cover.*

LITHOLITE, LTD., 55, Hackney Grove, London, N.E. (Telegs.: "Ferrules, London." Teleph. North 1492.) *See advt., page* 620.

MANNHEIM INDIA RUBBER, GUTTA PERCHA & ASBESTOS WORKS CO., LTD., 61, Leadenhall-st., London, E.C.

MOSSES & MITCHELL, 122 & 124, Goldenlane, London, E.C. (Telegs.: "Insulator, London." Teleph. London Wall 437.) *See advts., pages* 622 *&* 737.

New York Hamburg Indiarubber Co., Ltd., 34, Moorfield-st., London, E.C.

Ostermann, F. W., 57 & 58, Leadenhall-st., London, E.C. (Teleph. No. 2492, Central.)

Pirelli, Ltd., 45, Basinghall-st., London, E.C.

Siemens Bros. & Co., Ltd., Caxton House, Westminster, London, S.W. *See advt., page* 573.

VULCANITE WORKS, DR. HEINR. TRAUN & SONS, LONDON AGENCY (formerly Harburg Indiarubber C. Co.) (F. Winter, manager), 8, Redcross-st., London, E.C.

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LONDON MANAGER: F. WINTER,
8, REDCROSS STREET, E.C.
Telegrams: "INSTANTLY, LONDON."
Telephone No. 3186, Central.
EBONITE.

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(Telegrams: "Instantly, London." Telephone No. 3186, Central.) *See advts.* IN PREVIOUS COLUMN *& page* 737.

Wicks, J. T., & Co., 185, Fore-st., Edmonton, London, N.

Ebonite Pumps, Syphons & Tubings.

INDIA RUBBER, GUTTA PERCHA & TELEGRAPH WORKS CO., LTD. Head offices: 106, Cannon-st., E.C. Warehouses: 100 & 102, Cannon-st., London, E.C.; & 97, boul. Sebastopol, Paris. Works: Silvertown, Essex; & Persan, France. For telegraphic addresses & branches, *see advt. outside of back cover.*

Economisers.

(*See* FUEL ECONOMISERS.)

Electrical Sheets for Dynamos & Transformers.

Turner Bros., 134, Upper Thames-st., London, E.C. (Telegrams: "Sheetiron, London." P.O. Telephone No. 355, Central.)

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F.—Electriciens.

G.—Elektriker.

Adams, W., Ashdown-rd., Kingston-on-Thames.

Adams Bros., 11 & 12, Trafalgar-st., Brighton.

Adams, C., & Co., 15, Fraser-st., Liverpool.

ADAMS MANUFACTURING CO., LTD., 106, New Bond-st., London, W.; & Bedford (Telegs.: "Admocar, London;" "Admocar, Bedford." Teleph. Mayfair 3962; & P.O. Bedford, 2.)

Adkins & Co., Northampton.

Alcock, H., 16, Megan-st., Swansea.

Aldred, William, 5, Brightside-bank, Brightside, Sheffield.

Alford, E. J., 1, Mortlake-ter., Victoria-rd. North, Southsea.

Allan, A., 22, Marchmont-rd., Edinburgh.

Allen, Percy, Ferncliffe, Higher Runcorn, Cheshire.

Anderson, Chris, Lane House, Hunslet, Leeds.

Andrews, J., Park-rd., Spalding.

Andrews, L. H., A.I.E.E., 7, Gladsmuir-rd., Upper Holloway, N.

Andrews & Co., 198A, St. Vincent-st., Glasgow.

Angold, A. E., Rosthwaite, Hale-rd., Altrincham, Cheshire.

Appleyard, R., 79, St. Mary's Mansions, Paddington, W.

Apps, A., 433, Strand, London, W.C.

ARC LAMPS, LTD. (Davy Arc Lamps). Works: Sphere Engineering Works, St. Albans, Herts. (Telegs.: "Voltarcon, St. Albans." Teleph. No. 258, St. Albans.) *See advts., pages* 417 *&* 418.

Electricians—*continued.*

Aronsberg, C., & Co., 24, Manchester-st., Liverpool.
Ashton, A. G., Royal Laboratory, Woolwich Arsenal, S.E.
Babbage, T., 38, West Exe, Tiverton.
Bailey, G., & Sons, Berry-st., Wolverhampton.
Baker, P. W., James-pl., Vine-st., Uxbridge.
Ball, A. E., 38, St. Saviour's-rd., Leicester.
Banks, T. H., 35, Fairholm-rd., Harrow.
Barnsley, E., & Co., 7, Queen's-rd., Brighton.
Barrett, A., 1, Grand Parade, Wimbledon, S.W.
Barwell, H. G., Eastern Telegraph Co., Porthcurnow, Treen R.S.O., Cornwall.
Bates, A. T., Whitehead Torpedo Works, Weymouth.
Bates, W., Northern Counties Electricity Supply Co., Ltd., Hebburn, Durham.
Baxendine Bros., 182, High-st., Portobello, Edinburgh.
Beckett, G. E., & Co., 79, Oxford-rd., Chorlton-on-Medlock, Manchester.
Beddow, Jas., 112, Brynn-st., St. Helens.
Bellow, H. J., 24, Torridge-rd., Thornton Heath, Surrey.
Bentley, H. J., & Co., 17, Newton-st., Piccadilly, Manchester; & 27, Bootle-st., Deansgate, Manchester.
Bibby, H., Arpley-st., Warrington.
Bidwell, Shelford, M.A., SC.D., M.I.E.E., Beechmead, Oatland's Chase, Weybridge.
Birch & Verity, 38, Union-st., Aldershot.
Blagg, C. W., 108, Church-rd., Higher Tranmere, Birkenhead.
Blagg, T. H., Paddock, West Didsbury, Manchester.
Blair, G. C., A.M.I.E.E., The Moorings, Thornly Park, Paisley, N.B.
Bolton & Sons, 153, Hope-st., Glasgow.
Bond, W. F., 245, Euston-rd., N.W.
Booth, Richard, 27, Cunliffe-st., Chorley, Lancashire.
Bowden, Th., Marconi's Wireless Telegraph Co., Tyssen-st., Dalston, N.E.
Braby, Ivon, M.I.E.E., Helena, Alan-rd., Wimbledon.
Brash, W. R., 44, Dalhousie-st., Glasgow.
Brew, W., M.I.E.E., Dublin Corporation Electricity Supply, Fleet-st., Dublin.
BRISTOL ELECTRIC SAFETY LAMP WORKS. Offices & works: 40, Great Smith-st., S.W. *See advt., page* 405.
Brown, F., 11, Upper George-st., Bryanston-square, London, W.
Brown, J. C., D.SC., LL.D., University, Liverpool.
Brown, W. R., A.M.I.E.E., 18 & 20, Mill-st., Macclesfield.
Brown, Alex., & Co., 233, St. Vincent-st., Glasgow.
Brunner, H. B., The Hollies, Hartford, Northwich, Cheshire.
Buckley, M. J., A.M.I.E.E., Garrán an Cheoil, Iona Drive, Dublin.
Burnby, S., & Son, 20, Warner-rd., Camberwell, London, S.E.
Bush, E., & Co., 26, Sunbridge-rd., Bradford.

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Butterfield Bros., 48, Yorkshire-st., Oldham.
Button, T., London-rd., Kingston.
Carnaby & Co., 9, St. James-pl., Liverpool.
Carr, Byrom, Technical School, Sheffield.
Carr, E. R., A.M.I.E.E., 204, Brixton Hill, S.W.
Carter, G. H., 65, Torriano-avenue, London, N.W.
Carter, R., Electricity Works, Thetford, Norfolk.
Caton, Wm., 28, Peter-st., Oldham.
Cawte, G. R., 13, Strand-st., Douglas, Isle of Man.
Chadwick, J. M., Findhorn House, Forres, N.B.
Charlton, R. B., & Co., Manors Railway Station Works, Newcastle-on-Tyne.
Chauvin, G. von, M.I.E.E., 356, Caxton House, Westminster, London, S.W.
Chisholm, A. H., A.I.E.E., 162, Abbey-st., Jamaica-rd., Bermondsey, S.E.
Church, G. H., M.I.E.E., Works Department, Royal Arsenal, Woolwich.
Clark, Robert, Taybank, Errol, N.B.
Clark, Thomas, Telegraph Construction & Maintenance Co., Ltd., Enderby's Wharf, East Greenwich.
Clark, T., A.I.E.E., 62, Roselea Drive, Dennistoun, Glasgow.
Clarke, W. H., "Isawood," Chermside-rd., Aigburth, Liverpool.
Clements & Son, 106A, Fenchurch-st., E.C.
Clephan, T. J. S., 22 & 24, Standishgate, Wigan.
Close, F. W., 34, Waterloo-rd., Wolverhampton.
Clough, N., A.I.E.E., J. G. White & Co., 9, Cloak-lane, E.C.
Codd, Ll. B., A.M.I.E.E., Standard Works, Dame Agnes-st., Nottingham.
Coleman, C., Corporation Elecy. Dept., Hastings.
Coleman, G. T., 9, Cheapside, Leicester.
Collett, A. E., 1, Reginald-ter., Leeds.
Colston, J. R., 3, New Inn Hall-st., Oxford.
Connolly Bros., Ltd., Blackley Vale Mills, Blackley, Manchester. *See advt., page* 438.
Constans, Philip, 303, High Holborn, London, W.C.
Corking, J. T., Jackson-st., Gateshead.
Corlett, W. J., 21 & 23, Nelson-st., Douglas, Isle of Man.
Cornell, Wm. T., 67, May-st., West Kensington, W.
Couch, Chas. Thos., 133, Cambridge-street, Pimlico, London, S.W.
Cowap, G. F., Tarporley, Cheshire.
Cox, H. G., 365, Soho-rd., Handsworth, Birmingham.
Crawford, E. S., Buncrana Electric Supply Co., Buncrana, co. Donegal.
Cross, G., Newdigate-st., Nuneaton.
Cross, W., & Son, 159A, Belgrave Gate, Leicester.
Cruickshank, R., Ltd., Camden-st., Birmingham.
Cullen, F. G., 2, Alfred-rd., Kingston-on-Thames.
Cunnynghame, H. H., M.I.E.E., Home Office, Whitehall, London, S.W.
Dale, A. Arthur, Daisy Bank House, Leckhampton, nr. Cheltenham, Glos.
Dallas, J. D., 67, Ridgmount-gdns., London, W.C.
Daniel, G. A., Nettlefolds, Ltd., Castle Works, Tydu, near Newport, Mon.

Electricians—*continued.*

Dargue, Griffiths & Co., Ltd., 51, North John-st., Liverpool.

Darke, W. C., 129, Seaford-rd., Tottenham, London, N.

Daulman, W.. Edward-st., Nuneaton.

Davis, F., 35, Halifax-rd., Todmorden.

Davy, J. H., 2, Victoria-ave., New Barnet.

Delf, R., & Co., 243–5–9, Fulham-rd., London, S.W.

Dickson, J. D. H., 6, Cranmer-rd., Cambridge.

Dixon, T. W. H., Glevering Hall, Wickham Market, Suffolk.

Dixon, W. H. T., Central Station, C.L.C. Rly. Co., Manchester.

Down, Fred. J., Harpenden, Herts.; & 6, 7 & 8, Crutched Friars, London, E.C. A founder, 1883, of Laing, Wharton & Down.

Dowsett, H. M., A.I.E.E., Marconi's Wireless Telegraph Co., Watergate House, Adelphi, London, W.C.

DRAKE & GORHAM, LTD., 66, Victoria-st., Westminster, London, S.W. Works: 1, Felix-st., S.E. For branches, telegrams & telephone numbers, *see* ALPHABETICAL. *See advt., page* 459.

Dudley Electrical Co., High-st., & King-st. Works, Dudley.

Duncan, W. J. V., Phœnix Works, Mentmore-ter., London Fields, London, N.E.

Dunn, Edmund, 90, Queen-st., Ramsgate.

Dunn, H. E., Marconi's Wireless Telegraph Co., Ltd., Watergate House, Adelphi, W.C.

Dunn, W. J., Law Accident Insurance Society, Ltd., 215, Strand, W.C.

Dunn, J., & Co., 102½, North-st., Glasgow.

Edwards, E., West Cliff, Herne Bay.

Electrical Contracts & Maintenance Co., Ltd., Sanctuary House, Westminster, S.W.

ELLIOTT, J. E., & CO., 12, Broad-st., Oxford; & 23, Bridge-st., Banbury.

Ellis, W., F.R.S., M.I.E.E., 78, Coleraine-rd., Blackheath, S.E.

Elwin, E. P., 1, Anerley Park, Anerley, London, S.E.

Evans, E. C., 23, Wellington-st., Waterloo, Liverpool.

Evans, E. G., 189, Edward-st., Nuneaton.

Everett, E. I., A.M.I.E.E., Collindale Works, Hendon, London, N.W.

Fairclough, K., Browett, Lindley & Co., Ltd., Sandon Engine Works, Patricroft, Manchester.

Fanshawe, Harry, Thoralby, Fortune-gate, Harlesden.

Fenemore, H., High-st., Eton.

Ferguson, Charles Joseph, 74, Chiswell-st., E.C.

Ferrie & Co., 193 & 195, Crow-rd., Partick, Glasgow.

Fitch, F., Rosemary-rd., Clacton-on-Sea.

Fleming, M. J., borough surveyor, Town Hall, Waterford.

Forbes, F., Great Northern Telegraph Co., Ltd., Aberdeen.

Electricians—*continued.*

Foster, L. L., Charing Cross, West End & City Electricity Supply Co., Ltd., 85, Fenchurch-st., E.C.

Fournier, E. E., 11, Sunbury-gdns, Rathgar, Dublin.

Fowler, A., Cleveland Trust, Ltd., Saltburn-by-the-Sea, Yorks.

Fox, Chas. G., Ernest F. Moy, Ltd., Greenland-pl., Camden Town, London, N.W.

Franks, A., 95 & 97, Deansgate, Manchester.

Fraser, A., Eastern Telegraph Co., Ltd., Electra House, Moorgate, London, E.C.

Frederison, M., 8, Regent-st., London, W.

Freudemacher, P. W., A.M.I.E.E., St. Margarets, Bargery-rd., Catford, S.E.

Frew & Co., Ltd., 6 & 7, Mill-st., Perth.

Frost & Tapper, 54, High-st., Deal.

Fry, H., c/o J. Sunderland & Co., Halifax.

Galliers, H. J., 32, St. James-st., Brighton.

Garcke, E., M.I.E.E., Electrical Federation Offices, Kingsway, W.C.

Gatehouse, T. E., F.R.S.E., A.M.I.C.E., M.I.M.E., M.I.E.E., *Electrical Review*, 4, Ludgate Hill, London, E.C.

General Electric Co., Ltd. (*G. Byng, chairman*). Head office: 71, Queen Victoria-st., London, E.C. Works: London, Manchester, Birmingham & Witton. For branch offices, telegraphic addresses & telephone numbers, *see* ALPHABETICAL SECTION. *See advts., pages* 446, 707 *& 734.*

Gibbons, James, Haseley, near Tetsworth, Oxfordshire.

Gifkins, A. V., & Co., 68, Victoria-st., Westminster, S.W.

Gleeson, C. & R., 45, Bell-st., Edgware-rd., N.W.

GLOVER, F. A., & CO., LTD., Vine-st., Clerkenwell-rd., E.C.

Glover, W. T., & Co., Ltd., Trafford Park, Manchester. (Telegs.: "Cables, Manchester." Tel. Central 7200 (6 lines).) London: Parliament Mansions, Orchard-st., S.W. *See* ALPHABETICAL.

Gott, J., Commercial Cable Co., 55 & 56, Bishopsgate-st. Within, London, E.C.

Graham, Wm., 3, Wilson-st., Hillhead, Glasgow.

Graham, J. W. & R., Faraday Works, St. George's-sq., Huddersfield.

Graves, James, M.I.E.E., Anglo-American Telegraph Co., Ltd., Valentia, Ireland.

Green, W. J. S., 214, Birchfield-rd., Birmingham.

Green & Abbott, 473, Oxford-st., W.

Greenhill, J. E., Downs-park-road, Clapton, London, E.

Greenstreet, H., 119, High-st., Mile Town, Sheerness.

Greeves, O. V., A.I.E.E., Portadown.

Grimsley, F. C., Belgrave-rd., Leicester.

Gripper, Francis E., M.I.E.E., Broad Sanctuary-chbrs., London, S.W.

Gwinn, A. H., & Co., 26, Romford-rd., Stratford, London, E.

Haine & Co., 13, Connaught-st., London, W.

Electricians—*continued.*

Hall & Webb, Midland Arcade-chbrs., 8, New-st., Birmingham.
Hancock & Rixon, 52, Great Marlborough-st., London, W.
Hanks, F. T., A.M.I.E.E., 1, Higham-pl., Newcastle-on-Tyne.
Hanson, J., 25, Castle-st., Southport.
Harfield, J. A., 13, Abingdon-rd., W.
Harmer, C., & Son, 11, Lingfield-rd., Wimbledon, Surrey.
Harrap, Hewett & Duffield, 5, Budge-row, Cannon-st., E.C.
Haslam, A. P., M.I.E.E., "Coniston," 72, Cloncurry-st., Fulham, S.W.
Hawkins Bros., 2, Cavendish-ct., London, E.C.
Haycraft & Son, Ltd., Broadway, Deptford; & Lewisham High-rd., London, S.E.
Heaton, C., 39, Princeville-st., Legrams-lane, Bradford, Yorks.
Hebbert, Ernest G., Aysgarth, Calverley-park-gardens, Tunbridge Wells.
Henderson, J. H., 46B, Lancaster-ave., Fennel-st., Manchester.
Hepworth Manufacturing Co., Ltd., 15 & 17, Cecil-ct., Charing Cross-rd., W.C.
Herbert & Moult, Parker-st. & Derbyshire-lane, Hucknall Torkard, Notts.
Hetherington Bros., Penrith, Cumberland.
Heywood, T. M., Mount Stuart-sq., Cardiff.
Hill, J. G., Trevarrick, St. Austell.
Hill & May, Fairfax-rd., Hornsey, N.
Hiorns, H. A., 6, Cockspur-st. W., Pall Mall, Liverpool.
Hislop, L. M., 117, High-st., Portobello, Edinburgh.
Hislop, R. G., 7 & 9, Pitt-st., Edinburgh.
Hobart, H. M., M.I.C.E., Oswaldestre House, Norfolk-st., Strand, London, W.C.
Holland, C. E., 4, Redington-road, Hampstead, London, N.W.
Holland, G., & Sons, Bromfield Works, Bromfield-pl., Ealing, W.
Holley, H., 26, Telford-rd., Notting Hill, W.
Hooker, G., High-st., Sittingbourne.
Howitt, J., & Sons, St. Mark's Works, & 36, Stodman-st., Newark.
Hughes, B. J., 26, Patten-st., Birkenhead.
Hulme & Son, 8 & 9, Sadler Gate, Derby.
Hunt, F. D., 32, Deacon-st., Walworth, S.E.
Hunter, W., Overhead Railway, Liverpool.
Hunter, W., 21, Charles-st., West Hartlepool.
Hurworth, T., Leeds Industrial Co-operative Society, Leeds.
Hutton, F. H., M.A., Vicar's-ct., Lincoln.
Hutton, J., 98, King's-rd., Camden-rd., London, N.W.
INDIA-RUBBER, GUTTA PERCHA & TELEGRAPH WORKS CO., LTD. Head offices: 106, Cannon-st., E.C. Warehouses: 100 & 102, Cannon-st., London, E.C.; & 97, boul. Sebastopol, Paris. Works: Silvertown, Essex; & Persan, France. For telegraphic addresses & branches, *see advt. outside of back cover.*

Electricians—*continued.*

Jackson, H., 97, Drayton-gdns., South Kensington, S.W.
Janes & Adams, High-rd., Finchley, N.
Johnson Bros., Idle-rd., Bradford.
Johnson & Phillips, Ltd., Victoria Works, Charlton, S.O., Kent; & 12, Union-ct., Old Broad-st., E.C. *See advt. inside back cover.*
Johnson, Wm., & Co., 49, Leopold-st., Sheffield.
Johnson, W. H., & Son, St. James's-st., Lynn.
Joll, F. W., A.M.I.E.E., c/o Electrical Co., Ltd., 122 & 124, Charing Cross-rd., London, W.C.
Jones, S. W. H., 13, New-st., Worcester.
Jones & Bache, Tregaron, Gloucester-rd., Kingston-on-Thames.
Jones, T. S. & J. D., 15, Beaufort-sq., Chepstow.
Judd, Walter, M.I.E.E., Eastern & Associated Telegraph Cos., 66, Electra House, Finsbury Pavement, E.C.
Judson, F. H., Atlas Carbon & Battery Co., Ltd., 19, Ewer-st., Southwark, S.E.
Kempe, H. R., M.I.C.E., M.I.E.E., Postal Telegraphs, General Post Office, London, E.C.
Kent, J. H., 22, Gramby-st., Liverpool.
Kent, Walter, 15, New Oxford-st., London, W.C.
Kerr, George A., Woodside, Upper Norwood, London, S.E.
Kershaw, Abraham, St. Columba-st., Woodhouse-lane, Leeds.
King, John, 2, Bellefield-rd., Brixton, London, S.W.
Knight, Alfred W., Cuckfield & Market-pl., Hayward's Heath, Sussex.
Laidler, J., & Sons, 83, New Elvet, Durham.
Lamb, C. G., M.A., B.SC., A.M.I.E.E., Engineering Laboratory, Cambridge.
Lambert, J. A., & Co., 67, Gainsborough-rd., Wavertree, Liverpool.
Langdon-Davies, C., 12, Dennington Park-rd., London, N.W.
Leaver, J. J., 30, High-st., Weston-super-Mare.
Le Claire, August, 67, Praed-st., London, W.
Legge, W. N., Corporation Electricity Works, Southport.
Lindsay, A., 242, Whitehill-st., Dennistoun, Glasgow.
Linsell, S. E., A.M.I.E.E., Martin's Hall, Stebbing, Essex.
Lippold, A., & Co., 172, Lambeth-rd., S.E.
Lock, W. B., A.I.E.E., 15 & 16, Norfolk-st., King's Lynn.
Lomas, Jno., U.D.C. Electricity Works, Mirfield, Yorks.
Lord & Chamberlain, 243, Hyde-rd., Gorton, Manchester.
LOWDON BROS. & CO., Temple Electric Works, Dundee; 50, Frederick-st., Edinburgh; 150, Holm-st., Glasgow; 2, Abbot-st., Dunfermline; & Fleming-pl., St. Andrews.
Lowrance, M., & Son, Peel-sq., & Market-st., Barnsley, Yorks.

Electricians—*continued.*

Lowson, J., M.I.E.E., 10, West Campbell-st., Glasgow.

Lundberg, P. A., Pioneer Electrical Works, 477–487, Liverpool-rd., London, N. (Telegs.: "Lundberg, London." Tel. No. 1746, North.)

Lundberg, A. P., & Sons, Pioneer Electrical Works, 477–487, Liverpool-rd., London, N. (Telegs.: "Lundberg, London." Teleph. No. 1746, North.) Agents: Scotland, Messrs. Yuille & Co., 60, Brown-st., Glasgow; other districts: leading wholesale houses.

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See advts., page 710 & on lower outside edges.

Lusby, A. J., 11, Haye's-ave., Ella-st., Hull.

Lyth, F. W., Central Station, C.L.C. Railway Co., Manchester.

Macdonald, J., Rosehaugh, Avoch, Ross-shire, N.B.

Macdonald, The Right Hon. Sir J. H. A., F.R.S., F.R.S.E., K.C.B., LL.D., M.I.E.E., 15, Abercromby-pl., Edinburgh.

Macfarlane Bros., Roxburgh Works, Scotstoun, Glasgow.

Maclay, Wm., A.I.E.E., Thornwood, Langside, Glasgow.

McLellan, R., 133, Sauchiehall-lane, Glasgow.

McWhirter, Wm., & Son, 212, 214 & 216, Holm-st., Glasgow. (Telegs.: "Testing, Glasgow.")

Malley, John D., 15, Egerton-rd., Wavertree, Liverpool.

Manners, H., 80, New Kent-rd., London, S.E.

Marsh, J., 58, Wharncliffe Silkstone Colliery, near Barnsley.

Marsh, S. P., 63, Regent-st., Rugby.

Martin, P., 12, Grove-rd., Mile End, London, E.

Martin & Co., 102, High-st., Stoke Newington, London, N.

Mayer, A., Cathkin-rd., Langside, Glasgow.

Meade, R. E., Corporation Electricity Works, Stafford.

Medland, J. B., 44, Lorrimore-rd., London, S.E.

Melhuish, Richard, Ltd., 50, 51, 84, 85 & 87, Fetter-lane, London, E.C.

Merredew Bros., 74, London-rd., Kingston-on-Thames.

Miller, T., & Co., 66, Victoria-st., S.W.

Mitchell, W., Camden-passage, Islington, N.

Moffat, J. M., 448, Merton-rd., Wandsworth.

Mond, R. L., M.A., F.R.S.E., The Poplars, 20, Avenue-rd., Regent's Park, London, N.W.

Moore, J. S., 56, Grange-road, London, S.E.

Morton, H., Belturbet Electric Lighting Co., Belturbet, Ireland.

Mosley, F., Great Northern Telegraph Co., Ltd., Newcastle.

Mutual Electric Trust, Ltd., Lewes-rd., Brighton.

Nevile, R. H. C., Wellingore, Lincoln.

Noble, J., & Sons, Peterborough.

Electricians—*continued.*

Norton, H. J., 17, Lavender-gdns., West Jesmond, Newcastle-on-Tyne.

Nott, C. H., Exe Bridge Iron Works, Tiverton, Devon.

Nuthall, B., Ivy Side, King's-rd., Kingston-on-Thames.

Offer & Sons, Church-st., Kingston-on-Thames.

Ohlson, H., Hooper's Telegraph & India Rubber Works, Ltd., 31, Lombard-st., E.C.

Oldham, F., & Co., 22, Archway-rd., Highgate, London, N.

Oliver, W., & Sons, 85, High-st. W., Glossop.

Orr, R. A. N., Corporation Electricity Works, Faversham, Kent.

Pace, P. E., Llangollen & District Electric Light & Power Co., Ltd., Llangollen.

Pain, R., & Son, Woking.

Palmer, W., 138, Burdett-rd., London, E.

Parkinson, Joseph, Meadowside, Lancaster.

Parsons, E. M., 67, King Edward-st., Hull.

Parsons, J., & Son, 48, Bedwin-st., Salisbury.

Partridge, H. R. C., A.I.E.E., Thornbury Works, Bradford.

Pattison, R. N., Corporation Electricity Works, Stirling.

PAUL, ROBT. W., Newton-ave. Works, New Southgate, London, N. Show-rooms: 33, Leicester-sq., London, W.C. *See* ALPHABETICAL. *See advt., page 617.*

Peacock, W. H., 329, Goldhawk-rd., W.

Pearce, G., 162, Clapham-park-rd., London, S.W.

Pegler, W., jun., The Cross, Pontypool.

Percy, J. S., Woolwich Boro' Council's Substations, Eltham & Lee.

Perkins, J., & Co., 21, Princess-sq., Plymouth.

Phillips, A., & Co., 78, High-st., Dartford.

Platt & Bleasdale, Albion Electrical Works, Bolton, Lancs.

Plucknett, C. J., & Co., 29, Poland-st., London, W.

Powles, Walter, A.I.E.E., 249–251, Kensal-rd., W.

Primavesi Bros., Bournemouth.

Prime, A., Willoughby-rd., Kingston-on-Thames.

Privett, P. A. D., West End, Melksham, Wilts.

Pullen, W. J., The Garage, Park-rd., Sittingbourne.

Randall, R. L., 21, Mount-st., Cromer.

Ray, J. W., & Co., 17, S. Castle-st., Liverpool.

Readman & Gemmell, 4, Lindsay-pl., Edinburgh.

Reeve, George, 59, Snowdon-rd., Eccles.

Reid Brothers, 12, Wharf-rd., London, N. (Telegrams: "Supra, London." Telephone No. 12249, Central.) *See advt., page 571.*

Renfrew, R. S., 136 & 140, North-st., Glasgow.

Reynolds, R. W., 62, Sarsfeld-rd., Balham, S.W.

Richards, David, 44, Wern-road, Landore, near Swansea, S. Wales.

Richards, Rupert, & Co., 60, Huntley-st., Tottenham Court-rd., W.C.

Richardson, J. C., 19, Claremont-sq., London, N.

Richardson, T., 62, High-st., Loftus, R.S.O., Yorks.

Ridd, P. J., National Telephone Co., Salisbury House, London Wall, E.C.

Electricians—*continued.*

Ritchie, J. A., 14 & 15, Station Parade, Muswell Hill, N.
Roberts, F. H., South Parade, Pudsey, Leeds.
Roberts, T., & Son, Juniper-st., Liverpool.
Robertson, G., & Sons, 55, Back Sneddon, Paisley.
Robertson, J. C., & Co., 10, Wemyss-pl., Glasgow.
Roche, E. C., A.I.E.E., Polytechnic, 309, Regent-st., W.
Rogers, A. J., 41, Smith-st., Warwick.
Rogers, W. R., Felling Electricity Works, Pelaw-on-Tyne.
Rogers & Gowlett, High-st., Watford.
Ross & Morrison, 9, Killermont-st., Glasgow.
Rudge, E., 1, New Bond-st.-pl., Bath.
Russell, J., & Sons, 4, Mile End-rd., E.
Sachs, Carl J., British Museum, Great Russell-st., Bloomsbury, London, W.C.
Salanson, H., & Co., 20, High-st., Bristol; & 4, High-st., Cardiff.
Sanderson, C. J., & Sons, 30, Featherstone-st., City-rd., London, E.C.
Santonna, T. F., A.I.E.E., Sidbury, Worcester.
Saunders, Wm., 205, St. George's-rd., Bolton.
Saunders, J. B., & Co., White Mansion, 91, York-st., Westminster, S.W.; & at Cardiff, Brecon, Welshpool, Swindon, Builth, Portmadoc, Barrow-in-Furness, Barnstaple & Isle of Wight.
Saunderson, Llewellyn, Kingstown, co. Dublin.
Schneider, A., M.A., M.I.E.E., Acton-lane Works, Chiswick, London, W.
SCHOLES, GEORGE H., & CO., Blantyre-st., Manchester. (Telegrams: "Kilowatt, Manchester." Telephone No. 4061, Nat.)
Sharp, G., Tinsley Car Sheds, Sheffield.
Sharpe, J. W., Woodroffe, Portarlington-rd., Bournemouth.
Sheppard & Co., 5, Grocers' Hall-ct., Poultry, London, E.C.
Shorter, W., Borough Electricity Works, Hornsey, Middlesex.
Siemens Bros. & Co., Ltd., Caxton House, Westminster, London, S.W. *See advt., page* 573.
Siemens Bros. Dynamo Works, Ltd., Caxton House, Westminster, London, S.W.
Sierwald, W., 73, Corporation-rd., Middlesbrough.
Silcock, Charles, Atlas Carbon & Battery Co., Ltd., 19, Ewer-st., Southwark, S.E.
Sinclair, Wm., 60–64, Thistle-st., Edinburgh.
Skipwith, R. E., Thorneywood, Woodborough, Notts.
Smith, A. C. D., 236, Argyle-st., Glasgow.
Smith, A. C. Imrie, 12, York-st., Glasgow.
Smith, B. L., Scalands, Robertsbridge, Sussex.
Smith, C. A., 4, Eastgate, Louth.
Smith, F. J., South Staffordshire Tramways (Lessee) Co., Ltd., James Bridge, South Staffs.
Smith, G. E., 1, Spence-yd., Sherwood-st., Nottingham.
Smithers, T., 33, Borough-st., Brighton.
Speedy, Eynon & Co., 3, Adelaide-st., Charing Cross, London, W.C.
Speke, J. W. & H., 177, Spencer-pl., Leeds.

Electricians—*continued.*

Spence, James, 17, Kensal-rd., Westbourne-park, W.
Spragg, W. C., Bockhampton-rd., Kingston-on-Thames.
Stavers, John, 11, Charles-st., Knightsbridge, London, S.W.
Stegmann & Co., Brighton Railway Approach, Clapham Junction, London, S.W.
Stegner, Robert, & Co., 129, Tavistock-cres., London, W.
Stephenson, S. O., Claremont-rd., Forest Gate, E.
Stephenson, G. V., & Sons, 31, Blackburn-rd., Accrington.
Stevenson, E. A., Telegraph Construction & Maintenance Co., Ltd., Enderby's-wharf, East Greenwich.
Stevenson, J., 90, Garfield-rd., Radford, Notts.
Stevenson, J. R., & Co., 7A, Young-st., Edinburgh.
Storier, D., Town Council Electricity Works, Broughty Ferry, Forfarshire.
Sunderland, R. F., 160, Gibbet-st., Halifax.
Swanson, C., 23, Charlotte-sq., Edinburgh.
Tait, Richard J., Chester-le-Street, Durham.
Tanner, A. M., c/o British Thomson-Houston Co., Ltd., 83, Cannon-st., E.C.
TATE, LEONARD G., & CO., 20, Bucklersbury, London, E.C., Room 582 (Telegs.: "Entraining, London." Teleph. No. 881, Bank); & Vineyard House, Richmond.
Taylor, William, 17, Bishop-st., Dublin.
THOMPSON, W. P., & CO., 285, High Holborn, London. (Telegs: "Discovery, London." Teleph. No. 823, Holborn.) For branches, telegraphic addresses & telephone numbers, *see* ALPHABETICAL. *See advt., page* 658.
Thomson-Knox Co., 109, Argyle-st., Glasgow.
Treglohan, Thomas P., c/o Plymouth & District Students' Association, Plymouth.
Trotter, John, 40, Gordon-st., Glasgow.
Turner, F. W. J., Pim Bros., Great George-st., Dublin.
Tuson, C., A.M.I.E.E., 1, Holmewood, Anson-rd., Tufnell Park, N.
Tutte, H. E., A.M.I.E.E., 10, West-st., Fareham.
VERITYS, LTD., King-st., Covent Garden, London, W.C.; & Birmingham, Manchester, Glasgow, Bristol, &c. *See* ALPHABETICAL SECTION.
Walker, D., Son & Co., Ltd., Bold-st., Liverpool.
Walsall Electrical Co., Ltd., 57, Bridge-st., Walsall. For branches, telegrams & telephone numbers, *see* ALPHABETICAL.
Warwick, B., 134, Highbury-hill, London, N.
Watson, H., A.M.I.E.E., 121A, St. Vincent-st., Glasgow.
Watts, E. J., Marconi's Wireless Telegraph Co., Ltd., Watergate House, York-bldgs., Adelphi, London, W.C.
Wells, Herbert H., 219, High-st., Lewes, Sussex.
Wetton, C. E., A.I.E.E., rep. British Insulated & Helsby Cables, Ltd., Lennox House, Norfolk-st., W.C. (Telegs.: "Airlike, London.")

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Wilcocks, W., Borough Council Electricity Works, Hammersmith, W.
Williams & Bach, 92, New Bond-st., London, W.
Willway, J. S., & Sons, Ltd., St. Augustine's, Bristol.
Wilson, J. B., City of Carlisle Electric Tramways Co., Ltd., 1, Warwick-rd., Carlisle.
Wilson, W. S., High-st., Watford.
Windybank & Ballard, Albert-rd., Kingston-on-Thames.
Winter, G. E., 60, Caversham-rd., N.W.
Wood, Arthur, Newport, Isle of Wight.
Wood, Henry George, A.M.I.E.E., South Eastern & Chatham Railway Electrical Department, London Bridge, S.E.
Wood, T. H., & Sons, 206, Broadway, Bexley Heath, S.E.
Wright, J., 3, Surbiton Park-ter., Kingston-on-Thames.
Yardley, Wm., Kingston - rd., Leatherhead, Surrey.
Young, W., Aylesbury, Bucks.
Young, W. F., Studley Royal, Ripon.

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F.—Electriciens—Consultants.
G.—Elektriker—Beratende.

Alabaster, H., Gatehouse & Co., 4, Ludgate Hill, London, E.C.
Ansell, F. Graham, F.C.S., Wickwar, Glos.
ARC LAMPS, LTD. (Davy Arc Lamps). Works: Sphere Engineering Works, St. Albans, Herts. (Telegs.: "Voltarcon, St. Albans." Teleph. No. 258, St. Albans.) *See advts., pages* 417 *&* 418.
Baines, A. E., 112, Upper Tulse Hill, S.W.
Bearcroft, C. R. D., 25, John-st., Bedford-row, W.C.
Biggs, C. H. W., Glebe Lodge, Champion-hill, London, S.E.
Brookes-Edwards, H., Cardigan Works, Wakefield, Yorks.
Carrick, W. B., Midland Bank-chbrs., Duke-st. Barrow-in-Furness.
Carter, J. H., 82, Mark-lane, London, E.C.
Cook, Ernest H., D.SC. LOND., Clifton Laboratory, 27, Berkeley-square, Bristol.
Cramp, Wm., 20, Mount-st., Manchester.
Crawley, C. W. S., M.I.E.E., 89, Upper Richmond-rd., Putney, S.W.
Dawnay, Archibald Davis, Wales & West of England Girder Works, East Moors, Cardiff.
Dawson, Philip, M.I.C.E., M.I.E.E., St. Stephen's House, Victoria Embankment, Westminster, London, S.W.
Down, Fred. J., Harpenden, Herts.; & 6, 7 & 8, Crutched Friars, London, E.C. A founder, 1883, of Laing, Wharton & Down.
Drake & Gorham, Ltd., 66, Victoria-st., Westminster, S.W. Works: 1, Felix-st., S.E. For branches, telegrams & telephone numbers, *see* ALPHABETICAL. *See advt., page* 459.

Electricians—Consulting—*continued.*

Edmunds, Henry, M.I.E.E., M.I.C.E., Parliament Mansions, Victoria-st., Westminster, S.W.
Fulton, T. Crichton, A.I.E.E., 44, West George-st., Glasgow.
Gatehouse, T. E., F.R.S.E., A.M.I.C.E., M.I.M.E., M.I.E.E., *Electrical Review*, 4, Ludgate Hill, London, E.C.
Hobart H. M., M.I.C.E., Oswaldestre House, Norfolk-st., Strand, W.C. (Telegs.: "Quadrature, London." Teleph. No. 6497, Central.)
Johnston, A. W., A.M.I.E.E., Clunrinnes, Auchinairn, Glasgow.
Lorrain, J. G., M.I.E.E., M.I.MECH.E., &c., Norfolk House, Norfolk-st., Strand, London, W.C. Consulting electrician & chartered patent agent. (Telegs.: "Lorrain, London." Teleph. No. 2511, Gerrard.)
MACKIE, W., & CO., 47½, Old-st., London, E.C. (P.O. Teleph. No. 2704, Central.) *See* DYNAMO MANUFACTURERS.
Marler, H. A., A.I.E.E., 51, Northolme-rd., Highbury, N.
Massey, W. H., M.I.C.E., M.I.E.E., 25, Queen Anne's-gate, Westminster, S.W. (Telegs.: "Massive, London." Teleph. No. 2528, Victoria.)
Maycock, W. Perren, M.I.E.E., 89, Thurlestone-rd., West Norwood, S.E.
Miller, T. L., Wilson & Pegg, 19, Brazennose-st., Manchester; 709, Tower-bldgs., Water-st., Liverpool; & 47 & 48, Scottish Temperance Insurance-bldgs., Donegall-sq., Belfast.
NALDER BROS. & CO., 12, Carteret-st., Queen Anne's-gate, Westminster, S.W. (late 16, Red Lion-st., Clerkenwell). (Telegrams: "Secohm, London." Telephone No. 779, Westminster.)
Notcutt, S. A., A.B., LL.M., B.SC., Constitution Hill, Ipswich.
O'Gorman & Baillie, 82, Victoria-st., Westminster, S.W.
Peschek, J., 44, Wellington-rd., Old Charlton, S.O.; & Armstrong Works, Woolwich-rd., Charlton, S.O., Kent.
PULFORD BROS., LTD. Head office, showroom & works: 108 & 110, Whitechapel, Liverpool.
Rayleigh, the Right Hon. Lord, O.M., F.R.S., M.A., D.C.L., LL.D., F.R.A.S., F.R.G.S. (Hon. Professor of Natural Philosophy at the Royal Institution), Terling-pl., Witham, Essex.
Redmond, D. D., M.D., F.R.C.S., 126, Sandford-road, Dublin.
Reed, Alexander Henry, 64, Mark-lane, E.C.
ROBERTSON ELECTRIC LAMPS, LTD., makers of low & high voltage fancy, battery & heater lamps of every description, Brook-green Works, Hammersmith, London, W. *See advt., page* 611.
SAYERS, JAMES E., & CALDWELL, 190, West George-st., Glasgow.
Schanschieff, A., C.E., 138, Wellesley - rd., Chiswick, W.
Shaw, W., A.M.I.E.E., 105, Colmore-row, Birmingham.

Electricians—Consulting—*continued.*

Stegmann, G., 10, North Side, Wandsworth Common, S.W. (Teleph. No. 618A, Battersea.)
Stegmann & Co., Brighton Railway Approach, Clapham Junction, London, S.W.
Swinburne, James, 82, Victoria-st., S.W. (Telegs.: "Swooper, London." Teleph. Westminster 292; & Oxted 10.)
Swinburne, O'Gorman & Baillie, 82, Victoria-st., S.W.
Swinton, A. A. Campbell, 66, Victoria-st., Westminster, London, S.W. (Telegs.: "Dunamis, London." Teleph. No. 156, Westminster.)
THOMPSON, W. P., & CO., 285, High Holborn, London. (Telegs.: "Discovery, London." Teleph. No. 823, Holborn.) For branches, telegraphic addresses & telephone numbers, *see* ALPHABETICAL. *See advt., page* 658.

Electricians—Domestic.

F.—Electriciens—Inst. de maisons, &c.
G.—Elektriker für Hausanlagen.

Apps, A., 433, Strand, London, W.C.
BRITISH PROMETHEUS CO., LTD., Salop Street Works, Highgate, Birmingham. London show-rooms: 27, Ely-pl., E.C.
Campbell, John, 31, Stafford-st., Oban, N.B.
Drake & Gorham, Ltd., 66, Victoria-st., Westminster, London, S.W. Works: 1, Felix-st., S.E. For branches, telegrams & telephone numbers, *see* ALPHABETICAL. *See advt., page* 459.
General Electric Co., Ltd. (*G. Byng, chairman*). Head office: 71, Queen Victoria-st., London, E.C. Works: London, Manchester, Birmingham & Witton. For branch offices, telegraphic addresses & telephone numbers, *see* ALPHABETICAL SECTION. *See advts., pages* 446, 707 & 734.
GLOVER, F. A., & CO., LTD., Vine-st., Clerkenwell-rd., E.C.
Pecover & Adeane, 9 & 10, Bathurst-st., Hyde Park, W.
Rashleigh Phipps & Co., 147, Oxford-st., London, W. (Telegs.: "Diffuser, London." Teleph. Nos.: 3973, Gerrard; & 12155, Central.)
Robisher, J., 60, Vine-street, Higher Openshaw, near Manchester.
Smecton & Page, 63, Queen Victoria-st., E.C.
Smith, Wm., & Co. (Pendleton), Ltd., 243, Broad-st., Pendleton, Manchester.
Stegmann, G., 10, North Side, Wandsworth Common, S.W. (Teleph. No. 618A, Battersea.)
Wort, Arthur, 20, Tavistock-rd., Forest Gate, London, E.

Electricians—Experts.

F.—Electriciens—Experts.
G.—Elektriker—Fachkundige.

Alabaster, H., Gatehouse & Co., 4, Ludgate Hill, London, E.C.
Apps, A., 433, Strand, London, W.C.

Electricians—Experts—*continued.*

Baily, Francis G., M.A., M.I.E.E., Heriot Watt College, Edinburgh.
Down, Fred. J., Harpenden, Herts.; & 6, 7 & 8, Crutched Friars, London, E.C. A founder, 1883, of Laing, Wharton & Down.
Electrical Contracts & Maintenance Co., Ltd., Sanctuary House, Westminster, S.W.
Glover, W. T., & Co., Ltd., Trafford Park, Manchester. (Telegs.: "Cables, Manchester." Tel. Central 7200 (6 lines).) London: Parliament Mansions, Orchard-st., S.W. *See* ALPHABETICAL.
Miller, T. L., Wilson & Pegg, 19, Brazennose-st., Manchester; 709, Tower-bldgs., Water-st., Liverpool; & 47 & 48, Scottish Temperance Insurance-bldgs., Donegall-sq., Belfast.
O'Gorman & Baillie, 82, Victoria-st., Westminster, S.W.
PRITCHETTS & GOLD, LTD., 58, Victoria-st., Westminster, S.W.; & Feltham, Middlesex. Experts in electric storage batteries. *See* ALPHABETICAL. *See advt., page* 429.
PULFORD BROS., LTD. Head office, showroom & works: 108 & 110, Whitechapel, Liverpool. Egerton G. Pulford, consulting engineer.
TATE, LEONARD G., & CO., 20, Bucklersbury, London, E.C., Room 582 (Telegs.: "Entraining, London." Teleph. No. 881, Bank); & Vineyard House, Richmond.
THOMPSON, W. P., & CO., 285, High Holborn, London. (Telegs.: "Discovery, London." Teleph. No. 823, Holborn.) For branches, telegraphic addresses & telephone numbers, *see* ALPHABETICAL. *See advt., page* 658.

Electricians—Manufacturing.

(*See also* MANUFACTURING COMPANIES—ELECTRIC.)

F.—Electriciens—Fab.
G.—Elektriker—Fab.

Antwerp Telephone & Electrical Works, Ltd., Rod. B. Bumiller, manager, Antwerp, Belgium. (Telegrams: "Electrical, Anvers.") Sole agents for the United Kingdom: Messrs. W. F. Dennis & Co., Albert-bldgs., 49, Queen Victoria-st., London, E.C.
Apps, A., 433, Strand, London, W.C.
ARC LAMPS, LTD. (Davy Arc Lamps). Works: Sphere Engineering Works, St. Albans, Herts. (Telegs.: "Voltarcon, St. Albans." Teleph. St. Albans 258.) *See advts., pages* 417 & 418.
Barnett, Rowland. Head office & works: 3, Hanover-sq., Newcastle-on-Tyne. Branch: 17, Dean-st.
Baughan & Co., London-st., Reading.
Beckett & Parker, Tenby-st., Birmingham.
Boddy, G. M., & Co., 15, Gray's Inn-rd., London, W.C.; & St. Peter's-sq., Manchester. *See advt., page* 646.
Bonnella, D. H., & Son, Ltd., 58 & 60, Mortimer-st., W. Works: Kirby-st., Hatton-garden, E.C. (Telegs.: "Boncinello, London." Teleph. Gerrard 1882 & 9784.) *See advt., page* 626.

Electricians—Manufacturing—*continued.*

Botten, Henry, 39, Lime-st., London, E.C.

Bradshaw, J. C., & Co., 10, Dixon-rd., New Cross, London, S.E.

Bristöl, L., Bristol Electric Safety Lamp Works, 40, Great Smith-st., Westminster, London, S.W.

BRISTOL ELECTRIC SAFETY LAMP WORKS. Offices & works: 40, Great Smith-st., S.W. *See advt., page* 405.

BRYANT TRADING SYNDICATE, LTD., Clarendon Works, Horsell-rd., Highbury, London, N.

Burns, J., Ltd., 189, Central-st., London, E.C. *See advt., page* 738.

CAMBRIDGE SCIENTIFIC INSTRUMENT CO., LTD., Chesterton-rd., Cambridge.

CHLORIDE ELECTRICAL STORAGE CO., LTD., Pendlebury, Manchester; & 39, Victoria-st., Westminster. For telegraphic addresses & telephone numbers, *see* ALPHABETICAL ENTRY. *See advt., page* 404.

CLARKE, CHAPMAN & CO., LTD., Victoria Works, Gateshead-on-Tyne. (Telegrams: "Cyclops, Gateshead.")

Cole, John A., 45, Chapel-rd., West Norwood, London, S.E.

Corse, W. J., & Co., 45, Union-st., Plymouth. (Teleph. No. 871.)

Cox-Walkers, Ltd., Darlington. *See advt., page* 15.

CROGGON & CO., LTD., 16 & 230, Upper Thames-st., London, E.C.; Colonial-chbrs., Temple-st., Liverpool; & 7, John-st., Glasgow. *See advt.* BELOW.

CROMPTON & CO., LTD., Salisbury House, London Wall, London, E.C. Works: Chelmsford. Makers of dynamo machines, arc lamps, & all requisites for electric lighting. *See advt. inside front cover.*

CRYSELCO, LTD., Kempston Works, Bedford. *See advt., page* 612.

Donald, James T., & Co., Ltd., 35, M'Alpine-st., Glasgow.

Electricians—Manufacturing—*continued.*

DORMAN & SMITH, Ordsal Electrical Works, Salford, Manchester. (Telegs.: "Current, Manchester." Teleph. No. 1741, Nat.) Agents—London: Sambidge & Co., 17, Victoria-st., S.W. (Telegs.: "Prefix, London." Teleph. No. 530, Victoria.) Scottish: Andrews & Co., 198A, St. Vincent-st., Glasgow. Birmingham: S. T. Pemberton, Council-chbrs., Colmore-row. Newcastle-on-Tyne: F. T. Hanks, 1, Higham-pl. *See also page* 123 & *advt., page* 21.

Felten & Guilleaume Lahmeyerwerke Actien Gesellschaft, Mülheim am Rhein. (Lahmeyer Electrical Co., Ltd., agents, Bank-bldgs., 109-111, New Oxford-st., London, W.C.)

Ferranti Ltd., Hollinwood, Lancs. (Telegs.: "Ferranti, Hollinwood." Teleph. Failsworth 31 & 48); & 78, King-st., Manchester.

Field & Son, Market-sq., Aylesbury.

Garrett Bros., High-st., Dunstable.

Garrett Bros., 19, Cowper-st., Northampton.

GENERAL ELECTRIC CO., LTD. (*G. Byng, chairman*). Head office: 71, Queen Victoria-st., London, E.C. Works: London, Manchester, Birmingham & Witton. For branch offices, telegraphic addresses & telephone numbers, *see* ALPHABETICAL SECTION. *See advts., pages* 446, 707 *&* 734.

Gill & Co., 4 & 5, High-st., Oxford.

Harris & Harris, 79, Turner's-rd., Burdett-rd., London, E.

Hartnell, Wilson, & Co., Ltd., Volt Works, Kirkstall-rd., Leeds.

HODGES, CECIL, & CO., Balfour House, Finsbury Pavement, E.C.

Home & Rowland, Troughton-rd., Charlton, London, S.E.

INDIA RUBBER, GUTTA PERCHA & TELEGRAPH WORKS CO., LTD. Head offices: 106, Cannon-st., E.C. Warehouses: 100 & 102, Cannon-st., London, E.C.; & 97, boul. Sebastopol, Paris. Works: Silvertown, Essex; & Persan, France. For telegraphic addresses & branches, *see advt. outside of back cover.*

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16 & 230, UPPER THAMES STREET, LONDON, E.C.

TELEGRAMS: "CROGGON, LONDON." TELEPHONE No. 4861, LONDON WALL (2 lines).

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Electricians—Manufacturing—*continued.*

Johnson & Phillips, Ltd., Victoria Works, Charlton, S.O., Kent; & 12, Union-court, Old Broad-st., London, E.C. *See advt. inside back cover.*

Kelso & Co., 1008, Pollockshaws-rd., Glasgow.

Kelvin & James White, Ltd., 18, Cambridge-st., Glasgow (Telegs.: "Meter, Glasgow." Teleph. Nos.: Corp., 4519; Nat., 172, Douglas); & 11, Billiter-st., London, E.C. (Telegs.: "Stormglass, London." Teleph. London Wall 9779.)

LANCASHIRE DYNAMO & MOTOR CO., LTD. Offices & works: Trafford Park, Manchester; 28, Victoria-st., London, S.W.; 87, Union-st., Glasgow; Northumberland-st., Newcastle-on-Tyne; St. Mary-st., Cardiff; & 3, New-st., Birmingham. *See advt., page* 729.

Linay, J. C., High-st., Chatham.

LOWDON BROS. & CO., Temple Electric Works, Dundee (Telegrams: "Lowdons, Dundee"); 50, Frederick-st., Edinburgh (Telegrams: "Lowdon, Edinburgh"); 150, Holm-st., Glasgow (Telegrams: "Lowdons, Glasgow"); 2, Abbot-st., Dunfermline; & Fleming-pl., St. Andrews.

LUNDBERG, A. P., & SONS, Pioneer Electrical Works, 477–487, Liverpool-rd., London, N.

REG° LEKTRIK TRADE MARK

Inventors, patentees & manufacturers of Lundbergs' electric light switches, latest specialities, the "PIVOT," "MARVEL" & "TWINOB." (Telegs.: "Lundberg, London." Teleph. No. 1746, North.) Agents: Scotland, Messrs. Yuille & Co., 60, Brown-st., Glasgow; other districts: leading wholesale houses.

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See advts., page 710 *& on lower outside edges.*

Lyle, J., 37, S. Portland-st., Glasgow.

MACKIE, W., & CO., 47½, Old-st., London, E.C. (P.O. Teleph. No. 2704, Central.) *See advt., page* 483.

Marsh, Son & Co., Ltd., 15, Gerrard-st., London, W. (Telegs.: "Voltmeters, London." Tel. No. 2414, Gerrard.) *See advt., page* 402.

Martin, P. M., 29, Waterloo-st., Glasgow.

Mason & Brown, 82, Rutland-st., Leicester.

MATHER & PLATT, LD., Salford Iron Works, Manchester; & Queen Anne's-chbrs., Westminster, London, S.W. (Telegrams: "Mather, Manchester;" "Sprinkler, London." Nat. Telephone Nos.: 5781, 5782 & 5783, Manchester; & 851 & 852, Westminster.)

Miller, Leslie, A.M.I.E.E., 66, Hatton Garden, London, E.C.

Morris, Timothy, Ltd., 172, Hockley Hill, Birmingham.

NALDER BROS. & CO., 7, Carteret-st., Queen Anne's-gate, Westminster, S.W. (late 16, Red Lion-st., Clerkenwell).

Electricians—Manufacturing—*continued.*

NALDER BROS. & THOMPSON, LTD. (managing director, F. H. Nalder), 34, Queen-st., Cheapside, London, E.C. *See advt., page* 643.

Parsons, C. A., & Co., Heaton Works, Newcastle-on-Tyne; & 8, Victoria-st., Westminster, London, S.W.

Pattison, W., & Son, 88, Claypath, Durham.

PAUL, ROBT. W., Newton-ave. Works, New Southgate, London, N. Show-rooms: 33, Leicester-sq., London, W.C. *See* ALPHABETICAL. *See advt., page* 617.

Peschek, J., 44, Wellington-rd., Old Charlton, S.O.; & Armstrong Works, Woolwich-rd., Charlton, S.O., Kent.

PRITCHETTS & GOLD, LTD., 58, Victoria-st., Westminster, S.W.; & Feltham, Middlesex. Manufacturers of storage batteries. *See* ALPHABETICAL. *See advt., page* 429.

REID BROTHERS, 12, Wharf-rd., London, N. (Telegrams: "Supra, London." Telephone No. 12249, Central.) *See advt., page* 571.

ROBERTS, ERNEST, 3, Holborn-pl., London, W.C. (Telegrams: "Roborant, London." Telephone No. 1642, Holborn.)

ROBERTSON ELECTRIC LAMPS, LTD., makers of low & high voltage, fancy, battery & heater lamps of every description, Brook Green Works, Hammersmith, London, W. *See advt., page* 611.

Rudd, J. A., & Co., 68, Gordon-st., Glasgow.

Sampson, T. W., A.M.I.E.E., 130, Hanover-st., Sheffield.

Sanders, W., & Co., Falcon Electrical Works, Wednesbury.

Scientific Appliance Manufacturing Co., 15, New Oxford-st., London, W.C.

Siemens Bros. Dynamo Works, Ltd., Caxton House, Westminster, London, S.W.

SIMPLEX CONDUITS, LTD., THE. Head office: Garrison-lane. Works: Maxstoke-st., Birmingham; & at 113, 115, 117, Charing Cross-rd., London, W.C.; 16, Corporation-st., Manchester; 72A, Waterloo-st., Glasgow; Newcastle; & Bristol. *See advts., pages* 455 *&* 456.

Stegmann, G., 10, North Side, Wandsworth Common, S.W. (Teleph. No. 618A, Battersea.)

Stegmann & Co., Brighton Railway Approach, Clapham Junction, S.W.

TETLEY & CO., Falcon Works, Bedford-st., Greengate, Salford.

Treacher, C. W., & Co., 165, Queen Victoria-st., London, E.C.

TUCKER, J. H., & CO., King's-rd., Hay Mills, Birmingham. Branches: London, Glasgow & Belfast. For telegrams & telephone numbers, *see* ALPHABETICAL.

TELAC REG. TRADE MARK.

Tyer & Co., Ltd., 16, Ashwin-st., Dalston Junction, London, N.E.; & Metcalfe-st., Carlisle.

Union Cable Co., Ltd., The, Eagle Wharf-rd., London, N. *See advt., page* 4.

Electricians—Manufacturing—*continued.*

Veritys, Ltd., King-st., Covent Garden, London, W.C.; & Birmingham, Manchester, Glasgow, Bristol, &c. *See* ALPHABETICAL SECTION.

Wagner, C. T., 206 & 207. Upper Thames-st., E.C.

Walsall Electrical Co., Ltd., Bridge-st., Walsall. For branches, telegrams & telephone numbers, *see* ALPHABETICAL.

Walters, Austin, & Son, 57, Lower Mosley-st., Manchester.

Walter's Electrical Manufacturing Co., Ltd., 249 & 251, Kensal-rd., London, W. (P.O. Teleph. No. 653, Western.)

Williamson, J. C., High-st, Woodford Green, Essex.

Woodward, W. R., Beaumont Works, 155A, Boleyn-rd., Forest Gate, London, E.

Wright, Archibald J., Ltd., Leyton Green-rd., London, N.E.

Electricians—Medical.

F.—Electriciens—médicales.

G.—Elektrotherapie.

Barnes, F. W., 19, Margaret-st., Cavendish-sq., W.

Dowsing Radiant Heat Co., Ltd. Chief Medical Institution: 28, York-pl., Baker-st., W. (Tel. No. 1552, Paddington.) West Suburban Branch: Oldfields, Acton Vale, W. (Tel. No. 259, Hammersmith.) Provincial: 5, Oxford-row, Bath (Tel. No. 217); & branches in all chief towns.

Electrical Contracts & Maintenance Co., Ltd., Sanctuary House, Westminster, S.W.

General Electric Co., Ltd. (*G. Byng, chairman*). Head office: 71, Queen Victoria-st., London, E.C. Works: London, Manchester, Birmingham & Witton. For branch offices, telegraphic addresses & telephone numbers, *see* ALPHABETICAL SECTION. *See advts., pages* 446, 707 *&* 734.

Hearder, W., D.SC., PH.D., F.S.A., 195, Union-st., Plymouth.

Jones, Dr. Lewis, A.I.E.E., St. Bartholomew's Hospital, West Smithfield, E.C.; & 143, Harley-st., W.

Lyster, C. R. C., Electrical Department, Middlesex Hospital, London, W.

PARKES, ROBERT J. (& apparatus maker), 2, Church-st., Southport.

Peers, G. R., A.M.I.E.E., 72, Gilda Brook-rd., Eccles.

Peto & Radford, Ltd., 100, Hatton Garden, London, E.C.

Turner, Dr. Dawson, F.R.S.E., Royal Infirmary, Edinburgh.

Electricians—Medical Manufacturing.

F.—Appareils électro-medicaux—Fab. de.

G.—Elektrotherapeutische Instrumente—Fabr. von.

Apps, A., 433, Strand, London, W.C.

Bridge, G. E., & Co., Old Christchurch-rd., Bournemouth.

Electricians—Medical Manufacturing—*continued.*

BRISTOL ELECTRIC SAFETY LAMP WORKS. Offices & works: 40, Great Smith-st., S.W. *See advt., page* 405.

British Electric Medical Co., Byron House, Fleet-st., E.C.

Davidson, F., & Co., 29, Great Portland-st., W.

Down Bros., Ltd., 21 & 23, St. Thomas-st., Borough, S.E.

ELECTRICAL REGULATORS & ECONOMISERS, LTD., 51, North John-st., & 16, Cumberland-st., Liverpool. MARTIN REGULATORS. *See advt., page* 679.

GENERAL ELECTRIC CO., LTD. (*G. Byng, chairman*). Head office: 71, Queen Victoria-st., London, E.C. Works: London, Manchester, Birmingham & Witton. For branch offices, telegraphic addresses & telephone numbers, *see* ALPHABETICAL SECTION. *See advts., pages* 446, 707 *&* 734.

Holmquist, C. M., 52, Regent-st., London, W.

Howett, E., Welby-st., Grantham.

Lynch & Co., Ltd., Silver-st., Falcon-sq., London, E.C.

Newton & Co., 3, Fleet-st., E.C.; & Newton Works, 471, Hornsey-rd., London, N.

Ozonair, Ltd., patentees & manufacturers of apparatus for the commercial production of ozone for ventilating, medical & manufacturing purposes, 96, Victoria-st., London, S.W.

Scientific Appliance Manufacturing Co., 15, New Oxford-st., London, W.C.

Selkirk, D. B., & Co., 100, Bath-st., Glasgow.

Ward, J., A.M.I.E.E., Hope Works, Ley-st., Ilford, Essex.

Watson, W., & Sons, Ltd., 313, High Holborn, London, W.C.

Electricians' Tools—Makers of.

(*See* MACHINE TOOL MAKERS.)

Electricity Meters—Makers of.

F.—Compteurs d'électricité.

G.—Elektricitäts Zähler—Fab. von.

Adnil Electric Co., Ltd., Adnil-bldg., Artillery-lane, London, E.C.

Apps, A., 433, Strand, London, W.C.

Aron Electricity Meter, Ltd., 80A, Salusbury-rd., Kilburn, N.W.

Bastian Meter Co., Ltd., Bartholomew Works, Kentish Town, London, N.W.

BAT METER CO., LTD., 3, Eden-st., Hampstead-rd., London, N.W.

Braulik, G., 8, Lambeth Hill, London, E.C.

BRITISH INSULATED & HELSBY CABLES, LTD. Head office: Prescot, Lancs. Works: Prescot, Helsby & Liverpool. For branch offices, telegraphic & telephonic addresses, *see* ALPHABETICAL ENTRY. *See advt., page* 437.

Electricity Meters—Makers of—*continued.*

British Thomson-Houston Co., Ltd. Head office & works: Rugby. Registered office: 83, Cannon-st., London, E.C. Branch offices: 91, Wellington-st., Glasgow; 41, Church-st., Sheffield; Collingwood-bldgs., Newcastle-on-Tyne; Star Life-bldgs., 30, Cross-st., Manchester; Maritime-bldgs., Middlesbrough; 115, Colmore-row, Birmingham; & Greek-st.-chbrs., Leeds. (Telegs.: "Asteroidal." Teleph. Nos.: Head office, Rugby 54 & 55; London office, London Wall 135 (4 lines).)

British Westinghouse Electric & Manufacturing Co., Ltd., The, Westinghouse Works, Trafford Park, Manchester. Also The Westinghouse Integrating Wattmeter as approved by the Board of Trade.

CHAMBERLAIN & HOOKHAM, LTD., New Bartholomew-st., Birmingham. (Telegrams: "Solar, Birmingham.") *See advt.* BELOW.

Electric Coin Freed Meter Dimming Synd., Ltd., Albion-chbrs., 11, Adam-st., Strand, W.C.

Electric Prepayment Meters, Ltd., Milford Works, Queen's-rd., Battersea, S.W.

Everett, Edgcumbe & Co., Ltd., 117, Victoria-st., London, S.W.; & Collindale Works, Hendon, Middlesex. *See advt., page* 643.

FERRANTI LTD., Hollinwood, Lancs. (Telegs.: "Ferranti, Hollinwood." Teleph. Nos. 31 & 48, Failsworth, Manchester.)

Geipel, Wm., & Co. (late Geipel & Lange), (Vulcan Meter), Vulcan Works, 72A, St. Thomas-st., London, S.E. (Telegs.: "Patella, London." Teleph. No. 594, Hop. (2 lines).) *See advt., page* 19.

General Electric Co., Ltd. (*G. Byng, chairman*). Head office: 71, Queen Victoria-st., London, E.C. Works: London, Manchester, Birmingham & Witton. For branch offices, telegraphic addresses & telephone numbers, *see* ALPHABETICAL SECTION. *See advts., pages* 446, 707 *& 734.*

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CHAMBERLAIN & HOOKHAM, LTD.,

Solar Works, New Bartholomew Street,

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Electricity Meters—Makers of—*continued.*

Gillespie & Beales, Amberley House, Norfolk-st., Strand, London, W.C.

International Electric Co. (H. Oppenheimer, manager), 111–115, Salusbury-rd., Kilburn, London, N.W. *See advt., page* 19.

Johnson & Phillips, Ltd., Victoria Works, Charlton, S.O., Kent; & 12, Union-ct., Old Broad-st., London, E.C. *See advt. inside back cover.*

Matthews' Improved Electricity Meter, Ltd., 35, Bucklersbury, E.C.

Rochdale Electric Co., Ltd., Shawclough, Rochdale.

Siemens Bros. Dynamo Works, Ltd., Caxton House, Westminster, London, S.W.

Thorpe Meter Syndicate, Ltd., 11, Victoria-st., S.W.

UNION ELECTRIC CO., LTD., Park-st., Southwark, London, S.E. (Telegs.: "Abeam, London." A.B.C. Code. Teleph. Hop. 2970.) *See advt., page* 563.

Venner & Co., 6, Old Queen-st., Westminster, S.W. (Telegs.: "Trydan, London." Teleph. Westminster 5595 (2 lines).) *See advt., page* 689.

WALSALL ELECTRICAL CO., LTD. Office & show-rooms: 57, Bridge-st., Walsall (Telegrams: "Electrical, Walsall." Telephone No. 45); 12, Burlington-chbrs., New-st., Birmingham (Telegrams: "Luminosity, Birmingham." Teleph. No. 517); & Central-chbrs., 17A, South Castle-st., Liverpool. (Telegs.: "Luminosity, Liverpool." Teleph. Bank 4156.)

Electricity Works.

F.—Usines électriques.

G.—Elektricitätswerke.

(*See also* LIGHT CO.'S—ELECTRIC; & RAILWAYS & TRAMWAYS—ELECTRIC.)

For other particulars, *see* ALPHABETICAL SECTION.

ABBREVIATIONS.

L. Light.	*K.W.* kilowatts.
P. Power.	*ph.* phase.
T. Traction.	*pr.* pressure.
a. alternating.	*py.* periodicity.
c. continuous.	*v.* voltage.
inc. incandescent.	

Aberavon, Glamorgan. *Tramway scheme under consideration.* Engr., A. J. Bond. *The E. L. order has been revoked.*

Abercarn, Mon. *The Council have obtained an E. L. order.*

Aberdare, Glamorgan. *An electric lighting order has been granted & a tramway scheme approved by the Urban District Council.* Consulting engineer, O. Williams.

Electricity Works—*continued.*

Aberdeen Corporation. L. P. T. *c.*, 3-wire, 220 *v.* for L. & for P. up to 5 H.P., 440 *v.* for 5 H.P. & upwards, for T. 500 *v.*, 4610 *K.W.* Transmission to 2 sub-stations at 6600 *v. a.*, 50 *py.*, reduced at Cults to 440 *v.* & transformed to 230 *v. c.* for Deeside area (Cults to Culter), & at Bucksburn sub-station to 230 *v.* 1-*ph.*, & 400 *v.* 3-*ph.*, for supply in northern area (from Woodside to Stonywood). J. Alex. Bell, M.I.E.E., M.I.M.E., city elec. & trys. engr.

Aberdeen Suburban Tramways Co., 15, Golden-sq., Aberdeen. Res. elec. engineer, J. Ross. P. *supplied by Corp.*

Abertillery, Monmouth. *The contracts are now being carried out.* Consulting engineers, Medhurst & Brewer.

Aberystwith. Chiswick Electric Supply Corp., Ltd., props. L. P. *c.*, 3-wire, 220 & 440 *v.*, 420 *K.W.* Engr., E. P. Perkins, A.M.I.E.E.

Abram, Lancs. *An E. L. order has been obtained.* Consulting engineer, G. Heaton. (Teleph. Wigan 206.)

Accrington Corporation. L. P. *c.*, 230 & 460 *v.*; T. 500–550 *v.*, 1888 *K.W.* Engr. & man., Harold Gray, A.M.I.E.E.; chief assist. engr., A. W. Clegg.

Acton Urban District Council, 130, Churchfield-rd., Acton, W. L. *c.*, 3-wire, 230 *v.*; P., 230–460 *v.*, 920 *K.W.* Engr., J. Martin Blair; asst., H. A. Harding. *Current in bulk from Metropolitan Electric Supply Co.*

Ainsdale. *The question of supplying energy is under consideration by the Birkdale District Electric Supply Co.*

Airdrie & Coatbridge Tramways Co., Tramway Depôt, Main-st., Coatbridge. 500 *v.* Manager, G. W. King.

Airdrie. *See* Coatbridge.

Alderley & Wilmslow Electric Supply, Ltd., Alderley Edge, Cheshire. L. P. *c.*, 3-wire, 210 & 420 *v.*, 242 *K.W.* Engr., C. W. Bentley.

Aldershot Urban District Council. L. *c.*, 3-wire, 210 *v.*; P. 210 & 420 *v.*, 440 *K.W.* Engr., F. Garside.

Alloa Town Council, Alloa, N.B. British Electric Plant Co., Ltd., *supply current in bulk.* L. P. *c.*, 3-wire, 220 & 440 *v.*, 350 *K.W.* Res. engr., J. W. Napier.

Alnwick, Northumberland. Northern Counties Electricity Supply Co., Ltd., proprietors. L. P. *c.*, 3-wire, 230 & 460 *v.*, 150 *K.W.* Engr. & gen. man., C. W. Fairweather; res. engr., J. W. Summerside.

Altrincham Electric Supply, Ltd., Stamford New-rd., Altrincham. L. P. *a.*, 1-*ph.*, 80 *py.*, primary 2000 *v.*, secondary 100 *v.*, 660 *K.W.* Engr., Geo. H. Fawcus; sta. supt., H. C. Caldwell, A.M.I.E.E.

Amberley Road Station. *See* Metropolitan Electric Supply Co.

Amble. *E.L. under consideration.*

Amblecote. *See* Midland Electric Corp. for Power Distribution.

Electricity Works—*continued.*

Ambleside. *See* Windermere & District Electricity Supply Co., Ltd.

Ammanford, Carmarthenshire. L. P. *c.*, 250 *v.* Engineer, A. Preston.

Andover, Hants. *The* 1905 *E. L. order has been revoked.*

Annfield Plain, Durham. *E.L. order to be transferred to the Cleveland & Durham County Electric Power Co.*

Arbroath Electric Light & Power Co., Ltd., Arbroath. L. P. *c.*, 250 & 500 *v.*, 650 *K.W.* Resident electrical engineer, J. C. Christie.

Ardsley, East & West, Yorks. *An electric lighting order has been granted to the U.D.C.*

Armagh. *The U.D.C. electric lighting is not being proceeded with for the present.* Consulting engineer, H. T. Harris.

Ascot District Gas & Electricity Co., Ascot; & 50, Cannon-st., London, E.C. *c.*, 3-wire, 220 *v.* Manager, A. E. Brooks.

Ashby. *E. L. under consideration.*

Ashington. Northern Counties Electricity Supply Co., proprietors. L. *c.*, 3-wire, 230 & 460 *v.* Consulting engineer, C. W. Fairweather.

Ashtead & Mickleham. *See* Leatherhead & District Electricity Co.

Ashton-in-Makerfield Urban District Council. *Provisional order granted. Electricity in bulk is to be taken from St. Helen's Council for part of district.*

Ashton-on-Mersey. *See* Altrincham Electric Supply, Ltd., proprietors.

Ashton-under-Lyne Corporation. L. P. *c.*, 3-wire, 240 *v.* & 480 *v.*, 500 *v.* for T., 1760 *K.W.* N. Appelbee, engr.; J. W. Dugdale, tram man.

Aspull, Lancs. *An electric lighting order granted to the U.D.C. is to be transferred to the Lancashire Electric Power Co.*

Aston-Manor Corporation, Aston-Manor, Birmingham. *a.* L. P., 3-*ph.*, 50 *py.*, 6600–230 *v.* L., 400 *v.* P.; & *c.* L. P., 3-wire, 230 *v.* & 460 *v.*; T., 500–550 *v.*, 6815 *K.W.* Engr., R. Foster.

Atherton District Council, Atherton, Lancs. *Current supplied in bulk by South Lancashire Tramways Co., Ltd.* L. P., *a.* for transmission to sub-station, *c.*, 500 *v.* for distribution, 3-wire, 2-*ph.*, 50 *py.*, 7500–240 *v.*, 250 *K.W.* Engr., C. T. Astbury.

Audenshaw, Lancs. *E.L. order transferred to Manchester Corp.*

Ayr Corporation, Ayr, N.B. *c.* L., 250 *v.*; P., 250 & 500 *v.*; T., 550 *v.*; L. & P. *a.*, 1-*ph.*, 60 *py.*, primary 2000 *v.*, secondary 100 & 200 *v.*, 1325 *K.W.* Engr., Roland Marshall, M.I.E.E.

Bacup (Lancs.). *Corporation have entered into an agreement with the Rawtenstall Corp. for a supply in bulk.*

Baildon. *E.L. under consideration.*

Baillieborough, Ireland, *E. L. under consideration.*

Baker-st. & Waterloo Railway. Underground Electric Railways Co. of London, Ltd. Generating Station, Chelsea, S.W. *a.*, 3-*ph.*, 33·3 *py.*, 11,000 *v.*, transformed to *c.*, 600 *v.*

Electricity Works—*continued.*

Ballaghaderin, Ireland. *E. L. under consideration. Proposed system:* 3-wire, 500 *v.* Engr., C. Mulvany.

Ballyjamesduff, co. Cavan. *An E. L. scheme is to be proceeded with.*

Ballyshannon, co. Donegal. John Myles & Co., props. L. *c.*, 3-wire, 240 *v.*, 120 *K.W.* Engr., Thos. May, B.A., A.M.I.E.E.

Banbridge, Ireland. *E. L. under consideration.*

Banbury & District Electric Supply Co., Ltd., Banbury, Oxon. L. *c.*, 230 *v.*; P. *c.*, 230 & 460 *v.*, 446 *K.W.* Manager & engr., A. J. Wray, A.I.E.E.

Bangor Corporation. L. P. *c.*, 3-wire, 200 *v.* & 400 *v.*, 440 *K.W.* P. F. White, engineer.

Bankfoot Power Co., Ltd., Bankfoot, nr. Crook. P. *in bulk. a.*, 3-*ph.*, 40 *py.*, 282/5 *v.*, 3000 *K.W.* Engrs., Merz & McLellan.

Bankside, London, S.E. (City of London Electric Light Co., Ltd.). *c.* L., 204 *v.*; P., 410 *v.*; *a.*, 1-*ph.*, 100 *py.*, primary 2000 *v.*, secondary 204 *v.*, 24,000 *K.W.* Frank Bailey, M.I.C.E., engr.

Bargoed. The Rhmney Valley & General Electric Supply Co., props.

Barking Urban District Council, Barking, Essex. L. P. *a.*, 3-*ph.*, 50 *py.*, 6500-230 & 460 *v.*; & *c.* L., 3-wire, 230 & 460 *v.*; P., 230, 460 & 500 *v.*; T., 500-550 *v.*, 1010 *K.W.* Henley L. Howard, A.M.I.M.E., A.M.I.E.E., engineer & manager.

Barmouth, Merioneth. *The U.D.C. have resolved to accept an offer from a company.* Consulting engineer, F. J. Warden-Stevens.

Barnard Castle, Durham. *The electric lighting order has been transferred to the Northern Counties Electricity Supply Co., Ltd.*

Barnes Urban District Council, Mortlake, Surrey. L. P. *c.*, 210 & 420 *v.*, 1050 *K.W.* Engr., C. S. Davidson; chf. asst., G. C. Law.

Barnet. *See* High Barnet.

Barnsley Corp. Lighting Committee, Barnsley, Yorks. *c.* L., 3-wire, 230 *v.*; P., 230 & 460 *v.*, 1250 *K.W.* E. A. Barker, M.I.E.E., elec engr. *Current supplied to Barnsley & District Elec. Traction Co.*

Barnsley & District Electric Traction Co., Ltd., P. *supplied by Corp. c.*, 550 *v.* Engr. & man., P. H. Marco.

Barnstaple Corporation, Barnstaple, Devon. *c.*, 3-wire; L., 230 *v.*; P., 230 & 460 *v.*, 375 *K.W.* Engr., J. W. Hadfield, A.M.I.E.E.

Barrhead. *A provisional order has been obtained by the Stratholyde Electricity Supply Co.*

Barrow-in-Furness Corporation. *c.* L., 220 *v.*; P., 220 *v.* & 440 *v.*; T., 500 *v.*, 1525 *K.W.* H. R. Burnett, engineer.

Barry U.D.C. *The question of putting provisional orders into force is under consideration.* Consulting engrs., R. Hammond & Son.

Barton, Lancs. *E. L. order will probably be transferred to the Lancashire Electric Power Co.*

Barton Regis, Glos. *The electric lighting order has been taken over by the Bristol Corp.*

Electricity Works—*continued.*

Barton-upon-Irwell, Lancs. Farnworth U.D.C., props. T. *c.*, 500 *v.*, 700 *K.W.*

Barton-upon-Irwell, Lancs. *It is proposed to transfer the E.L. order to the Lancashire Electric Power Co.*

Bath Corporation, 7, Dorchester-st., Bath. L. P. *a.*, single-*ph.*, 100 *py.*, 2200, 100-110 *v.* L., 220 & 440 *v.* P., 2200 *K.W.* F. Teague, engr.

Bath Electric Tramways, Ltd., Walcot-st., Bath, Somerset. *c.*, 550 *v.*, 675 *K.W.* Manager & engineer, W. E. Hardy.

Batley Corporation, Batley, Yorks. *c.*, 3-wire; L., 220 *v.*; P., 440 *v.*; T., 500-550 *v.*, 850 *K.W.* Boro' elec. engr., S. Derwen Jones, A.M.I.E.E., A.M.I.M.E.

Battersea Borough Council Electricity Supply Works, Battersea, S.W. L. P. *c.*, 3-wire, 230 & 460 *v.*, 3592 *K.W.* Engr., F. A. Bond, A.M.I.E.E.; chief asst., H. F. J. Thompson.

Beaulieu, Hants. *Arrangements now being made for supply of electricity for L.*

Beckenham Urban District Council. L. P. *a.*, 1-*ph.*, 50 *py.*, primary 2000 *v.*, secondary 400 & 200 *v.*; T., 500 *v.*, 1300 *K.W.* Res. engr., J. E. Tapper, A.M.I.E.E.

Bedford Corporation. L. P. *a.*, single-*ph.*, 60 *py.*, primary 2100 *v.*, secondary 210 *v.* for P., 105 *v.* for L., 1300 *K.W.* R. W. L. Phillips, A.M.I.E.E., engineer.

Bedlingtonshire, Northumberland. *See* Blyth.

Belfast Corporation. *c.*, 3-wire; L., 220 *v.*; P., 220 & 440 *v.*; T. *c.*, 550 *v.*, & *a.*, 3-*ph.*, 50 *py.*, 6000-550 *v.*, 8800 *K.W.* Engr., T. W. Bloxam, M.I.E.E.

Belfast & North East Ireland Electricity & Power Gas Co., 39, Victoria-st., S.W. *Works shortly to be commenced.*

Bellshill. *Provisional order obtained by Lanark C.C.*

Belturbet Electric Lighting Co., Belturbet, Ireland. L. *c.*, 110 *v.*, 24 *K.W.* Engr., J. C. Cave; elecn., H. Morton.

Benfieldside, Durham. *Order transferred to the Cleveland & Durham County Electric Power Co.*

Benwell & Fenham, Northumberland. *The Newcastle Corp. have a contract with the Newcastle & District Electric Lighting Co., Ltd., to supply electricity.*

Berkhamsted. *E. L. under consideration.*

Bermondsey Borough Council. L. P. *c.*, 3-wire, 240 *v.*, 480 *v.* for P., 2225 *K.W.* W. E. J. Heenan, M.I.E.E., engineer.

Berwick-on-Tweed. Urban Electric Supply Co., Ltd., proprietors. L. *c.*, 3-wire, 240 *v.*; P., 240 & 480 *v.*, 180 *K.W.* Resident engineer, J. H. Home, A.M.I.E.E.

Bessbrook & Newry Tramway. 36 *K.W.* Engineer, J. L. D. Meares.

Bethesda. *E. L. scheme under consideration by the U.D.C.*

Bethnal Green (Borough), N.E. Boro' surveyor, E. E. Finch. *E. L. under consideration.*

Bettwsycoed, Carnarvon. *The U.D.C. have obtained an E.L. order.*

Electricity Works—*continued.*

Bexhill Corporation. L. P. *c.*, 3-wire, 220 *v.*, 220 & 440 *v.* for motors, 693 *K.W.* Engineer, W. T. Le Feuvre.

Bexley Urban District Council. L. P. *a.*, single-*ph.*, 50 *py.*, primary 2100 *v.*, secondary 200 & 400 *v.*, 480 *K.W.*; T. *c.*, 550 *v.* Engineer & manager, C. Mittelhousen.

Bilston Urban District Council, Bilston, Staffs. L. *c.*, 2-wire. *A supply is given by the Midland Electrical Corporation for Power Distribution, Ltd., & the baths only are lighted.* Engr., Vincent Turner. (Teleph. No. 63.)

Birkdale District Electric Supply Co., Ltd., Birkdale. *c.*, 3-wire; L., 230 *v.*; P., 230 or 460 *v.*; T., 550 *v.*, 420 *K.W.* Engineer, H. Bentham, A.M.I.E.E.

Birkdale & Southport Tramways. Southport Tramways Co., Ltd., props. *Power purchased from Southport Corporation & Birkdale District Electric Supply Co., Ltd.*

Birkenhead Corporation. L. P. *c.*, 3-wire, 230 & 460 *v.*; T., 500–550 *v.*, 3225 *K.W.* Engr., Wm. Wyld, M.I.M.E., M.I.E.E.

Birmingham, City of, Tramways Co., Ltd., Central House, New-st., Birmingham. T. *c.*, 500–550 *v.*, 1075 *K.W.* Elecn., R. F. Browne.

Birmingham Corporation. L. P. *c.*, 3-wire, 220 & 440 *v.*; T., 550 *v.*; P. T. *a.*, 3-*ph.*, 25 *py.*, 4750 to 5000 *v.* *Supply given to large works.* 14,956 *K.W.* Engineer, R. A. Chattock, M.I.E.E.

Birmingham Corporation Tramways. *Current purchased from Corp. Supply Dept.* Gen. manager, Alf. Baker; chief assistant, C. W. Hill, A.M.I.E.E.

Birmingham & Midland Tramways. *See* Smethwick.

Birstall, Yorks. *The Yorkshire Electric Power Co. will supply in bulk.* Electrical engineer, J. E. Ellis.

Birtley. *E. L. under consideration.*

Bishop Auckland, Durham. *E. L. order held by Cleveland & Durham County Electric Power Co.* District supt., C. H. Lydall.

Bishop's Stortford. *The U.D.C.'s provisional order will be transferred to the Bishop's Stortford & Stansted Electric Lighting Co.*

Bispham. *An E. L. order has been granted to the U.D.C.*

Blackburn Corporation. *c.* L., 220 *v.*, arc & inc.; P., 220 & 440 *v.*; T., 500–550 *v.*; & L. & P. *a.*, single-*ph.*, 50 *py.*, primary 2000 *v.*, secondary 110 & 220 *v.*, 4518 *K.W.* P. P. Wheelwright, M.I.E.E., engineer.

Blackburn, Whalley & Padiham Light Railway. 500 *v.*, 600 *K.W.* *Not yet constructed.* Consulting engineer, C. Chadwell.

Blackheath. *See* South Metropolitan Electric Light & Power Co., Ltd.

Blackpool Corporation. L. P. T. *a.*, single-*ph.*, 83 *py.*, 2100–200 *v.*, 500 *v. c.* for T., 3711 *K.W.* C. Furness, engineer.

Electricity Works—*continued.*

Blackpool & Fleetwood Tramroad Co., Bispham, nr. Blackpool. T., 500 *v.*, 600 *K.W.* Engineer, A. Cameron.

Blackpool & Fylde Light Railway. Consulting engineers, Myres, Veevers & Myres.

Blackpool, St. Anne's & Lytham Tramways, South Shore, Blackpool. 500 *v.* P. *supplied by Blackpool Corp. & St. Anne's U.D.C.* Manager, Harry W. Laing.

Blackrock, County Dublin. *An electric lighting order has been granted to the U.D.C.*

Blaenau-Festiniog, Merionethshire. Yale Electric Power Co., Ltd., proprietors. L. P. *c.*, 2-wire, 230 *v.*, 500 *v.* for motors, 550 *K.W.* T. P. O. Yale, A.M.I.E.E., engineer.

Blaydon, Durham. *The electric lighting order has been transferred to the County of Durham Electrical Power Distribution Co., Ltd.*

Blaydon, Durham. Priestman Power Co., Ltd., props. *a.*, 3-*ph.*, 40 *py.*, 5750 *v.*, *transformed as required*, 2800 *K.W.* Consulting engineers, Merz & McLellan.

Blockley Electric Supply Co., Blockley, Worcs. L. *c.*, 110 *v.*, 27 *K.W.* Engr., E. Humphries.

Blyth & Cowpen, Northumberland. Northern Counties Electricity Supply Co., Ltd., props. L. P. *c.*, 3-wire, 230 & 460 *v.*, 1500 *K.W.* Gen. man., C. W. Fairweather; res. engr., J. G. Lovely.

Bodmin. *E. L. under consideration.*

Bolton Corporation. L. P. *c.*, 3-wire, 230 & 460 *v.*; T., 500-550 *v.*; & *a.* L., 1-*ph.*, 83 *py.*, primary 2000 *v.*, secondary 100 & 200 *v.*; P., 3-*ph.*, 50 *py.*, primary 6000–6600 *v.*, secondary 230 & 400 *v.*, 7600 *K.W.* Engr., A. A. Day, A.M.I.C.E., M.I.E.E.

Bonchurch. *See* Ventnor.

Bo'ness Town Council. L. P. *c.*, 3-wire, 230 & 460 *v.*, 500 *K.W.* Engineer, H. G. Young. *Works leased to National Elec. Construction Co., Ltd.*

Bonnybridge. Scottish Central Electric Power Co., props. L. P. T. *a.*, 2-*ph.*, 50 *py.*, 3000–220 *v.* L., 440 *v.* P., & *c.* T., 500–550 *v.*, 2000 *K.W.* 3-*ph.* for P. *Supply given when required through Scott connected transformers.* Gen. manager & engr., E. C. Churchward.

Bonnyrigg, N.B. *The Lothians Electric Power Co. have offered to give a supply of electricity for L.*

Bootle Corporation. *c.*, 3-wire; L., 220 *v.*; P., 440 *v.*; T., 500 *v.*, 2050 *K.W.* T. D. Clothier, engr.

Bothwell. *Provisional order obtained by Lanark C.C.*

Bournemouth Corporation. L., arc & inc., P. T. *c.*, 550 *v.*, 1290 *K.W.* Gen. man., C. W. Hill; chf. asst. & elec. engr., I. Bulfin, B.A., A.M.I.C.E., M.I.M.E., M.I.E.E.

Bournemouth & Poole Electricity Supply Co., Ltd., Verulam House, Bournemouth, Branksome, Christchurch & Poole. L. *c.*, inc. 250 *v.*; P., 500 *v.*; T., 560 *v.*; *a.* L. P., 1-*ph.*, 100 *py.*, 2000–100 & 200 *v.*, 4200 *K.W.* Engr., E. L. Ingram, M.I.E.E.

Electricity Works—*continued.*

Bovey Light & Power Co., Ltd., Bovey Tracey. *E. L. will shortly be undertaken.*

Bow. Charing Cross, West End & City Electric Supply Co., Ltd. (Teleph. No. 750, East.) *a.*, 3-*ph.*, 10,000 *v. for bulk supply to sub-stations.* 16,000 *K.W.*

Bowdon, Cheshire. *See* Altrincham Electric Supply, Ltd.

Boyle Mills Electric Light Station, Boyle, Ireland. L. *c.*, 230 *v.*, 60 *K.W.* Engineer, Robt. Stewart.

Bradford Corporation. L. P. T. *a.*, 3-*ph.*, 50 *py.*, 6600–230 *v.* L., 230 & 460 *v.* P.; & *c.*, L. 230 *v.*, P. 230 & 460 *v.*, T. 500 *v.*, 8180 *K.W. c.*, 1500 *K.W. a.* Engr. & man., T. Roles, A.M.I.E.E.

Bradford-on-Avon & Trowbridge. *Provisional order revoked.*

Bradninch Electric Lighting Co., Bradninch. L. P. *c.*, 200 *v.*, 30 *K.W.*

Branksome. *See* Bournemouth.

Braunton, Devon. *E. L. scheme under consideration.*

Bray Urban District Council, Bray, Ireland. L. P. *a.*, single-*ph.*, 60 *py.*, 1000–100 *v.*, 320 *K.W.* Engr., W. J. U. Sowter, M.I.E.E.; asst. engr., D. E. McDonnell.

Brechin. North of Scotland Electric Light & Power Co., Ltd., proprietors. L. P. *c.*, 3-wire, 240 *v.*, P. 240 & 480 *v.*, 282 *K.W.* Manager & engineer, F. Barritt Hills.

Brentford Electric Supply Co., Ltd., Moorgate-ct., Moorgate-pl., E.C. *E. L. order obtained.*

Bridgend Urban District Council, Bridgend, Glam. L. P. *a.*, 2-*ph.*, 60 *py.*, 200 *v.*, 106 *K.W. Current transmitted at* 3000 *v.* Electrical engineer, T. Thomas.

Bridgwater & District Electric Supply & Traction Co., Ltd., Mount-st., Bridgwater, Somerset. L. *c.*, 3-wire, 230 *v.*, 200 *K.W.* Engineer & secretary, H. Walker, A.M.I.E.E.

Bridlington Corporation, Bridlington, Yorks. *c.*, 3-wire; L. P., 220 & 440 *v.*, 450 *K.W.* A. J. Beckett, engineer.

Brierfield, Lancs. *E. supply in bulk by Nelson Corp.*

Brierley Hill, Staffs. *An electric lighting order has been granted to the Corporation.*

Brighouse Corporation. L. *c.*, 2-wire, 110 *v.*, 120 *K.W.* A. Aspinall, engineer. *Supply in bulk from the Yorkshire Electric Power Co.*

Brighton Corporation, North-rd., Brighton. *c.* L., 3-wire, arc & inc., 115 & 230 *v.*; P., 230 & 460 *v.*; T., 550 *v.*, 7200 *K.W.* Arthur Wright, cons. engr.; J. Christie, engr. & man.; W. Marsh, tram. engr.

Brighton New Palace Pier. Brighton Marine Palace & Pier Co., proprietors. L. *c.*, 3-wire, 460–230 *v.* Engr., H. A. Gearing.

Brighton & Rottingdean Seashore Electric Tramroad Co., Madeira-rd., Brighton. T. *c.*, 500 *v.* M. Volk, engineer. *Not worked at present.*

Electricity Works—*continued.*

Brimsdown, N. North Metropolitan Electric Power Supply Co., proprietors. *a.*, 3-*ph.*, 50 *py.*, 10,000–11,000 *v.*, 5000 *K.W.* Resident engineer, H. H. Perry, M.I.E.E. *Supplies substations at* Edmonton; Wood Green; Finchley; & Hendon; *also bulk lighting for* Stoke Newington; Enfield; Barnet; Tottenham, &c.

Bristol Corporation. *c.* L. P., 500 & 250 *v.*; *a.* L. & P., single-*ph.*, 93 *py.*, primary 2100, secondary 210 or 105 *v.*, & 3-*ph.*, 50 *py.*, 365 & 210 *v.*, 12,050 *K.W.* H. Faraday Proctor, M.I.C.E., M.I.E.E., engineer.

Bristol Tramways. Bristol Tramways & Carriage Co., Ltd., proprietors. T., 500 *v.* Engineer-in-chief, Sir J. Clifton Robinson; resident engineer, G. T. C. Edwards.

British Electric Plant Co., Ltd. *See* Alloa.

Briton Ferry, Glamorgan. *Distributing plant laid down, but awaiting erection of generating plant.*

Broadstairs & St. Peter's, Kent. *See* Isle of Thanet Elec. Tramways & Lighting Co., Ltd.

Bromley Electric Light & Power Co., Ltd., Bromley, Kent. L. *c.*, 3-wire, primary 2100 *v.*, secondary 420 & 210 *v.*, 1620 *K.W.* R. R. Barker, engineer.

Brompton & Kensington Electricity Supply Co., Ltd., 254, Earl's Court-rd., S.W. L. P. *a.*, single-*ph.*, 83 *py.*, 100 *v.*, 2700 *K.W.* Gen. man. & engr., R. S. Downe, M.I.E.E.; works engr., Wm. Whitie.

Bromsgrove & District Electric Traction & Lighting Co., Ltd., 17, Newhall-st., Birmingham. Engineers, Pritchard, Green & Co. *Lines not yet constructed.*

Broughty Ferry Corporation, Broughty Ferry, Forfarshire. L. P. *c.*, 2-wire, 230 *v.*, 150 *K.W.* Engineer, Jas. L. Turnbull.

Broxburn & Uphall Lighting Committee, Broxburn, N.B. L. P. *c.*, 3-wire, 220 & 440 *v.*, 138 *K.W.* Engineer, W. Sanderson.

Brumby & Frodingham, Lincolnshire. *The E. L. order has been revoked.*

Brynamman & District Electric Supply Co., Ltd., Brynamman, Carmarthenshire. L. P. *c.*, 220 *v.*, 100 *K.W.* Engr., T. Williams.

Buckfastleigh Electric Supply Co, Buckfastleigh, Devon. L. P. *c.*, 230 *v.*, 36 *K.W.* Res. engr., S. A. Kirby; elecn., A. McKenzie.

Buckhaven, Fife. *The Council have asked Wemyss & District Tramways Co. to submit terms for E.L. of Denbeath.*

Buckingham Electric Light Co. (private). Gillies & Hornidge, engineers. L. *c.*, 2-wire, 220 *v.*, 75 *K.W.* *The T.C. has accepted the tender of the B.E.L. Co. for public lighting.*

Bude Electric Supply Co., Ltd., Bude. L. P. *c.*, 3-wire, 200 *v.*

Bulmer Place. Notting Hill Electric Lighting Co., Ltd., proprietors. L. P. *c.*, 3-wire, 200 *v.*, 3000 *K.W.* Engr., Geo. Schultz; asst. engr., A. P. McDouall.

Electricity Works—*continued.*

Buncrana Electric Supply Co., Buncrana, nr. Londonderry. L. *c.*, 3-wire, 235 *v.*; P., 470 *v.*, 125 *K.W.* Station engineer, J. K. Swan.

Burgess Hill & District Electric Supply Co., Burgess Hill, East Sussex. L., 250 *v.*

Burnley Corporation. *c.*, 3- & 5-wire; L., 110 & 220 *v.*; P., 220 & 440 *v.*; T., 500 *v.*, 1990 *K.W.* Engineer, Jas. E. Starkie, A.M.I.E.E., A.M.I.M.E.

Burslem Corporation, Staffs. L. P. *c.*, 3-wire, 220 & 440 *v.*, 650 *K.W.* Engr., Ashton Bremner, M.I.E.E.; asst. engr., H. W. Edwards, A.M.I.E.E.

Burton & Ashby Light Railways. Power Station, Swadlincote. 550 *v.*, 330 *K.W.* Engineer & manager, J. Toulmin.

Burton-on-Trent Corporation. L. P. T. *c.*, 500 *v.*; *a.*, single-*ph.*, 75 *py.*, primary 2000 *v.*, secondary 200 & 100 *v.*, 1710 *K.W.* P. J. Pringle, M.I.E.E., M.I.M.E., engr. & manager.

Bury Corporation, Bury, Lancs. *c.* L., 220 *v.*; P., 450 *v.*; T., 550 *v.*, 2260 *K.W.* S. J. Watson, M.I.E.E., engr.

Bury St. Edmunds Corporation, Bury St. Edmunds, Suffolk. *c.*, 3-wire, L., 200 *v.*; P., 200 & 400 *v.*, 232 *K.W.* Engr., Sydney E. Day.

Buxton Urban District Council. L. *c.*, 3-wire, 230 *v.*, 538 *K.W.* W. J. Leeming, A.M.I.E.E., engr.

Caergwrle & District Electricity Supply Co., Ltd., Caergwrle, nr. Wrexham. *E. L. scheme under consideration.*

Caerphilly, Glam. *An E. L. order has been granted to the U.D.C.*

Caldy, West Kirby.

Calverley. The Electrical Distribution of Yorkshire, Ltd., props. L. *a.*, 1-*ph.*, 50 *py.*, 230 *v.*; P., 3-*ph.*, 50 *py.*, 400 *v.* Engr., W. B. Woodhouse, A.M.I.MECH.E., A.M.I.E.E. *Bulk supply from Yorkshire Electric Power Co.*

Camberwell. County of London Electric Supply Co., Ltd., proprietors. P. *c.*, 410 *v.*; L. P. *a.*, 1-*ph.*, 50 *py.*, primary 6000–2000 *v.*, secondary 205 *v.*; 2-*ph. supplied from Wandsworth Station.* Chief engr., C. P. Sparks.

Camborne; Redruth; & Illogan. Urban Electric Supply Co., Ltd., proprietors, Carn Brea, R.S.O., Cornwall. L. P. *a.*, 3-*ph.*, 25 *py.*, 3000 & 4440-440 *v.*; & L. *c.*, 3-wire, 240 *v.*; P., 480 *v.*; T., 500 *v.*, 1525 *K.W.* Engr., L. A. Hards, A.I.E.E.

Cambrian Collieries, Ltd., Clydebach Vale, Glam. P. *a.*, 3-*ph.*, 2000, 2200–400 *v.* Consulting engr., C. P. Sparks.

Cambridge Electric Supply Co., Ltd. L. P. *a.*, single-*ph.*, 200 & 100 *v.*, 90 *py.*, 1870 *K.W.* Engr., R. C. Pierce, A.M.I.E.E.

Cambuslang. Lanark County Council, proprietors. *c.* L. P., 3-wire, 250 & 500 *v.*, 110 *K.W.* Engineer, A. J. Abraham, A.M.I.E.E.

Cannock, Staffs. *An electric lighting order has been obtained.* Consulting engineer, F. Brown.

Canterbury Corporation. *c.*, 3-wire, L., 220 *v.* P., 220 or 440 *v.*, 900 *K.W.* C. A. Blascheck, A.M.I.E.E., engineer.

Electricity Works—*continued.*

Cardiff Corporation. *c.*, 3-wire; P., 200 & 400 *v.*; T., 550–500 *v.*; L. *a.*, 1-*ph.*, 40 *py.*, 2500–100, 200 & 400 *v.*; P., 1- & 3-*ph.*, 40 & 50 *py.*, 6600–400 *v.*, 9760 *K.W.* A. Ellis, M.I.E.E., M.I.M.E., engr.

Carisbrooke & Northwood, Isle of Wight. *An E.L. order has been granted to the Isle of Wight E. L. & P. Co.*

Carlisle, City of, Electric Tramways Co., Ltd. T. *c.*, 500 *v.* Engineers, Pritchard, Green & Co. *Corporation supply electrical energy.*

Carlisle Corporation. *c.*, 3-wire, L. 230 *v.*, P. 460 & 500 *v.*, T. 500 *v.*, 870 *K.W.* Engr., S. T. Allen.

Carlow (Alexander's Electric Works). L. P. *c.*, 100 & 200 *v.*; & *a.*, single-*ph.*, 70 *py.*, 3-*ph.*, 30 *py.*, 100 & 200 *v.*, 200 *v.* for motors, 200 *K.W.* G. M. Harriss, chief engineer; Oscar St. John McKee, resident engineer.

Carmarthen. *E.L. scheme submitted by J. B. Saunders & Co. approved.*

Carnaby Street. *See* St. James' & Pall Mall Electric Light Co., Ltd.

Carnarvon Corporation. *c.*, L. 230 *v.*, P. 230 & 460 *v.*, 200 *K.W.* Engr., D. O. Evans, M.I.E.E.

Carnoustie, Forfar. *E. L. under consideration.*

Carshalton, Surrey. *See* Sutton.

Carville. Newcastle-on-Tyne Electricity Supply Co., Ltd., props. 39,000 *K.W.* *Supplies current to North-Eastern Railway, &c. See also* Wallsend.

Castleblayney, co. Antrim. *E.L. under consideration.*

Castleford, Yorks. *An E.L. order has been granted to Electrical Distribution of Yorkshire, Ltd., who are negotiating for a bulk supply from the Yorkshire Electric Power Co.*

Caterham, Surrey. Urban Electric Supply Co., Ltd., proprietors. L. *c.*, 3-wire, 240 *v.*; P., 240 & 480 *v.*, 178 *K.W.* Engr. & manager, Hy. Joseph.

Cavehill & Whitewell Tramway Co., 2, May-st., Belfast. P. *supplied by Belfast Corp.* Manager, F. P. Comber.

Caversham. *E.L. under consideration.* Consulting engineer, F. J. Warden-Stevens.

Cefn Mawr. *Negotiations proceeding with the Llangollen Electric Lighting Co.*

Central Electric Supply Co., Ltd., Grove-rd., St. John's Wood, N.W. P. *a.*, 3-*ph.*, 50 *py.*, primary 6000 *v.*, secondary 250–500 *v.*, 13,030 *K.W.* Joint engrs., Sir A. B. W. Kennedy, F.R.S., & S. T. Dobson; res. engr., H. P. Gaze. *Bulk supply only to Westminster Electric Supply Corp. & St. James's & Pall Mall Electric Light Co., Ltd.*

Central Ireland Electric Power Co. Consulting engineers, Capt. H. R. Sankey & J. Sturgeon.

Central London Railway Co., Shepherd's Bush, W. P. T. *a.*, 3-*ph.*, 25 *py.*, primary 5000 *v.*, secondary 330 *v.*; converted to 550 *v. c.*; L., arc & inc., P. & T., 7200 *K.W.* Consulting engineers, B. Mott & H. F. Parshall; resident engineer, E. P. Grove; chief assistant, W. Casson.

Electricity Works—*continued.*

Chagford & Devon Electric Light Co., Ltd. L. *a.*, primary 2000 *v.*, secondary 100 *v.*, 1-*ph.*, 99 *py.*, 22 *K.W.* G. H. Reed, engineer.

Chapel Place Station. Kensington & Knightsbridge Electric Lighting Co., Ltd., proprietors. L. P. *c.*, 200 *v.*, 2150 *K.W.* R. W. Roberts, resident engineer.

Charing Cross, Euston & Hampstead Railway, Electric Railway-bldg., St. James Park, Westminster, S.W. Underground Electric Railways Co. of London, Ltd., props. 600 *v. c.*

Charing Cross, West End & City Electric Supply Co., Ltd., 60, St. Martin's-lane, London, W.C. L. P. *c.*, 3-wire, 100, 200 & 400 *v.*, 20,400 *K.W.* Engr., H. W. Kingston.

Charlton. *See* South Metropolitan Electric Light & Power Co., Ltd.

Charlton Kings. *Provisional order has been granted to the Corp. of Cheltenham.*

Chatham & District Light Railways Co., 83, Cannon-st., London, E.C. *c.*, 500 *v.*, 675 *K.W.* Engineer, W. Jensen, A.M.I.E.E.

Chatham Dockyard. The Lords Commissioners of Admiralty, props. *c.* L., inc. 220 *v.*, arc 440 *v.*; P. T., 440 *v.*, 4500 *K.W.* Engr.-in-charge, F. Purser Fletcher, A.M.I.C.E., A.M.I.MECH.E., A.M.I.E.E.

Chatham. *See* Kent Electric Power Co.

Cheam. *See* Sutton.

Chelmsford. The Electric Supply Corp., Ltd., props., Anchor-st., Chelmsford. L. P. *a.*, single-*ph.*, 100 *py.*, primary 2000 *v.*, secondary 200 & 100 *v.*; & *c.* L. P., 110 *v.*, 860 *K.W.* Engr., J. Eustace.

Chelsea Electricity Supply Co., Ltd., 19, Cadogan-gdns., S.W. L. *c.*, 3-wire, arc & inc., 200 *v.*; P., 400 *v.*, 3500 *K.W.* Engineer, P. Still, M.I.C.E., M.I.E.E.

Cheltenham Corporation, Cheltenham, Glos. L. P. *a.*, single-*ph.*, 100 *py.*, 2000–200 *v.*; T. (supply to company) *c.* 500–550 *v.*, 2980 *K.W.* Engineer, W. J. Bache, M.I.E.E.

Cheltenham & District Tramways. *Power supplied by Corp.* Engineer, H. J. McCormick.

Chepping Wycombe. *See* Wycombe Borough Electric Light & Power Co., Ltd.

Chepstow Electric Light & Power Co., Nelson-st., Chepstow. *c.* L. (arc & inc.) & P., 230 *v.*, 100 *K.W.* Resident engineer, G. L. Coventon.

Cheriton, Kent. *An E. L. order has been granted to the U.D.C. Tramways under consideration.*

Chertsey & Horsell. *See* Woking Electric Supply Co., Ltd.

Chesham Electric Light & Power Co., Ltd., Chesham, Bucks. *c.*, 3-wire; L. P., 230 & 460 *v.*, 275 *K.W.* Engr. & man., R. J. Jocelyn Swan, A.M.I.E.E.

Cheshunt Urban District Council, Herts. *The 1906 E. L. order has been revoked.*

Chester Corporation. *c.*, 3-wire; L., 210 & 420 *v.*; P., 210 & 420 *v.*; T., 500 *v.*, 1300 *K.W.* Engr., S. E. Britton, M.I.E.E., M.I.M.E.

Electricity Works—*continued.*

Chesterfield Corporation. *c.*, 3-wire; L., arc & inc., 240 *v.*; P., 240 & 480 *v.*; T., 500 *v.*, 1000 *K.W.* R. L. Acland, engineer.

Chichester Electric Light & Power Co., Ltd., Chichester. *c.* L., 220 *v.*; P., 440 *v.*, 200 *K.W.* Cons. engr., Horace Boot; res. engr., R. V. Weare.

Chilvers Coton. *See* Nuneaton.

Chippenham. *The T. C. has sealed an agreement with the E. L. Co. for establishing works.*

Chislehurst Electric Supply Co., Ltd. L. P. *c.*, 3-wire, primary 2000 *v.*, secondary 210 *v.*, & 420-210 *v.* for motors, 300 *K.W.* Resident engineer, A. E. Darlington.

Chiswick Electricity Supply Corp., Chiswick, W. L. P. *c.*, 3-wire, 220 *v.* & 440 *v.*, 921 *K.W.* Engineer, A. W. Money. *See also* Aberystwith.

Christchurch, Hants. Bournemouth & Poole Electricity Supply Co., Ltd., proprietors. L. *c.*, 3-wire, 250 *v.*; P., 250 & 500 *v.*; T., 500 *v.*, 475 *K.W.* Resident engineer, C. McCausland.

Church Stretton Electric Supply Co., Church Stretton, Salop. L., 3-wire, *c.*, 200 *v.*, 100 *K.W.* Engineer, G. Payne.

City of London Electric Lighting Co. *See* Bankside Station.

City & South London Railway Co., Ltd., 71, Finsbury Pavement, London, E.C.; & 195, Clapham-rd., S.W. T. *c.*, 3-wire, 500 *v.*, 3300 *K.W.* P. V. M'Mahon, engineer.

Clacton Urban District Council, Clacton, Essex. L. P. *c.*, 3-wire, 230 & 460 *v.*, 200 *K.W.* Consulting engineer, W. H. Trentham; chief engineer, H. W. Everitt.

Cleckheaton District Council. *c.* L., 3-wire, arc & inc., 230 *v.*; P., 230 & 460 *v.*; T., 550 *v.*, 800 *K.W.* Engr., A. Pickersgill, A.M.I.E.E. *Current supplied to Spen Valley Tramways.*

Cleethorpes, Lincolnshire. *Electric lighting order granted to the Urban District Council.* Consulting engineer, C. S. Vesey Brown. *The Council have purchased the power station of the Grimsby Street Tramways Co. & will lease them to a company.*

Cleethorpes. Great Grimsby Street Tramways Co., props. T. *c.*, 530 *v.*, 300 *K.W.* Cons. engr., Jno. Glenn; man., H. L. White; res. engr., H. Orme White.

Clevedon, Somerset. *E. L. under consideration.*

Cleveland & Durham County Electric Power Co. *See* Grangetown; Hartlepool; & Thornaby-on-Tees.

Cleveland & Durham County Electric Power, Ltd., Hinton's-bldgs., Middlesbrough. *See* Bishop Auckland & Consett.

Cleveland Trust, Ltd. *See* Saltburn-by-Sea.

Clitheroe Corporation. *Works not yet erected.* Consulting engineer, T. Barton, M.I.E.E.

Clonakilty, co. Cork. *E.L. under consideration.*

Clones, Co. Monaghan, Ireland. *Consideration of E. L. & P. scheme postponed for the present.*

Clontarf & Hill of Howth Tramroad Co., Clontarf, Ireland. *Power supplied by Dublin United Tramways Co.* Engineer, P. S. Sheardown.

Electricity Works—*continued.*

Clontarf, Ireland. *An electric lighting order has been granted to the Township Commissioners.*

Clyde Valley Electrical Power Co., 53, Bothwell-st., Glasgow. *See* Yoker & Motherwell.

Clydebank, N.B. Clyde Valley Electrical Power Co., props. L. P. *a.*, 3-*ph.*, 50 & 25 *py.*, 230 *v.* L., 400 *v.* P. Cons. engrs., Strain & Robertson; engr., D. A. Starr.

Coalisland, co. Tyrone. *E.L. under consideration.*

Coast Development Corp., Ltd. *See* Felixstowe Pier Railway; Southwold; & Walton-on-Naze.

Coatbridge & Airdrie Electric Supply Co., Ltd., Coatbridge & Airdrie, N.B. L. P. *c.*, 3-wire, 240 & 480 *v.*; & *a.*, 3-*ph.*, 25 *py.*, 6600–220 & 400 *v.*, 3200 *K.W.* Man. engr., W. D. Morgan.

Cobham. *A provisional order has been granted to the Woking Electric Supply Co., Ltd.*

Colchester Corporation. *c.*, 3-wire; L., arc & inc., 210 *v.*; P., 210 & 420 *v.*; T., 500 *v.*, 2030 *K.W.* A. R. Sillar, M.I.E.E., M.I.M.E., engr.

Colne Borough. L. *c.*, 3-wire, 240 *v.*; P., 240 & 480 *v.*; T., 500–550 *v.*, 1110 *K.W.* Engr., A. G. Cooper, A.M.I.E.E.

Colne & Trawden Light Railways Co., Colne, Lancs. *c.*, 500 *v.* *Current supplied by Colne Corp.* Manager & engineer, Marten Turner.

Colwyn Bay U.D.C. L. P. *c.*, 3-wire, 220 & 440 *v.*, 420 *K.W.* Engr., A. R. Tudman, A.M.I.E.E.

Consett, Durham. Cleveland & Durham Electric Power, Ltd., proprietors. L. *a.*, 3-*ph.*, 40 *py.*, 2200–220 *v.*; P. *a.*, 2- & 3-*ph.*, 40 *py.*, 11,500–440 *v.*, 1600 *K.W.* Res. engr., F. H. McLoughlin.

Conway. *The T.C. has decided to apply for extension of E.L. order, & to ask North Wales Power Co. terms for supply of electricity.*

Cookstown, Ireland. *E. L. under consideration.*

Cork Electric Tramways & Lighting Co., Ltd., Cork. L., 3-wire, *c.*, inc., 230 *v.*; P. & arc L., 460 *v.*; T., 500 *v.*; & *a.* L., 3-*ph.*, 50 *py.*, 6000–230 *v.*, 2350 *K.W.* Engineer & manager, H. H. Nalder; T. manager, H. G. Whiting. *See also* Queenstown.

Cornsay, Durham. L.

Cornwall Electric Power Co., 89 & 90, Cheapside, London, E.C. Consulting engineers, Baker & Appleby. *Stations proposed to be built at* Par Harbour & Hayle.

County of Durham Electric Power Supply Co., Royal Exchange-bldgs., Newcastle-on-Tyne.

County of Durham Electrical Power Distribution Co., Ltd., Royal Exchange-bldgs., Newcastle-on-Tyne. *See* Durham, Jarrow & Gateshead.

County of London Electric Supply Co., Ltd., Electricity Works, City-rd., E.C. L. *a.*, 2-*ph.*, 50 *py.*, primary 2000–2200 *v.*, secondary 104 *v.*; & P. *c.*, 530 *v.*, 4350 *K.W.* Chief engineer, Chas. P. Sparks, M.I.C.E.; res. engr., A. R. Bacon. *See also* Wandsworth & Camberwell.

County of Northampton Electric Power & Traction Co., Ltd. *See* Wellingborough.

Coventry Corporation. *a.*, L. 1-*ph.*, P. 1- & 2-*ph.*, 50 *py.*, 2000–200 *v.*, 3900 *K.W.* Engr., G. Tough.

Electricity Works—*continued.*

Coventry Electric Tramways Co., Priestley's Bridge, Coventry. T. *c.*, 700 *K.W.* I. E. Winslow, consulting engineer; T. R. Whitehead, resident engineer.

Cowdenbeath, Fife. *E.L. under consideration.*

Cowes, Isle of Wight. The Isle of Wight Electric Light & Power Co., Ltd., proprietors. L. *c.* inc., 240 *v.*, arc & P., 240 & 480 *v.*, 237 *K.W.* Engr. & man., A. E. Mayes, A.M.I.E.E. *Bulk supply taken from Newport, I.W., at* 2500 *v. c.*

Cowpen. *See* Blyth.

Crewe Corporation, Crewe, Cheshire. *c.*, 3-wire, L. 230 *v.*, P. 460 *v.*, 660 *K.W.* Engineer, H. H. Denton, M.I.E.E.

Crieff, N.B. *An electric lighting order has been granted to the Burgh Commissioners.* Consulting engineers, Hawtayne & Zeden.

Cromer Urban District Council, Cromer, Norfolk. *c.*, 3-wire, L. inc., 240 *v.*; P., 240 & 480 *v.*, 180 *K.W.* Engineer, C. W. Bentley.

Crompton, Lancs. *Tramways leased to Oldham Corp. c.*, 500–550 *v.*

Croydon Corporation. *c.* L. P., 230 & 460 *v.*; T., 550 *v.*; & *a.* L. P., 1-*ph.*, 60 *py.*, primary 2100 *v.*, secondary 200 *v.*; P., 400 *v.*, 5750 *K.W.* Alex C. Cramb, chief engr.

Cullompton, Devon. *E. L. under consideration.*

Cults. *See* Aberdeen Corp.

Cumberland Electricity & Power Gas Co., 4, South Parade, Leeds. *This company have acquired the electricity undertaking of Whitehaven Corp. & powers granted in* 1901 *to the West Cumberland Tramways Co.*

Cwmbran. *Station shut down & held in reserve.*

Dalkeith, Midlothian. Electric Supply Corp., Ltd. *c.*, 3-wire, L. inc. & arc & P., 225 & 450 *v.*, 120 *K.W.* Res. engr., J. A. Gow Russell.

Darlaston. *See* Ocker Hill.

Darlington Corporation, Darlington, Durham. *c.*, 3-wire, L. P. 230 & 460 *v.*, T. 500–550 *v.*, 1900 *K.W.* Engineer, J. R. P. Lunn.

Dartford Urban District Council. L. *c.*, 3-wire, 230 & 460 *v.*, & for motors, T., 500 *v.*, 700 *K.W.* Engineer, J. D. Pember.

Dartmouth. Urban Electric Supply Co., Ltd., proprietors. *c.*, 3-wire; L. inc., 240 *v.*; arc L. & P., 240 & 480 *v.*, 330 *K.W.* Resident engineer, G. E. Smith, A.M.I.E.E.

Darwen Corporation. L. P. *c.*, 3-wire, 230 & 460 *v.*; T., 500 *v.*, 900 *K.W.* C. Garnett, A.M.I.E.E., engineer to Electricity Works; R. W. Smith-Saville, tramways engineer.

Datchet. *See* Slough.

Davies-st. Station. *See* Westminster Electric Supply Corporation.

Dawlish, Devon. *The E.L. order has been transferred to the Electric Supply Corp.* Chief engineer, K. A. Scott Moncrieff.

Denny Corporation, Denny, N.B. L. *a.*, 3-*ph.* Cons. engrs., Stevenson & McGaffie.

Denton, Lancs. *Supply by Manchester Corporation.*

Electricity Works—*continued.*

Deptford. London Electric Supply Corporation, proprietors, Stowage Wharf, Deptford, S.E. L. *a.*, 1-*ph.*, 85 *py.*, 10,000–100 or 200 *v.*; P. T. *a.*, 1- & 3-*ph.*, 25 *py.*, transm. to substa. 6800 *v. for bulk supply, & c.* L. P., 230 & 460 *v.*; T., 250 & 500 *v.* P. *also supplied a.*, 85 *py.*, 100 & 200 *v*, 17,250 *K.W.* G. W. Partridge, M.I.E.E., M.I.C.E., engineer-in-chief; supt. engineer, M. Feetham, M.I.M.E.; assistant engineer, T. M. Aitken, A.M.I.C.E.

Derby & Ashbourne Light Railway. *Under construction.* Electrical engineer, J. F. Albright.

Derby Corporation. L. P. *a.*, single-*ph.*, 40 *py.*, primary 2000 *v.*, secondary 200 *v.*; & *c.*, 230 & 460 *v.*; T., 500–550 *v.*, 5000 *K.W.* Engineer, T. P. Wilmshurst, M.I.E.E.

Derbyshire & Nottinghamshire Electric Power Co. *See* Ilkeston.

Devonport & District Tramways Co., Devonport. T. *c.*, 500–550 *v. Supply taken in bulk from Devonport Corporation, but supplied by Co. from own sub-station.* Engr. & man., C. W. Durnford.

Devonport & East Stonehouse, Devon. Devonport Corporation, proprietors. *c.* L., 3-wire, arc & inc., 230 *v.*; P., 230 & 460 *v.*; T., 500–550 *v.*, 1800 *K.W.* Engineer, J. W. Spark.

Dewsbury Corporation. *c.* L., 3-wire, arc & inc., 220 *v.*; P., 220 & 440 *v.*; T., 500–550 *v.*, 1050 *K.W.* R. H. Campion, A.M.I.E.E., engineer.

Diss, Norfolk. Suffolk Electricity Supply Co., Ltd., proprietors. L. P. *c.*, 2-wire, 200 *v.* Engr. & manager, N. Prentice, Stowmarket.

Dollar, N.B. The Electric Supply Corp., Ltd. *c.*, 2-wire, L. P., 225 *v.*, 50 *K.W.* Engineer, K. M. Scott Moncrieff.

Doncaster Corporation. L. (arc & inc.), 3-wire; P. *c.*, 230 & 460 *v.*; T., 500 *v.*, 1250 *K.W.* Engineer, E. S. Rayner, A.M.I.E.E.

Dorking, Surrey. *Leased to Edmundson's Electricity Corp.* L. *c.*, 3-wire, 240 & 480 *v.*, 180 *K.W.* Resident engineer, Henry Joseph.

Douglas Southern Electric Tramways, Douglas, Isle of Man. *c.*, 500 *v.*, 200 *K.W.* Engineer, Reg. Orton.

Dover Corporation. L. Small P. *a.*, single-*ph.*, 100 *py.*, primary 2000 *v.*, secondary 100 & 200 *v.* Large P. & T. *c.*, 500 *v.*, 1850 *K.W.* L. W. Woodman, M.I.E.E., engineer.

Drayton-in-Hales. *See* Market Drayton Electric Light & Power Co.

Droylsden, Lancs. *E.L. order transferred to Manchester Corporation, who are preparing a scheme.*

Dublin Corporation. L. P. *a.*, 3-*ph.*, 50 *py.*, primary 5000 *v.*, secondary 200 *v.*; P., 346 *v.*, 6000 *K.W.* Engr., Mark Ruddle, M.I.E.E., M.I.C.E.I.

Dublin & Lucan Electric Railway Co., Fonthill, Chapelizod, co. Dublin. T. *c.*, 500 *v.*, 240 *K.W.* Electrical engineer, H. Harrison.

Dublin United Tramways Co., Ltd., Ringsend Station, Dublin. T. 500 *v.*; *c.* & *a.*, 3-*ph.*, 25 *py.*, primary 2500 *v.*, transformed & converted to 500 *v. c.* Electrical engineer, P. S. Sheardown, M.I.E.E.

Electricity Works—*continued.*

Dudley Corporation. *c.*, 3-wire; L., arc 460 *v.*, inc. 230 *v.*; P., 230 & 460 *v.*; T., 2-wire, 500 *v.*, 1600 *K.W.* Engineer, C. E. Savage, A.I.E.E.; chief assistant, D. R. Laver.

Dudley, Stourbridge & District Electric Traction Co., Ltd., Harts Hill, Brierley Hill. T. *c.*, 500–550 *v.*, 400 *K.W.* Engineer, T. Satterthwaite.

Dukinfield, Cheshire. Stalybridge, Hyde, Mossley & Dukinfield Electricity Board, proprietors. L. P. T. *a.*, 3-*ph.*, 40 *py.*, 6000–230 *v.* L., 200 *v.* P., 500–550 *v. c.* for T., 5500 *K.W.* Engineer, R. Blackmore.

Dulverton Electric Lighting Co., Ltd., High-st., Dulverton, Somerset.

Dumbarton. The Electric Supply Corp., Ltd., props. *c.* L., 240 *v.*; P., 240 & 480 *v.*; T., 500–550 *v.*, 1100 *K.W.* Chief engr., K. A. Scott-Moncrieff; resident, W. A. Ritchie.

Dumfries Electricity Co., Ltd., Dumfries, N.B. L. P. *c.*, 230 *v.*, 200 *K.W.* Man. & sec., Talfourd Ely, A.M.I.E.E.; res. engr., W. H. Scott.

Dundalk, Ireland. *E. L. plans & specifications for L. the town under consideration by the U.D.C.* Engrs., Miller Wilson & Pegg.

Dundee, Broughty Ferry & District Tramways Co., Ltd., Milton, Monifieth, N.B. P. T. *c.*, 550 *v.*, 420 *K.W.* Engr. & man., J. H. Shepherd.

Dundee Corporation. *c.*, 3-wire, L., 200 *v.*; P., 200 & 400 *v.*; T., 500–550 *v.*, 3010 *K.W.* Engineer-in-chief, H. Richardson, M.I.E.E. *New station under construction.*

Dunfermline. *Electricity supply under consideration. Negotiations proceeding with the Fife Electric Power Co., Ltd.* Consulting engr., Sir Alex. Kennedy.

Dunfermline. Fife Electric Power Co., proprietors. P. *a.*, 2-*ph.*, 50 *py.*, 3000-440 *v.*, 600 *K.W.* 1500 *K.W. extensions in hand.* Manager, J. S. Thomson.

Dungannon. *An electric lighting order has been granted to the U.D.C., who have received an offer from an English firm.*

Dunoon, Argyll. *An E.L. order has been obtained.*

Dunster. Minehead Electric Supply Co., Ltd., props. L. *a.*, 1-*ph.*, 50 *py.*, 220 & 110 *v.*, 30 *K.W.* Engr., B. W. Gothard.

Durham Collieries Electric Power Co., Philadelphia, co. Durham. *a.*, 3-*ph.*, 50 *py.*, 6600 *v.*, 5000 *K.W.* Cons. engrs., Harper Bros. & Co.

Durham. County of Durham Electrical Power Distribution Co., Ltd., proprietors. *c.*, 3-wire, L. arc, 240 *v.*; P., 480 *v.*, 450 *K.W.* Gen. man., A. S. Esslemont; district supt., W. S. Verrill.

Ealing Corporation. L. P. *a.*, single-*ph.*, 40 *py.*, primary 2200 *v.*, secondary 102 & 205 *v.*, 1770 *K.W.* J. Douglas Knight, A.M.I.C.E., M.I.E.E., M.I.MECH.E., borough elec. engr. & man.; A. E. Pullen, A.M.I.E.E., chief assist. engr.

Earl's Court. *See* Brompton & Kensington Electricity Supply Co.

East Barnet Valley, Hertfordshire. *The electric lighting order has been revoked.* 1906

Electricity Works—*continued.*

East Ham Corporation, Nelson-st., East Ham, E. L. P. *c.*, 3-wire, 240 & 480 *v.*; T., 500 *v.*, 1925 *K.W.* Engineer & manager, W. C. Ullmann, M.I.E.E., M.I.MECH.E.

East Molesey. *Supply given by Twickenham & Teddington Electric Supply Co.'s main works at Twickenham.*

East Stonehouse, Devon. *See* Devonport.

Eastbourne Corporation. L. P. *a.*, 1-*ph.*, 50 *py.* primary 2200 *v.*, secondary 200 *v.*, 1950 *K.W.* Engineer, J. K. Brydges, M.I.E.E.

Easthampstead. *A P.O. has been granted to Camberley Electric Supply Co., Ltd., for part of district & an Act of Parliament to Ascot District Gas Co. for part.*

Eastleigh & Bishopstoke, Hants. *An electric lighting order has been granted to the U.D.C.*

Eastwood & Cathcart. *Provisional order obtained by Strathclyde Electricity Supply Co., Ltd.*

Ebbw Vale, Mon. *Current in bulk supplied to the U.D.C. by the Ebb Vale, Ltd. c.*, L. 230 *v.*, P. 230 & 460 *v.* Engr., W. Horsfall; asst. engr., E. L. Todman.

Eccles Corporation. L. P. *a.*, single-*ph.*, 50 *py.*, primary 2000 *v.*, secondary 200 *v.*; T. *c.*, 500–550 *v.*, 950 *K.W.* H. W. Angus, engineer.

Eccleston-pl. *See* Westminster Elec. Supply Corp., Ltd.

Edinburgh Corporation. *c.*, 3-wire, L. arc & inc., 230 *v.*; P., 230 & 460 *v.*; *a.* L., single-*ph.*, 52 *py.*, primary 2000 *v.*, secondary 230 *v.*, 14,017 *K.W.* Frank A. Newington, M.I.E.E., engineer.

Edmonton, Middlesex. North Metropolitan Electric Power Supply Co., props., 89, Fore-st., Edmonton. L. *a.*, 3-*ph.*, 240 & 415 *v.* Engr.-in-chief, E. T. Ruthven-Murray; res. engr., C. J. Barnett.

Edmundson's Electricity Corp. *See* Dorking.

Egham, Surrey. *E.L. order granted to the Egham Electric Lighting Synd.*

Egloshayle, Cornwall. *E.L. offer by Wadebridge & District Electric Supply Co. accepted.*

Electric Supply Corp., Ltd. *See* Carnoustie; Chelmsford; Dalkeith; Dollar; Dumbarton; Exmouth; Falmouth; Hitchin; Jedburgh; Melrose; St. Andrews; & Totnes.

Electrical Distribution of Yorkshire, Ltd., Calder-rd., Thornhill, nr. Dewsbury. *See* Calverley; Gomersal; & Liversedge.

Elgin, N.B. *Scheme postponed indefinitely.*

Elland Urban District Council, Yorkshire. L. *c.*, 3-wire, 240 *v.*; P., 240 & 480 *v.*, 280 *K.W.* Engineer, A. V. Wardrop.

Eltham. *Electricity supplied from Woolwich Boro' Council's Plumstead Station.* L. P. *a.*, 3-*ph.*, 50 *py.*, 6600–220-380 *v.*, 100 *K.W.* Distribution engr., S. H. Penning; elecn.-in-charge of Eltham & Lee, J. S. Percy.

Ely, Cambridgeshire. *An electric lighting order is held by the* City of Ely Electric Light & Power Co., Ltd., 66, Victoria-st., Westminster.

Emsworth. *E.L. under consideration.*

Electricity Works—*continued.*

Enfield, Middlesex. N. Metropolitan Electrical Power Distribution Co., Ltd., props. L. P. *c.*, 240 & 480 *v.*, 200 *K.W.* Res. engr., A. H. Bennett.

Enniscorthy. *E.L. under consideration by the U.D.C.*

Epsom Urban District Council. *c.*, 3-wire; L. inc., 230 *v.*; P., 230 & 460 *v.*, 560 *K.W.* A. C. Gilling, engr.

Erdington, Warwick. *See* Aston Manor.

Erith Urban District Council. L. P. *a.*, 3-*ph.*, 50 *py.*, primary 3000 *v.*, secondary 200 & 350 *v.* T. *c.*, 500–550 *v.*, 1350 *K.W.* Engr. & tram manager, A. Coveney.

Eston, Yorks. *The electric lighting order has been transferred to the Cleveland & Durham County Electric Power Co.*

Eton. *See* Windsor Electrical Installation Co.

Exeter Corporation. L. *a.*, 1-*ph.*, 60 *py.*, 2000–100 *v.*; P. *a.*, 2-*ph.*, 60 *py.*, primary 2000–100 & 200 *v.*; T. *c.*, 500–550 *v.*, 1700 *K.W.* H. D. Munro, M.I.E.E., engr.

Exmouth, Devon. The Electric Supply Corporation, Ltd., proprietors. L. P. *c.*, 225 & 450 *v.*, 300 *K.W.* Assistant engineer, P. Gibson.

Falkirk Corporation, Falkirk, N.B. *c.*, 3-wire; L. arc & inc., 230 *v.*; P., 230 & 460 *v.*, *& bulk supply, a.*, 3-*ph.*, 50 *py.*, 440 *v.*, 500 *K.W.* Engr., J. McMillan.

Falkirk & District Tramways Co., 37, Castle-st., Edinburgh; & Larbert-rd., Larbert, N.B. *Energy supplied by Scottish Central Electric Power Co.'s Bonnybridge Works at* 3000 *v.*

Falmouth. The Electric Supply Corp., Ltd., props. L. arc & inc. P. *c.*, 240 & 480 *v.*, 300 *K.W.* Resident engr., E. E. Smeeton.

Fareham U.D.C. L. *a.*, 1-*ph.*, 125 *py.*, primary 1100 *v.*, secondary 100 & 200 *v.*, 140 *K.W.* A. Blake, engineer.

Farnworth Urban District Council. *c.*, 3-wire; L. arc & inc., 220 *v.*; P., 220 & 440 *v.*; T., 500 *v.*, 620 *K.W.* Engineer, R. B. Leach, A.M.I.E.E., A.M.I.MECH.E. *Power in bulk from Lancashire Electric Power Co.*

Farsley, Yorks. *Bulk supply from Yorkshire Electric Power Co.* L. *a.*, 1-*ph.*, 50 *py.*, 230 *v.*; P., 3-*ph.*, 50 *py.*, 400 *v.* Engr. & man., W. B. Woodhouse, A.M.I.MECH.E., A.M.I.E.E.

Faversham Corporation, Faversham, Kent. L. *c.*, 3-wire, 230 *v.*; P., 230 & 460 *v.*, 250 *K.W.* Res. engr., Gordon Sommerville, A.M.I.E.E.; elecn., G. L. Wood.

Felixstowe Pier Electric Railway. Coast Development Corp., Ltd., proprietors. Engineer, E. A. Lambert.

Felixstowe, Suffolk. Urban District Council & Suffolk Electricity Co., Ltd., joint props. *c.*, 2-wire; L., arc 500 *v.*, inc. & P., 200 *v.* Cons. engr., R. P. Wilson; res. engr., N. Prentice.

Felling Electricity Works, Pelaw, Durham. Northern Counties Electricity Supply Co., Ltd., proprietors. L. *a.*, 3-*ph.*, 40 *py.* *Electricity in bulk from* Hebburn. *c.*, 3-wire distribution, primary 5500-460 *v.*, secondary 230 *v.* Consulting engineer, C. W. Fairweather.

Electricity Works—*continued.*

Fenton Urban District Council. *A provisional order has been granted to Stoke-on-Trent T.C.*

Fermoy, co. Cork. *E. L. scheme under consideration.*

Ferryhill, Durham. *E. L. under consideration.*

Fife Electric Power Co., 5, Great George-st., Westminster, S.W. *See* Dunfermline.

Finchley Urban District Council. L. *c.*, 3-wire, 250 *v.*; P., 250 & 500 *v.*, 1700 *K.W.* Engr., E. Calvert, A.M.I.E.E.

Fintona, co. Tyrone. *E. L. scheme under consideration.*

Fisher-st. *See* Metropolitan Elec. Supply Co., Ltd.

Fladbury Electric Light & Power Co., Ltd., Fladbury. L. *c.*, 2-wire, 220 *v.* Engrs., Morris, Jones & Co.

Fleetwood Urban District Council, Fleetwood. *c.*, 3-wire; L. arc & inc., 200 *v.*; P., 200 & 400 *v.*, 350 *K.W.* Resident engr., O. Hansom, A.M.I.E.E., A.M.I.M.E.

Flint. *E. L. under consideration.*

Fochabers, Elgin. *An E.L. order has been granted to His Grace the Duke of Richmond, Gordon & Lennox, K.G.* L. *c.*, 200 *v.*; P., 400 *v.*, 100 *K.W.* Engr., A. C. Knibb.

Folkestone Electricity Supply Co., Ltd. L. *c.*, 3-wire, inc. 210 *v.*, arc & P., 210 & 420 *v.*, 2040 *K.W.* T. Hesketh, M.I.E.E., A.M.I.M.E., M.A.I.E.E., man. engr. *See also* Hythe.

Foots Cray Electric Supply Co., Foots Cray, Kent. L. *a.*, 1-*ph.*, 50 *py.*, 2000–100, 200 *v.*, 120 *K.W.* Consulting engrs., Mordey & Dawbarn; engr., A. Wright.

Formby. *A provisional order has been granted to the U.D.C.*

Fort William Electric Lighting Co., Ltd., Fort William, Scotland. L. *c.*, 3-wire, 304–150 *v.*, 180 *K.W.* Irvine Reid, engr.

Fraserburgh. *E.L. under consideration.*

Frinton-on-Sea & District Electric Light & Power Co., Ltd., 6, Old Jewry, London, E.C.; & Frinton-on-Sea. *c.*, 3-wire, 230 *v.*, 30 *K.W.* Engineer, W. Hockley.

Frome Electricity Supply, Frome, Somerset. L. *c.*, 3-wire, 240 *v.*; P., 240 & 480 *v.*, 525 *K.W.* Resident engr., F. H. Merritt. *The U.D.C. will probably transfer works to Edmundson's Electricity Corp.*

Fulham Borough Council, Townmead-rd., Fulham, S.W. L. P. *a.*, 2-*ph.*, 50 *py.*, primary 3000 *v.*, secondary 200 *v.*, 3000 *K.W.* Engr., A. J. Fuller, A.M.I.E.E.

Gainsborough, Lincolnshire. *The U.D.C. have been informed by the B. of T. that something definite will have to be done at once with respect to the electric lighting order.*

Galway Electric Co., Ltd., Newtownsmyth, Galway. L. P. *c.*, 2-wire, 130 *v.*, 180 *K.W.* Engr., Percy A. Spalding, A.M.I.C.E., A.M.I.E.E.

Garston. *See* Liverpool Corp.

Gateshead & District Tramways Co., Tramway Depôt, Sunderland-rd., Gateshead. Manager, W. Morrison.

Electricity Works—*continued.*

Gateshead. County of Durham Electrical Power Distribution Co., proprietors. *c.* 3-wire; L. P., 240 & 480 *v.*; T., 500 *v.*; & P. *a.*, 3-*ph.*, 440 *v.* Gen. mgr., A. S. Esslemont; cons. engrs., Merz & McLellan. *County of Durham Electric Power Supply Co. supplies current in bulk to County of Durham Electrical Power Distribution Co., Ltd.*

Giants' Causeway & Portrush Electric Tramway Co., Bushmills. T. *c.*, 550 *v.*, 82 *K.W.* Engr., W. A. Traill.

Gillingham Corporation, Gillingham-rd., Gillingham, Kent. L. P. *a.*, 3-*ph.*, 50 *py.*, primary 2200 *v.*, secondary 100 & 230 *v.* L., 100, 173, 230 & 398 *v.* P., 950 *K.W.* Engineer, A. D. Chalmers, A.M.I.E.E., A.M.I.MECH.E.; deputy engr., A. J. Ryan, A.M.I.E.E.

Glasgow Corporation. *c.* 3-wire; L., 250 *v.*; P., 250 & 500 *v.*, 37,478 *K.W.* Engr., W. W. Lackie.

Glasgow Corporation. T. *a.*, 3-*ph.*, 25 *py.*, primary 6500 *v.*, secondary 330 *v.*, sub-sta., thence *c.*, 525 *v.* to line, 14,500 *K.W.* Gen. man., Jas. Dalrymple; engr., J. Ferguson, A.M.I.E.E.; elec. engr., E. T. Goslin, A.M.I.E.E.

Glastonbury, Somerset. *The* 1904 *E. L. order has been revoked.*

Glossop, Derbyshire. Urban Electric Supply Co., Ltd., proprietors. *c.*, 3-wire; L. arc & inc., 240 *v.*; P., 240 & 480 *v.*; T., 500–530 *v.*, 425 *K.W.* Engineer & manager, C. E. Knowles, A.M.I.C.E.

Gloucester Corporation. *c.*, 3-wire; L. P., 220 & 440 *v.*; T., 550 *v.*, 2000 *K.W.* Engr., F. H. Corson.

Gloucestershire Electric Power Co., 5, Rowcroft, Stroud, Glos. Consulting engr., G. L. Addenbrooke. *Proposed stations:* one in the Forest of Dean & one near Stroud.

Godalming. Urban Electric Supply Co., Ltd., proprietors. *c.*, 3-wire; L. inc., 240 *v.*; arc & P., 240 & 480 *v.*, 380 *K.W.* Resident engineer, R. S. Robertson.

Golborne, Lancs. *Current to be supplied by Lancashire Electric Power Co.* (Teleph. No. 181, Newton-le-Willows.)

Golcar. *See* Huddersfield.

Gomersal. Electrical Distribution of Yorkshire, Ltd., props. L. *a.*, 1-*ph.*, 50 *py.*, 230 *v.*; P. T., 3-*ph.*, 50 *py.*, 10,000 & 2000–400 *v.*, 600 *K.W.* *Bulk supply from Yorks. Power Co.* Engr., Wm. B. Woodhouse.

Gorleston. *See* Yarmouth.

Gorseinon Electric Light Co., Ltd. L. *c.*, 2-wire, 200 *v.*, 60 *K.W.* David Powell, engineer.

Gorton, Lancs. *E.L. order leased to Manchester Corp.* Engineer, C. J. Lomax.

Gosport & Alverstoke Electric Lighting Co., Ltd., Gosport, Hants. L. *c.*, 240 *v.*; P., 240 & 480 *v.* Engr. & man., J. Fereday Glenn. *Current supplied by Gosport & Fareham Tramways.*

Gosport & Fareham Tramways. Provincial Tramways Co., Ltd., props. *a.*, 3-*ph.*, 25 *py.*, 6600–500 *v. c.*, 1000 *K.W.* Engr. & man., J. Fereday Glenn.

Electricity Works—*continued.*

Gourock, N.B. *An electric lighting order granted to the Town Council has expired. Tramways leased to Greenock & Port Glasgow Tramways Co.*

Govan Town Council. L. P. *c.*, 3-wire, 250 & 500 *v.*, 2050 *K.W.* T. C. Parsons, M.I.E.E., engineer.

Grangemouth. *Order to be transferred to Scottish Central Electric Power Co., & supply to commence on Aug.* 1, 1910.

Grangetown, Yorks. Cleveland & Durham County Electric Power Co., proprietors. L. P. *a.*, 3-*ph.*, 40 *py.*, 11,500–2750 & 440 *v.*, 6000 *K.W.* Manager, A. B. Gridley.

Grantham. Urban Electric Supply Co., Ltd., proprietors. *c.*, 3-wire; L. inc., 240 *v.*; P., 240 & 480 *v.*, 400 *K.W.* Engineer, J. E. Edmundson, A.M.I.E.E.

Grassington Electric Supply Co., Ltd., Grassington, Yorks. L. *c.*, 230 *v.* Engr., M. C. Pullan.

Gravesend Corporation. *c.* L. arc & inc. P., 3-wire, 230 & 460 *v.*; T., 500–550 *v.*, 1050 *K.W.* Engr., C. F. McInnes, M.I.E.E.

Gravesend & Northfleet Electric Tramways, Ltd., Electrical Federation Offices, Kingsway, London, W.C.; & Northfleet. *c.*, 500 *v.* Manager, P. N. Gray. *Current supplied by Corp.*

Grays Thurrock Urban District Council. *c.* L. arc & inc. P., 3-wire, 230 or 460 *v.*, 400 *K.W.* Engr., E. D. Long, A.M.I.E.E.

Great Crosby & Waterloo with Seaforth. Liverpool District Lighting Co., Ltd., proprietors. *c.* L. arc & inc., 220 *v.*; P., 220 & 440 *v.*, 891 *K.W.* W. Miles Horsfall, M.I.E.E., engineer.

Great Grimsby Corporation. *c.* L., 3-wire, inc., 230 *v.*; arc & P., 230 & 460 *v.*, 1716 *K.W.* Engineer, W. A. Vignoles, M.I.E.E.; chief assistant, A. S. Channon.

Great Grimsby Street Tramways Co. *See* Cleethorpes.

Great Northern & City Railway Co., Poole-st. Power House, New North-rd., N. T. *c.*, 575 *v.*, 3440 *K.W.* Engr., R. P. Brousson; power-house supt., J. F. MacMahon.

Great Northern, Piccadilly & Brompton Railway Co., Electric Railway-bldg., St. James' Park, Westminster, S.W. Underground Electric Railways Co. of London, Ltd., props.

Great Northern Railway Co. of Ireland. *See* Hill of Howth.

Great Western Railway, Park Royal Generating Station, Willesden, N.W. L. P. *a.*, 3-*ph.*, 50 *py.*, 6500–220 & 110 *v.* L.; & *c.* L. P. T., 600 *v.*, 6000 *K.W.* Consulting engrs., Kennedy & Jenkin; res. engr., J. R. W. Grainge; elec. engr., R. T. Smith.

Greenock Corporation. *c.*, 3-wire; L. P. T., 250 & 500 *v.*; & *a.*, 3-*ph*, 50 *py.*, 110 *v.*, 3500 *K.W.* Engr., J. A. Robertson, M.I.E.E.

Greenock & Port Glasgow Tramway Co. *Current supplied by Greenock Corp. c.*, 500–550 *v.* Manager, G. W. King.

Greetland. *The Elland U.D.C. offer to supply electricity in bulk.*

Electricity Works—*continued.*

Greystones Electric Light & Power Co., Ltd., Greystones, co. Wicklow. L. P. *a.*, 1-*ph.*, 50 *py.*, 200 *v.*, 50 *K.W.* Engr, R. F. Fry. *To be opened in* 1909.

Guernsey Electric Light & Power Co., Ltd., Les Amballes, St. Peter's Port, Guernsey. *c.*, 3-wire; L. arc & inc., 210 *v.*; P., 210 & 420 *v.*, 870 *K.W.* Engr., C. Lakin-Smith, A.M.I.E.E.

Guernsey Railway Co., Ltd. T. *c.*, 500 *v.*, 130 *K.W.* Engineer, A. G. Bird, A.M.I.E.E.

Guildford Electricity Supply Co., Ltd. *c.* L. arc & inc., 215 *v.*; P., 215 & 430 *v.*; T., 500 *v.*, 750 *K.W.* H. L. Alderton, res. engr.

Hackney Borough Council, Millfields-rd., Clapton, N.E. *c.*, 3-wire; L. arc & inc., 240 *v.*; P., 240 & 480 *v.*, 4800 *K.W.* Res. engr., L. L. Robinson, M.I.E.E., A.M.I.C.E., M.I.M.E.; distributing engr., J. R. J. Bowden, A.M.I.E.E.

Halesowen, Worcestershire. *A transfer order to transfer powers to construct a light railway to Mr. Geo. Balfour has now been confirmed by the B. O. T. An E. L. order has been granted to Mr. Geo. Balfour.*

Halifax Corporation. *c.* L. arc & inc. P., 3-wire, 230 & 460 *v.*; T., 500 *v.*; & T. *a.*, 3-*ph.*, 25 *py.*, 5500 *v.*, 4600 *K.W.* Engr., W. M. Rogerson, M.I.E.E.; asst., E. G. Love, A.M.I.E.E.

Ham. *Supply to be given by the Twickenham & Teddington Electric Supply Co., Ltd.*

Hamilton Corporation, Hamilton, N.B. *Leased to Edmundson's Electricity Corporation, Ltd. c.*, 3-wire; L., arc & inc. 240 *v.*; P., 240 & 480 *v.*, 780 *K.W.* Engineer, T. M. Colson, A.M.I.E.E.

Hamilton, Motherwell & Wishaw Tramway. *See* Lanarkshire Tramways Co.

Hammersmith Borough Council, 85, Fulham Palace-rd., Hammersmith, W. L. P. *a.*, 1-*ph.*, 50 *py.*, 2300–110 & 220 *v.*, 5000 *K.W.* Engineer, G. G. Bell.

Hampstead Corporation, Lithos-rd., Hampstead, N.W. *c.*, 3-wire; L. arc, 1400 *v.*; L. P. *a.*, single-*ph.*, 90 *py.*, primary 2100 *v.*, secondary 105 & 210 *v.*, 5190 *K.W.* Engineer, G. H. Cottam, M.I.E.E.; chief assistants, E. Sayer, A.M.I.E.E., & J. Leadbetter, A.M.I.E.E.

Hampton, Middlesex. *Supply given by the Twickenham & Teddington Elec. Supply Co., Ltd.*

Hampton Wick. *Supply given by Twickenham & Teddington Electric Supply Co., Twickenham.*

Handsworth Urban District Council, Handsworth, Staffs. *c.* L. P., 3-wire, 240 & 480 *v.*; T., 500–550 *v.*, 1050 *K.W.* Cons. engrs., Kennedy & Jenkin; engr., F. A. Nixon.

Hanley Corporation. L. P. *a.*, single-*ph.*, 100 *py.*, 2000 & 2200–100, 200 & 400 *v.*, 2000 *K.W.* Engr., C. H. Yeaman; deputy, W. Adams.

Hanwell. *The order has been transferred to the Metropolitan Electric Supply Co., but no work has yet been executed.*

Harrington Electric Light Co., Ltd., Harrington Mills, Long Eaton, Derbyshire. L. *c.*, arc 110 *v.*, inc. & P. 115 *v.*, 360 *K.W.* Engr., W. B. Smith.

Electricity Works—*continued.*

Harrogate Corporation, Ripon-rd. Office: 33, Swan-rd., Harrogate. L. P. *a.*, single-*ph.*, 50 *py.*, primary 2000 *v.*, secondary 100 & 200 *v.*, 2150 *K.W.* G. Wilkinson, M.I.M.E., M.I.E.E., engr.

Harrow Electric Light & Power Co., Ltd., West-st., Harrow. L. *c.*, 3-wire, 220 *v.*; P., 440 *v.*, 854 *K.W.* Engr., J. A. B. Horsley, A.M.I.E.E.

Hartlepool Electric Tramways Co., Ltd., Tramways Depôt, Cleveland-rd., West Hartlepool. *c.*, 500 *v.*, 360 *K.W.* Gen. man., G. Cardwell.

Hartlepool. Cleveland & Durham County Electric Power Co. L. *c.*, 3-wire, 460–230 *v.*, 100 *K.W.* Consulting engineer, C. W. Fairweather.

Haslemere. *The Hindhead & District Electric Lighting Co. propose to supply current for L.*

Haslingden Corporation, Haslingden, Lancs. *The Corp. are taking a supply of current from Accrington Corp. for running the cars*, 500 *v.* Cons. engrs., Handcock & Dykes.

Hastings Corporation. L. *a.*, single-*ph.*, 100 *py.*, primary 2000 *v.*, secondary 200 *v.*; P., 200 or 400 *v.*, 1750 *K.W.* Russell F. Ferguson, M.I.E.E., M.I.MECH.E., engr.

Hastings & District Electric Tramways Co., Ltd., 1, Queen Victoria-st., London, E.C.; & Hastings. *a. current is generated at* 6600 *v., transmitted to sub-stations & transformed to c.*, 500 *v.* Tramways engr. & man., T. B. Holliday.

Hawick. Urban Electric Supply Co., Ltd., proprietors. *c.*, 3-wire; L. arc. & inc., 240 *v.*; P. 240 & 480 *v.*, 600 *K.W.* Resident engineer, A. N. Rye, A.M.I.E.E.

Hay. *E. L. under consideration.*

Haydock. *Provisional order has been obtained.*

Hayward's Heath. *The Hayward's Heath Electric Supply Co. propose to apply for provisional order.*

Heanor. *The U.D.C. are considering an E.L. scheme of the Notts & Derbyshire Elec. Power Co.*

Heaton Norris, Lancs. *See* Manchester Corp.

Heavitree. *See* Exeter.

Hebburn, Durham. Northern Counties Electricity Supply Co., Ltd., proprietors. L. P. *c.*, 3-wire, 230 & 460 *v.*; & *a.* P., 3-*ph.*, 40 *py.*, 5500-440 *v.*, 2500 *K.W.* Res. engr. & elecn., W. Bates.

Hebden Bridge Urban District Council, Hebden Bridge, Yorks. L., 3-wire, 480 *v.*, 200 *K.W.* Resident engr., J. W. Garside.

Heckmondwike Urban District Council, Heckmondwike, Yorks. *c.*, 3-wire; L., 230 *v.*; P., 230 & 460 *v.*; T., 500–550 *v.*, 1000 *K.W.* Engr., G. H. Carter, A.I.E.E.; chief assist., H. C. Carter.

Hendon Electric Supply Co., Ltd., Hendon, London, N. L. P. *a.*, 3-*ph.*, 50 *py.*, 3000–240 *v.* L., 415 *v.* P. Engr., B. G. Drummond. *Current in bulk supplied by North Metropolitan Electric Power Supply Co.*

Hereford Corporation. *c.*, 3-wire; L., inc. 220 *v.*, arc 440 *v.*; P. 220 & 440 *v.*, 810 *K.W.* W. T. Kerr, engineer.

Herne Bay Pier Electric Railway. Herne Bay Pier Co., Ltd., proprietors. L. (arc. & inc.) P. & T. *c.*, 250 *v.*, 50 *K.W.* H. C. Dufton, engr.

Electricity Works—*continued.*

Hertford. *North Metropolitan Electric Power Supply Co. supply current in bulk to* North Metropolitan Electrical Power Distribution Co., Ltd. L. *c.*, 3-wire, inc. & arc 230 *v.*; P. 460 *v.*, 340 *K.W.* Engineer, J. M. Bowman; assistants, G. E. Williamson & L. W. Peake.

Hertfordshire C.C. *have obtained an order to construct T. in Watford & Bushey.*

Hessle. *Negotiations proceeding with Hull for supply of E. & extension of tramways.* (Nat. Teleph. Hessle 66.)

Heston & Isleworth Urban District Council, Middlesex. *c.*, 3-wire; L. P., 240 & 480 *v.*, 500 *K.W.* Cons. & res. engr., P. E. Rycroft, A.M.I.E.E.

Heswall, Cheshire. *An E. L. order has been granted to the Wirral R.D.C.*

Hexham & District Electric Supply Co., Ltd., Hexham, Northumberland. L. P. *a.*, 3-*ph.*, 40 *py.*, 2500–120 *v.* L., 440 *v.* P., 150 *K.W.* Engr., G. O. Laing.

Heysham, Lancs. *The* 1904 *E. L. order has been revoked.*

Heysham, Morecambe & Lancaster Railway. Midland Railway Co., props. L. P. *c.*, 2 × 230 *v.*; T. *a.*, 1-*ph.*, 25 *py.*, 6600 *v.*, 685 *K.W.* Engr.-in-chief, W. B. Worthington; loco. supt. & chief mech. & elec. engr., R. M. Deeley.

Heywood Corporation. L. P. *c.*, 3-wire, 200 & 400 *v.*, T. 166 *K.W.* Engineer, J. Stott.

High Barnet, Herts. North Metropolitan Electrical Power Distribution Co., Ltd. L. *c.*, 3-wire, inc. 230 *v.*, arc & P. 230 & 460 *v.*, T. 600 *v.*, 800 *K.W.* *Power supply taken from North Metropolitan Power Supply Co.*, 3-*ph.*, 50 *py. at* 10,000 *v., transmitted to c.* 460 *v.* Res. engr., H. B. Sale, A.M.I.E.E.

Hill of Howth Tramroad, Amiens Street Terminus, Dublin, Ireland. Great Northern Railway Co. (Ireland), proprietors. *c.*, 550 *v.*, 550 *K.W.* Engineer-in-chief, W. H. Mills, M.I.C.E.; electrical engineer, A. W. Whieldon, M.I.E.E.

Hindhead & District Electric Light Co., Ltd., Hindhead, Surrey. *c.* L. inc., 220 *v.*; P., 440 & 220 *v.*; T., 440 *v.*, 115 *K.W.* Engr., T. Reader.

Hindley, Lancs. *An electric lighting order has been granted to the Urban District Council.* (Teleph. No. 0363, Wigan.) Cons. engr., C. Hopkinson.

Hipperholme. *Supply not yet commenced. Bulk supply will be taken from the Yorkshire Electric Power Co.*

Hitchin & Stevenage, Herts. Electric Supply Corp., Ltd., props. L. Engr., G. Laverty.

Hoddesdon, Herts. *Electric lighting order has been transferred to the North Metropolitan Electric Power Supply Co.*

Holmforth. *E.L. under consideration.*

Holsworthy Electric Supply Co., Ltd., Holsworthy. L. P. *c.*, 200 *v.*, 45 *K.W.* *Under construction.* Engr., W. H. Miller.

Holyhead Urban District Council, Holyhead, Anglesey. L. *c.*, inc. & arc 200 *v.*; P. 200 & 400 *v.*, 220 *K.W.* Res. engr., P. Williams.

Electricity Works—*continued.*

Holywood, co. Down. *E.L. under consideration.*

Honley Urban District Council, Yorks. L. P. *c.*, 2-wire, 200 *v.*, 70 *K.W.* Electrical engineer, H. Marsden.

Hornchurch, Essex. *E.L. under consideration.*

Hornsey Borough Council. *c.*, 3-wire; L., inc. 240 *v.*, arc & P. 240 & 480 *v.*, 1300 *K.W.* Engineer, N. Staniland, M.I.E.E.

Horsforth, Yorks. *Bulk supply taken from the Yorkshire Electric Power Co.* P. *a.*, 3-*ph.*, 50 *py.*, 400 *v. Tramways owned by Leeds Corp., q.v.* (Teleph. Horsforth 37.)

Horsham Urban District Council, Horsham, Sussex. *c.*, 3-wire; L., inc. 230 *v.*, arc & P., 460–230 *v.*, 400 *K.W.* Engr., J. B. Morgan.

Houghton-le-Spring & District Electric Lighting Co., Ltd., Houghton-le-Spring. *a.*, 3-*ph.*, 40 *py.*, 220 *v. Bulk supply from Durham Collieries Electric Power Co., Ltd. Distribution by Newcastle-on-Tyne Electric Supply Co., Ltd.* Engr., C. W. Nicholl.

Houghton-le-Spring Tramways. Sunderland District Tramways, Ltd., props. *c.*, 550 *v.*, 500 *K.W.* Engr. & man., G. Stratton. *Power bought in bulk.*

Hove (Aldrington), Sussex. 3-wire, 220 & 440 *v. supply from Brighton Corp.*, 93·5 *K.W.* Engr., H. H. Scott.

Hove Electric Lighting Co., Ltd., Davigdor-rd., Hove, Sussex. L. P. *c.*, 3-wire, 220 *v.*, 1608 *K.W.* C. B. Smith, M.I.E.E., res. engr.

Hoylake & West Kirby Urban District Council, Cheshire. L. P. *a.*, single-*ph.*, 50 *py.*, primary 2350 *v.*, secondary 230 *v.*, 625 *K.W.* Engr., C. J. Turner, A.M.I.E.E.; asst., S. S. Foster, A.I.E.E.

Hucknall Torkard, Notts. *An electric lighting order has been granted to the Urban District Council.* Cons. engr., F. J. Warden-Stevens.

Hucknall-under-Huthwaite, Notts. *The* 1903 *E. L. order has been revoked.*

Huddersfield Corp. L. P. *a.*, single-*ph.*, 100 *py.*, primary 2000 *v.*, secondary 100 & 200 *v.*, 3290 *K.W.*; & *a.*, 3-*ph.*, 50 *py.*, 6600–410 *v.*, 5750 *K.W.* A. B. Mountain, M.I.E.E., engr.

Huddersfield Corporation Tramways. T. *c.*, 500 to 550 *v.*, 2200 *K.W.* Man. & engr., R. H. Wilkinson.

Hull City, Sculcoates-lane, Hull. L. (arc & inc.) *c.*, 3-wire, 220 *v.*; P., 220 & 440 *v.*, 6500 *K.W.* H. Bell, M.I.E.E., engineer.

Hull Corporation Tramways. T. *c.*, 500 *v.*, 1560 *K.W.* Engineer, J. Wilkinson, M.I.E.E., M.I.M.E.

Huntingdon. *E. L. under consideration by Council.* Consulting engineer, F. J. Warden-Stevens.

Hurst U.D.C. Tramways. *Leased to Ashton-under-Lyne.*

Huyton. *See* Prescot.

Hyde, Cheshire. *See* Stalybridge.

Hyde Tramways. Stalybridge, Hyde, Mossley, & Dukinfield Tramways & Electricity Board, props. P. T. *a.*, 3-*ph.*, 40 *py.*, 6000–200 *v.*; P., *c.* L., 230 *v.*; P., 460 *v.*; T., 500–550 *v.*, 1500 *K.W.* Engineer, R. Blackmore.

Electricity Works—*continued.*

Hythe, Kent. Folkestone Electricity Supply Co., Ltd., proprietors. *c.* L. inc., 210 *v.*; P., 420 *v.*, 150 *K.W. Current supplied at* 2800 *v. from Folkestone.* Managing engr., T. Hesketh, M.I.E.E., A.M.I.M.E., M.A.I.E.E.; res. engr., A. C. Wampach.

Ifield, Sussex. *A private company has approached the P.C. with the object of securing its support for an E. L. scheme.*

Ilford Urban District Council. *c.* L., 3-wire, 230 *v.*; P., 230 & 460 *v.*; T., 500 *v.*, 3600 *K.W.* Engineer, A. H. Shaw, M.I.E.E., A.M.I.M.E.

Ilfracombe Electric Light & Power Co., Ltd., Ilfracombe, Devon. L. *c.*, 3-wire, 240 *v.*; P., 240 & 480 *v.*, 330 *K.W.* Engr., H. J. Stewart, A.M.I.E.E.

Ilkeston, Derbyshire. Derbyshire & Nottinghamshire Electric Power Co., proprietors. *c.* L., 230 *v.*; P., 230, 460–500 *v.*; & *a.*, 3-*ph.*, 25 *py.*, 2200 & 440 *v.*; T., 550 *v.*, 1450 *K.W.* Engr. & man., A. E. Loos; resident engr.-in-charge, R. D. Spurr.

Ilkeston Town Council, Ilkeston, Derbyshire. L. 3-wire, P. T. *c.*, 230 & 460 *v.*, 720 *K.W. Current supplied in bulk by the Derby & Notts Electric Power Co.*

Illogan, Cornwall. *See* Camborne.

Imperial Tramways Co. *See* Middlesbrough, Stockton-on-Tees & Thornaby Elec. Tramways.

Ince-in-Makerfield, Lancs. *The U.D.C. has sealed an agreement transferring the E.L. order to Wigan T.C.* (Teleph. No. 169.)

Ingleton Electric Lighting & Power Co., Ltd., Ingleton, Yorks. L. P. *c.*, 3-wire, 100 & 200 *v.*, 32 *K.W.* Engineer, D. Tattersall.

Inveresk. *See* Musselburgh.

Inverkeithing. *Electric lighting under consideration.*

Inverness, Scotland. North of Scotland Electric Light & Power Co., proprietors. L. *c.*, 3-wire, 240 *v.*; P., 240 & 480 *v.*, 230 *K.W.* Engineer, E. J. Williams.

Ipswich Corporation. *c.* L., 3-wire, arc & inc., 230 *v.*; P., 460 *v.*; T., 500 *v.*, 1511 *K.W.* F. Ayton, A.M.I.E.E., engineer.

Irvine, N.B. *E.L. under consideration.*

Isle of Thanet Electric Tramways & Lighting Co., Ltd., St. Peters, Kent. L. P. T. *a.*, 3-*ph.*, 50 *py.*, 2500 *v.*, converted to 3-wire, *c.* L., 240 *v.*; P., 240 & 480 *v.*; T., 550 *v.*, 1600 *K.W.* Engr., J. A. Forde. *See also* Margate.

Isle of Wight Electric Light & Power Co., Ltd. *See* Carisbrooke, Cowes, Newport, Ryde, Shanklin & Ventnor.

Isleworth. *See* Heston.

Islington Borough Council, Eden-grove, Holloway, N. L. P. *a.*, single-*ph.*, 50 *py.*, primary 2000 *v.*, secondary 100 & 200 *v.* L., 200 & 400 *v.* for P., 6600 *K.W.* Chief engr., Albert Gay, M.I.E.E.

Ivybridge. *L. c.* 200 *v. supply by Messrs. Heath & Co., Plymouth.*

Electricity Works—*continued.*

Jarrow & District Electric Traction Co., Ltd., Electrical Federation Offices, Kingsway, W.C. *Energy to be supplied by County of Durham Electrical Power Distribution Co., Ltd.*

Jarrow. County of Durham Electrical Power Distribution Co., Ltd., proprietors. *c.*, 3-wire, L., inc. & arc 240 *v.*; P., 480 *v.*; T., 500 *v.*; & *a.*, 3-*ph.*, 40 *py.*, 5500–240 & 480 *v.* L., 440 *v.* P., 500 *K.W.* Manager, A. S. Esslemont; technical manager, J. S. Watson; local supt., J. Butcher; asst., J. McLaren. *Scheme in progress for running as a substation from Gateshead at* 5000 *v.*

Jedburgh, Roxburgh. The Electric Supply Corporation, Ltd., proprietors. *c.* L., 225 *v.*; P., 225 & 450 *v.*, 70 *K.W.* Chief engineer, K. A. Scott-Moncrieff.

Keady, Ireland. *E.L. under consideration.*

Kearsley. *Tramways leased to the South Lancashire Tramways Co. Negotiations pending for the transfer of E. L. order to the Lancashire Electric Power Co.*

Keighley Corporation, Yorks. *c.* L. arc & inc., 230 *v.*; P., 230 & 460 *v.*; T., 500 *v.*, 740 *K.W.* J. M. Smyth, A.M.I.C.E., M.I.E.E., engineer.

Kelvinside. *See* Glasgow.

Kendal Corporation. L. P. *c.*, 3-wire, 220 *v.* & 440 *v.*, 1095 *K.W.* Engr., John A. T. Barnes, A.M.I.E.E.; chief asst., A. Howcroft.

Kensington Court Station. Kensington & Knightsbridge Electric Light Co., Ltd., 148, Brompton-rd., S.W., proprietors. L. P. *c.*, 200 *v.*; & *a.*, 3-*ph.*, 45 *py.*, 5000 *v. from* P. *house at Wood Lane transmission to substations*, 2200 *K.W.* H. W. Miller, engr. *See also* Chapel Place Station.

Kensington & Notting Hill Cos.' Joint Electricity Supply Works, Shepherd's Bush. L. P. *a.*, 3-wire, 3-*ph.*, 45 *py.*, 5250–220 *v.*, 13,000 *K.W.* Engineers, H. W. Miller & G. Schultz; resident engineer, C. M. Bennett.

Kent Electric Power Co., Frindsbury Power House, Strood, Kent. L. *a.*, 1- & 3-*ph.*, 50 *py.*, 11,000–100, 230 & 200 *v.*; P. T., 3-*ph.*, 50 *py.*, 11,000–400 *v.* P., 500 *v.* T., 3500 *K.W.* Joint consult. engrs., G. L. Addenbrooke & A. A. C. Swinton; man. & engr., H. B. Harvey, M.I.E.E.; asst. engr., D. McD. MacBean.

Kerry Electric Supply Co., Ltd., Killarney, co. Kerry, Ireland. L. P. *a.*, single-*ph.*, 100 *py.*, primary 2000 *v.*, secondary 100 *v.*, 140 *K.W.* Engineer, Valentine Ryan.

Kersley, Lancs. Consulting electrical engineer, G. E. Fletcher.

Keswick Electric Lighting Co., Ltd., Keswick, Cumberland. L. *a.*, 1-*ph.*, 100 *py.*, primary 2000 *v.*, secondary 100 *v.*, 175 *K.W.* Engr., Wm. Jackson.

Kettering Urban District Council, Kettering, Northamptonshire. L. P. *c.*, 3-wire, 230 & 460 *v.*, 775 *K.W.* Res. engr., W. A. Walker.

Keynsham Electric Light & Power Co., Ltd. L. *c.*, 115 & 230 *v.*, 43 *K.W.* G. J. T. Parfitt, A.M.I.E.E., engineer.

Electricity Works—*continued.*

Kidbrook. *See* South Metropolitan Electric Light & Power Co., Ltd.

Kidderminster & District Electric Lighting & Traction Co., Ltd. *c.* L., 3-wire, 230 *v.*; P. 460 *v.*, T. 500 *v.*, 1400 *K.W.* A. Charlton, managing engineer.

Kidderminster & Stourport Electric Tramway Co., Kidderminster. *c.*, 500 *v.* Electrical engr., A. Charlton.

Kidwelly. *E. L. under consideration.*

Kildare, Ireland. L. P. *c.*, 2-wire, 200 *v.*, 32 *K.W.* Resident engr., Wm. A. Cooney.

Killarney. *See* Kerry Electric Supply Co.

Kilmalcolm Electric Lighting Co., Ltd., Kilmacolm, Renfrewshire, Scotland. L. *c.*, 3-wire, 240 *v.*; P., 240 & 480 *v.*, 100 *K.W.* Engineer, Jas. Brown, A.M.I.E.E.

Kilmarnock Corporation, Kilmarnock, Scotland. L. *c.*, 3-wire, inc. 240 *v.*, arc & P., 480 *v.*; T., 500–550 *v.*, 755 *K.W.* Burgh engineer & tram manager, A. H. Burbidge, A.M.I.E.E., A.M.I.M.E.

Kilpatrick, Scotland. *An E.L. order has been granted to the Strathclyde Electricity Supply Co., Ltd.*

Kilrea, Ireland. *E.L. under consideration.*

King's Lynn (Norfolk) Corporation. *c.*, 3-wire; L., arc & inc., 200 *v.*; P., 200 & 400 *v.*, 680 *K.W.* J. Pilling, M.I.E.E., engineer.

King's Norton, Worcester. *An electric lighting order has been granted to the Urban District Council. Works not yet erected.* Engrs., C. H. Gadsby & A. W. Cross.

King's Norton, Worcester. *Under construction. Part of tramways worked by City of Birmingham Tramways Co., Ltd., & part by Birmingham Corp.*

King's-rd. Station of St. Pancras Borough Council, King's-rd., N.W. L. P. *c.*, 3-wire, 110, 220 & 440 *v.*, 5880 *K.W.* Engr., S. W. Baynes, M.I.E.E.; elecn., J. T. Baron, M.I.E.E.

Kingsbury. *E.L. order transferred to the North Metropolitan Electric Power Supply Co. Supply not yet commenced.*

Kingston-upon-Thames Corporation, Down Hall-rd., Kingston-on-Thames. L. P. *a.*, single-*ph.*, 77 *py.*, primary 2100 *v.*, secondary 105 *v.*, series arc 1000 *v.*, 865 *K.W.* J. E. Edgcome, M.I.M.E., M.I.E.E., engr.

Kingswear. L. *c.*, 240 & 480 *v.* *Current supplied by Urban Electric Supply Co., Ltd., Dartmouth.*

Kingswinford, Staffs. *Electric lighting order has been transferred to the Midland Electric Corporation for Power Distribution, Ltd.*

Kingswood. *See* Keynsham E. L. & P. Co., Ltd.

Kinver Light Railway, Tram Depôt, Brierley Hill, Staffs. *Current supplied by Dudley, Stourbridge & District Electric Traction Co., Ltd., & Midland Electric Corp.*

Kirkby-in-Ashfield. *The* 1904 *E. L. order has been revoked.*

Kirkcaldy Corporation. *c.* L., 3-wire, arc 45 *v.*, inc. 230 *v.*; P., 230 & 460 *v.*; T., 500 *v.*, 1090 *K.W.* Engineer, O. F. Francis, M.I.E.E.; assistant engineer, J. B. Bingham, A.M.I.E.E.

Electricity Works—*continued.*

Lambeth. South London Electric Supply Corp., Ltd., proprietors. L. P. *a.*, single-*ph.*, 50 *py.*, primary 3000 *v.*, secondary 220 *v.*, 3800 *K.W.* H. W. Sprunt, engr. & man.

Lambton Collieries, Ltd., Dean-st., Newcastle-on-Tyne; & Fence Houses, co. Durham. L. P. *Power supplied by Durham Collieries Electric Power Co., Ltd. a.*, 3-*ph.*, 40 *py.*, 5500-220 *v.* L., 5500 & 475 *v.* P., *c.* 550 *v.*, 7500 *K.W.* Chief engr., S. Tulip; elecn., H. J. Fisher.

Lanark. *E.L. orders have been granted to the C.C. authorising it to supply electrical energy in Bellshill (under construction), Bothwell, Blantyre, Shettleston, Tollcross & Uddingston. See* Cambuslang.

Lanarkshire Tramways Co., 83, Cannon-st., London, E.C.; & Motherwell, N.B. T. *c.*, 500–550 *v.*, 825 *K.W.* Gen. man. & engr., G. F. Moller, A.M.I.E.E.

Lancashire Electric Power Co., 196, Deansgate, Manchester. *See* Radcliffe.

Lancashire Light Railways Co., Ltd., Atherton, Lancs. (Teleph. No. 29, Prescot.) Engr., J. R. Salter, A.M.I.M.E., M.I.E.E. *Power supplied from Prescot.*

Lancashire United Tramways, Ltd., Howe Bridge, Atherton. *a.* L. P. 1-*ph.*, T. 2-*ph.*, 50 *py.*, primary 7500 *v.*, secondary 2200 *v.*, converted to *c.* L.; P., 500 *v.*; T., 500-550 *v.*, 2750 *K.W.* Sub-stations at Hindley & Walkden, 450 *K.W.* Engineer, J. R. Salter, M.I.E.E.

Lancashire & Yorkshire Railway Co. (Liverpool-Southport), Hunt's Bank, Manchester. *a.*, 3-*ph.*, 25 *py.*, 7500 *v.*, *converted to* 600–650 *v.*, 10,750 *K.W.* Engr., G. Hughes.

Lancaster Corporation. L. P. *c.*, 3-wire, 230 & 460 *v.*; T., 525 *v.*, 1200 *K.W.* Engr., W. A. Tester, M.I.E.E.

Larne Electric Light Works, Ltd., Larne. L. P. *a.*, single-*ph.*, 100 *py.*, primary 2200 *v.*, secondary 105 & 210 *v.*, 155 *K.W.* M. G. Smyth, A.M.I.E.E., engineer & manager.

Launceston. *Works to be erected by Crompton & Co.*

Leadgate, Durham. *Order transferred to the Cleveland & Durham County Electric Power Co.*

Leamington Spa, Warwickshire. Midland Electric Light & Power Co., Ltd., proprietors. L. P. *c.*, 3-wire, 115 & 230 *v.*, 600 *K.W.* Engr., Percy Olver, A.M.I.E.E.

Leamington & Warwick Tramways. Leamington & Warwick Electrical Co., Ltd., props. *c.*, 550 *v. See also* Warwick.

Leatherhead & District Electricity Co., Ltd., Bridge-st., Leatherhead; Ashstead; & Mickleham, Surrey. *c.*, 3-wire; L., 220 & 440 *v.*; P., 440 *v.*, 250 *K.W.* Engr., H. L. Dixon, A.M.I.E.E.

Lee Substation. *Supplied by Woolwich Borough Council's Plumstead Station through Eltham substation.* 6600–220 *v.*, 10 *K.W.*

Lee. *See* South Metropolitan Electric Light & Power Co., Ltd.

Electricity Works—*continued.*

Leeds Corporation. L. P. *a.*, 1- & 2-*ph.*, 50 *py.*, primary 2000 *v.*, secondary L. 100 & 200 *v.*, P. 200 & 400 *v.*, 15,740 *K.W.* H. Dickinson, engr.

Leeds Corporation Tramways. T. *a.*, 3-*ph.*, 25 *py.*, 6600 *v.*; L. P. T. *c.*, 550 *v.*, 6150 *K.W.* Gen. man., J. B. Hamilton; elec. engr., J. Burbridge; chief asst., H. G. Jeken.

Leek Urban District Council, Leek, Staffs. L. *c.*, 3-wire, 230 *v.*; P., 230 & 460 *v.*, 430 *K.W.* Engr., R. M. Carr, A.M.I.E.E.; asst. engrs., A. Hemming, F. Minchin & F. Trafford.

Lees, Lancs. *Tramways order granted to the U.D.C. leased to the Oldham Corp.*

Leicester. *See* Railway Lighting, Ltd.

Leicester Corporation. L. P. *a.*, single-*ph.*, 50 *py.*, 2000–100 & 200 *v.*, 4400 *K.W.* Engr., A. Colson, M.I.C.E., M.I.E.E.; elecn., J. E. M. Stewart, A.M.I.E.E.

Leicester Corporation Tramways. T., 500–550 *v.* Engr., T. Robt. Smith.

Leicestershire & Warwickshire Electric Power Co., 53, Temple-chbrs., Temple-ave., E.C. *Stations to be constructed at Glenfield, Leek, Measham, Newbold-on-Avon & Wootton. Station at Hinckley under construction.* P. *a.*, 2-*ph.*, 50 *py.*, 2200–440 *v.* Engineer, H. Graham Harris (Bramwell & Harris).

Leigh Corporation. *c.*, 3-wire; L. arc & inc., 220 *v.*; P., 220 & 440 *v.*, 750 *K.W.* Engr. & man., A. T. Smith.

Leith Corporation. *c.*, 3-wire; L., 230 *v.*; P., 460 *v.*; T., 550 *v.*, 2840 *K.W.* A. P. Rutherford, M.I.E.E., engr.

Letchworth, Herts. L. P., 3-wire, 250 *v.*, 130 *K.W.* Res. engr., A. W. E. Bulmore.

Lewes & District Electric Supply Co., Ltd. Lewes, Sussex. L. *c.*, 3-wire, 230 *v.*; P., 230 & 460 *v.*, 355 *K.W.* Engr., C. F. Butler, A.M.I.E.E.

Lewisham. *See* South Metropolitan Electric Light & Power Co., Ltd.

Leyland, Lancs. *An electric lighting order has been granted to the Urban District Council.*

Leyton Urban District Council, Cathall-rd., Leytonstone, N.E. *c.*, 3-wire, L. arc & inc., 150 *v.*; P., 150 & 300 *v.*; T., 500–550 *v.*, 2700 *K.W.* F. Harman Lewis, A.I.E.E., engineer.

Lichfield. *Provisional order has been granted to Foote & Milne.*

Limavady, co. Londonderry, Ireland. Proprietor & electrician, E. J. S. Ritter; engr., A. Rankin. L. *a.*, 1-*ph.*, 100 *py.*, 1100–220 *v.*, 240 *K.W.*

Limehouse, London. *See* Stepney.

Limerick Corporation, Ireland. L. P. *c.*, 3-wire, 230 & 460 *v.*, 405 *K.W.* Engr., P. T. Macnamara.

Lincoln Corporation. *c.*, 3-wire; L. arc & inc., 230 *v.*; P., 460 & 500 *v.*; T., 500 *v.*, 1395 *K.W.* S. Clegg, M.I.E.E., cons. & res. engr.

Linthwaite Electric Tramways. Huddersfield Corporation, proprietors. T. *c.*, 500–550 *v.*, 2200 *K.W.* Engr. & man., R. H. Wilkinson.

Linthwaite. *E.L. under consideration by the U.D.C.*

Litherland. *E.L. under consideration.*

Electricity Works—*continued.*

Little Hulton, Lancs. *The order to be transferred to the Lancashire Electric Power Co.*

Little Lever. *The U.D.C. has decided to transfer E. L. order to the Lancashire Electric Power Co.*

Littleborough, Lancashire. *E.L. order granted to the Council. Bulk supply now under consideration, & will be obtained from Rochdale Corp. a., 3-ph., 50 py., 3000 v., will probably be transformed down to 220 v.* Cons. engrs., Hawtayne & Zeden.

Liverpool Corporation, 24, Hatton Garden, Liverpool. *c.* L. arc & inc., 2- & 3-wire, 230 *v.*; P., 230 & 460 *v.*; T., 500 *v.*, 35,300 *K.W.* A. Bromley Holmes, M.I.C.E., cons. engr.; res. engr., Alfred Clough, A.M.I.C.E.

Liverpool Dist. Lighting Co., Ltd. *See* Gt. Crosby.

Liverpool Overhead Railway, 24, North John-st., Liverpool. T. *c.*, 500 *v.*, 2300 *K.W.* Engr., E. J. Neachell, M.I.MECH.E., M.I.E.E.

Liversedge, Yorks. *E.L. order granted to Electrical Distribution of Yorkshire, Ltd.* L. *a.*, 1-*ph.*, 50 *py.*, 2000–230 *v.*; P., 3-*ph.*, 50 *py.*, 2000–400 *v.* Engr. & mgr., W. B. Woodhouse. *Bulk supply from the Yorkshire Electric Power Co.*

Llanberis, R.S.O. Carnarvonshire. North Wales Power & Traction Co., Ltd., props. L. P. *a.*, 3-*ph.*, 50 *py.*, 370–210 *v.* L., 500–550 *v.* P., 4000 *K.W.* Engr., Geo. R. Paton, A.M.I.E.E.

Llandaff & Dinas Powis, Glamorgan. *The electric lighting order has been transferred to the Radyr Elec. Co., Ltd.* Cons. engr., R. H. Fletcher.

Llandilo (Carmarthen) Urban District Council. L. *c.*, 2-wire, 230 *v.*, 130 *K.W.* Engr., D. Pritchard Davies.

Llandrindod Wells Electric Light & Power Co., Ltd., 20, Old Bank-bldgs., Chester; & Llandrindod Wells. L. P. *c.*, 3-wire, 230 & 460 *v.*, 260 *K.W.* Engineer, B. Thomas.

Llandudno & Colwyn Bay Electric Railway, Ltd., Rhos-on-Sea, nr. Colwyn Bay. T. *c.*, 550 *v.* Gen. man. & engr., W. H. Moorhouse. *Current supplied by Llandudno U.D.C.*

Llandudno Urban District Council. L. *c.*, 3-wire, 220 *v.*; P., 220 & 440 *v.*; T., 500–550 *v.*, 1300 *K.W.* Harold Morton, engineer.

Llanelly. *The U.D.C. have transferred their provisional order of* 1891 *to the Llanelly & District Electric Lighting & Traction Co., Ltd. Generating station about to be constructed.* Cons. engr. of U.D.C., J. C. Howell.

Llangollen & District Electric Light & Power Co., Ltd., Llangollen, Denbigh. *c.*, 2-wire, 220 *v.*, 80 *K.W.* Engr., J. Lloyd Jones; elecn., P. E. Pace.

Llanrwst & Trefrew, Llanrwst, Denbigh. L. P. *c.*, 2-wire, 220 *v.*, 168 *K.W.* Engr., Jas. H. Targett.

Llansamlet. *A provisional order has been granted to the Swansea R.C.*

Loch Leven Water & Electric Power Co., 109, Queen Victoria-st., E.C. British Aluminium Co., Ltd., proprietors. Technical adviser, W. Murray Morrison, M.INST.C.E., M.I.E.E. *Construction works completed.*

Electricity Works—*continued.*

London, Brighton & South Coast Railway. London Electric Supply Corp., Ltd., supply current, *a.*, 1-*ph.*, 25 *py.*, 6500 *v.*

London County Council Distributing Station, Huugerford House, Victoria Embankment, W.C. *c.* L. arc, 500 *v.*, inc. 100 *v.*; P., 550 *v.*, 150 *K.W.* Chief engr., Maurice Fitzmaurice, C.M.G.; elec. engr., Chas. A. Baker.

London County Council Tramways, 62, Finsbury Pavement, E.C. *Generating station at Greenwich. a.*, 3-*ph.*, 25 *py.*, 6600 *v.*, *converted to c.* 550 *v.*, 24,000 *K.W.* Chief officer of tramways, A. L. C. Fell; electrical engineer, J. H. Rider.

London Electric Supply Corp. *See* Deptford.

London Electric Supply Cos. *The Kensington & Knightsbridge Elec. Lighting Co., Ltd., the Notting Hill Elec. Lighting Co., Ltd., the St. James's & Pall Mall Elec. Light Co., Ltd., the Westminster Elec. Supply Corp., Ltd., & the Central Elec. Supply Co.. Ltd., have powers to associate for the purpose of mutual supply of electrical energy in bulk.*

London & South-Western Railway, Waterloo Station, S.E. *c.* L., 220 & 500 *v.*; P. T., 500 *v.*, 1350 *K.W.* Engineer, Herbert Jones.

London United Tramways, Ltd., 74, High-rd., Chiswick, W. T. *a.*, 3-*ph.*, 25 *py.*, 5000 *v.* transmission to sub-stations; *c.*, 500 *v.*, 3500 *K.W.* Engineer, Sir Clifton Robinson, A.M.I.C.E., M.I.E.E. *Sub-stations at* Fulwell, 2000 *K.W.*; Hanwell, 1000 *K.W.*; Hounslow, 500 *K.W.*; Hillingdon, 500 *K.W.*; Kingston, 1500 *K.W.*; Wimbledon, 1500 *K.W.*

Londonderry Corporation. L. & P. *c.*, 220 & 440 *v.*, 700 *K.W.* R. V. Macrory, resident engr.

Long Eaton (Derby) Urban District Council, Long Eaton, Derbyshire. *c.*, 3-wire; L. arc & inc., 220 *v.*; P., 220 & 440 *v.*, 950 *K.W.* Resident engineer, F. Worrall, A.M.I.C.E.

Longton Corporation. L. P. *c.*, 3-wire, 230 *v.*, 300 *K.W.* W. Langford, engineer.

Lothians Electric Power Co., 25, Frederick-st., Edinburgh. *Sites for stations scheduled at Kingsnowe, West Linton & Auchengray. Station at Bonnyrigg in operation.* P. *c.*, 500 *v.*, about 150 *K.W.* Man. & engr., E. C. Churchward.

Loughborough Corporation, Loughborough, Leicestershire. *c.* L., 220 *v.*; P., 440 *v.*, 500 *K.W.* Engineer, W. H. Allen.

Lowestoft Corporation. *c.*, 3-wire; L. P. inc. & arc, 230 & 460 *v.*; T., 500–550 *v.*, 1475 *K.W.* G. A. Bruce, M.I.E.E., engineer.

Lucan & Leixlip Electric Railway Co., Conyngham-rd., Dublin. *Current supplied by Dublin & Lucan Electric Railway Co.* Engineer, H. Harrison.

Ludlow Electric Light Co., Ltd., 14, Corve-st., Ludlow, Salop. *c.*, 2-wire, 220 *v.*, 35 *K. W.* Engr., W. C. Hillman.

Lurgan, Ireland. *E. L. order under consideration.*

Luton Corporation. *c.*, 3-wire; L. arc & inc., 250 *v.*; P., 500 *v.*; T., 550 *v.*, 1147 *K.W.* Engr., W. H. Cooke, A.M.I.E.E.

Electricity Works—*continued.*

Lye, Worcester. *See* Midland Electric Corp. for Power Distribution, Ltd.

Lyme Regis Electric Light & Power Co., Lyme Regis. L. *c.*, 110 *v.*, 50 *K.W.*

Lymington Electric Light & Power Co., Ltd., Lymington. L. *c.*, 3-wire, inc., 240 *v.*; P., 240 & 480 *v.*, 150 *K.W.* Glynn Salter, engr.

Lynton & Lynmouth Electric Light Co., Ltd., Lynmouth, Devon. L. P. *a.*, single-*ph.*, 100 *py.*, primary 2000 *v.*, secondary 100 *v.*, 175 *K.W.* P. T. Kimmins, resident engineer.

Lytham, Lancs. *The E.L. order has been transferred to the Lytham Electric Light & Power Co., Ltd.*, 66, *Victoria-st., Westminster. It is hoped to commence the works forthwith.*

Macclesfield Corporation. *E. L. scheme under consideration.*

Macroom & District Electric Lighting Syndicate, Ltd., Cork, Ireland. L. *a.*, single-*ph.*, 100 *py.*, primary 2200 *v.*, secondary 230 *v.*, 150 *K.W.*

Maesteg, Glam. *The E. L. order has been revoked.* Consulting engr., — Humphreys.

Maidenhead Corporation. L. P., & equipped for T. *c.*, 3-wire, 230 & 460 *v.*, 406 *K.W.* C. O. Milton, engr.

Maidstone Corporation. *c.* L. P., 230 & 460 *v.*; T., 500–550 *v.*, 1250 *K.W.* E. E. Hoadley, M.I.E.E., resident engineer.

Maldens, The, & Coombe, Surrey. *E. L. order obtained by the County of London Elec. Supply Co.*

Malton & Norton, Yorks. Northern Counties Electricity Supply Co., Ltd., proprietors. L. P. *c.*, 230 & 460 *v.*, 155 *K.W.* Engr., C. W. Fairweather, M.I.E.E.; res. engr., J. Chandler.

Malvern Urban District Council. L. P. *a.*, single-*ph.*, 50 *py.*, 2000–100 & 200 *v.*, 250 *K.W.* W. J. Rendell Baker, res. engr.

Manchester. Trafford Power & Light Supply (1902), Ltd., Trafford Park, Manchester. L. *a.*, 3-*ph.*, 30 *py.*, primary 3000 *v.*; 50 *py.*, primary 6500 *v.*; *c.* L., inc. 250 *v.*, arc 250 & 500 *v.*; P., 250–500 *v.*; T., 500 *v.*, 4100 *K.W.* Engr., J. A. Kerr.

Manchester Corporation. L. P. T., 3- & 5-wire for L.; *a.*, 3-*ph.*, 50 *py.*, primary 6500 *v.*; *c.* L., 200 *v.*; P., 3-wire, 400 *v.*; T., 500 *v.*, 45,300 *K.W.* Engr., S. L. Pearce, M.I.C.E., M.I.E.E., M.I.MECH.E., M.AM.I.E.E.

Mansfield Corporation. *c.* L. inc., 240 *v.*; P., 240, 480, 500 *v.*; T., 500–600 *v.*, 720 *K.W.* Engineer, E. Holcombe Hewlett, M.I.E.E., M.AM.I.E.E.

Mansfield & District Tramways, Ltd., Sutton-rd., Mansfield. *Corp. supply T.* Engr. & manager, C. R. Walker.

Manx Electric Railway Co., Ltd., 1, Strathallan-cres., Douglas, Isle of Man. L. *a.*, 1-*ph.*, 80 *py.*, primary 1000 *v.*, secondary 100 & 230 *v.*; *c.* arc, 500 *v.*; P. T. *a.*, 3-*ph.*, 25 *py.* transmission to sub-stations 7000 *v.*, transformed to 330 *v.*, converted to 500–550 *v. c.*, 1140 *K.W.* General manager & engineer, F. Edmondson, A.M.I.E.E. *See also* Snaefell Mountain Railway.

Electricity Works—*continued.*

Mardy Electric Light Co., Ltd., Mardy, Glam. L. *c.*, 2-wire, 220 *v.*, 60 *K.W.* Engr., E. Davies.

Margate. Isle of Thanet Electric Tramways & Lighting Co., Ltd., proprietors. L. *c.*, 3-wire, arc & inc., 240 *v.*; P., 480 *v.*; T., 500 *v.*, 300 *K.W.*; *a.*, 3-*ph.*, 50 *py.*, transmission to sub-station. Engr., J. A. Forde.

Market Drayton Electric Light & Power Co., Ltd., Market Drayton, Shropshire. L. P. *c.*, 3-wire, 240 & 480 *v.*, 90 *K.W.* Resident engineer, C. F. Bottomley.

Market Harborough, Leicester. *An E.L. order has been granted to the U.D.C.*

Marylebone. *See* Railway Lighting, Ltd.

Melrose, Roxburgh, N.B. Electric Supply Corporation, Ltd. L. *c.*, 3-wire, 250 *v.*; P., 225 & 450 *v.*, 80 *K.W.*

Melton Mowbray Electric Light Co., Ltd. L. *c.*, 3-wire, arc & inc., 240 *v.*; P., 240 & 480 *v.*, 300 *K.W.* Engr., J. E. Edmundson, A.M.I.E.E.

Mersey Railway, Central Station, Birkenhead. T. *c.*, 650 *v.*, 4000 *K.W.* Gen. man. & engr., J. Shaw.

Merthyr Electric Traction & Lighting Co., Ltd., Merthyr Tydfil. *c.*, 3-wire; L., 230 *v.*; P., 230 & 460 *v.*; T., 500–550 *v.*, 930 *K.W.* Engr., Lewis W. Dixon.

Merton. *See* Wimbledon.

Metropolitan District Railway, Electric Railway House, Broadway, Westminster, S.W. Engr., Arthur R. Cooper. *See* Underground Electric Railways Co. of London, Ltd.

Metropolitan Electric Supply Co., 16, Stratford-pl., Oxford-st., W. L. P. *c.*, 100 & 200 *v.*, & *a.*, 1- & 2-*ph.*, 60 *py.*, 100 & 200 *v.*, 18,500 *K.W.* Engineer, J. S. Highfield, Amberley-rd., Randolph-rd., Fisher-st., Moscow-rd., Tower-st., Whitehall & Willesden Stations.

Metropolitan Electric Tramways, Engineers' Department, Spencer House, South-pl., Finsbury Pavement, London, E.C. *Current supplied by North Metropolitan Electric Power Supply Co. a.*, 3-*ph.*, 50 *py.*, 10,000 *v. converted to c.* 550 *v. See* Brimsdown & Willesden Works. 46½ *route miles operated.* Engr., A. H. Pott, M.I.C.E., M.I.E.E.

Metropolitan Railway Co. *See* Neasden.

Mevagissey Electric Supply Co., Ltd. L. *c.*, 2-wire, 110 *v.*, 40 *K.W.* Engr., F. Johnson.

Mexborough & Swinton Tramways Co., Rawmarsh, Yorks. *c.* L., 230 *v.*; P., 460 *v.*; T., 500 *v.*, 600 *K.W.* Engr., P. Priestly.

Mexborough Urban District Council. *c.*, 3-wire, L. arc & inc., 220 *v.*; P., 220 & 440 *v.*, 400 *K.W.* Engr., J. Senior, A.M.I.E.E.

Middlesbrough Corporation. *c.*, 3-wire; L., 220 *v.*; P., 220 & 440 *v.*, 1650 *K.W.* *A small portion of current in bulk is taken from Cleveland & Durham Co. Elec. Power Co.* Engr., H. M. Taylor.

Middlesbrough, Stockton-on-Tees & Thornaby Electric Tramways. Imperial Tramways Co., proprietors. 3-*ph.*, converted to *c.*, 500 *v.*, 900 *K.W.* Res. engr., A. W. Barnley.

Electricity Works—*continued.*

Middlesex Light Railways. *Leased to Metropolitan Electric Tramways, Ltd. About 33½ miles now open.*

Middleton Tramways. *Leased to & worked by Manchester Corporation.*

Middleton Corporation. *c.*, 3-wire; L., inc. & arc, 220 *v.*; P., 220 & 440 *v.*; T., 500–550 *v.*, 768 *K.W.* Engr., S. Pauls, A.M.I.E.E.; elecn., S. P. Dodson.

Middleton Electric Traction Co., Ltd. *Current supplied by Middleton Corp.* Manager, W. F. Endean.

Midland Electric Corporation for Power Distribution, Ltd. *See* Ocker Hill, Tipton.

Midland Electric Light & Power Co., Ltd. *See* Leamington Spa.

Midland Railway Co. *See* Heysham, Morecambe & Lancaster Railway.

Mile End Old Town, London. *See* Stepney.

Milford-on-Sea Electric Supply Co., Milford-on-Sea, Hants. L. *c.*, 230 & 460 *v.*, 50 *K.W.* Engineer, L. Nicholson.

Millbank-st. Station. *See* Westminster Electric Supply Corporation, proprietors. Engr., G. Horley.

Milton. *E. L. under consideration.*

Minehead Electric Supply Co., Ltd., Minehead, Somerset. *a.*, 1-*ph.*, 50 *py.*, 220 & 110 *v.* L., 220 *v.* P.; L. P. *c.*, 220 *v.*, 150 *K.W.* Engr., B. W. Gothard. *See also* Dunster.

Mirfield U.D.C., Mirfield, Yorks. L. P. *a.*, 1-*ph.*, 50 *py.*, 2000–200 *v.*, 200 *K.W.* Consulting engr., A. B. Mountain; elecn., Jno. Lomas.

Mitcham, Surrey. *Provisional order granted to the County of London Electric Supply Co., Ltd.*

Mitchelstown, Ireland. *Scheme abandoned.*

Monmouth Corporation. L. P. *a.*, single-*ph.*, 60 *py.*, primary 3000 *v.*, secondary 100 & 200 *v.*, 123 *K.W.* Engr., F. W. Windsor.

Montrose, Scotland. North of Scotland Electric Light & Power Co., Ltd., proprietors. *c.*, 3-wire; L. arc & inc., 240 *v.*; P., 240 & 480 *v.*, 300 *K.W.* Engr., F. Barritt Hills.

Morecambe Corporation. L. P. *c.*, 2-wire, 220 *v.*, 700 *K.W.* Cons. engr., R. Wright; chief assist., A. W. Annetts. *Electrification of tramways postponed.*

Morley Corporation. L. P. *a.*, single-*ph.*, 60 *py.*, 2000–100 & 200 *v.*, 220 *K.W.* Engr., J. E. Ellis, A.M.I.E.E.; asst., W. L. Browne, A.M.I.E.E.; elecn., H. C. Crisp.

Morpeth, Northumberland. Northern Counties Electricity Supply Co., Ltd., proprietors. L. *c.*, 3-wire, 230 *v.*; P. 460 *v.*, 60 *K.W.* Consulting engineer, C. W. Fairweather; engineer, W. H. Bibby.

Motherwell. Clyde Valley Electrical Power Co., Ltd., props. L. P. *a.*, 3-*ph.*, 25 *py.*, 230/240 *v.* L., 400 *v.* P., 13,600 *K.W.* Engr., D. A. Starr.

Motherwell Corporation. 3-wire; *c.* L. inc. & arc, P., 230 & 460 *v.*, 1910 *K.W.* Engr., S. Williams.

Electricity Works—*continued.*

Mountain Ash, Glamorgan. *The U.D.C. has arranged with the S. Wales Elec. Power Distribution Co. for bulk supply.* Consulting engrs., R. Hammond & Son.

Musselburgh & District Electric Light & Traction Co., Ltd., Musselburgh, N.B. *c.*, L. 230 *v.*; P. 230 & 460 *v.*; T. 500 *v.*, 600 *K.W.* Engr., A. A. Watkins, A.M.I.E.E.

Nairn Corporation. *The* 1902 *electric lighting order has been revoked.*

National Electric Supply Co., Ltd. *See* Preston.

Neasden, London, N.W. Metropolitan Railway Co., proprietors. P. T. *a.*, 3-*ph.*, 33·3 *py.*, 11,000–360 *v.* P., *c.* 600 *v.* T., 14,000 *K.W.* Chf. elec. & loco. engr., C. Jones, M.I.C.E., M.I.E.E.

Neath Corporation, Glam. *Current in bulk supplied by Neath R.D.C.* L. P. *a.*, 2-*ph.*, 50 *py.*, 2000–220 *v.*, 140 *K.W.* Cons. engr., H. T. Sully; engr., D. M. Jenkins. *Tramways leased to Provincial Gas Traction Co., Ltd.*

Neath R.D.C., Neath, Glam. L. P. *a.*, 2-*ph.*, 50 *py.*, 220 & 440 *v.*, 475 *K.W.* Engr., G. H. Thomson.

Nelson Corporation, Nelson, Lancs. L. P. *c.*, 3-wire, 230 & 460 *v.*; T., 500 *v.*, 1000 *K.W.* D. Helme, engineer.

Neston. *E. L. under consideration.*

New Malden. *E. L. under consideration.*

New Rottingdean Electricity Co., Ltd. *See* Rottingdean.

Newark, Notts. *An agreement has been entered into with the Derbyshire & Nottinghamshire Electric Power Co. to supply E. for L. & P.*

Newbiggin-by-the-Sea, Northumberland. *Provisional order obtained.* Northern Counties Electricity Supply Co.

Newburn, Northumberland. *See* Newcastle & District Electric Lighting Co., Ltd.

Newbury, Berks. The Urban Electric Supply Co., Ltd., proprietors. *c.*, 3-wire, L. P., 240 & 480 *v.*, 497 *K.W.* Engr., H. W. Bush; asst., F. E. Frampton.

Newcastle. Waste Heat & Gas Electric Generating Stations, props. P. *a.*, 3-*ph.*, 40 *py.*, 3000 *v.*

Newcastle & District Electric Lighting Co., Ltd., 38, Grainger-st. West, Newcastle-on-Tyne. L. P. *a.*, single-*ph.*, 80 *py.*, primary 1000 *v.*, secondary 100 *v.*; & *c.* L. arc & inc., 240 *v.*; P., 240 & 480 *v.*, 8000 *K.W.* W. D. Hunter, M.I.E.E., engineer.

Newcastle, co. Down. *E. L. under consideration.*

Newcastle Emlyn & District Electric Supply Co., Ltd., Newcastle Emlyn. L. *c.*, 110 *v.*, 50 *K.W.*

Newcastle-on-Tyne Corporation. *c.*, 3-wire, L. inc. 240 *v.*, arc & T., 550 *v.*, 5100 *K.W.* Tramways engineer & manager, E. Hatton; asst. elec. engr., W. Dalton.

Newcastle-under-Lyme Corporation. L., 3-wire, *c.*, 230 *v.*, 140 *K.W.* Engr., A. J. C. De Renzi; elecn., J. A. Whittingham.

Electricity Works—*continued.*

Newcastle-upon-Tyne Electric Supply Co., Ltd. *See* Carville & Wallsend.

Newington, London. *See* Southwark.

Newmarket Electric Light Co., Ltd. L. P. *c.*, 3-wire, 210 *v.*, 550 *K.W.* Engr., F. A. Simpson.

Newport Corporation, Newport, Mon. L. P. T. *a.*, single-*ph.*, primary 2150 *v.*, secondary 100 & 200 *v.*, 87½ *py.*; & *c.*, 2-wire, L. P., 230 & 460 *v.*; T., 500 *v.*, 2900 *K.W.* H. Collings Bishop, M.I.E.E., engineer & manager.

Newport, I.W. Isle of Wight Electric Light & Power Co., Ltd. *c.*, 3-wire; L., inc. 240 *v.*, arc & P. 240 & 480 *v.*, 390 *K.W.* Engineer, A. E. Mayes; asst., H. G. Banks. High tension supply to Cowes, *c.*, 2500 *v.*

Newquay Electric Light & Power Co., Newquay, Cornwall. *c.*, 3-wire; L. P. T., 230 & 460 *v.*, 160 *K.W.* Res. engr., A. S. Hawkins.

Newton Abbot, Devon. Urban Electric Supply Co., Ltd., proprietors. *c.*, 3-wire; L., 240 *v.*; P., 240 & 480 *v.*, 180 *K.W.* Resident engineer, G. E. Smith, A.M.I.E.E.

Newton-in-Makerfield, Lancs. *The* 1903 *E. L. order has been revoked.*

Newton-le-Willows. *The, U.D.C. have applied to the B. of T. for extension of time for carrying out the E. L. order.*

North-Eastern Railway, York. *Electric portion nr.* Newcastle-on-Tyne. *Current supplied from* Carville Station of Newcastle-on-Tyne Electric Supply Co., Ltd. 12,000 *K.W. Current generated at* 6000 *v. a.*, 3-*ph.*, 40 *py.*, *& transmitted to five sub-stations, where it is converted to c.*, 600 *v.* Resident engr., R. A. Copperthwaite.

North Metropolitan Elec. Power Supply Co. & Tramways, Electrical Federation Offices, Kingsway, W.C. *See* Brimsdown, Edmonton, Tottenham & Willesden.

North Metropolitan Elec. Power Distribution Co., Ltd., Electrical Federation Offices, Kingsway, W.C. *See* Enfield; Hertford; High Barnet; & St. Albans.

North of Scotland Electric Light & Power Co., Ltd. *See* Brechin, Inverness & Montrose.

North & South Shields Electric Railway. *Not yet constructed. Bill for extension of time applied for.* Engrs., C. H. Gadsby, WH.SC., M.I.E.E.; H. H. Dalrymple Hay, M.I.C.E.

North Staffordshire Railway, Stoke-on-Trent. L. P. *c.*, 110 & 220 *v.*, 121 *K.W.* Elec. engr., A. F. Rock.

North Wales Power & Traction Co., Ltd. *See* Llanberis.

North-Western Electricity & Power Gas Co., 37, Cross-st., Manchester. *Proposed stations in Flintshire, Derbyshire, nr. Wrexham & in Staffordshire.* Cons. engrs., Lacey, Sillar & Leigh.

Northallerton Electric Light & Power Co., Ltd., Northallerton, Yorks. L. P. *c.*, 2-wire, 220 *v.*, 150 *K.W.* F. R. Batty, A.M.I.E.E., engineer.

Northampton Corporation Tramways. *c.*, 500 *v.*, 520 *K.W.* Man., J. Gottschalk; engr., John F. Cameron.

Electricity Works—*continued.*

Northampton Electric Light & Power Co., Ltd., 25, Bridge-st., Northampton. *c.*, 3-wire; L. arc & inc., 210 *v.*; P., 210 & 420 *v.*, 2040 *K.W.* G. H. Jackson, M.I.E.E., M.I.M.E., chief engr.

Northdown & St. Peter Extra. *Provisional order granted to the Isle of Thanet Electric Lighting & Tramways Co.*

Northern Counties Electricity Supply Co., Ltd., Hinton's-bldgs., Middlesborough. *See* Alnwick; Ashington; Blyth; Felling; Hebburn; Malton; Morpeth; Shildon; Spennymoor; Thirsk; & Whitley.

Northfleet, Kent. Gravesend Corp., props. L. P. *c.*, 230 & 460 *v.* Engr., C. F. McInnes, M.I.E.E.

Northwich Electric Supply Co., Ltd. *c.*, 3-wire, L. arc & inc., 220 *v.*; P., 220 & 440 *v.*, 415 *K.W.* Engineer & secretary, Wm. Boyd, A.M.I.E.E., A.M.I.M.E.

Northwood Electric Light & Power Co., Ltd., Northwood, Middlesex. L. *c.*, 240 *v.*, 200 *K.W.* Engineer, H. W. Couzens, M.I.E.E.

Norton, Yorks. *See* Malton.

Norwich Corporation. *c.*, 3-wire; L., 220 *v.*; P., 220 & 440 *v.*, 3504 *K.W.* F. M. Long, engineer.

Norwich Electric Tramways Co., Norwich. T. *c.*, 500 *v.*, 800 *K.W.* Engr. & man., F. W. Ketley.

Notting Hill Electric Light Co. *See* Bulmer-pl.

Nottingham. *See* Railway Lighting, Ltd.

Nottingham Corporation. *c.*, 3-wire; L. inc., 200 *v.*; P., 200 & 400 *v.*; T., 500 *v.*, 10,043 *K.W.* H. Talbot, M.I.E.E., engineer.

Nuneaton Corporation. *c.*, 3-wire; L. arc & inc., 220 *v.*; P., 220 & 440 *v.*, 600 *K.W.* Engineer, S. C. Gibson, A.M.I.E.E.

Oban, N.B., Town Council. L. *c.*, 3-wire, 230 *v.*; P., 230 & 460 *v.*, 240 *K.W.* Engineer, M. Sutherland.

Ocker Hill, Tipton, Staffs. Midland Electric Corporation for Power Distribution, Ltd., proprietors. L. P. T. *a.*, 2-*ph.*, 50 *py.*, 200 *v.*; transmission to sub-stations, 7000 *v.*; *c.*, 500 *v.*, 6100 *K.W.* General manager & engineer, J. Hardie MacLean, M.I.E.E.

Ogmore Valley Electricity Supply Co., Ogmore Vale, Glam. L. *a.*, 1-*ph.*, 40 *py.*, 2500–210 & 220 *v.*; *c.*, 2-wire, distribution, 210 & 220 *v.*, 160 *K.W.* Electrician, A. E. Marks.

Oldbury, Worcester. *The E. L. order granted to the Urban District Council is to be transferred to the Birmingham & Midland Tramway Co.*

Oldham, Ashton & Hyde Electric Tramway, Ltd. *Current supplied by Ashton-under-Lyne Corporation, q.v.* Engineer, E. T. Todd.

Oldham Corporation. *c.*, 3-wire; L. arc & inc., P., 210 & 420 *v.*; T., 500–550 *v.*, 5232 *K.W.* Engr., S. Wilmott Newington.

Onchan, Isle of Man. *The Village Commissioners have entered into a contract with the Manx Electric Railway Co. for supply of current.*

Ormesby, Yorks. *The U.D.C. have transferred their order to the Cleveland & Durham County Electric Power Co.*

Electricity Works—*continued.*

Ormskirk, Lancs. (Teleph. No. 13, Ormskirk.) *An electric lighting order has been granted to the Urban District Council.*

Orrell, Lancs. *The* 1903 *E. L. order has been revoked.*

Ossett, Yorks. *Powers leased to the Electrical Distribution of Yorkshire, Ltd., who supply current to Dewsbury-Ossett tramways. Bulk supply from Yorkshire Electric Power Co.* L. *a.*, 1-*ph.*, 50 *py.*, 230 *v.*; P., 3-*ph.*, 50 *py.*, 400 *v.* Engr. & man., W. B. Woodhouse, AM.I.MECHE., A.M.I.E.E.

Oswestry Electric Lighting & Power Co., Ltd., 6, Salop-rd., Oswestry, Salop. L. P. *c.*, 2-wire, 220 *v.*, 253 *K.W.* E. Bremner Smith, engr.

Oulton Broad Electricity Co., Ltd., Oulton Broad, Suffolk. L. P. *c.*, 230 *v.*, 45 *K.W.* Engineer, B. Barber.

Oxford Electric Co., Ltd., 45, Broad-st., Oxford. L. P. *c.*, 2-wire, 100 *v.*; & *a.*, 3-*ph.*, 50 *py.*, 3000–100 *v.* L., 180 *v.* P., 1570 *K.W.* F. H. Francis, A.M.I.E.E., engineer. *T. to be electrified.*

Oystermouth, Glam. *E.L. under consideration.*

Padstow, Bedruthan & Mawgan Light Railway. *Not yet constructed.* Consulting engineer, W. R. Galbraith; engineers, H. H. Dalrymple-Hay & C. H. Gadsby.

Paignton Electric Light & Power Co., Ltd., Paignton, Devon. *c.* L., 220 *v.*; P., 440 *v.*, 73 *K.W.* Engr., C. D'A. Jackson.

Paisley Corporation. L. P. *a.*, 2-*ph.*, 50 *py.*, primary 2000 *v.*; *c.* T., 550–600 *v.*, 2-wire distribution, 4200 *K.W.* C. F. Parkinson, M.I.E.E., M.I.M.E., borough engr.; J. Lawrie, station engr. *Current supplied to Paisley District Tramways Co.*

Paisley District Tramways Co., Paisley, N.B. *Current supplied by Corp.* *c.*, 550 *v.* Engineer & general manager, Fred Coutts.

Partick Town Council. *c.*, 3-wire; L. arc & inc., 240 *v.*; P., 480 *v.*, 2450 *K.W.* Engineer, Wm. Sillery, A.M.I.E.E.

Pemberton Urban District Council. L. P. *c.*, 3-wire, 230 & 460 *v.*; T., 550 *v.*, 900 *K.W.* Engineer, J. Slevin.

Pembroke District Council, Pembroke, co. Dublin, Ireland. *c.*, 3-wire; L., inc., 220 *v.*, series arc & P. 440 *v.*, 725 *K.W.* Engr., S. L. R. Price.

Penarth Electric Lighting Co., Ltd., Penarth. *c.* L., 230 *v.*; P., 230, 460 & 500 *v.*, 530 *K.W.* Engr., H. Cameron.

Penge. *See* South Metropolitan Electric Light & Power Co., Ltd.

Penmaenmawr, Carnarvon. *An electric lighting order has been granted to the U.D.C.*

Penrith Electric Supply Co., Ltd., Penrith, Cumberland. *c.* L., 110 *v.*; P., 220 *v.*, 80 *K.W.* Engr., Dundas Fox.

Penzance & District Electric Supply Co., Ltd., Penzance, Cornwall. Engineer, F. J. Fippard. *Works not yet commenced. It is proposed to revoke the E.L. order.*

Electricity Works—*continued.*

Perth, N.B., Corporation. *c.*, 3-wire; L., inc. 230 *v.*, arc 460 *v.*; P., 230 & 460 *v.*; T., 500 *v.*, 1195 *K.W.* Engineer, J. Lambert, M.I.E.E.

Peterborough Corporation. *c.*, 3-wire; L. arc & inc., 200 *v.*; P., 200 or 400 *v.*; T., 500–550 *v.*, 840 *K.W.* *Power supplied to Peterborough Elec. Traction Co.* Engineer, J. C. Gill.

Peterborough Electric Traction Co., Ltd., Electrical Federation Offices, Kingsway, W.C.; & Car Depôt, Lincoln-rd., Peterborough. Man., F. P. Comber. *Power supplied by Corp.*

Pickering. *Provisional order granted to the Northern Counties Electricity Supply Co, Ltd.*

Pitlochry, N.B. *Scheme abandoned.*

Plymouth Corporation. *a.* L. P., single-*ph.*, 50 *py.*, 100 & 200 *v.*; T. *c.*, 530 *v.*, 2800 *K.W.* E. G. Okell, M.I.E.E., engineer.

Plymouth, Stonehouse & Devonport Tramways. *Current supplied by Plymouth & Devonport Corporations, q.v.* John Glenn, consulting engineer.

Pollokshaws. *E.L. order transferred to the Corporation of Glasgow.*

Pontefract, Yorks. *An E. L. order has been granted to the Corp.*

Pontypool Electric Light & Power Co., Club-chbrs., Pontypool, Mon. L. *c.*, 2-wire, 103 *v.*, 210 *K.W.* Engr., J. G. Webb.

Pontypridd Urban District Council, Pontypridd, Glam. L. P. *c.*, 3-wire, 230 & 460 *v.*; T., 500 *v.*, 1200 *K.W.* Engr., J. E. Teasdel, A.M.I.E.E.; chief asst., G. Evans.

Poole & Branksome. *See* Bournemouth & Poole Electricity Supply Co.

Poole & District Light Railway. *Acquired by Bournemouth Corp.* 500 *v.* Tramways engr., F. W. Lacey.

Poplar Borough Council, Bromley-by-Bow, E. L. *c.*, 3-wire, inc. 230 *v.*, arc 230 & 460 *v.*; P. *a.*, 3-*ph.*, 50 *py.*, primary 6000 *v.*, *c.* 460 *v.*, 4200 *K.W.* Engineer, J. H. Bowden, A.M.I.E.E.

Port Dinowic, Carnarvon. *An electric lighting order has been granted to Mr. G. W. Duff Assheton Smith.*

Porth. *See* Rhondda Tramways Supply Co., Ltd.

Portpatrick Electric Supply Co., Ltd., Dunskey Estates Office, Portpatrick, N.B. L. *c.*, 3-wire, 200 & 400 *v.*, 50 *K.W.*

Portsdown & Horndean Light Railway, Cosham, Hants. The Provincial Tramways Co., Ltd., proprietors. T. *c.*, 500 *v.*, 300 *K.W.* Consulting engineer, John Glenn, C.E.; engineer & manager, J. Fereday Glenn.

Portsmouth Corporation Electric Tramways. *c.*, 500 *v.*, 2100 *K.W.* *Two* 200 *K.W. motor generator sets for supplying current to Portsdown & Horndean Light Railway at* 3-*ph.*, 25 *py.*, primary 5000 *v.* Engr., V. G. Lironi, M.I.M.E., A.M.I.E.E.

Portsmouth Corporation. L. P. *a.*, single-*ph.*, 50 *py.*, primary 2000 *v.*, secondary 100 *v.*, 4336 *K.W.* Engr. & man., W. S. Foale.

Potteries Electric Traction Co., Ltd., Tramways Depôt, Stoke-on-Trent. T. *c.*, 550 *v.*, 2275 *K.W.* Gen. man., Wm. Thom, M.I.E.E., A.I.C.E.; power supt., F. J. Chapple.

Electricity Works—*continued.*

Prescot; Huyton; & Whiston. British Insulated & Helsby Cables, Ltd., proprietors. *a.*, single-*ph.*, 100 *py.*, primary 2000 *v.*, secondary 100 *v.*; & *c.* L. inc., 125 *v.*; P., 250 *v.*; T., 550 *v.*, 1735 *K.W.* Consulting engineer, G. H. Nisbett; resident engineer, R. P. Nash.

Preston Corporation Tramways. *c.*, 500–550 *v.*, 600 *K.W.* Engr., J. F. Simpson, M.I.E.E.

Preston. National Electric Supply Co., Ltd., proprietors. L. P., 2-wire, *a.*, single-*ph.*, 50 *py.*; *c.*, 3-wire distribution, 220 *v.*, 2869 *K.W.* J. H. Tonge, M.I.E.E., A.M.I.C.E., engineer.

Prestwich, Lancs. *See* Salford Corp.

Priestman Power Co., Ltd. *See* Blaydon.

Provincial Tramways Co., Ltd. *See* Portsdown; & Gosport & Fareham Tramways.

Pudsey Corporation, Pudsey, Yorks. *The Yorkshire Electric Power Co. supply electricity in bulk.* L. P. T. *a.*, 3-*ph.*, 50 *py.*, 2000–230 *v.* L., 400 *v.* P., 10,000 *v.* T.; & *c.* L., 230 *v.*; P., 230 & 460 *v.* Res. engr., E. Denton.

Pwllheli, Carnarvon. *An electric lighting order has been granted to the Corp.* Engineer, T. Cunningham.

Quarry Bank. *See* Midland Electric Corporation for Power Distribution.

Queenborough. *The laying of mains by the Sheerness & District Electric Power & Traction Co., Ltd., has been completed & supply of E. now available.*

Queensbury Tramways. *Part worked by the Bradford Corporation & part by the Halifax Corporation, q.v.*

Queenstown. Cork Electric Tramways & Lighting Co., Ltd., proprietors. L. P. *c.*, 3-wire, 230 & 460 *v.*, 230 *K.W.* Engr., W. H. Joyce.

Radcliffe. Lancashire Electric Power Co., proprietors. *a.*, 3-*ph.*, 50 *py.*, 10,000 *v.*, 6000 *K.W.* Engineer, C. D. Taite.

Radcliffe Urban District Council. L. P. T. *c.*, 220 *v.* L., 220 & 440 *v.* P., 525 *v.* T., 490 *K.W.* *Extensions contemplated.* *Tramways leased to Bury Corp.* Engr., H. Wilkinson.

Railway Lighting, Ltd., 67, Mosley-st., Manchester; Marylebone; Leicester; & Nottingham. L. P. *c.*

Ramsbottom District Council, Lancs. *The U.D.C. has approved of the deed of transfer of the E. L. order to the Lancashire Electric Power Co.*

Ramsgate & District Electric Supply Co., Ltd., Ramsgate, Kent. *c.* L., 240 *v.*; P., 240 & 480 *v.*, 590 *K.W.* Engr., C. E. Hume.

Randolph-rd. *See* Metropolitan Elec. Supply Co.

Rathmines & Rathgar Urban District Council, Rathmines, co. Dublin. *c.*, 3-wire; L. arc & inc., 220 *v.*; P., 220 & 440 *v.*, 750 *K.W.* G. F. Pilditch, M.I.E.E., engr.

Ravensthorpe, Yorks. *E.L. order granted to the U.D.C. The Yorkshire Electric Power Co. supply current in bulk.* Cons. engr., A. B. Mountain.

Rawmarsh. *See* Mexborough.

Electricity Works—*continued.*

Rawtenstall Corporation, Rawtenstall, Lancs. L., 1- & 3-*ph.*, 50 *py.*, 230 *v.*; P., 3-*ph.*, 50 *py.*, 400 *v.*; *c.* L., 230 *v.*; P., 460 *v.*; T., 500–550 *v.*, 831 *K.W.* Engr., C. L. E. Stewart.

Reading Corporation Tramways. *c.*, 500 *v.*, 400 *K.W.* Engineer, W. Binns.

Reading Electric Supply Co., Ltd. L. P.; for central area, *c.*, 200 & 400 *v.*; & for outlying districts, *a.*, single-*ph.*, 200 *v.*, 67 *py.*, 2675 *K.W.* Engineer & manager, E. R. Hill, A.M.I.E.E.

Redcar, Yorks. *The E.L. order has been transferred to the Cleveland & Durham County Elec. Power Co.*

Redditch Urban District Council. L. P. *a.*, 1-*ph.*, 70 *py.*, 2000–210 *v.*, 540 *K.W.* W. J. Ferguson, engr.

Redruth. *See* Camborne.

Regent's Park. *See* St. Pancras Borough Council.

Reigate Corporation. L. *a.*, single-*ph.*, 50 *py.*, primary 2500 *v.*, secondary 200 *v.*, 460 *K.W.* Engineer, W. S. Ross.

Renfrew. *E.L. order granted to the Corporation.*

Rhondda Tramways Supply Co., Ltd., Porth, S. Wales. T. *a.*, 3-*ph.*, 25 *py.*, 5500–550 *v. c.*, 990 *K.W.* Engr., H. J. Nisbett.

Rhyl Urban District Council, Rhyl, Flintshire. *c.*, 3-wire; L. inc. & arc, 230 *v.*; P., 230 & 460 *v.*, 495 *K.W.* Engineer, E. H. Wright, A.M.I.E.E.

Rhymney Valley. *Provisional order granted to the Rhymney Valley & General Electric Supply Co.*

Richmond Electric Light & Power Co., Ltd., Richmond, Surrey. L. P. *c.*, 3-wire, 220 & 440 *v.*, 1150 *K.W.* Engr., L. C. B. Trimnell.

Rochdale Corporation. L. P. T. *a.*, 3-*ph.*, 50 *py.*, 3000–220 *v.* L., 220 & 440 *v.* P.; & *c.*, 3-wire; L. arc & inc., 220 *v.*; P., 220, 440 & 500 *v.*; T., 500 *v.*, 2476 *K.W.* Engr., C. Claremont Atchison, M.I.E.E.

Rochester. *See* Kent Electric Power Co.

Rochester Tramways. *Worked by Chatham & District Light Railways Co., q.v.* 500 *v.*

Ross Electric Light & Power Co., Ltd., Bank Offices, Ross, Hereford. L. arc & inc. P. *c.*, 2-wire, 230 *v.*, 100 *K.W.* Engr., C. E. Gray.

Rotherham Corporation. *c.*, 3-wire; L., 230 *v.*; P., 230 & 460 *v.*; T., 500–550 *v.*, 2120 *K.W.* Engineer, E. Cross; chief asst., Jno. Williams.

Rothesay Burgh, Scotland. L. *c.*, 230 & 460 *v.*, 34 *K.W.* E. B. Stiven, engineer.

Rothesay Tramways Co., Ltd., Rothesay, Scotland. T. *c.*, 500 *v.*, 350 *K.W.* Engr., H. H. Hill.

Rottingdean, Sussex. New Rottingdean Electricity Co., Ltd. L. P. *c.*, 2-wire, 100 *v.*, 60 *K.W.* Engr., J. W. Brown.

Roundhay & District Electric Lighting Co., Ltd., nr. Leeds. L. *c.*, 3-wire, 230 *v.*, 160 *K.W.* Consulting engineers, Shepherd & Watney; resident engineer, H. Fox.

Royton, Lancs. *T. leased to Oldham Corp.*

Rugby School Electric Lighting Co. L. *a.*, 1-*ph.*, 100 *py.*, 100 *v.*, 85 *K.W.* A. E. Lee, engineer.

Rugby Urban District Council. L. P. *a.*, 3-*ph.*, 50 *py.*, primary 2200 *v.*, secondary 220 *v.*, 210 *K.W.* Resident engineer, T. S. Shenton.

Electricity Works—*continued.*

Rutherglen, Scotland. *The Council have transferred E. L. orders to the Strathclyde Electricity Supply Co., Ltd.*

Ryde, Isle of Wight. Isle of Wight Electric Light & Power Co., Ltd., proprietors. *c.*, 3-wire; L., 240 *v.*; P., 240 & 480 *v.*; outlying districts, *a.*, 1-*ph.*, 50 *py.*, 2500–480 & 240 *v.*, 350 *K.W.* Chief engr., A. E. Mayes, A.M.I.E.E.; assistant, H. Groome.

Ryde Pier Electric Railway. 20 *K.W.* Manager, W. D. Stanney.

Saddleworth, Yorks. *The* 1902 *E. L. order has been revoked.* Cons. engrs., Baker & Appleby.

Saffron Walden. 1904 *E. L. order has been revoked.*

St. Alban's Corporation. *North Metropolitan Electric Power Supply Co. supply in bulk to the North Metropolitan Electrical Power Distribution Co., Ltd. c.* L., 230 *v.*; P., 460 *v.*, 490 *K.W.* Engr., T. Eedes Eachus.

St. Andrews, N.B. The Electric Supply Corporation, Ltd., proprietors. *c.* L., 3-wire, 225 *v.*; P., 225 & 450 *v.*, 300 *K.W.* Res. engr., H. Dixon.

St. Anne's-on-the-Sea Urban District Council. L. *c.*, 3-wire, 240 *v.*; P., 240 & 480 *v.*; T., supply to a company 500 *v.* at sub-station, 760 *K.W.* Engineer, J. H. Clothier, A.M.I.E.E.

St. Austell & District Electric Lighting & Power Co., Ltd., Menacuddle-st., St. Austell, Cornwall. *c.* L. arc & inc., P., 110 & 220 *v.*, 180 *K.W.* Engineer, T. Hill.

St. George's-in-the-East, London. *See* Stepney.

St. Helen's Corporation, St. Helen's, Lancs. *c.*, 3-wire; L., 230 *v.*; P., 230, 460 & 500 *v.*; T., 500 *v.*, 1840 *K.W.* Engineer, E. M. Hollingsworth.

St. Helen's Electric Lighting Co., Ltd., St. Helen's, Isle of Wight. *a.* L., 1-*ph.*, 50 *py.*, 2500–480 & 240 *v.*; & *c.* L. P., 240 & 480 *v.*, 80 *K.W.* *Current supplied in bulk from Ryde.* Engineer & manager, A. E. Mayes, A.M.I.E.E.

St. James' & Pall Mall Electric Light Co., Ltd., Carnaby-st., Golden-sq., W.; & Mason's-yard, Duke-st., St. James's, S.W. *a.* L., 3-*ph.*, 50 *py.*, primary 6000 *v.*, secondary 250 *v.*, generating plant; *c.* L. P., 214 *v.*, 9880 *K.W.* Engineer, S. T. Dobson, M.I.C.E.; assistants, O. M. Andrews & W. E. Rowland.

St. Marylebone Borough Council, 19 & 20, York-pl., London, W. *c.* L. P., 240 & 480 *v.*, 12,000 *K.W.* Gen. man., A. Hugh Seabrook; generating engr., T. K. Richardson; mains engr., C. H. Smyth.

St. Pancras Borough Council, 57, Pratt-st., St. Pancras, N.W. L. *c.*, 3-wire, 220 *v.*; P., 440 *v.*, 8280 *K.W.* Chief engr., S. W. Baynes, M.I.E.E.; resident engineer, J. T. Baron. *See also* King's-rd. Station & Regent's Park Station.

St. Peters, Kent. *See* Isle of Thanet Electric Tramways & Light Co., Ltd.

Sale, Chester. Sale Urban District Council & the Trafford Power & Light Co., Ltd., proprietors. L. *c.* arc & inc., 230 *v.*; P., 230 & 460 *v.*, 100 *K.W.* Resident engineer, C. J. Wood.

Electricity Works—*continued.*

Salford Corporation. L. P. *a.*, 1-*ph.*, 75 *py.*, primary 3100 *v.*, secondary 200 *v.*; & *c.* L., inc. & arc, 220 *v.*; P., 220 & 440 *v.*; T., 550 *v.*, 7000 *K.W.* Engr., Victor A. H. M'Cowen, M.I.E.E., M.I.MECH.E.; deputy, H. J. Hawkins, A.M.I.E.E.

Salisbury Electric Light & Supply Co., Ltd. L. arc & inc. *c.*, 3-wire, 210 *v.*; P., 210 & 420 *v.*, 600 *K.W.* A. B. Randall, M.I.E.E., engineer.

Saltburn-by-Sea, Yorks. Cleveland Trust, Ltd., proprietors. L. P. *c.*, 2-wire, 220 *v.*, 173 *K.W.* Engr. & man., C. W. Thompson, A.M.I.E.E.; elecn., A. Fowler.

Sandgate, Kent. *Lighting supply from the Folkestone Electricity Supply Co.'s works at Shorncliffe.* (Teleph. Cheriton 4.)

Sandown. *See* Shanklin.

Scarborough Electric Supply Co., Ltd., Seamer-rd., Scarborough. L. P. *a.*, single-*ph.*, 80 *py.*, primary 2000 *v.*, secondary 200 & 100 *v.*, 1345 *K.W.*; *c.* P., 500 *v.*; T., 550 *v.*, 600 *K.W.* Resident engineer, F. G. Holden.

Scarborough Tramways Co., Scarborough. *Power supplied by Scarborough Electric Supply Co., Ltd.*

Scottish Central Elec. Power Co., 25, Frederick-st., Edinburgh. *See* Bonnybridge.

Scunthorpe, Lincs. P. *a.*, 3-*ph.*, 2200 *v.*, 130 *K.W.*

Seaforth & Great Crosby. *See* Liverpool Overhead Railway Co.

Selby, Yorks. *An E.L. order has been granted to the U.D.C.*

Shanklin, Sandown & Lake. Isle of Wight Electric Light & Power Co., Ltd., proprietors. L. *c.*, 3-wire, 240 *v.*; P., 240 & 480 *v.*, 425 *K.W.* Engineer, A. E. Mayes, A.M.I.E.E.; assistant engineer, L. Gillitt.

Sheerness & District Electric Power & Traction Co., Ltd., Sheerness, Kent. L. P. T. *a.*, 3-*ph.*, 50 *py.*, 6500–230 *v.* L., 420 *v.* P.; & L. *c.*, 3-wire, arc & inc., 230 *v.*; P., 230 & 460 *v.*; T., 500 *v.*, 540 *K.W.* Man. engr., G. L. Kirk. *Supply given to Queenborough.*

Sheffield Corporation, Sheaf-st.; & Neepsend, Sheffield. L. P. *a.*, 1- & 2-*ph.*, 50 *py.*, primary 2000 *v.*, secondary 200 *v.*, 8500 *K.W.* S. E. Fedden, M.I.C.E., M.I.MECH.E., manager & engr.

Sheffield Corporation Tramways. P. T. *c.*, 550 *v.*, 4450 *K.W.* Chief engr., H. E. Yerbury, M.I.M.E., M.I.E.E.

Sheppey. *See* Sheerness.

Shettleston & Tollcross. *Provisional order granted to the Lanark C.C.*

Shildon, Durham. The Northern Counties Electricity Supply Co., Ltd., proprietors. *c.*, 3-wire; L., 230 *v.*; P., 460 *v.*, 240 *K.W.* Electrician, S. Jago.

Shipley Urban District Council, Shipley, Yorks. *c.*, 3-wire; L. P., 230 *v.*; T., 540 *v.*, 1170 *K.W.* Engr., S. D. Schofield, M.I.E.E., A.M.I.M.E.

Shoreditch Borough Council, Coronet-st., Pitfield-st., N. *c.* L., 240 *v.*; P., 240 & 480 *v.*, 6050 *K.W.* Borough elec. engr., C. Newton Russell, A.M.I.C.E., M.I.E.E.; elecn., W. Weekes.

Electricity Works—*continued.*

Shrewsbury Corporation. L. *c.* inc., 210 *v.*; arc & P. 210 & 420 *v.*, 780 *K.W.* Engr., C. M. Johnston, M.I.E.E., M.I.MECH.E.; chief asst., S. Kirkwood, A.I.E.E.

Shropshire & Worcestershire Electric Power Co., Electrical Federation Offices, Kingsway, W.C. *Proposed stations at* Hammerwich & Norton-under-Cannock, Staffs.; Harborne, Warwick; & Northfield & King's Norton, Worcs.

Sidmouth, Devon. *The* 1903 *E.L. order has been revoked.*

Skelmorlie, Ayrshire. *Electric lighting under consideration.*

Sleaford Urban District Council. L. arc & inc. P. *c.*, 2-wire, 220 *v.*, 180 *K.W.* Res. elec. engr., W. H. Wilson.

Slough & Datchet Electric Supply Co., Ltd., Slough; Datchet; & Chalrey. L. *c.*, 3-wire, 220 *v.*; P., 220 & 440 *v.*, 630 *K.W.* Engineer, A. E. Farrow, A.M.I.E.E.

Smethwick, Staffs. Birmingham & Midland Tramways, Ltd. L. P. T. *a.*, 3-*ph.*, 25 *py.*, 5500–110 *v.* L., 400 *v.* P.; & *c.*, L. 250 *v.*; P., 250–500 *v.*; T., 500 *v.*, 5530 *K.W.* Res. engr., S. A. Mahood, A.M.I.E.E. *Current in bulk supplied to Oldbury.*

Smithfield Markets Electric Supply Co., Ltd., 57, Charterhouse-st., London, E.C. L. arc & inc. *c.*, 3-wire, 200 & 100 *v.*; P., 200 *v.*, 965 *K.W.* Engineer, E. Dowling.

Snaefell Mountain Railway. Manx Electric Railway Co., 1, Strathallan-cres., Douglas, Isle of Man, proprietors. *a.*, 3-*ph.*, 25 *py.*, primary 7000 *v.*, secondary 330 *v.*, converted to *c.*, 500–550 *v.*, 390 *K.W.* General manager & engineer, F. Edmondson, A.M.I.E.E.

Somerset & District Electric Power Co. *Proposed stations at* Radstock & Hanham.

South Bank in Normanby, Yorks. *An electric lighting order has been granted to the U.D.C., who are considering a scheme.*

South Lancashire Tramways Co. *See* Atherton.

South London Electric Supply Corporation, Ltd. *See* Lambeth.

South Metropolitan Electric Light & Power Co., Ltd., Blackwall Point, East Greenwich, S.E. L. P. *a.*, 2-*ph.*, 50 *py.*, primary 3000 *v.*, secondary 200 *v.*; 6000 *K.W.* Engr.-in-chief, H. W. Bowden; resident engr., John A. Constable (generating dept.); W. J. Allbright (distribution dept.).

South Metropolitan Electric Tramways & Lighting Co., Ltd., Electrical Federation Offices, Kingsway, W.C. *See* Sutton.

South Shields Corporation. L. *a.*, single-*ph.*, 50 *py.*, primary 2000 *v.*; secondary 110 & 220 *v.*; & *c.*, P. T., 550 *v.*, 2700 *K.W.* Chief engineer, J. H. Cawthra, M.I.E.E., A.M.I.M.E.

South Staffordshire Tramways (Lessee) Co., Ltd., James Bridge, South Staffs. T. *c.*, 300 *v.*, 273 *K.W.* Electrician, F. J. Smith.

South Wales Electrical Power Distribution Co.

Electricity Works—*continued.*

Southall, Norwood. *A provisional order has been granted to the Council, but has been conveyed to the Metropolitan Electric Co.*

Southampton Corporation. L. P. *a.*, 1-*ph.*, 50 *py.*, 200 *v.*; & *c.*L., 3-wire, 200 *v.*; P. 200 & 400 *v.*, T. 500 *v.*, 2320 *K.W.* H. F. Street, engr.

Southend Corporation Pier Electric Railway. *c.* L., 230 *v.*; P., 230, 460 or 500 *v.*; T., 500 *v.* Engineer, C. R. Norton.

Southend-on-Sea Corp. *c.*, 3-wire; L. P. 230 & 460 *v.*, T. 500 *v.*, 2100 *K.W.* Engr., R. Birkett, A.I.E.E.; chief assistant, A. C. Johnson.

Southgate. *The U.D.C. have entered into an agreement for the supply of electricity by the North Metropolitan Electric Power Supply Co.*

Southport & Birkdale Tramways. *Current supplied by Southport & Birkdale Corporations.* Tramways manager, J. Lloyd.

Southport Corporation. L. P. *a.*, single-*ph.*, 50 *py.*, primary 2200 *v.*, secondary 105 & 210 *v.*; & *c.* P. T., 500 *v.*, 2450 *K.W.* Engr., A. S. Black.

Southport Pier Railway, Southport. *Energy supplied by the Corp.*

Southwark Borough Council, Penrose-st., Walworth, S.E. L. P. *c.*, 3-wire, 220 & 440 *v.*, 1212 *K.W.* Engr., D. M. Kinghorn, A.M.I.E.E., A.M.I.M.E.

Southwold Electricity Supply, Southwold, Suffolk. Coast Development Corp., Ltd., props. L. inc., P. *c.*, 200 *v.*, 110 *K.W.* F. R. Hunter, engr.

Sowerby Bridge, Yorks. *E.L. order transferred to the Electrical Distribution of Yorkshire, Ltd.* Engr., A. W. Bissell.

Spalding, Lincolnshire. *The* 1905 *electric lighting order has been revoked.*

Spen Valley & Morley Tramways. Yorkshire (Woollen District) Elec. Tramways, Ltd., props. *Current purchased from local authorities.*

Spennymoor. *E. L. order held by Northern Counties Electricity Supply Co., Ltd.*

Springhead, Yorks. *The electric lighting order has been revoked.* Cons. engrs., Baker & Appleby.

Stafford Corporation. L. *c.*, 3-wire, 210 *v.*; P., 210 & 420 *v.*, 565 *K.W.* Resident engineer, H. Pooley, A.M.I.C.E.; electrician, R. E. Meade.

Stalybridge, Hyde, Mossley & Dukinfield Tramways & Electricity Board, Stalybridge. *a.*, 3-*ph.*, 40 *py.*, primary 6000 *v.*, converted to *c.*, 3-wire; L. arc & inc., 230 *v.*; P., 460 *v.*; T., 500 *v.*, 6500 *K.W.* Elec. engr., R. Blackmore. *See also* Dukinfield; & Hyde.

Stamford. Urban Electric Supply Co., Ltd., proprietors. L. inc. *c.*, 3-wire, 240 *v.*; P., 240 & 480 *v.*, 400 *K.W.* Engr., J. E. Edmundson.

Standish. *Order obtained by the U.D.C. Electricity in bulk to be supplied by Wigan Corp.*

Stanley, Durham. *Cleveland & Durham County Electric Power Co. hold provisional order.*

Stanley, Yorks. *E.L. order granted to U.D.C.*

Stepney Borough Council, 27, Osborn-st., Whitechapel, London, E. *c.*, 3-wire; L., 240 *v.*; P., 480 *v.*, 5720 *K.W.* W. C. P. Tapper, A.M.I.E.E., engr. & manager.

Electricity Works—*continued.*

Stevenage, Herts. *The U.D.C. have the question of E.L. under consideration.*

Stirling Corporation. *c.*, 3-wire; L. P., 230 & 460 *v.*, 638 *K.W.* Engr., J. W. Papworth; elecn., R. N. Pattison.

Stockport Corporation. *c.*, 3-wire; L. arc & inc., 230 *v.*; P., 230 & 460 *v.*; T., 500 *v.*, 2000 *K.W.* Electrical engineer, R. Lomax.

Stockton-on-Tees Corporation. L. *c.*, 3-wire, arc & inc., 230 *v.*; P., 230 & 460 *v.*, 1050 *K.W.* J. J. Smith, A.M.I.E.E., engineer.

Stoke Newington Metropolitan Borough Council, Edwards-lane, Stoke Newington, London, N. *Supply in bulk from North Metropolitan Electric Power Supply Co., a.*, 3-*ph.*, 50 *py.*, 10,000 *v.*, *transformed & converted to c.*, L. 240 *v.*, P. 240 & 480 *v.*, 315 *K.W.* Electrical engr., S. Hann.

Stoke-upon-Trent Corporation. L. P. *c.*, 3-wire, 240 & 480 *v.*, 900 *K.W.* P. J. S. Tiddeman, M.I.E.E., engineer.

Stornoway, N.B. *E. L. under consideration.*

Stourbridge, Worcestershire. *The provisional order transferred to the Midland Electric Corp. for Power Distribution, Ltd., which Co. are laying mains.*

Stourport. *Provisional order granted to the Kidderminster & District Elec. Light. & Traction Co.*

Stowmarket. Suffolk Electricity Supply Co., Ltd., proprietors. L. P. *c.*, 2-wire, 100 *v.* N. Prentice, engineer.

Stratford, London, E. G. E. Rly. Co., props. L. P. *c.*, 220 & 110 *v.*; & *a.*, 4-wire, 3-*ph.*, 50 *py.*, 6000–220, 110 & 55 *v.* L., 440 *v.* P., 3000 *K.W.* Engr., H. W. Firth.

Stratford-on-Avon Electricity Co., Ltd., Stratford-on-Avon. *c.* L. arc & inc., 220 *v.*; P., 440 *v.*, 100 *K.W.* Engr., C. D. Falcke; asst., P. Spiers.

Strathclyde Electricity Supply Co., Ltd., 53, Bothwell-st., Glasgow. *Holds orders for Kilpatrick, Eastwood, Cathcart & Rutherglen.*

Stretford Urban District Council. *c.*, 3-wire; L. inc. 220 *v.*, arc 440 *v.*; P., 220 & 440 *v.*; T., 550 *v.*, 1500 *K.W.* Consulting engineer, T. L. Miller; resident engineer, R. Rowland, A.M.I.E.E.

Strood. *See* Kent Electric Power Co.

Stroud, Nailsworth & Dursley. *Provisional order granted to Gloucestershire Electric Power Co.*

Suffolk Electricity Supply Co., Ltd. *See* Diss, Felixstowe & Stowmarket.

Sunderland Corporation. *a.*, 3-*ph.*, 50 *py.*, primary 5000 *v.*, secondary 220 *v.*, converted to *c.*, 2-wire; L. arc & inc., 220 *v.*; P., 220 & 440 *v.*; T., 500 *v.*, 6880 *K.W.* Chief engr., A. S. Blackman, M.I.M.E., M.I.E.E.; tech. assistants, S. R. Windle & H. Webber.

Sunderland District Tramways Co. *See* Houghton-le-Spring.

Surbiton Urban District Council. *c.* L. arc & inc., 240 *v.*; P., 240 & 480 *v.*, 380 *K.W.* Engineer, H. MacDonald Gill.

Sutton Coldfield Corporation. *c.*, 3-wire; L. inc., 230 *v.*; P., 460 *v.*, 625 *K.W.* T. Duesbury, A.M.I.E.E., engineer.

Electricity Works—*continued.*

Sutton, Carshalton, Cheam & Wallington, Surrey. South Metropolitan Electric Tramways & Lighting Co., Ltd., proprietors. L. P. *a.*, 1-*ph.*, 50 *py.*, primary 2000 *v.*, secondary 200 *v.*, 1550 *K.W.* Gen. man. & chf. engr., A. V. Mason; resident, H. J. Bates.

Sutton & Howth Electric Tramway, Dublin. Gt. N. Rly. Co. of Ireland, proprietors. T. *c.*, 550 *v.* A. W. Whieldon, M.I.E.E., engineer.

Sutton-in-Ashfield, Notts. *An electric lighting order has been granted to the U.D.C.*

Swadlincote. *A provisional order has been granted to the U.D.C. A supply is given from the Earl of Carnarvon's installation. Complete installation to be put down shortly.*

Swanage. *A provisional order is being applied for by Messrs. Foote & Milne, Ltd.*

Swansea Corp. *c.*, 3-wire; L., inc. 220 *v.*; arc & P., 220 & 440 *v.*; T., 550 *v.*; & *a.*, 2-*ph.*, 50 *py.*, 3000–220 *v.* L., 220 & 440 *v.* P., 2500 *K.W.* C. A. L. Prusmann, M.I.E.E., A.M.I.M.E., engr.

Swansea Electric Tramways. Swansea Improvements & Tramways Co., proprietors. T. *c.*, 550 *v.*, 620 *K.W.* Resident engr., A. Johnston.

Swindon Corporation. *c.* L. arc & inc., 220 *v.*; P., 220 & 440 *v.*; T., 500 *v.*, 900 *K.W.* Engr., A. Dimmack, A.M.I.M.E.; tram man., T. Medcalf.

Swinton, Yorks. *E.L. order taken over by the Mexborough & Swinton Tramway Co., q.v.*

Swinton & Pendlebury Urban District Council, Lancs. *The Lancashire Electric Power Co. supply current in bulk.* L. P. *c.*, 250 & 500 *v.*, 150 *K.W.* Cons. engrs., T. L. Miller, Wilson & Pegg.

Sydenham. *See* South Metropolitan Electric Light & Power Co., Ltd.

Tadcaster Electricity Co., Tadcaster, Yorks. L. *c.*, 3-wire, 230 & 460 *v.*, 158 *K.W.* Consulting engineers, Christy Bros. & Middleton.

Tamworth, Warwickshire. *An E.L. order has been obtained.*

Taplow, Cookham & Bray. *See* Maidenhead.

Taunton Corporation. L. P. *a.*, single-*ph.*, 60 *py.*, 2200–105 & 210 *v.* L. & P. *Supply to* T. *c.*, 550 *v.*, 1100 *K.W.* E. J. B. Thornhill, A.M.I.E.E., engr.

Taunton Electric Traction Co., Ltd., Tramway Depôt, Taunton. Man., F. J. Ayliffe. *c.*, 500 *v.* *Current supplied by Corporation.*

Tavistock. 1904 *E. L. order revoked.*

Tayside Electric & Gas Light Co., Ltd. *See* Wormit.

Teddington, Middlesex. *See* Twickenham.

Teignmouth Urban District Council. *Order transferred to Crompton & Co., Ltd.*

Tewkesbury Electric Light Co., Ltd., Tewkesbury.

Thames Ditton. *Supplied from Surbiton Works.*

Thetford. *E.L. under consideration.*

Thirsk & Sowerby, Yorks. Northern Counties Electricity Supply Co., Ltd., proprietors. L. *c.*, 3-wire, 230 *v.*, 35 *K.W.* Engineer, C. W. Fairweather.

Electricity Works—*continued.*

Thornaby-on-Tees. Cleveland & Durham County Electric Power Co., proprietors. *a.*, 3-*ph.*, 40 *py.*, 11,000 *v.* Manager, A. B. Gridley.

Thornhill. The Yorkshire Electric Power Co., proprietors. L. P. *a.*, 3-*ph.*, 50 *py.*, 10,000–12,000–400–230 *v.* P., *transmission to sub-station, converted to c.* L., 220 *v.*; P. T., 500 *v.*, 6000 *K.W.* Engr., W. B. Woodhouse, A.M.I.MECH.E., A.M.I.E.E. *Bulk supply given to Electrical Distribution of Yorkshire, Ltd., Pudsey Corp., Brighouse Corp., U.D.C. of Mirfield & Ravensthorpe.*

Tipton. *See* Ocker Hill.

Tiverton. *E.L. under consideration.*

Todmorden Corporation, Todmorden, Yorks. *c.*, 3-wire; L. inc., 230 *v.*; P., 230 & 460 *v.*, 250 *K.W.* Engineer, H. Talbot.

Tonbridge Urban District Council, Tonbridge, Kent. *c.*, 3-wire; L., 220 *v.*; P., 220 & 440 *v.*, 270 *K.W.* Engineer, M. P. Plunkett, A.M.I.E.E.; assistant, C. J. Wood.

Ton-yr-efail & Gilfach Goch Electric Light Co., Ltd., Mill-st., Ton-yr-efail. L. T. *a.*, 1-*ph.*, 50 *py.*, 2200–220 *v.*, 75 *K.W.* Engr., A. J. Arthur.

Topsham Electricity Supply Co., Ltd., Topsham, Devon. L. P. *c.*, 100 *v.*, 40 *K.W.* Engineer, H. C. Gould.

Torquay Corporation. *a.* L. P., single-*ph.*, 50 *py.*, primary 2100 *v.*, secondary 200 *v.*; *c.* T., 500–550 *v.*, 540 *K.W.* P. Storey, M.I.M.E., A.M.I.E.E., engineer.

Totnes. Electric Supply Corp., Ltd., props. *c.*, 3-wire, 225 *v.*, 66 *K.W.* Chf. engr., K. A. Scott Moncrieff.

Tottenham, Middlesex. North Metropolitan Electric Power Supply Co., props. L., 1-*ph.*, 4-wire, 50 *py.*, 2750, 3000–240 *v.*; P., 3-*ph.*, 50 *py.*, 2750–3000–415 *v.*, 500 *K.W.* Chief engr., E. T. Ruthven Murray; res. engr., I. Wilson.

Tower-st. *See* Metropolitan Electric Supply Co.

Trafford Park Estates, Ltd., Trafford Park, Manchester. *Current supplied by Trafford Power & Light Supply* (1902), *Ltd. c.* L., 250 & 500 *v.*; T., 500–525 *v.*, 150 *K.W.*

Trafford Power & Light Supply (1902), Ltd. *See* Manchester & Sale.

Treeton Parish Council. L. *c.*, 1250 *v.*, 13 *K.W.* W. H. Barwell, M.I.MIN.E., engineer.

Treforest Electrical Consumers Co., Ltd., Treforest, Glam. P. *a.*, 3-*ph.*, 25 *py.*, 11,000–440 *v.* (any voltage is given or *c.* current by arrangement), 5400 *K.W.* Engr., W. A. Chamen; res. engr., H. N. Holland.

Tunbridge Wells Corporation. L. P. *a.*, 67·5 *py.*, single-*ph.*, primary 2000 *v.*, secondary 110 & 220 *v.*, 1425 *K.W.* Cons. engr., H. L. P. Boot, M.I.E.E.; res. engr., J. W. Beauchamp, A.M.I.E.E.

Tunstall, Staffs. *Electric current is now supplied by Burslem Council.*

Twickenham & Teddington Electric Supply Co., Ltd., Twickenham. L. P. *c.*, 3-wire, 240 & 480 *v.*, 816 *K.W.* Resident engineer, M. Farrer.

Electricity Works—*continued.*

Tyldesley-with-Shakerley, Lancs. *E.L. order transferred to the Lancashire Electric Power Co.* Consulting engineer, T. L. Miller.

Tynemouth, County Borough of, Corporation Electricity Works, Tanners Bank, North Shields. *c.*, 3-wire; L., 220 *v.*; P., 220 & 440 *v.*; T., 550 *v.*, 1070 *K.W. Bulk supply from Newcastle-on-Tyne Electric Supply Co.* Engr., C. Turnbull, M.I.E.E.

Tynemouth & Whitley Tramways. Tramways Depôt: Cullercoats. Tynemouth & District Electric Traction Co., proprietors. *Power supplied by Tynemouth Corporation.* Engineer & gen. manager, R. Simpson.

Tyneside Tramways. Tyneside Tramways & Tramroads Co., proprietors. *Power supplied by Newcastle Electric Supply Co., Ltd., & Tynemouth Corp.* Engineer, F. H. Briggs; resident manager, J. C. Little.

Uddington. *Provisional order granted to the Lanark C.C.*

Underground Electric Railways Co. of London, Ltd., Lots-rd., Chelsea, S.W. *a.*, 3-*ph.*, 33⅓ *py.*, 11,000–600 *v. c.*, 55,000 *K.W.* Res. engr., J. W. Towle, M.I.E.E., M.I.C.E.I.

Uphall. *E.L. order granted to the Linlithgow C.C.* Consulting engineer, A. Lindsay.

Urban Electric Supply Co., Ltd., Broad Sanctuary-chbrs., Westminster, London, S.W. *See* Berwick-on-Tweed; Caterham; Camborne; Dartmouth; Glossop; Godalming; Grantham; Hawick; Newbury; Newton Abbot; Stamford; & Weybridge.

Usworth, co. Durham. *Electric lighting to be adopted.*

Uxbridge, Waterloo-rd. L. P. *a.*, single-*ph.*, 50 *py.*, 100 & 200 *v.*, 1040 *K.W.* Engr., A. Randall Bell, A.M.I.E.E.

Ventnor & Bonchurch, I.W. Isle of Wight Electric Light & Power Co., Ltd. L. *c.*, 3-wire, 210 *v.*; P., 210 & 420 *v.*, 500 *K.W.* Engineer & manager, A. E. Mayes, A.M.I.E.E.

Volk's Electric Railway, Brighton. *c.*, 230–460 *v.*, 90 *K.W. Current purchased from Corp. at* 460 *v.* Engineer, M. H. Volk.

Wadebridge & District Electric Supply Co., Wadebridge, Cornwall. L. P. *c.*, 130 *v.*, 46 *K.W.* Engr., H. Salmon.

Wakefield Corporation. L. P. *a.*, 2-*ph.*, 60 *py.*, primary 2000 *v.*, secondary 200 *v.*, 1450 *K.W.* Engineer, H. A. Nevill.

Wakefield & District Light Railways Co., Belle Isle, Wakefield. T. *a.*, 3-*ph.*, 25 *py.*, 6500–550 *v.*, 1200 *K.W.* Engr., C. J. Jewell; & at Castleford, 400 *K.W.* Engr., J. C. Stewart.

Walker Sub-station, Northumberland. Newcastle-on-Tyne Electricity Supply Co., Ltd., proprietors. L. *c.*, 240 & 480 *v.*, 600 *K.W.*

Wallasey Urban District Council. L. P. *a.*, single-*ph.*, 50 *py.*, 2100–100 & 200 *v.*; & T. *c.*, 500 *v.*, 2550 *K.W.* J. A. Crowther, engr.

Wallington, Surrey. *See* Sutton.

Electricity Works—*continued.*

Wallsend. Newcastle-on-Tyne Electricity Supply Co., Ltd., proprietors, Neptune Bank, Wallsend. L. P. *a.*, 3-*ph.*, 40 *py.*, primary 5750 *v.*, secondary L. 240 *v.*, P. 440 *v.*; & *c.*, 3-wire; L. 240 *v.*, P. 480 *v.*, 5200 *K.W.* Cons. engrs., Merz & McLellan. *See also* Carville.

Walmer, Kent. *The* 1904 *E.L. order has been revoked.*

Walsall Corporation. *c.* L. arc & inc. P., 105 & 210 *v.*; T., 500 *v.*, 1730 *K.W.* Engineer, A. S. Barnard, M.I.E.E., A.M.I.C.E.

Walthamstow District Council, Priory-ave., Walthamstow, Essex. *c.*, 3-wire; L. inc., 230 *v.*; arc & P., 230 & 460 *v.*; T., 525 *v.*, 2200 *K.W.* Engineer, G. R. Spurr, A.M.I.E.E., A.M.I.MECH.E.

Walton-le-Dale, Lancs. *The* 1904 *electric lighting order has been revoked.*

Walton-on-Naze. Coast Development Corp., proprietors. L. P. T. *c.*, 230 *v.*, 90 *K.W.* Engineer, E. A. Lambert.

Walton-on-Naze Pier Electric Railway. Coast Development Corporation, Ltd., props. L. P. T. *c.*, 250 *v.*, 90 *K.W.* Engineer, E. A. Lambert.

Walton-on-Thames. *Transmitted from the Urban Electric Supply Co.'s works at Weybridge at* 2500 *v., & transformed down to* 240 *v.* L., 240 *&* 480 *v.* P., 105 *K.W.* Engr., H. W. Watts, A.M.I.E.E., A.M.I.MECH.E.; asst. engr., S. B. Howard.

Wandsworth. County of London Electric Supply Co., Ltd., proprietors. L. P. *a.*, 2-*ph.*, 50 *py.*, primary 6000–2000 *v.*, secondary 205 *v.*; *c.* from sub-station, 410 *v.*, 2900 *K.W.* C. P. Sparks, chief engineer; A. A. Whitlock, resident engineer.

Wantage, Berks. *The Wantage Engineering Co., Ltd., have obtained an E.L. order.*

Warmley, Glos. *The Council is to apply to the B. of T. for extension of time under the Warmley E.L. order,* 1903, *& for authority to transfer to the Kingswood Electrical Supply Co.* Cons. engrs., Pressland & Fippard.

Warrenpoint, Ireland. *E.L. under consideration.*

Warrington Corporation. *c.* L., 3-wire, inc. 230 *v.*, arc 460 *v.*; P., 230 & 460 *v.*; T., 500 *v.*; & 3-*ph.*, 6000–220 *v.* L., 380 *v.* P., 2150 *K.W.* Engineer, F. V. L. Mathias, A.M.I.E.E.

Warwick. Leamington & Warwick Electrical Co., Ltd., props. *c.* L., 230 *v.*; P., 460 *v. Supply to Leamington* T., 550 *v.*, 630 *K.W.* Man. engr., R. L. McCulloch.

Waste Heat & Gas Electric Generating Stations. *See* Newcastle.

Waterford. *An electric lighting order has been granted to the National Provincial Electricity Corp., Ltd.*

Watford Urban District Council. L. P. *a.*, single-*ph.*, 50 *py.*, 2000–200 *v.*, 1630 *K.W.* Chief elec. engr., F. W. Purse, A.M.I.E.E., A.M.I.M.E.

Wealdstone. *The* 1906 *provisional order has been revoked.*

Wedmore Electric Light & Power Co., Wedmore. L. *c.*, 230 *v.*, 20 *K.W.* Engr., J. Hankinson. *Works under construction.*

Electricity Works—*continued.*

Wednesbury Corporation, Wednesbury, Staffs. L. P. *c.*, 3-wire, 230 & 460 *v.*, 480 *K.W.* Engr. & man., W. Fennell.

Wednesbury & West Bromwich Tramways. *Current supplied by West Bromwich Corporation, q.v.*

Wellingborough. County of Northampton Electric Power & Traction Co., Ltd., proprietors. L. *c.* arc & inc., 230 *v.*; P., 460 *v.*, 275 *K.W.* Res. engr., W. J. S. Jones, A.M.I.E.E.

Wellington, Salop. *An electric lighting order has been obtained.* Cons. engr., T. L. Miller.

Wembley. *E.L. order granted to the Council has been transferred to the North Metropolitan Electrical Power Distribution Co., Ltd.*

Wemyss & District Tramways Co., Ltd., Aberhill, Methil, Fife. 550 *v.*, 660 *K.W.* Engr., R. Richardson.

West Bromwich Corporation. *c.*, 3-wire; L. arc & inc., 230 *v.*; P., 230 & 460 *v.*; T., 500–550 *v.*, 1550 *K.W.* Engineer, W. A. Jackson.

West Cumberland Electric Tramways. Stations at Cleator Moor, Maryport, Whitehaven & Workington. *Works not yet commenced.* Consulting engineer, Sir D. Fox.

West Ham Corporation, Romford-rd., Stratford, E. Power station: Tucker-st., Canning Town, London, E. L. P. *a.*, 1- & 2-*ph.*, 50 *py.*, primary 2000–6000 *v.*, secondary 100 & 200 *v.*; P. T. *c.*, 500 & 550 *v.*, 11,400 *K.W.* Engr., H. H. Couzens.

West Hartlepool Corporation. *c.*, 3-wire; L., inc. 230 *v.*, arc & P. 230 & 460 *v.*, 1600 *K.W.* H. F. Friederichs, M.I.C.E., engineer.

Westgate & Birchington. *Electric lighting order granted to Isle of Thanet Electric Tramway & Lighting Co., Ltd.*

Westhoughton, Lancs. *The U.D.C. has decided to transfer the Council's order to the Lancashire Elec. Power Co.*

Westminster Electric Supply Corporation, Ltd., Eccleston-pl., Belgravia, S.W. *c.*, 3-wire; L. arc & inc. P., 200 & 400 *v.*, 16,113 *K.W.* Chief engineer, Sir A. B. W. Kennedy, LL.D., F.R.S., M.I.C.E.; assistant engineer-in-chief, C. O. Grimshaw, M.I.C.E. *Also* Davies-st. & Millbank-st. Stations.

Weston-super-Mare & District Electric Supply Co., Ltd., Electrical Federation Offices, Kingsway, London, W.C.; & Weston-super-Mare. *c.*, 3-wire; L., 280 *v.*; P., 460 *v.*; T., 500 *v.*, 800 *K.W.* Engr., G. Charlton.

Weybridge. Urban Electric Supply Co., Ltd., proprietors. L. *c.*, 3-wire, 240 *v.*; P., 240 & 480 *v.*, 580 *K.W.* Resident engineer, H. W. Watts, A.M.I.E.E., A.M.I.M.E.; assistant engineer, Selby B. Howard.

Weymouth & Melcombe Regis Corporation, Weymouth, Dorset. L. P. *c.*, 3-wire, 230 & 460 *v.*, 694 *K.W.* Engr., J. H. Bolam, M.SC., A.M.I.E.E.

Whickham. *E.L. order transferred to the County of Durham Electrical Power Distribution Co., Ltd.*

Electricity Works—*continued.*

Whiston. *See* Prescot.

Whitby Urban District Council. L. P. *c.*, 3-wire, 230 & 460 *v.*, 400 *K.W.* Engineer, L. H. King.

Whitchurch & Pangbourne Electric Supply Co., Ltd., Whitchurch, Oxon. L. *c.*, 3-wire, 240 *v.*; P., 480 *v.*, 87 *K.W.* Resident engr., D. H. Coombs; elecn., A. M. Tirbutt.

Whitechapel. *See* Stepney.

Whitefield U.D.C., Whitefield, Lancs. *Order to be transferred to the Lancashire Electric Power Co.*

Whitehaven Corporation. *c.*, 3-wire; L. arc & inc., 210 *v.*; P., 210 & 420 *v.*, 386 *K.W.* Elec. engr., B. Sankey, A.M.I.E.E., A.M.I.MECH.E.

Whitley & Monkseaton, Northumberland. Northern Counties Electricity Supply Co., Ltd., proprietors. L. *c.*, 3-wire, 230 *v.* Consulting engineer, C. W. Fairweather. *Under construction.*

Whitwood, Yorks. *The U.D.C. has an electric lighting scheme under consideration.*

Whitworth. *Provisional order has been granted to the U.D.C.* Consulting engineers, J. & J. S. Enright. *Negotiations pending for supply in bulk.*

Wickwar, Glos. Arnold, Perrett & Co., Ltd., proprietors. L. P. *c.*, 2-wire, 100 & 200 *v.* Engineer, F. G. Ansell, F.C.S.

Widnes, Lancs. *E.L. order granted to the Corp. Plans to be prepared.* Engr., J. Carr, M.INST.C.E.

Wigan Corporation. L. *c.*, 3-wire, 230 & 460 *v.*; P., 460 *v.*; T., 500–550 *v.*, 1960 *K.W.* Jas. Slevin, engineer.

Willesden District Council, Salusbury-rd., Willesden, N.W. *Current supplied in bulk by North Metropolitan Electric Power Supply Co. to sub-station, a.*, 3-*ph.*, 50 *py.*, primary 2700–3000 *v.*; & *c.* L. inc. arc P., 240 & 480 *v.*, 900 *K.W.* Engineer, J. G. Bruce.

Willesden, N.W. *Bulk supply from* North Metropolitan Electric Power Supply Co., proprietors. *a.*, 3-*ph.*, 50 *py.*, 3000 *v.*, to sub-station at Salusbury-rd., Kilburn, *converted to c.*, 3-wire, 240 *v.* & 480 *v.* All consumers supplied at 240 or 480 *v.*, *c.*, 3-wire. Engr., J. G. Bruce.

Willington, Brandon & Byshottles & Brancepeth, Durham. *Provisional order granted to the County of Durham Electrical Power Distribution Co.*

Wilmslow. Alderley & Wilmslow Electric Supply Co., Ltd., proprietors.

Wimbledon Borough Council. L. P. T. *a.*, 2-wire, 1-*ph.*, 50 *py.*, primary 2250 *v.*, secondary 220 & 440 *v.*, 2685 *K.W.* H. Tomlinson-Lee, A.M.I.E.E., engr.

Winchester Electric Light & Power Co., Ltd. L. P. *c.*, 3-wire, 210 & 420 *v.*, 900 *K.W.* Engr., H. N. Warburton; assistant, H. W. Nutley.

Windermere & District Electricity Supply Co., Ltd. L. *a.*, single-*ph.*, 100 *py.*, primary 2000 *v.*, secondary 100 *v.*, 325 *K.W.* Manager & secretary, Chris. Walker.

Windsor Electrical Installation Co., Ltd., Peascod-st., Windsor. L. *c.*, 3-wire, 110 *v.*; P., 220 *v.*, 630 *K.W.* A. E. Farrow, A.M.I.E.E., engineer.

Electricity Works—*continued.*

Wisbech Electric Light & Power Co., Ltd., Wisbech. *E.L. order obtained.* Consulting engineers, R. Hammond & Son.

Wishaw, N.B. *Current in bulk is supplied by the Clyde Valley Electric Power Co. to the Burgh.* L. P. *c.*, 240 & 480 *v.*, 500 *K.W.* Engr., E. F. Cox.

Witney Electric Supply Co., Ltd., Gloucester-pl., Witney. L. P. *c.*, 2-wire, 220 *v.*, 100 *K.W.* Engineer, F. G. Curel.

Woking Electric Supply Co., Ltd., Woking, Surrey. L. P. *a.*, single-*ph.*, 100 *py.*, primary 2000 *v.*, secondary 200 *v.*, 1175 *K.W.* J. G. McLean, M.I.E.E., engineer.

Wolverhampton Corporation. *c.*, 3-wire; L. arc & inc., 220 *v.*; P., 220 & 440 *v.*; T., 500 *v.*, 5230 *K.W.* C. E. C. Shawfield, A.M.I.E.E., M.I.MECH.E., engineer.

Wolverhampton District Electric Tramways, Bilston. T. *c.*, 500 *v.* *Power obtained from Dudley Corporation & Midland Electric Corporation.* Engr., W. Norris.

Wood Green Urban District Council, Town Hall, Wood Green, Middlesex. (Teleph. No. 22, Palmer's Green.) Cons. engrs., May & Hawes.

Woodbridge, Suffolk. *The U.D.C. has cancelled its provisional agreement with the Suffolk Electricity Supply Co., Ltd.*

Woolacombe, Devon. *E.L. scheme*, 100 *v.*, *under consideration.*

Woolwich Borough Council, Globe-lane, Woolwich. *c.*, 3-wire; L., inc. & arc, 210 *v.*, P. 210 & 420 *v.*, T. 500–550 *v.*; & *a.*, 4-wire, L. P. T., 3-*ph.*, 50 *py.*, 6600–220 *v.* L., 22 & 380 *v.* P., 2500 *K.W.* Engr., G. W. Keats; elecn., H. H. Clare.

Worcester Corporation. L. P. T. *a.*, single-*ph.*, 100 *py.*, primary 2000 *v.*, secondary 100 or 200 *v.*; & *c.*, 3-wire & 2-wire; L., inc. 230 *v.*; arc & P. 230 or 460 *v.*; T., 500 *v.*, 1925 *K.W.* Engineer, C. M. Shaw, A.M.I.E.E., A.M.I.M.E.

Worcester Electric Traction Co., Ltd., Electrical Federation Offices, Kingsway, London, W.C. *Power supplied by Corporation.*

Worksop Urban District Council. *c.*, 3-wire; L., inc. 220 *v.*, arc 440 *v.*; P., 220 & 440 *v.*, 540 *K.W.* Engineer, J. Percival Crowther.

Wormit. Tayside Electric & Gas Light Co., proprietors. L. *c.*, 2-wire, 230 *v.*, 27 *K.W.* Consulting engineers, Lowdon Bros. & Co.; res. engr., E. A. Stewart.

Worsley, Lancs. *It has been decided to transfer the electric lighting order to the Lancashire Electric Power Co.*

Worthing Corporation. *c.*, 3-wire; L., inc. 230 *v.*, arc & P. 230 & 460 *v.*, 554 *K.W.* Engineer, G. Porter, A.M.I.C.E.

Wrexham Corporation. *c.*, 3-wire; L. arc & inc., 230 *v.*; P., 230 & 460 *v.*; T., 500–550 *v.*, 790 *K.W.* Engr., W. G. Pickvance.

Wrexham & District Electric Tramways, Ltd. *Power supplied by Corporation.*

Electricity Works—*continued.*

Wycombe (Borough) Electric Light & Power Co., Ltd., High Wycombe. *c.*, 3-wire; L., 210 *v.*; P., 210 & 420 *v.*, 950 *K.W.* W. E. Brandreth, engineer.

Yale Electric Power Co., Ltd. *See* Blaenau Festiniog.

Yardley, Worcestershire. *An electric lighting order has been granted to the R.D.C. Scheme under consideration.*

Yarmouth Corporation, South Denes-rd., Great Yarmouth. L. P. *a.*, single-*ph.*, 83·5 *py.*, primary 2000 *v.*, secondary 100 & 200 *v.*; & *c.* L., arc 1500 *v.*, inc. 100 & 200 *v.*; P. T., 500 *v.*, 1035 *K.W.* Gordon Bryant, A.M.I.E.E., engr.

Yarmouth & Gorleston Tramways. Yarmouth Corp., props. *c.*, 500 *v.* Engr., J. W. Corkill, M.I.C.E.; electrician, Gordon Bryant, A.M.I.E.E.

Yoker. Clyde Valley Electrical Power Co., proprietors. L. *a.*, 3-*ph.*, 50 *py.*, 3000–230 *v.*; P., 3-*ph.*, 25 *py.*, 11,000–400 *v.*, 6600 *K.W.* Engineer & general manager, D. A. Starr.

York Corporation. L. P. *c.*, 3-wire, 230 & 460 *v.*, 1860 *K.W.* Resident engineer, J. W. Hame.

Yorkshire Electric Power Co., Calder-rd., Thornhill. *See* Thornhill.

Yorkshire (Woollen District) Electric Tramways, Ltd., Tramways Depôt, Liversedge. 500–550 *v. c.*, 1370 *K.W. Current supplied by Batley & Dewsbury Corporations & Cleckheaton & Heckmondwike Urban District Councils.* Engr., R. C. Goldston.

Ystradgynlais. *An electric lighting scheme to be carried out.*

Electricity Works—Contractors for the Construction & Maintenance of.

F.—Usines élec.—Entrepreneurs de construction.

G.—Elektricitäts Centrale—Unternehmer zur Errichtung u. Aufrechterhaltung von.

Bailie, J. D., Messrs. C. A. Parsons & Co., Prudential-bldgs., Park-row, Leeds. (Telegs.: "Turbo, Leeds." Teleph. No. 1194.)

BELLISS & MORCOM LTD., Ledsam-st. Works, Birmingham. London office: 8, Victoria-st., S.W. (Telegs.: "Belliss, Birmingham." Teleph. Nos. 4480 & 4481.) *See advt., page* 533.

British Thomson-Houston Co., Ltd. Head office & works: Rugby. Registered office: 83, Cannon-st., London, E.C. Branch offices: 91, Wellington-st., Glasgow; 41, Church-st., Sheffield; Collingwood-bldgs., Newcastle-on-Tyne; Star Life-bldgs., 30, Cross-st., Manchester; Maritime-bldgs., Middlesbrough; 115, Colmore-row, Birmingham; & Greek-st.-chbrs., Leeds. (Telegs.: "Asteroidal." Teleph. Nos.: Head office, Rugby 54 & 55; London office, London Wall 135 (4 lines).)

British Westinghouse Electric & Manufacturing Co., Ltd., The, Westinghouse Works, Trafford Park, Manchester.

Electricity Works—Contractors for the Construction & Maintenance of—*continued.*

Callender's Cable & Construction Co., Ltd., Hamilton House, Victoria Embankment, London, E.C. *See advt., page* 441.

Cox-Walkers, Ltd., Darlington. *See advt., page* 15.

CROMPTON & CO., LTD., Salisbury House, London Wall, London, E.C. Works: Chelmsford. Contractors to H.M. Office of Works, the Admiralty, &c. *See advt. inside front cover.*

Electric Construction Co., Ltd., Wolverhampton. Head office: Dashwood House, 9, New Broad-st., E.C.

ELECTRICAL POWER STORAGE CO., LTD., SOLE MANUFACTURERS OF THE CELEBRATED E.P.S. STORAGE BATTERIES. HEAD OFFICE: 4, GREAT WINCHESTER-ST., E.C. WORKS: MILLWALL, LONDON, E. Storage battery makers by Royal Warrant to His Majesty the King. (TELEGS.: "STORAGE, LONDON." TELEPH. LONDON WALL 1253.) *See advt., page* 427.

Foote & Milne, Ltd., 66, Victoria-st., London, S.W. (Telegrams: "Pedetentim, London." Telephone No. 352, Westminster.)

GLOVER, F. A., & CO., LTD., Vine-st., Clerkenwell-rd., E.C.

HART ACCUMULATOR CO., LTD., Marshgate-lane, Stratford, London, E.; Manchester & Birmingham. For branch & telegraphic addresses & telephone numbers, *see* Alphabetical Section. *See advt., page* 407.

INDIA RUBBER, GUTTA PERCHA & TELEGRAPH WORKS COMPANY, LTD. Head offices: 106, Cannon-st., E.C. Warehouses: 100 & 102, Cannon-st., London, E.C.; & 97, boul. Sebastopol, Paris. Works: Silvertown, Essex; & Persan, France. For telegraphic addresses & branches, *see advt. outside of back cover.*

Johnson & Phillips, Ltd., Victoria Works, Charlton, S.O., Kent; & 12, Union-ct., Old Broad-st., E.C. *See advt. inside back cover.*

LAHMEYER ELECTRICAL CO., LTD., 109–111, New Oxford-st., London, W.C. (Telegs.: "Drehstrom, London." Teleph. Nos. 133 & 134, Gerrard.)

LANCASHIRE DYNAMO & MOTOR CO., LTD. Offices & works: Trafford Park, Manchester; 28, Victoria-st., London, S.W.; 87, Union-st., Glasgow; Northumberland-st., Newcastle-on-Tyne; St. Mary-st., Cardiff; & 3, New-st., Birmingham. *See advt., page* 729.

MATHER & PLATT, LD., Salford Iron Works, Manchester; & Queen Anne's-chbrs., Westminster, London, S.W. (Telegrams: "Mather, Manchester;" "Sprinkler, London." Nat. Telephone Nos.: 5781, 5782 & 5783, Manchester; & 851 & 852, Westminster.)

NALDER BROS. & THOMPSON, LTD. (managing director, F. H. Nalder), 34, Queen-st., Cheapside, London, E.C. *See advt., page* 643.

Electricity Works—Contractors for the Construction & Maintenance of—*continued.*

NEWTONS LTD., Taunton. (Telegrams: "Arc, Taunton." Telephone No. 9.)

SIEMENS BROS. DYNAMO WORKS, LTD., Caxton House, Westminster, London, S.W.

TURK SYSTEM DRYING CO., 23, Budge-row, London, E.C. (Teleph. Central 159.) We undertake to eradicate all dampness & inherent moisture from walls, floors, &c., in Conduits, Switch Room, Inspection Chambers, Transformer Chambers & Basements which prevents leakage. *See advt., page* 624.

WHITE, J. G., & CO., LTD., 9, Cloak-lane, Cannon-st., London, E.C. New York correspondents: J. G. White & Co., 43–49, Exchange-pl.

Electro-Galvanizing Plants.

CLARKE, CHAPMAN, & CO., LTD., Victoria Works, Gateshead-on-Tyne. (Telegrams: "Cyclops, Gateshead.")

Electro-Medical Apparatus.

Dowsing Radiant Heat Co., Ltd., 24, Budge-row, Cannon-st., London, E.C. West End establishment: 28, York-pl., Baker-st., W.

SIEMENS BROS. & CO., LTD., Caxton House, Westminster, London, S.W. *See advt., page* 573.

Electro-Platers' & Electrotypers' Plant & Material Manufacturers.

F.—Galvanoplastie—Electrotypie—Fournitures pour.

G.—Galvanoplastik, &c.—Materialien für.

CANNING, W., & CO., electro-platers' & polishers' machinery, appliances & materials; dynamos; complete gold, silver & nickel, brass, copper, tin & electrotypers' plant; electric motor manufacturers. Head office & works: 133–137, Gt. Hampton-st., Birmingham; & at 18–20, St. John's-sq., Clerkenwell, London, E.C.

COOKE, E. J., 2, 4, 5, Parsonage, MANCHESTER.
Walrus & Bull Neck Leather for Polishing.
Tanned Buffalo Butts & Bends.
Rolled Hard Leather for Polishing, &c.
Buff Leather in Hides, Butts & Strips.
Hard Raw Hide Mallets specially made for workers in Brass, Silver, Copper, &c., &c.
Large Buff & Glazer Wheels covered with Bull Neck or Walrus Leather.
All kinds of Leathers for Mining, Engineering & Metal Polishing Trades.
(Telegraphic address: "HIDES, MANCHESTER." Tel. No. 1544.)

Electro-Platers' Supply Factors.

F.—Galvanisation—Commissionaires de fournitures pour la.

G.—Elektro. Versilberer Materialen—Lieferanten.

CANNING, W., & CO., electro-platers' & polishers' machinery, appliances & materials; dynamos; complete gold, silver & nickel, brass, copper, tin & electrotypers' plant; electric motor manufacturers. Head office & works: 133–137, Gt. Hampton-st., Birmingham; & 18–20, St. John's-sq., Clerkenwell, London, E.C.

Smith, T., & Co., 10, Percival-street, Clerkenwell, London, E.C.

Electro-Plating & Depositing Machine Manufacturers.

F.—Machines pour dorure, argenture et galvanoplastie—fab. de.

G.—Maschinen für Galvanoplastik.

CANNING, W., & CO., electro-platers' & polishers' machinery, appliances & materials; dynamos; complete gold, silver & nickel, brass, copper, tin & electrotypers' plant; electric motor manufacturers. Head office & works: 133–137, Gt. Hampton-st., Birmingham; & 18–20, St. John's-sq., Clerkenwell, London, E.C.

CLARKE, CHAPMAN & CO., LTD., Victoria Works, Gateshead-on-Tyne. (Telegrams: "Cyclops, Gateshead.")

COOKE, E. J., 2, 4, 5, Parsonage, MANCHESTER.
Walrus & Bull Neck Leather for Polishing.
Tanned Buffalo Butts & Bends.
Rolled Hard Leather for Polishing, &c.
Buff Leather in Hides, Butts & Strips.
Hard Raw Hide Mallets specially made for workers in Brass, Silver, Copper, &c., &c.
Large Buff & Glazer Wheels covered with Bull Neck or Walrus Leather.
All kinds of Leathers for Mining, Engineering & Metal Polishing Trades.
(Telegraphic address: "HIDES, MANCHESTER." Tel. No. 1544.)

Hartley, J. E., & Son, St. Paul's-sq., Birmingham.

HOLMES, J. H., & CO., Portland-road, Newcastle-on-Tyne; also at 17, Soho-sq., London, W.; Examiner-bldgs., Strutt-st., Manchester; & 19, Waterloo-st., Glasgow.

Johnson & Phillips, Ltd., Victoria Works, Charlton, S.O., Kent; & 12, Union-ct., Old Broad-st., London, E.C. *See advt. inside back cover.*

MATHER & PLATT, LD., Salford Iron Works, Manchester; & Queen Anne's-chbrs., Westminster, London, S.W. (Telegrams: "Mather, Manchester;" "Sprinkler, London." Nat. Telephone Nos.: 5781, 5782 & 5783, Manchester; & 851 & 852, Westminster.)

NEWTONS LTD., Taunton. (Telegrams: "Arc Taunton." Telephone No. 9.)

Electro-Plating & Depositing Machine Manufacturers—*continued.*

PHŒNIX DYNAMO MANUFACTURING CO., LTD. Head offices: Thornbury Works, Bradford. (Telegs.: "Dynamo, Bradford." Teleph. No. 952.) London office: 17, Victoria-st., S.W.

REES ROTURBO MANUFACTURING CO., LTD., Wednesfield-rd., Wolverhampton.

Electro-Silver & Nickel Platers & Gilders.

F.—Doreurs et argenteurs.
G.—Versilberer.

Ashberry, P., & Sons, Ltd., 21, Bowling Green-st., Sheffield.

Beck & Moss, Ltd., Faraday Works, Cannon-st., Hanley, Staffs.

Carlisle Electro Plating Co., Devonshire Walk, Carlisle.

Cupper, Tom, 17, Cross-st., Hatton Garden, London, E.C.

Greenock & Glasgow Electro Co., 14, Charles-st., Greenock.

London Electro Plating & Refining Co., 23, St. John's-lane, Clerkenwell, London, E.C.

Lovelace, H. G., 7, Gerrard-st., Soho, London, W.

McGeoch, William, & Co., Ltd., 28, West Campbell-st., Glasgow. (Telegs.: "McGeoch, Glasgow." Teleph. Nos.: Nat., 2181 (4 lines), Argyle; P.O., 101 & 2.) Agents for Elkington & Co.'s electro-plated ship fittings.

Meredith & Co., Dynamo Works, Woodcock-st., Birmingham.

Nickel Plating Co., 13, Greek-street, Soho, W.

PARTRIDGES LTD., 113-115, Northwood-st., Birmingham. Nickel & Silver-Plating, Gilding, Oxydizing, &c., &c. (Nat. Teleph. No. 2272.)

Plating Co., Ltd., 10, Kirby-st., Hatton Garden, London, E.C.

Sheffield Nickel & Silver Plating Co. (E. G. Draper & Co.), Globe Works, Penistone-road, Sheffield.

Sturtevant & Co., Ltd., 105-111, Euston-st., London, N.W. *See advt., page* 15.

Tasker, W. A., & Sons, 4, Dean-st., Portland-sq., Bristol.

Wainwright, G. A., Grape-st., Leicester.

Woodward, H., & Co., Ltd., Atlas Works, Paradise-st., Birmingham.

Electroliers, Brackets & Pendants.

F.—Lustres et appliques.
G.—Candelaber, Konsole u. Hängelampen.

Albion Lamp Co., Ltd. (Rippingille's), Aston-rd. North, Birmingham.

Electroliers, Brackets & Pendants—*contd.*

Armorduct Manufacturing Co., Ltd., Farringdon-ave., London, E.C.; & 44, Blackett-st., Newcastle-on-Tyne. Works: Bathurst Works, Witton, nr. Birmingham. (Telegs.: "Armorduct," London, Newcastle-on-Tyne, Birmingham. Teleph. Nos.; London, 400, Holborn (2 lines); Newcastle on-Tyne, 2827, Central; Witton Works, 812, East.) *See advt. on top edges.*

Baxendale & Co., Miller-st. Works & Warehouses, Manchester; Hanover-st., Edinburgh; Capel-st., Dublin; & Hood-st., Liverpool.

Berry, Z. D., & Sons, 16, Regency-st., London, S.W.

Best & Lloyd, Ltd., Cambray Works, Handsworth, Birmingham. Show-rooms: London, 11, Bartlett's-bldgs., Holborn Circus, E.C.; Paris, 23, rue d'Hauteville.

Braulik, G., 8, Lambeth Hill, London, E.C.

Brawn, Thos., & Co., Art Metal Works, 64, Clement-st., Birmingham.

Burt, N., & Co., Ltd., 195, Wardour-st., London, W.

Cooke, J., & Son, Midland Davy Lamp Works, 203, Lawley-st., Birmingham.

DORMAN & SMITH, Ordsal Electrical Works, Salford, Manchester. (Telegs.: "Current, Manchester." Teleph. No. 1741, Nat.) Agents—London: Sambidge & Co., 17, Victoria-st., S.W. (Telegs.: "Prefix, London." Teleph. Victoria 530.) Scottish: Andrews & Co., 198A, St. Vincent-st., Glasgow. Birmingham: S. T. Pemberton, Council-chbrs., Colmore-row. Newcastle-on-Tyne: F. T. Hanks, 1, Higham-pl. *See also page* 123 *& advt., page* 21.

Evered & Co., Ltd., 27-35, Drury-lane, London, W.C.; & Surrey Works, Smethwick, Birmingham.

GALSWORTHY LTD., formerly The London Electrical Fittings Co., Ltd., Roberts Works, Hampstead-rd., N.W. (Telegs.: "Filosofone, London." Teleph. No. 441, North.) Show-rooms: 15 & 16, Newman-st., Oxford-st., London, W. (Teleph. No. 6621, Gerrard.) *See advts., pages* 593 *&* 604.

General Electric Co., Ltd. (*G. Byng, chairman*). Head office: 71, Queen Victoria-st., London, E.C. Works: London, Manchester, Birmingham & Witton. For branch offices, telegraphic addresses & telephone numbers, *see* ALPHABETICAL SECTION. *See advts., pages* 446, 707 *&* 734.

HANDS, ALBERT C., Snow Hill, London, E.C. (Telegs.: "Thraldom, London." Teleph. No. 1033, Holborn.) Show-rooms: 30, Snow Hill, London, E.C. Works: Birmingham.

Hawksworth, Eyre & Co., Ltd., Rockingham-st., Sheffield; & 46A, Holborn Viaduct, London, E.C.

JOYNER, CHARLES, & CO., LTD., Icknield-sq., Monument-rd., Birmingham. London office & show-room: 15, Charterhouse-st., E.C. Glasgow: 130, West Regent-st.

Electroliers, Brackets & Pendants—*contd.*

Kensington Stamping Co., Ltd., Kensington-st., Aston, Birmingham. (Telegs.: "Supports, Birmingham." Teleph. Northern 83.)

Lea, Son & Co., Ltd., Pengwerne Works, Shrewsbury (Telegs.: "Lea Son, Shrewsbury." Telepb. No. 60); & St. Mary's Walk, Stafford. (Telegs.: "Lea Son, Stafford." Tel. No. 1 Y.)

London Electrical Fittings Co., Ltd. *See* Galsworthy Ltd.

McGeoch, William, & Co., Ltd., Warwick Works, 46, Coventry-rd., Birmingham; & 28, West Campbell-st., Glasgow. (Telegs.: "McGeoch," Glasgow, Birmingham & London. Teleph. Nos.: Nat., 2181, Argyle (4 lines); P.O., 101 & 102.)

Messenger & Sons, 19, Broad-st., Birmingham.

Naylor Bros., Golborne, Lancs.

Oppenheim, William, 43, Farringdon-st., London, E.C.

OSLER, F. & C., LTD., 230, Broad-st., Birmingham; & 100, Oxford-st., London, W.

SIMPLEX CONDUITS, LTD. Head office: Garrison-lane, Birmingham. Works: Maxstoke-st., Birmingham; also at 113, 115, 117, Charing Cross-rd., London, W.C.; 16, Corporation-st., Manchester; 72A, Waterloo-st., Glasgow; Newcastle; Bristol; & Liverpool. L. M. Waterhouse, A.M.I.C.E., M.I.E.E., managing director. *See advts., pages* 455 *&* 456.

Soutter, Wm., & Sons, Ltd., Farm-st., Hockley, Birmingham; & 46A, Holborn Viaduct, London, E.C.

Swanser & Lloyd, 52, Gt. Queen-st., London, W.C.

Taylor Bros., Cooksey-rd., Small Heath, Birmingham.

Thursfield, C. J., & Co., 42, Clement-st. Parade, Birmingham; & 28, Berners-st., Oxford-st., London, W. (Telegs.: "Electrolier, Birmingham;" "Thursfield, London." Teleph. Nos.: 6267, Birmingham; & 6792, P.O. Central.)

VERITYS, LTD., King-st., Covent Garden, London, W.C.; & Birmingham, Manchester, Glasgow, Bristol, &c. *See* ALPHABETICAL SECTION.

Wallwork, Henry, & Co., Ltd., Roger-st., Manchester.

Walsall Electrical Co., Ltd., 57, Bridge-st., Walsall. For branches, telegrams & telephone numbers, *see* ALPHABETICAL.

Electrolytic Carbons.

Atlas Carbon & Battery Co., Ltd., 19, Ewer-st., London, S.E. (Telegrams: "Altisonant, London.")

Mayer, H. G., & Co., 67, Aldersgate-st., London, E.C.

Electrolytic Meters.

Chamberlain & Hookham, Ltd., New Bartholomew-st., Birmingham. (Telegrams: "Solar, Birmingham.") *See advt., page* 497.

Electrotypers.

F.—Electrotypie.
G.—Galvaniseure.

Badoureau & Jones, Ltd., Poppins-ct., Fleet-st., London, E.C.

Brinkworth, W. H., Caledonian Works, Bell Barn-road, Birmingham.

Dellagana, B., & Co., Ltd., 11, Shoe-lane, London, E.C.

Dellagana, James, & Co., Turnagain-lane, Farringdon-st., E.C.

Manning & Son, 26 & 28, Old-st., London, E.C.

Richardson, Koolman & Isger, St. Bride-st., London, E.C.

Sheldon, Melloy & Co., 280, High Holborn, London, W.C.

Sturtevant & Co., Ltd., 105–111, Euston-st., London, N.W. *See advt., page* 15.

Swain, John, & Son, Ltd., 57 & 58, Farringdon-st., E.C.; & 163A, Strand, London, W.C.

Watts, C. F., & Co., 8 & 9, Hosier-lane, E.C.; & 62, Neal-st., Long Acre, W.C.

Elevating & Conveying Machinery.

GIBBONS BROS., LTD., Dibdale Works, Dudley, Worcs. (Telegrams: "Gibbons, Lower Gornal." Telephone No. 10A); & 142 & 143, Palace-chbrs., Westminster, S.W. *See also* ALPHABETICAL ENTRY. *See advt.* BELOW.

Graham, Morton & Co., Hunslet, Leeds.

MATHER & PLATT, LD., Salford Iron Works, Manchester; & Queen Anne's-chbrs., Westminster, London, S.W. (Telegrams: "Mather, Manchester;" "Sprinkler, London." Nat. Telephone Nos.: 5781, 5782 & 5783, Manchester; & 851 & 852, Westminster.)

COAL & ASH HANDLING PLANTS.

GIBBONS BROS., LTD.,

DUDLEY, WORCS.; & 142 & 143, PALACE CHAMBERS, WESTMINSTER, LONDON, S.W.

Emery, Emery Cloth, & Glass Paper Manufacturers.

F.—Emeri, toiles eméri et papiers de verre—Fab.
G.—Schmirgel, Schmirgelzeug u. Glaspapier—Fab.

Burton, C. W., Griffiths & Co., 1, 2 & 3, Ludgate-sq., Ludgate Hill, London, E.C.
Fordham, W. B., & Sons, Ltd., St. Pancras Works, 36-40, York-rd., King's Cross, N.
Goldsworthy, T., & Sons, Britannia Emery Mills, Hulme, Manchester.
Oakey, J., & Sons, Ltd., Wellington Mills, Westminster Bridge-rd., London, S.E.
Smith & Sons, 42, 44, 46, 47, 50 & 52, St. John's-sq., E.C.

Emery Wheel & Machinery Makers.

F.—Roues et machines à emeri—Fab. de.
G.—Schmirgel Räder und Maschinen.

Canning, W., & Co., polishing lathes, leather & felt bobs, calico mops, rouge, tripoli & crocus composition. Head office & works: 133 to 137, Great Hampton-st., Birmingham; & at 18-20, St. John's-sq., Clerkenwell, London, E.C.
CHURCHILL, CHAS., & CO., LTD., 9-15, Leonard-st., London, E.C.; 2-10, Albert-st., Birmingham; 6, Oxford-st., Manchester; Albion-bldgs., St. James-st., Newcastle-on-Tyne; & 9-11, Wellington-st., Glasgow.
COOKE, E. J., 2, 4, 5, Parsonage, MANCHESTER.
Walrus & Bull Neck Leather for Polishing.
Tanned Buffalo Butts & Bends.
Rolled Hard Leather for Polishing, &c.
Buff Leather in Hides, Butts & Strips.
Hard Raw Hide Mallets specially made for workers in Brass, Silver, Copper, &c., &c.
Large Buff & Glazer Wheels covered with Bull Neck or Walrus Leather.
All kinds of Leathers for Mining, Engineering & Metal Polishing Trades.
(Telegraphic address: "HIDES, MANCHESTER." Tel. No. 1544.)
GREENWOOD & BATLEY, LTD., Albion Works, Leeds; & 16, Great George-st., Westminster, S.W. (Telegs.: "Greenwood, Leeds;" & "Outflank, London.") *See advt., page* 20.
Luke & Spencer, Ltd., Broadheath, nr. Manchester.
Mitchell's Emery Wheel Company, Mill-street, Bradford, Manchester.
Moser, West & Bateman, Ltd., 98, Leadenhall-st., London, E.C.; & East Greenwich.
SELIG, SONNENTHAL & CO., 85, Queen Victoria-st., London, E.C. (Telegs.: "Selig, London." Teleph. Bank 341; & Central 11779.) *See advt., page* 637.
Willcox, W. H., & Co., Ltd. Office: 23, Southwark-st. Warehouse: 32, 34 & 36, Southwark-st., London, S.E. Works: Castle-st. (Telegs.: "Willcox, Southwark-st., London." Teleph. Hop 3740 & 3741.) *See advt. facing inside front cover.*

Enamel Insulated Wires.

Connolly Bros., Ltd., Blackley Vale Mills, Blackley, Manchester. *See advt., page* 438.
LONDON ELECTRIC WIRE COMPY. & SMITHS, LTD., THE, Playhouse-yard, Golden-lane, London, E.C. *See advt. facing inside back cover.*

Enamel for Insulating Purposes—Makers of.

F.—Vernis et compositions pour isoler—Fabr. de.
G.—Emaille für Isolir Zwecke—Fabrik von.

Bowley, S., & Son, Wellington Works, Battersea Bridge, London, S.W. (Telegs.: "Bolyanson, London." A.B.C. Code. Teleph. Battersea 1 & 2.)
Burns, J., Ltd., 189, Central-st., London, E.C. *See advt., page* 738.
Down, Fred. J., Harpenden, Herts. A founder, 1883, of Laing, Wharton & Down.
Globe Electric Co., Ltd., 11, Farringdon-ave., London, E.C. Works: Holloway, N. (Telegs.: "Santochimo, London." Teleph. Central 4774.)

TRADE MARK

GRIFFITHS BROS. & CO., Mack's-rd., Bermondsey, London, S.E. Flat; Eggshell Flat; & highly glossy finishing enamels: "Vitros" for great heat. Sole makers of "Anti-Sulphuric" Enamel for acid-resisting, "Armacell" & "Ohmaline" high insulating varnishes; "Pakyderm" Varnish for coils. India Rubber Varnish: Flexible Shellac Insulating Varnish, &c. *See advt., page* 18.
Macpherson, Donald & Co., Ltd., makers of insulating enamel; all colours, dries in five minutes, Knott Mill, Manchester.
Massachusetts Chemical Co., 6, 7 & 8, Crutched Friars, London, E.C.
Neville, Williams & Co., 80A, Southwark-st., London, S.E.
RUBEROID CO., LTD., 81-83, Knightrider-st., Queen Victoria-st., London, E.C.

Enamel-lined Iron Insulating Piping—Makers of.

SIMPLEX CONDUITS, LTD. Head office: Garrison-lane, Birmingham. Works: Maxstoke-st., Birmingham; also at 113, 115, 117, Charing Cross-rd., London, W.C.; 16, Corporation-st., Manchester; 72A, Waterloo-st., Glasgow; Newcastle; Bristol; & Liverpool. L. M. Waterhouse, A.M.I.C.E., M.I.E.E., general manager. *See advts., pages* 455 *&* 456.

Enamel & Paint Manufacturers.

Bowley, S., & Son, Wellington Works, Battersea Bridge, London, S.W. (Telegs.: "Bolyanson, London." A.B.C. Code. Teleph. Battersea 1 & 2.)

GRIFFITHS BROS. & CO., Macks-rd., Bermondsey, London, S.E. Sole makers of "Anti-Sulphuric" Enamel for protecting metal from acid fumes, "Armour" fireproofing paint & liquid. "Driorol" Finishing Coat dries rapidly over greasy surfaces. *See advt., page* 18.

Enamelled Slate Manufacturers.

F.—Ardoise emaillé—Fab.
G.—Emaillirte Schiefer Fab.

Byrom & Phillips, Ltd., Wellington-rd., Leeds.

FORD & MARGRETT, Camphill Slate Works, Birmingham. (Telegs.: "Mantel, Birmingham." Tel. 75, Victoria.) *See advt., page* 690.

Hare, H., & Co., Kingston Enamelled Slate & Marble Works, Park-rd., Hull. *See advt., page* 691.

SESSIONS & SONS, LTD., Slate & Marble Works, Gloucester; & at Cardiff. *See advt., page* 691.

Enclosed Fuses.

British Electric Calibrated Fuse Co., The, Harpenden, Herts.

TURNERS & MANVILLE, LTD., 5, Lloyd's-ave., E.C. (Telegs.: "Vulbeston, London." Teleph. No. 1458, Avenue.)

Engine & Boiler Makers.

CLARKE, CHAPMAN & CO., LTD., Victoria Works, Gateshead-on-Tyne. (Telegrams: "Cyclops, Gateshead.")

Scott & Hodgson, Ltd., Guide-bridge Ironworks, Guide Bridge, nr. Manchester.

Engine Makers—Automatic.

F.—Machines automatiques—Fabr. de.
G.—Automatische Maschinen.

CLARKE, CHAPMAN & CO., LTD., Victoria Works, Gateshead-on-Tyne. (Telegrams: "Cyclops, Gateshead.")

DAVEY, PAXMAN & CO., LTD., Standard Iron Works, Colchester; & 78, Queen Victoria-st., London, E.C. (Telegrams: "Paxman, Colchester;" "Paxman, London." Telephone No. 52, Colchester.) *See advt.* OPPOSITE.

Engine Makers—Compressed Air.

F.—Machines à air comprimé—Fabr. de.
G.—Maschinenbauer—Comprimirte Luft.

BELLISS & MORCOM, LTD., Ledsam-st. Works, Birmingham. London office: 8, Victoria-st., S.W. (Telegs.: "Belliss, Birmingham." Tel. Nos. 4480 & 4481.) *See advt., page* 533.

Engine Makers—Compressed Air—*contd.*

DAVEY, PAXMAN & CO., LTD., Standard Iron Works, Colchester; & 78, Queen Victoria-st., London, E.C. (Telegrams: "Paxman, Colchester;" "Paxman, London." Telephone No. 52, Colchester.) *See advt.* OPPOSITE.

Schram, Harker & Co., Cannon-st. House, Cannon-st., E.C.

Engine Makers—Gas.

F.—Moteurs à gaz—Fab. de.
G.—Maschinen—Fab. von—Gas.

Armstrong, Sir W. G., Whitworth & Co., Ltd., Elswick Works, Newcastle-on-Tyne. London office: 8, Great George-st., S.W.

Avens, F., & Co., Trusty Engine Works, Stroud, Glos.

Bilbie, Hobson & Co., 106, Queen Victoria-st., London, E.C.; & Deverell-st., Gt. Dover-st., S.E.

British Westinghouse Electric & Manufacturing Co., Ltd., The, Westinghouse Works, Trafford Park, Manchester.

Campbell Gas Engine Co., Ltd., 114, Tooley-st., London, S.E. (Telegrams: "Enginery, London." Telephone No. 2666, Hop.); & Kingston, Halifax. (Telegrams: "Camgas, Halifax." Telephone No. 92.)

Clough, S. W., & Co., Shipley, Yorks.

Crossley Bros., Ltd., Openshaw, Manchester.

DAVEY, PAXMAN & CO., LTD., Standard Iron Works, Colchester; & 78, Queen Victoria-st., London, E.C. (Telegrams: "Paxman, Colchester;" & "Paxman, London." Telephone No. 52, Colchester.) *See advt.* OPPOSITE.

Dudbridge Iron Works, Ltd., Stroud, Glos.

Ehrhardt & Sehmer, agents for United Kingdom, Key Engineering Co., Ltd., 4, Queen Victoria-st., London, E.C.; & 38, Deansgate, Manchester.

Fielding & Platt, Ltd., Atlas Iron Works, Gloucester; & 118, Queen Victoria-st., London, E.C.

Furnival & Co., Ltd., Reddish Iron Works, Stockport.

MATHER & PLATT, LD., Salford Iron Works, Manchester; & Queen Anne's-chbrs., Westminster, London, S.W. (Telegrams: "Mather, Manchester;" "Sprinkler, London." Nat. Telephone Nos.: 5781, 5782 & 5783, Manchester; & 851 & 852, Westminster.)

National Gas Engine Co., Ltd., 21, Bridge-st., Deansgate, Manchester; & Ashton-under-Lyne.

Payne & Bates, Ltd., Great Heath, Foleshill, nr. Coventry.

Piercy & Co., 53-54, Broad-st., Birmingham.

Pollock, S., & Sons, Williamsburgh, Paisley.

Pollock, Whyte & Waddell, Johnstone, N.B.

Premier Gas Engine Co., Ltd., Sandiacre, nr. Nottingham.

Robson, John (the "Shipley"), Ives-st., Shipley.

Syrinx Gas Engine Co., Ltd., Stevenage, Herts.

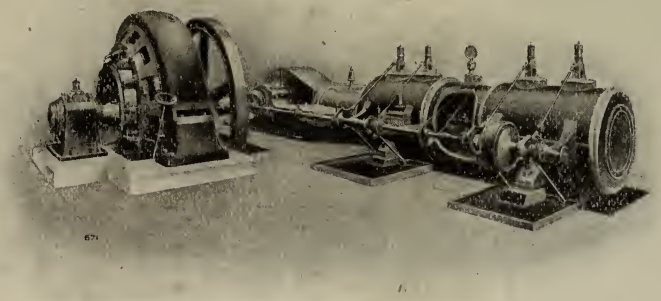
Watts Bros, 101, Castleton-rd., Goodmayes, Ilford.

Wolstenholme, John, & Son, Albert Works, Radcliffe, nr. Manchester.

DAVEY, PAXMAN & CO., Ltd.,

COLCHESTER,

ENGLAND.



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LONDON OFFICE: 72, QUEEN VICTORIA STREET, E.C.

For telegraphic addresses & telephone numbers, see Alphabetical Section

Engine Makers—Hot Air.

F.—Machines à l'air chaud—Fab. de.
G.—Maschinenbauer—Heisse Luft.

Norris & Henty, 87, Queen Victoria-st., London, E.C.

Engine Makers—Petroleum.

F.—Machines à petrole—Fab. de.
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Begbie Mfg. Co., Ltd., 407, Oxford-st., London, W.
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Campbell Gas Engine Co., Ltd., 114, Tooley-st., London, S.E. (Telegrams: "Enginery, London." Telephone No. 2666, Hop.); & Kingston, Halifax. (Telegrams: "Camgas, Halifax." Telephone No. 92.)
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Davies & Co., Abergavenny.
Diesel Engine Co., Ltd., 179, Queen Victoria-st., E.C.
Hopkinson Engine Co., Huddersfield.
Hornsby, Richard, & Sons, Ltd., Spittlegate Iron Works, Grantham.
Mirrlees, Bickerton & Day, Ltd., Hazel Grove, nr. Stockport; & 225, Gresham House, Old Broad-st., London, E.C.
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Sharer & Young, Ltd., Alloa, N.B.
Soutar, G., Greyfriars Foundry, Elgin.
Stephenson, R., & Co., Ltd., Hebburn-on-Tyne.

Engine Makers (Steam)—Electrical Purposes.

(*See also* MOTORS.)

F.—Machines à Vapeur—Fab. de.
G.—Dampf-Maschinen—Fabr. für Elektr. Zwecke.

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BRUSH ELECTRICAL ENGINEERING CO., LTD., THE. London office: Electrical Federation Offices, Kingsway, W.C. Works: Loughborough, Leicestershire. *See* ALPHABETICAL.
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Davy Bros., Ltd., Park Iron Works, Sheffield.
Fowler, J., & Co. (Leeds), Ltd., 6, Lombard-st., London, E.C.; & Hunslet, Leeds.
Fullerton, Hodgart & Barclay, Ltd., Paisley.
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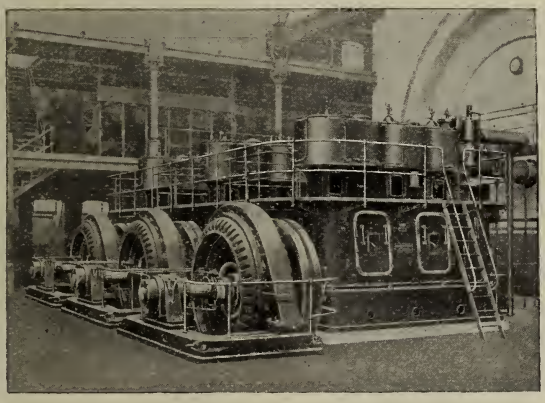

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Howden, Jas., & Co., Scotland-st., Glasgow.
Marshall, Sons, & Co., Ltd., Britannia Iron Works, Gainsborough.
Muir, R. W., 97, St. James's-road, Glasgow.
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Lea, Henry, & Son, 38, Bennett's Hill, Birmingham. (Telegrams: "Engineer, Birmingham." Telephone No. 113.)
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Macnee & Co., 3, Victoria-st., London, S.W.
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Matthews, Sir Thomas, M.I.C.E., Trinity House, London, E.C.
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Aubert, Wm., jun., 16 & 18, Harp-alley, St. Bride's-st., London, E.C.
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Nash, T., & Son, Testing Works, Sheffield.

Neilson, R. M., 45, Hope-st., Glasgow.

Newman, C. W. D., A.M.I.E.E., A.M.I.MECH.E., Marine Engineering Academy, Barry Dock, Glam.

Niblett, J. T., M.I.E.E., "Norman Norris," Vines Cross, Heathfield, Sussex.

O'Donnell, J. P., Palace-chbrs., Bridge-st., Westminster, London, S.W.

O'Gorman, Mervyn, M.I.E.E., M.I.M.E., c/o Swinburne, O'Gorman & Baillie, 82, Victoria-st., S.W.

O'Gorman & Baillie, 82, Victoria-st., Westminster, S.W.

Parker, Thos., J.P., F.R.S.E., M.I.C.E., M.I.E.E., M.I.M.E., Iron Bridge, Salop. (Teleph. 20.)

Parshall, H. F., M.SC., M.I.C.E., M.I.E.E., Salisbury House, London Wall, E.C.

Patchell, W. H., M.I.C.E., M.I.E.E., Caxton House, Westminster, S.W.

Phillips, Walter, 112, Burnt Ash Hill, Lee, S.E.

Pritchard, Green & Co., Birmingham.

Quelch, R. J., 20, Billiter-bldgs., E.C.

Rice, John, 11, Queen Victoria-st., London, E.C.

Ristori, E., C.E., J.P., A.M.I.C.E., 54, Parliament-st., S.W.

Robertson, L. S., M.I.C.E., 28, Victoria-st., S.W.

Robertson & Adams, 52, St. Enoch's-sq., Glasgow.

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Robertson & Outram, 28, Victoria-st., Westminster, S.W.

Robinson, William, M.E., M.I.C.E., M.I.E.E., M.I.M.E., University College, Nottingham.

Rogers, Francis M., F.C.S., M.I.E.E., 21, Finsbury Pavement, London, E.C.

Rossiter, J. T., M.I.E.E., Westlands, Bolton-rd., Chiswick.

Rowden, W. T., B.SC., Glasgow & West of Scotland Technical College, Glasgow.

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Sankey, H. R., Captain, R.E. (retd.), M.I.C.E., M.I.M.E., M.I.E.E., A.I.N.A., Palace-chbrs., 9, Bridge-st., Westminster.

Saunderson, F., 8, Finch-rd., Douglas, Isle of Man.

Sayers, J. E., M.I.E.E., 190, West George-st., Glasgow.

Sayers, W. B., M.I.E.E., 189, St. Vincent-st., Glasgow.

Sayers, James E., & Caldwell, 190, West George-st., Glasgow.

Schaefer, Oscar, The Crest, Kenley, Surrey.

Scott & Leggat, 102, St. Mary-st., Cardiff.

Seaton, A. E., 32, Victoria-st., London, S.W.

Sellon, Stephen, & Partners, 36, Victoria-st., Westminster, London, S.W.

Shanks, J., 79, Mark-lane, E.C.

Sharman, P. A., 113, Cannon-st., E.C.

Sharp, Sidney, M.I.MECH.E., M.I.E.E., 13, Victoria-st., Westminster, S.W. (Telegs.: "Vivax, London.")

Sherley-Price, Henry, M.I.MECH.E., M.I.E.E., &c., 46, Watling-st., London, E.C.; Manchester & Newcastle-on-Tyne.

Sims, R. P., A.M.I.E.E., 21, Lower Bland-st., Great Dover-st., S.E.

Sinclair, Alex., A.M.I.C.E., M.I.E.E., Hafod Works, & 6, Richmond Villas, Swansea.

Small, J. Miln, 17, Victoria-st., London, S.W.

Smart, L. A., 31, Budge-row, E.C.

Smith, Prof. Robert H., A.M.I.C.E., M.I.MECH.E., M.I.E.E., 3, Thirlmere-rd., Streatham, London, S.W.

Smith, Robert A., M.I.E.E., 78, Palace-chbrs., 9, Bridge-st., Westminster, S.W.

Snell, Jno. F. C., M.I.C.E., M.I.M.E., M.I.E.E., Caxton House, Westminster.

Snell & Moore Ede, Caxton House, Westminster.

Snowdon, Harry, M.I.E.E., West Ferry-rd., Millwall, E.

Spargo, E., Cable-street, Liverpool.

Spence & Ionides, 14, St. Vincent-pl., Glasgow.

Spooner, H. J., M.I.M.E., A.M.I.C.E., 309, Regent-st., London, W.

Stevenson & McGuffie, Caledonian-chbrs., 87, Union-st., Glasgow.

Stewart, A. W., M.I.E.E., 55, West Regent-st., Glasgow.

Stewart, Jas., Proctor House, Newcastle-on-Tyne.

Stiven, D. R., 57, Meadowside, Dundee.

Swinburne, James, F.R.S., M.I.C.E., M.I.E.E., 82, Victoria-st., S.W. (Telegs.: "Swooper, London." Teleph. Westminster 292; & Oxted 10.)

Swinburne, O'Gorman & Baillie, 82, Victoria-st., Westminster, S.W.

Tayler-Smith, T., 53, South Molton-st., Bond-st., London, W.

Taylor, F. H., A.M.I.E.E., A.M.I.M.E., 14, Victoria-st., Westminster, S.W.

Thomas-Davies, G., Bank-chbrs., Regent-st., Clifton, Bristol.

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Ticehurst, F. Gorham, Langton House, Battle, Sussex.
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Tourtel, John, 57, Chiswell-st., London, E.C.
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Victoria Engineering Co., Ltd., 21½, Market-pl., Wednesbury.
Vyle, G. C., A.M.I.E.E., Premier Works, Percy-rd., Greet, Birmingham.
Waghorn, J. W., D.SC., Royal Naval College, Greenwich, London, S.E.
Walker, Wm. Geo., A.M.I.C.E., M.I.M.E., WHIT. EX., Emery Hill-st., Victoria-st., Westminster, S.W.
Walker, Hill & Co., 2, Church-gate, Low-pavement, Nottingham.
Waller, J. E., M.I.C.E., St. Stephen's House, Victoria Embankment, Westminster, S.W.
Warden-Stevens, F. J., & Partner, Connaught Mansions, 34, Victoria-st., Westminster. (Telegs.: "Warden-Stevens, Westminster." Teleph. Westminster 125.)
Waynforth, H. M., A.M.I.C.E., M.I.M.E., King's College, London.
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WHITE, J. G., & CO., LTD., 9, Cloak-lane, Cannon-st., London, E.C. New York correspondents: J. G. White & Co., 43–49, Exchange-pl.
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Williams, Maxwell, 20, Great St. Helen's, E.C.
Williams, Hal, & Bridges, 3, Salter's Hall-ct., London, E.C. (Telegs.: "Kawaka, London." Teleph. No. 4960, London Wall (2 lines).)
Wilson, R. P. C., M.I.E.E., 66, Victoria-st., S.W.
Winslow, I. E., consulting engineer, 8, Crosby-sq., London, E.C.
Wright, A., M.I.E.E., 2, London Wall-bldgs., E.C.
Wright, W. R., M.I.E.E., 13, Victoria-st., S.W.
Zeden, G. A., M.I.E.E., 9, Queen-st.-pl., London, E.C.

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G.—Elektrotechniker.

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ABBEY ELECTRIC CO., 17, Victoria-st., S.W. *See advt., page* 415.
Abella, J., M.I.E.E., Parliament Mansions, Victoria-st., S.W.
Ackery, H. M., A.I.E.E., Admiralty, Whitehall, S.W.
Acme Motor & Traction Co., 72, Finsbury-pavement, E.C. Works: The Ham, Brentford.

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Adams, E. L., & Co., Radcliff-bldgs., 89, Clerkenwell-rd., E.C.
Adamson, D. F., M.I.E.E., c/o London United Tramway, Fulwell Depôt, Twickenham.
Adamson, George L., A.I.E.E., Ohm Works, 116, Yorkshire-st., Rochdale.
Addinell & Co., Ltd., Saracen-bldgs., Snow Hill, E.C.
Adnil Electric Co., Ltd., Adnil-bldg., Artillery-lane, London, E.C.
Ahrens, W. R., 7, Seaside, Eastbourne.
Aitken, Wm., M.I.E.E., British Insulated & Helsby Cables, Ltd., Edge-lane, Liverpool.
Ajax Electrical Engineering Co., 291, High-rd., Ilford.
Alabaster, H., Gatehouse & Co., 4, Ludgate Hill, London, E.C.
Albertine, P., M.I.E.E., 30, Norfolk-st., Strand, W.C.
Albright, J. F., M.I.E.E., 96, Elm Park-gdns., London, S.W.
Alder, G. J. T., 53, Victoria-st., S.W.
Alderton, G. H., 86, Gloucester-rd., Brighton.
Aldin & Johnson, 1, Gloucester-rd., London, S.W.
Aldrich, F., High-st., Gateshead.
Aldridge, J. G. W., A.M.I.C.E., 39, Victoria-st., S.W.
Alexander, D., M.I.E.E., 43, Mains-st., Waterloo-st., Glasgow.
Alexander, Ferd. E., c/o E. P. Allam & Co., 11, Red Lion-st., Clerkenwell-rd., London, E.C.
Alger, T. E., The Dingle, Oakfield-rd., Newport, Mon.
Allan, P. F., Clyde Valley Electrical Power Co., 53, Bothwell-st., Glasgow.
Allard & Co., 33, Jewry-st., Aldgate, London, E.C.
Allbright & Co., Tamworth-rd., Croydon.
Allen, A. H., A.M.I.E.E., *Electrical Review*, 4, Ludgate Hill, E.C.
Allen, Wm., A.M.I.E.E., 50, Westfield-lane, Mansfield.
Allen, W. H., Corporation Electricity Works, Loughborough, Leicestershire.
Allin, P. H., & Sons, 50, Burleigh-st., Cambridge.
Allingham, G. C., A.M.I.E.E., Eldon House, Lyndhurst-rd., Hampstead, N.W.
Allison, J. G., & Co., Marcus-st., Birkenhead.
Allman, P., 16, Pleasant-rd., Eccles.
Allman, P., & Co., John Dalton-st., Manchester.
Alty, J. N., A.M.I.E.E., Faraday House, Southampton-row, W.C.
Alvey & Bower, Chesterfield.
Amberton, R., Milford Works, Queen's-rd., Battersea, S.W.
Anderson, A. C., Oaken, nr. Wolverhampton.
Anderson, J., Campfield, Elderslie, Scotland.
Anderson, A., & Co., 16, Laird-st., Greenock, N.B.
Anderson, Thos., Ltd., 53, Derby-rd., Kirkdale, Liverpool.
Andrew, W., 6, George Hotel Yard, Market-st., Bradford.
Andrews, Hy. Geo., A.M.I.E.E., 115, Christchurch-rd., Boscombe, Bournemouth.

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Andrews, Oswald M., M.I.E.E., St. James' & Pall Mall Electric Light Co., Ltd., Carnaby-st., Golden-sq., London, W.
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Annels, Wm., 77, Mortlake-rd., Richmond, Surrey.
Anslow, F., M.I.E.E., 19, Havelock-st., Dowanhill, Glasgow.
Anthony, R. E., A.M.I.M.E., Bromley Works, Mason's Hill, Bromley, Kent.
Antill, B. Hillier, A.M.I.C.E., M.I.E.E., York Mansion, York-st., Westminster, S.W.
Appleby, H. W., M.I.E.E., 8, Quain's Mansions, Queen's Club-gdns., West Kensington, S.W.
Applegarth & Co., 11, Queen Victoria-st., E.C.
Apps, A., 433, Strand, London, W.C.
Arc Lamps, Ltd. (Davy Arc Lamps). Works: Sphere Engineering Works, St. Albans, Herts. (Telegs.: "Voltarcon, St. Albans." Teleph. No. 258, St. Albans.) *See advts., pages* 417 & 418.
Archdale Engineering Co., 173, Battersea Park-rd., S.W.
Armitage & Co., 27A, Gloucester-st., Queen-sq., W.C.
Armstrong, F., Baker-st., Weybridge.
Armstrong, G. H., A.I.E.E., Chester-le-Street.
Armstrong, J. A., A.I.E.E., 34, Oakley-rd., Ranelagh, Dublin.
Arnold, J. E., 9, Camden-st., Islington, N.
Arthur, A., A.M.I.C.E., A.M.I.E.E., 192A, St. Vincent-st., Glasgow.
Arthur, Allan & Ure, 192A, St. Vincent-st., Glasgow.
Arundell, W. H., Market-st., Maidenhead.
Ashby, Jos. A., John Davis & Son (Derby), Ltd., All Saints' Works, Derby.
Ashton, H., 8 & 10, Bull's Head-yd., Manchester.
Ashton, J. H., 19, Dry Hill Park-rd., Tonbridge.
Ashton, R. G., 16, Grosvenor-rd., Heaton Moor.
Ashton, D., & Co., Aztec Works, Neepsend, Sheffield.
Ashton & Holt, Ryde, I.W.
Ashton & Johnson, 133, Deansgate, Manchester.
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Aust, J. F., Shelton Coal, Iron & Steel Co., Stoke-on-Trent.
Austin & Co., 8, Leadenhall-st., E.C.
Ayres, S. M., 6, Leather-lane, Carrick-on-Suir.
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Bacon, T. H., 25, Budge-row, Cannon-st., E.C.
Badman, W. J., & Co., Orchard-st., Weston-super-Mare.
Baggs, Herbert G., c/o Dorman & Smith, Ordsal Electrical Works, Salford, Manchester.
Bagley, Mills & Co., Ltd., 92, Victoria-st., S.W.
Bagnold, Colonel A. H., C.B., R.E., M.I.E.E., R. Arsenal, Woolwich.

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Bailey, H., & Co., Lisbon-pl., 10, Whalley-rd., Accrington.
BAILIE, J. D., Messrs. C. A. Parsons & Co., Prudential-bldgs., Park-row, Leeds. (Telegs.: "Turbo, Leeds." Teleph. No. 1194.)
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Baily, Grundy & Barrett, Ltd., 2, St. Mary's Passage, Cambridge.
Baker, Chas. A., M.I.E.E., L.C.C., Hungerford House, Victoria Embankment, W.C.
Baker, Frank, B.SC., A.M.I.C.E., Oxley Cottage, New Oxley, nr. Wolverhampton.
Baker, G. H., A.M.I.E.E., 17, Park-ave. North, Hornsey, N.
Baker, G. R. S., 52, Stowell-st., Newcastle-on-Tyne.
Baker, T. W., A.M.I.C.E., Broad-st. House, E.C.
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Baker & Farnfield, Victoria-rd., Bexhill.
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Ball, C. Sandys, "Monte Rosa," St. Leonards-on-Sea.
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Ballard, F., 38, Albert-rd., Norbiton, S.W.
Bamford, G., 7, Woods Moor-lane, Stockport.
Banks, O. T., & Co., 49, Mortimer-st., Cavendish-sq., W.
Bannister, Wm., & Co., 75, Spencer-st., Birmingham.
Bannister, W. W., & Co., Crawley, Sussex.
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Barber, J. W., G.P.O., Hull.
Barclay, W. J., Glenwood, Brookfield-rd., Headingley, Leeds.
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Barker, W., Derby-st., Preston.
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Barker & Neale, 25, Motcomb-st., London, S.W.
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Barnett & Hyde, Waterloo-rd., Burslem.

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Bastian, C. Orme, M.I.E.E., Bartholomew Works, Kentish Town, N.W.
Batchelar & Sons, 39, North End, Croydon.
Batchelor, J. H., 15, Stamford New-rd., Altrincham.
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Batting, C., West-st., Maidenhead.
Batty & Co., Market-st., Burnley.
Batty, J., & Co., Leeds-rd., Nelson, Lancs.
Baughan & Co., London-st., Reading.
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Baxter, W. A., 54, Dudley-st., Birmingham.
Baxter, W. D., Terminus-chbrs., Holborn Viaduct, E.C.
Baxter & Impey, 54, Dudley-st., Birmingham.
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Bedford, W. H., & Sons, 28, St. George's-rd., Brighton.
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Beith, A., Electrical Department, Buckingham Palace, London, S.W.
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Bell, R. G., 27, Mosley-st., Newcastle-on-Tyne.
Bell, Stuart, A.M.I.E.E. (Siemens Bros. & Co., Ltd.), 163, Hope-st., Glasgow.
Bell, S., 15, Linden-st., Andover.
Bellamy, Alfred R., c/o Richard Hornsby & Sons, Ltd., Grantham.
BELLISS & MORCOM LTD., Ledsam-st. Works, Birmingham. London office: 8, Victoria-st., S.W. (Telegs.: "Belliss, Birmingham." Teleph. Nos. 4480 & 4481.) *See advt., page* 533.
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Bennett, M. H., A.M.I.E.E., Horley, Surrey.
Bennett, W., 118, York Drive, Hyndland, Glasgow.
Bentham, John, New Sharlston Collieries, nr. Normanton, Yorks.
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Bergtheil & Young, Ltd., 12, Camomile-st., Bishopsgate-st., E.C.
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Berry, J., Woodcock's-ct., Fishergate, Preston.
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Bertin, Ph., A.M.I.E.E., 42, Haverstock Hill, N.W.
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Beuttell, A. W., A.M.I.E.E., 31, Mount Nod-rd., Streatham Hill, S.W.
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Bevis, H., M.I.E.E., 45, Basinghall-st., E.C.
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Bindleys, Ltd., High-st., Burton-on-Trent.
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Birmingham Installation Co., Coleshill-st. Electrical Works, Birmingham.
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Bishop, W. J., & Co., Faraday Works, Gladstone-rd., Croydon.
Bist, Alfred, & Co., Ltd., 18, Tib-st., Manchester.
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Blackburn, A. A., A.M.I.E.E., City Tramways, Sandy-row, Belfast.
Blackburn, G. R., A.M.I.C.E., A.M.I.E.E., Tramways Department, 55, Piccadilly, Manchester.
Blackburn & Layland, Standishgate, Wigan.
Blackett, J. F., Walker Gate Brass Works, Newcastle-on-Tyne.
BLACKWELL, ROBERT W., & CO., LTD., 14, Gt. Smith-st., S.W. (Telegs.: "Kurkee, London." Teleph. Nos. 766 & 767, Westminster.)
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Blake, F. C., Station-ave., Kew Gardens, S.W.
Blenheim, W., & Co., Egham, Surrey.
Blight, John, jun., 1, Frobisher-ter., Falmouth.
Blomfield & Co., St. Botolph's-corner, Colchester.
Blossom, B. H., & Co., 13 & 15, Harrington-st., Liverpool.
Bohringer, Ravens & Co., 32, Pelham-st., S.W.
Bolton, E., 8, Alan-rd., Withington, Manchester.

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Booth, Robert, 110, Cannon-st., London, E.C.
Booth, R. L., 313, Hanworth-rd., Hounslow.
Booth, T. C., c/o J. W. Speight, The Elms, Lytham-rd., St. Annes-on-Sea.
Bornand, Victor & Co., Winchester House, Victoria-sq., Birmingham.
Bostel Bros., Ltd., 18 & 19, Duke-st., Brighton.
Botham, A., A.I.E.E., Homeleigh, York-ave., Hunstanton, Norfolk.
Bottone & Son, Wallington, Surrey.
Boucher, J. W., A.I.E.E., Edison & Swan United Electric Light Co., Ltd., 12, Dawson-st., Dublin.
Boult, J., 41, Wood-st., Liverpool.
Bowden, H. W., M.I.E.E., M.I.C.E., 30, Craven-st., Strand, W.C.
Bowden, J. R. J., Hackney Borough Council Electricity Works, Millfields-rd., Clapton, N.E.
BOWDEN, G. HARLAND, & CO., Royal London-bldgs., 196, Deansgate, Manchester (Telegs.: "Engineering, Manchester." Teleph. Nos. 7190 & 7191); Baltic-chbrs., 50, Wellington-st., Glasgow (Telegs.: "Bowden, Glasgow." Teleph. Argyle 221); 5, Laurence Pountney Hill, Cannon-st., London, E.C. (Telegs.: "Harbowdeco, London." Teleph. London Wall 7417); & at Dundee, Cardiff & Gloucester.
Bowen, J., 30, Victoria-st., Merthyr Tydfil.
Bowen, W. F., "Stonwall," Blackburn-rd., Bolton.
Bowen & Odery Manufacturing Co., 62, New Cross-rd., S.E.
Bowers & Barr, Ltd., Regent-st., Great Yarmouth.
Bowker, A., 14, Osborne-st., Didsbury, Manchester.
Bowlan, H. H., Corporation Mains Department, 3, Gore Park-rd., Eastbourne.
Bowran, Robert, & Co., Ltd., 4, St. Nicholas-bldgs., Newcastle-on-Tyne.
Bowthorpe, H., 51, Wolfington-rd., West Norwood, S.E.
Boxell, F., 82, Gloucester-rd., Brighton.
Boyes & Rudkin, Ravenhill-rd., Belfast.
Braby, Ivon, M.I.E.E., Helena, Alan-rd., Wimbledon.
Bradburne, E. S., A.M.I.E.E., Alison, Temple-rd., Buxton.
Braddon, C. D., A.M.I.E.E., Ryecraft House, Cheetham Hill, Manchester.
Bradford, F., A.M.I.E.E., 2, Holly-grove, Seaforth, Liverpool.
Brain, Frank, A.M.I.C.E., Trafalgar House, Drybrook, Gloucester.
Brash & Russell, 9, Springfield-rd., Glasgow.
Bray, Markham & Reiss, Ltd., Blackhorse-lane, Walthamstow, London, E.
Brecknell, Munro & Rogers, Ltd., Thrissell-st., & Lawrence Hill, Bristol.
Brereton, C. A., 21, Delahay-st., London, S.W.
Brewer, P. J., 20, Queen Anne-st., Cavendish-sq., W.
Brewer & Brunt, Hoylake, Cheshire.

Engineers—Electrical—*continued.*

Bridgwater Construction Co., Ltd., 453, Holloway-rd., N.
Bridlington Electrical Engineering Co., Ltd., 30, Chapel-st., Bridlington.
Brigg, H. M., B.A., A.M.I.E.E., Bodalaw, Llandudno.
Bright, Charles, F.R.S.E., A.M.I.C.E., M.I.M.E., M.I.E.E., Caxton House, Westminster, S.W.
Bright, C., M.I.E.E., 11, Queen Victoria-st., E.C.
Bright, Stanley, M.I.E.E., Tilbury Dock, Essex.
Brind, Gillingham & Co., Ltd., Abingdon, Berks.
Bristow, E. J., M.I.E.E., 1, Copthall-bldgs., E.C.
British Electric Transformer Co., Ltd. Works & offices: Hayes, Middlesex.
BRITISH ENGINE, BOILER & ELECTRICAL INSURANCE CO., LTD., 12, King-st., Manchester. *See advt., page* 17.
British L. M. Ericsson Manufacturing Co., Ltd., The, Byron House, 82/85, Fleet-st., London, E.C. Works: Beeston, Notts. *See advt., page* 719.
British Thomson-Houston Co., Ltd. Head office & works: Rugby. Registered office: 83, Cannon-st., London, E.C. Branch offices: 91, Wellington-st., Glasgow; 41, Church-st., Sheffield; Collingwood-bldgs., Newcastle-on-Tyne; Star Life-bldgs., 30, Cross-st., Manchester; Maritime-bldgs., Middlesbrough; 115, Colmore-row, Birmingham; & Greek-st.-chbrs., Leeds. (Telegs.: "Asteroidal." Teleph. Nos.: Head office, Rugby 54 & 55; London office, London Wall 135 (4 lines).)
Broadbent, D., 13, Lord-st., Southport.
Broadbent, Denis Ripley, A.M.I.E.E., A.M.I.MIN.E., A.M.I.MAR.E., Royal Societies Club, 63, St. James-st., S.W.
Broadbent, J. E., Col. R.E., C.B., M.I.E.E., Fynesbury, Reading.
Broadbent, T. W., Ltd., East-parade, Huddersfield.
Broadfoot, S. K., A.M.I.E.E., 39, Hoghton-st., Southport.
Broekman, L., Standard-bldgs., City-sq., Leeds.
Bromley, Batstone & Kirk, 24 & 26, Holborn, E.C.
Brook, A. B., A.M.I.E.E., 78, Nicolas-rd., Chorlton-cum-Hardy, Manchester.
Brook, E., Ltd., Colne-rd., Huddersfield.
Brooking, A. H., & Co., 63, St. Davids Hill, Exeter.
Broom, G. H., A.I.E.E., The Technical College, Derby.
Broughall, G., M.I.E.E., 5, Iddesleigh Mansions, Caxton-st., S.W.
Broughton, G. B., 23, Church-st., Eccles.
Brown, A. G., 39, Blackfriars-st. West, Manchester.
Brown, F., M.I.E.E., Walsall Electrical Co., Ltd., 57, Bridge-st., Walsall.
Brown, H. G., 75, The Avenue, Ealing.
Brown, H. W., 9, Seaview-ter., Plymouth.
Brown, J. Fiddes, M.I.E.E., M.I.MECH.E., 24, Morella-rd., Wandsworth Common, S.W.
Brown, R. F., 4, Woodcroft-ter., Jordanhill, Glasgow.

Engineers—Electrical—*continued.*

Brown, Wm., 29, Whetstone Park, Lincoln's Inn Fields, London, W.C.
Brown, W. Calder, 7, Ebury-st., Grosvenor-gdns., Westminster, S.W.
Brown Bros. & Co., Ltd., Rosebank Iron Works, Edinburgh.
Brown & Co., 72, Renshaw-st., Liverpool, W.
Brown & Green, Ltd., Windsor-st., Luton.
Brown & Parsons, Ltd., 63, Parade, Leamington.
Brown & Ward, Ltd., Branston-st., Birmingham.
Browning, J. J. McI., 8, Harold-st., Camberwell.
Brownjohn, W. H., M.I.MECH.E., A.M.I.E.E., Eldon-st. House, Eldon-st., E.C.
Bruce & Co., Sea-rd., Bexhill-on-Sea.
Brunker, E. T., & Co., 17A, St. Andrew-st., Dublin.
Brunton, S. L., M.I.C.E., M.I.E.E., Alley & MacLellan, Ltd., Sentinel Works, Polmadie, Glasgow.
Bryant, E. G., Delphi-chbrs., Old Christchurch-rd., Bournemouth.
Bryant & Sons, 5, Boulevard, Weston-super-Mare.
Bryden, H. N., Orbiston-st., Motherwell.
Buchanan, Wm., M.I.E.E., 34, Braemar-ave., Wood Green, N.
Buckland, W. A., 63, Westover-st., Wandsworth Common, S.W.
Bucknall, W. G., 121, Mount Pleasant, Liverpool.
Budd, F., c/o Messrs. Siemens Bros. & Co., Ltd., Caxton House, Westminster, S.W.
Bull, A. F., & Co., 180, Kingsland-rd., N.E.
Bulloch, W. M., 20, Calton-ter., Farsley, nr. Leeds.
Bulmer, A. E., South Bank, Otterburn Villas, Newcastle-on-Tyne.
Burnet, C. D., M.I.M.E., M.I.E.E., Tudor Accumulator Co., Ltd., 119, Victoria-st., S.W.
Burroughes, W. J., & Sons, 143, Queen Victoria-st., E.C.
Burthem, H., 163, Liverpool-rd., Warrington.
Burton, A., 6, Beach-rd., Penarth.
Byrd's Electrical Co., 2, Inner Temple, 24, Dale-st., Liverpool.
Bytheway, P. C., Engineering Dept., General Post Office, Glasgow.
Cairns & Co., 91, Queen Victoria-st., E.C.
Calderwood, A., 41A, Ebury-st., S.W.
Calisch, L., 12, Pembridge-gdns., Bayswater, W.
Callaghan, J. T., Souper & Callaghan, Grosvenor-chbrs., Deansgate, Manchester.
Callender, R. W., Kingston Telephone Exchange, Ashdown-rd., Kingston-on-Thames.
Callender, T. O., M.I.E.E., Hamilton House, Victoria Embankment, E.C.
Callow, D. J., A.M.I.E.E., 51, N. John-st., Liverpool.
Callow, S. H., Siemens Bros. Dynamo Works, Ltd., Tyssen-st., Dalston, N.E.
Calmont, King & Co., Ltd., 83, Milton-st., Fore-st., E.C.
Calverley & Co., 102, Manchester-rd., Burnley.
Calvert & Heald, 13, Market-st., Lancaster.
Campbell, Archd., A.M.I.E.E., 27, Chancery-lane, London, W.C.

Engineers—Electrical—*continued.*

Campbell, J., Main-st., Pitlochry, N.B.
Campbell, K. F., M.I.E.E., Duneira, Gledholt, Huddersfield.
Campbell, R. M., M.I.M.E., A.M.I.E.E., 19, Klea-ave., Clapham Common, S.W.
Candler, Geo., & Son, 258A, Brixton Hill, London, S.W.
Cannell, Charles, 14, Hanover-rd., Norwich.
Cannell, E. S., City Asylum, Norwich.
Cant, B. C. C., Wayland Electric Works, 154, Sandringham-rd., Dalston, London, N.E.
Caradine, W., Electric Light Insurance & Maintenance Co., Ltd., 17, Green-st., W.C.
Cardew, Philip, Major, R.E., 8, Queen Anne's-gate, Westminster, S.W.
Cardwell, C., 35, Prestonville-rd., Brighton.
Cardwell, Boorman, Ltd., Boswell Court Works, Boswell Court, Devonshire-st., W.C.
Carling, Gill & Carling, Ltd., 59 & 60, High-st., Guildford.
Carlyle Bros. & Gumbrell, 14, Cannon-st., Manchester.
Carmichael, O., High West-st., Gateshead.
Carnegie, A. Q., 31, Manor House-rd., Newcastle-on-Tyne.
Carter, Wm. G., 9, Warwick-st., South Belgrave, S.W.
Carver, Wm. M., A.M.I.E.E., Strathmore, Rydens-rd., Walton-on-Thames.
Cash, H. J., & Co., Ltd., Caxton House, Tothill-st., Westminster, S.W.
Cashmore, P., Lyndhurst, Fairview-rd., Sutton, Surrey.
Casperds, Ltd., 128, Southbridge-rd., Croydon.
Casson, S. H., c/o Royce, Ltd., Glasgow.
Casson, Wm., A.M.I.E.E., Central London Railway Co., Caxton-rd., Shepherd's Bush, London, W.
Cathcart, C. H., & Co., 3, Dorset-bldgs., Salisbury-square, Fleet-st., E.C. (Telegs.: "Coefficient, London." Tel. No. 5081, Holborn.)
Central Electric Co., 6, Cecil-ct., Charing Cross-rd., W.C.
Century Electric Co., 14, Brown-st., Manchester.
Chadwick & Roberts, 8, Wharncliffe-bldgs., Boscombe, Bournemouth.
Chaloner & Son, 118, Friargate, Preston.
Chambers, G. K., British Westinghouse Co., 2, Norfolk-st., Strand, W.C.
Chamen, W. A., M.I.E.E., M.I.M.E., Royal-chbrs., Park-pl., Cardiff.
Champion, A., London County Council's Electrical Dept., Hungerford House, Victoria Embankment, W.C.
Chancellor & Peterkin, 30, Frederick-st., Edinburgh.
Channon, A. S., Corp. Elec. Works, Grimsby.
Channon, H. C., M.I.E.E., Greystead, Grove Hill, Woodford, Essex.
Chapman, A. B., Corder-rd., Ipswich.
Chapman, G., Lewis Grove, Lewisham, S.E.
Chapman, H., Thos. A. Ashton, Ltd., 36, Norfolk-st., Sheffield.

Engineers—Electrical—*continued.*

Chapman, J. R., Underground Electric Railways Co. of London, Ltd., Electric Railway-bldg., St. James' Park, S.W.
Chapman, J. W., 13, Woodside Park, Gap-rd., Wimbledon, S.W.
Chard & Co., 8, Gt. Portland-st., Oxford-st., W.
Charrington, Edmund, A.M.I.C.E., 90 & 91, Queen-st., Cheapside, E.C.
Charters, J., 261, West George-st., Glasgow.
Chatwin, Herschell & Co., 22, Gray's Inn-rd., London, W.C.
Cheeld & Co., Chesham, Bucks.
Cheetham, G., 22, Grosvenor-sq., Rathmines, co. Dublin.
Chester, J. E., Central Secondary School, Sheffield.
Chesters, A. E. & H., 91A, Victoria-rd., New Brighton.
Chesters, T., & Son, Ltd., 17, Dean-st., Waterloo, Lancs.
Chew, William, M.I.E.E., Trafalgar House, Lytham-rd., Blackpool.
Child, J. P., 16, Baxter-ave., Doncaster.
Chisholm, G. S., Siemens Bros. Dynamo Works, Ltd., York Mansions, York-st., S.W.
Chorley, I. J., & Co., Tudor-lane, Cardiff.
Christie, Reginald, Woodside, Tynemouth.
CHRISTY BROS. & CO., LTD., Broomfield-rd. Works, Chelmsford. (Telegrams: "Engineering, Chelmsford." Telephone No. 8.)
Churchill, Arthur, British Thomson-Houston Co., Ltd., Rugby.
City Electrical Co., 5, Tottenham-st., W.
Claremont, E. A., M.I.E.E., man. dir. W. T. Glover & Co., Ltd., Manchester.
Clark, C., Bridgegate, Retford.
Clark, W. A., 99, Talbot-rd., Blackpool.
Clark, R., & Co., 22, Cheapside, Spennymoor.
Clarke, E. F., Victoria-chbrs., Birmingham.
Clarke, T. J., Havelock Works, Leicester.
Clarke, W. E., *Daily News*, Bouverie-st., E.C.
Clarke, A., & Co., 274, Cooksey-rd., Birmingham.
CLARKE, CHAPMAN & CO., LTD., Victoria Works, Gateshead-on-Tyne. (Telegrams: "Cyclops, Gateshead.")
Clarke, J. F., & Sons, 49, Moorgate-st., London, E.C.
Clarkson Bros., Ltd., 8 & 12, Little Hamilton-st., Glasgow.
Clatworthy, W. A., c/o J. H. Holmes & Co., Newcastle-on-Tyne.
Clay, C. B., M.I.E.E., Salisbury House, London Wall, E.C.
Clay, R. C., c/o E. Wingfield Bowles, 28, Victoria-st., London, S.W.
Clay Bros. & Co., Western Mail-chbrs., Cardiff.
Clayton, F., & Co., 53, Old Dover-rd., Blackheath, S.E.
Clifford, A., A.M.I.E.E., Electricity Department, Nottingham.
Clinker, R. C., Letchworth, Clifton-on-Dunsmore, Rugby.
Clive & Co., 4, High-st., Sutton Coldfield.

Engineers—Electrical—*continued.*

Close, A. F., Ushers Quay, Dublin.
Clouder, J. F., 4, Brownhill-rd., Catford, London, S.E.
Clough, F. H., A.I.E.E., A.M.I.C.E., British Thomson-Houston Co., Ltd., Rugby.
Coates, H. J., A.M.I.E.E., c/o General Electric Co., Ltd., Peel Works, Adelphi, Salford, Manchester.
Coates, V. H., & Co., 2, Norfolk-st., London, W.C.
Coates, Wm., & Son, Ltd., Fountain-st., Belfast; & 5, Leinster-st., Dublin.
Cockburn, A. C., M.I.E.E., F.C.S., 35, Broom-rd, Hampton Wick.
Cockburn, G. E., 35, Great Pulteney-st., W.
Cocks, J. M., 231, Elgin-ave., Maida Vale, W.
Cole, F. G., M.I.E.E., 29, Great George-st., London, S.W.
Cole, Henry A. B., 50, Lime-st., London, E.C.
Cole & Co., 42, Frederick-st., Edinburgh.
Coleby & Co., 5 & 6, Princes-st., Cavendish-sq., London, W.
Coleman, A., M.I.E.E., National Telephone Co., Ltd., Telephone-bldgs., 19, Newhall-st., Birmingham.
Coleman, Arthur C., Clifton House, Forest Hall, Northumberland.
Coles Bros., High-st., Margate.
Collard, F. B., c/o Callender's Cable & Construction Co., Ltd., Hamilton House, Victoria Embankment, E.C.
Collings, W. A., Siemens Bros. Dynamo Works, Ltd., 46, High-st., Southampton.
Collins, Wm., A.M.I.C.E., M.I.E.E., Crompton & Co., Ltd., 28, Baldwin-st., Bristol.
Collins & Co., 31½, Whittall-st., Birmingham.
Collins & Price, 28, Market-st., Hoylake, Liverpool.
Collis, A. B., West Quay Ironworks, Southampton.
Collis, W. H., M.I.E.E., Corporation Electric Supply Department, Liverpool.
Colton, C. S., c/o British Westinghouse Co., Norfolk-st., W.C.
Concentric & General Contract Co., 52, Queen Victoria-st., E.C.
Connett, A. N., M.I.C.E., M.I.E.E., J. G. White & Co., 9, Cloak-lane, Cannon-st., E.C.
Connolly, James, M.I.E.E., c/o Connolly Bros., Ltd., Blackley, Manchester.
Consolidated Accessories Co., 27, Clement's-lane, E.C.
Constantine, C., 90 & 92, Fargate, Sheffield.
Cook, W. W., M.I.E.E., Nutwell, Shortlands, Kent.
Cooke, C. J., 112, Station-rd., Wood Green, N.
Cooke, F. W., M.I.E.E., Great Northern Railway Retford.
Cooke, G., Hawthorn-st., Wilmslow, Cheshire.
Cooke, W., & Co., Queen-st. Arcade, Cardiff.
Cooper, J. S. S., M.A., B.SC., c/o British Westinghouse Co., Norfolk-st., Strand, W.C.
Cooper, R. G., A.M.I.E.E., 6, Dogo-st., Cardiff.
Cooper, T., A.M.I.C.E., M.I.E.E, &c., Metropolitan Asylums Board, Victoria Embankment, E.C.

Engineers—Electrical—*continued.*

Cooper, V. B. D., A.M.I.C.E., M.I.E.E., 22, Buckingham-gate, Westminster, S.W.
Cooper, C., & Co., Albert-rd., Bournemouth.
Cooper, J. K., & Son, Castle Hill, Maidenhead.
Cooper, W. G., & Co., Bourne House, Whyteleafe, Surrey.
Copping, J. L., Blackman Export Co., Ltd., 70, Finsbury Pavement, E.C.
Corbett, F., 6, Baker-st., W.
Corlett, G. S., Corlett Electrical Engineering Co., Ltd., Wigan.
CORLETT ELECTRICAL ENGINEERING CO., LTD., Wilcock-st., Wigan.
Cormack, A. C., M.I.E.E., National Boiler & General Insurance Co., 22, St. Anne's-sq., Manchester.
Cornall, T., Haymarket-st., Bury.
Cornford, E., 8A, City-rd., E.C.
Cosens & Co., The Quay, Weymouth.
Coubrough, A. C., M.A., B.SC., M.I.E.E., Mather & Platt, Ld., Manchester.
Couldwell, A., 3, Leyden-st., Glasgow.
Coulson-Crawford, H., Victoria Bridge, Manchester.
Coulson, W. A., M.I.E.E., 47, Broad-st., Mile End, Glasgow.
Court, J. R. T., 1, Undercliff-rd., Lewisham, S.E.
Coutts & Co., 140, Bath-st., Glasgow.
Couves, H. A., Newcastle-on-Tyne Electric Supply Co., Ltd., Newcastle-on-Tyne.
Couzens, George Edwin, 219, 221 & 223, Commercial-rd., Landport, Portsmouth.
Couzens, H. W., M.I.E.E., 39, Victoria-st., S.W.
Coveney, Ed., 20, Belle Vue-rd., Ramsgate.
Cowan, John, Gateacre Nurseries, Gateacre, Lancs.
Coweys, Ltd., 39, Victoria-st., Westminster, S.W.
Cowper-Coles Inventions Development Co., Ltd., Grosvenor Mansions, 82, Victoria-st., S.W.
Cox, H. Porter, 4, Speldhurst-rd., Bedford Park, London, W.
Cox & Co., 70, Higham-rd., Rushden.
Cox & Sons, 80A, Preston-rd., Brighton.
Coxon, J., High-st., Cheadle, Staffs.
Cox-Walkers, Ltd., Darlington. *See advt., page* 15.
Crabb, Herbert G., 35, Penwortham-rd., Streatham Park, S.W.
Cramer, F. B., A.M.I.E.E., 7, Kensington Court-gdns., W.
Crampton, W.J., M.I.E.E., 73, Queen Victoria-st., E.C.
Crampton & Co., 73, Queen Victoria-st., E.C.
Crawford, Jos., M.I.M.E., 2, Exchange-st., Manchester.
Crawley, G. R. E., 89, Upper Richmond-rd., S.W.
Crews, H. C., M.I.E.E., Clarence-chbrs., 4, Piccadilly, Manchester.
Crews & Handford, 4, Piccadilly, Manchester.
Crispin, R., & Co., 6, Lloyd's-ave., E.C.
Croft, E., Street House, Dudley Hill, Bradford.
CROMPTON & CO., LTD., Salisbury House, London Wall, London, E.C. Works: Chelmsford. *See advt. inside front cover.*
Crookell, W., Water-st. Works, Middleton, nr. Manchester.

Engineers—Electrical—*continued.*

Crookes, Henry, A.R.S.M., M.I.E.E., 109, Ladbroke-grove, Notting Hill, London, W.
Cropper, Charlton & Co., Station-st., Nottingham.
Crosbie, J. B. Talbot, Crosbie & Nutter, 134, Renfield-st., Glasgow.
Cross, Wm., 7, Ridley-pl., Newcastle-on-Tyne.
Cross & Cross, Ltd., Union Iron Works, Pleck-rd., Walsall.
Cross, G. & A. J., Ltd., 14, High-st., Tunbridge Wells.
Crowther, A., A.M.I.E.E., West Riding Asylum, Menston, Leeds.
Crypto Electrical Co., 155, 157 & 159, Bermondsey-st., London, S.E.
Cubey, T. H., 31 & 32, King-st., South Shields.
Cullen, W. H., Castner-Kellner Alkali Co., Ltd., Wallsend.
Cunningham, C. J., A.I.E.E., Poplar Training Schools, Hutton, Essex.
Cunnington & Harris, Ltd., 21, N. Audley-st., Grosvenor-sq., W.
Curran Bros., 2, Kent-st., Belfast.
Curtis, J. P., High-st., Weston-super-Mare.
Curwen, Charles, 64, Victoria-st., London, S.W.
Cutting, F., & Co., 70, St. John's-hill, Wandsworth, London, S.W.
Cuttriss, S. W., M.I.E.E., Prudential-bldgs., Park-row, Leeds.
Cutts, A. G., Leeds Copper Works, Ltd., Leeds.
Daglish, E., A.M.I.E.E., 168, Southgate-rd., Hackney, N.
Danks, Thomas, & Co., Ltd., Thurland-st., Nottingham.
Dargue, W. H., 57, Grey-st., Newcastle-on-Tyne.
Dargue, Griffiths & Co., Ltd., 51, North John-st., Liverpool.
Dashwood, E. S., Fountain-st., Belfast.
Davenport, F. R., M.I.E.E., c/o Peter Brotherhood, Ltd., 53, Parliament-st., S.W.
Davenport, Sparrow & Co., Brazennose-st., Manchester.
Davidson & Co., Ltd., 37, Corporation-st., Manchester.
Davie, J. F., A.M.I.E.E., c/o Palmer & Co., 7, Great Castle-st., W.
Davies, F. W., A.M.I.E.E., Victoria Electrical Works, East Parade, Huddersfield.
Davies, Arthur W., & Co., 37, Queen-st., Hammersmith, W.
DAVIES & RANSOME, Caxton House, Westminster, London, S.W. *See advt., page* 14.
Davis, T., Oaklands, Hill-lane, Southampton.
Davis, W. H., jun., All Saints' Works, Derby.
DAVIS, JOHN, & SON (DERBY), LTD., All Saints' Works, Derby. (Telegrams: "Davis, Derby." Telephone No. 240, Derby.)
Davis & Son, 120, Bute-st., Cardiff.
Davson, S. F., 203, Maida-vale, London, W.
Dawe, H. J., 173, Uxbridge-rd., W.
Dawson, Boyd, A.M.I.E.E., 176A, King's-rd., Chelsea, S.W.
Dawson, J. Wm., A.M.I.E.E., Tramways Dept., Hall Ings, Bradford.

Engineers—Electrical—*continued.*

Day, Gerald St. John, Mumps Electrical Works, Oldham.
Day, J., Park-pl., Cardiff.
Deacon, M., M.I.C.E., M.I.E.E., Sheepbridge Works, nr. Chesterfield.
Dearling, G. S., c/o R. W. Blackwell & Co., Ltd., Parliament-chbrs., Great Smith-st., Westminster, S.W.
De Carli, F., 11, Nassau-st., Shaftesbury-ave., W.
Dennis, W., Adams & Co., 17, Little Pulteney-st., W.
Denny, C.W., 18, Wellington-rd., Old Charlton, S.E.
Denny, Wm., & Bros., Dumbarton; & 19, St. Helen's-pl., London, E.C.
De Nordwall, C. F., M.I.E.E., 605–6, Caxton House, Westminster, S.W.
Denton, F. M., Beverley, E. Yorks.
Denton Electrical Construction Co., Ltd., 11, Ashton-rd., Denton, nr. Manchester.
Dewey, O., Reason Mfg. Co., Ltd., 55, Wellington-rd., Heaton Chapel, nr. Stockport.
Dewhurst's Engineering Co., Ltd., 68, Attercliffe-rd., Sheffield.
De Wynter, L. J., A.M.I.E.E., "Clarach," Rainhill, Lancs.
Diamond Coal Cutter Co., Stennard Works, Wakefield.
Dick, J. R., B.SC., M.I.E.E., W. Lucy & Co., Ltd., Oxford.
Dickinson, Alfred, M.I.E.E., Central House, New-st., Birmingham.
Dickinson & Burne, Ltd., Church Acre Works, Guildford.
Dieppe, R. C., A.M.I.E.E., 47, Trinity-rd., Tulse Hill, S.W.
Diggle, Jas., Co-operative Society, Bolton.
Dixon, W., M.I.E.E., 30, Kelvinside-gdns., Glasgow.
Dobbie, J. Thos., 58, Pollok-street, Glasgow.
Dobbie, R. S., M.I.E.E., Wood Cot, St. Brianels, nr. Coleford, Glos.
Dobson, J. E., Bruce Peebles & Co., Ltd., East Pilton Works, Edinburgh.
Dobson, R. & H., 39, Dean-rd., Salford.
Dockrell, T., Sons & Co., Ltd., 38 & 39, South Great George's-st., Dublin.
Dodd, Cyril H., M.E., A.I.E.E., Bod Amlwg, Pentre Hill, Mold, N. Wales.
Dolby, D. J., Victoria-st., Great Grimsby.
Donachie, J. A., Clyde Valley Electrical Power Co., 53, Bothwell-st., Glasgow.
Donaldson, J. M., A.I.E.E., The Old Rectory, St. Albans.
Doncaster Electrical Co., Ltd., Printing Office-st., Doncaster.
Donner, Wm. H., M.I.E.E., Burnside, Meikleriggs, Paisley.
Donoghue, E., Corporation Electricity Works, Blackpool.
Donovan, G. O., M.I.E.E., 126, Chester-rd., Erdington, Birmingham.
Donovan, H. C., M.I.E.E., 51, Coleraine-rd., Westcombe-park, London, S.E.
Dorman, C. M., M.I.E.E., c/o Dorman & Smith, Ordsal Electrical Works, Salford, Manchester.

Engineers—Electrical—*continued.*

DORMAN & SMITH, Ordsal Electrical Works, Salford, Manchester. (Telegs.: "Current, Manchester." Teleph. No. 1741, Nat.) Agents—London: Sambidge & Co., 17, Victoria-st., S.W. (Telegs.: "Prefix, London." Teleph. Victoria 530.) Scottish: Andrews & Co., 198A, St. Vincent-st., Glasgow. Birmingham: S. T. Pemberton, Council-chbrs., Colmore-row. Newcastle-on-Tyne: F. T. Hanks, 1, Higham-pl. *See also page* 123 *& advt., page* 21.
Douglas, O., 52, Carlton-vale, N.W.
Douglas, William, Ltd., 11, Picardy-pl., Edinburgh.
Douglas, Wm., & Sons, Ltd., Douglas Wharf, Putney, London, S.W.
Douglass, W. T., M.I.E.E., M.I.C.E., 15, Victoria-st., S.W.
Dove, W. E., & Co., Ltd., Bondgate, Darlington.
Dowling, F. N., Swan-bldgs., Edmund-st., Birmingham.
Dowling, J., & Co., 5, Upper Queen-st., Belfast.
Down, Fred. J., Harpenden, Herts.; & 6, 7 & 8, Crutched Friars, London, E.C. A founder, 1883, of Laing, Wharton & Down.
Downham, J., Fleet-st., Bury, Lancs.
Dowsing, H. J., M.I.E.E., 24, Budge-row, Cannon-st., London, E.C.
Drabble, W. T., Providence Works, Leeds.
Drake, Bernard, M.I.E.E., 66, Victoria-st., Westminster, London, S.W.
Drake & Dauncey, 45, Newhall-st., Birmingham.
DRAKE & GORHAM, LTD., 66, Victoria-st., Westminster, London, S.W. Works: 1, Felix-st., S.E. For branches, telegrams & telephone numbers, *see* ALPHABETICAL. *See advt., page* 459.
Drennan, Glover & Cooper, 429–31, Corn Exchange-bldgs., Manchester.
Driver, G., & Sons, Hythe-rd., Willesden Junction, N.W.
Dufty, N. E., c/o Lahmeyer Electrical Co., Ltd., 109 & 111, New Oxford-st., W.C.
Duke, A. M., A.M.I.E.E., 69, Lansdowne-rd., Old Charlton, S.E.
Duncan, W. J. V., Phœnix Works, Mentmore-ter., London Fields, London, N.E.
Dunton, E. W., D.P. Battery Co., Ltd., 11, Victoria-st., S.W.
Durell & Co., 58, Fenchurch-st., E.C.
Durrant, F., 28, Windsor-rd., Bexhill.
Du Verge, L. de R., A.M.I.E.E., Newport, Mon.
Dymond, J. D., Foote & Milne, Ltd., 66, Victoria-st., S.W.
Dyson, J. D., A.M.I.E.E., c/o Hubert Davies & Co., 586, Salisbury House, London Wall, E.C.
Eadie, Norman, J. T. Donald & Co., Ltd., 35, McAlpine-st., Glasgow.
Earle, Hardman A., M.I.C.E., M.I.E.E., Knightsbridge Mansions, Brompton-rd., S.W.
Earley & Co., 16, Beaufort-rd., Birmingham.
Earnshaw, A. T., 50, Verdant-lane, Hither Green, London, S.E.
Easter & Dickinson, Victoria-st., Great Grimsby.
Easton, J. J., Siemens Bros. & Co., Ltd., Caxton House, Westminster, S.W.

Engineers—Electrical—*continued.*

Easton & Anderson, Broad Sanctuary-chbrs., S.W.; & 9, Gracechurch-st., E.C.

Easton, Courtney & Darbishire, 25, Victoria-st., S.W.

Eastwood & Co., Railway Works, & Kirkgate, Wakefield.

Eborall, A. C., M.I.MECH.E., M.I.E.E., Caxton House, Westminster, London, S.W.

Eckstein, A., M.I.E.E., 5, Chapel Walks, Cross-st., Manchester.

Eclipse Electrical Co., 77, St. John's-rd., Bootle, Liverpool.

Eden, A., M.I.E.E., 315, Finchley-rd., London, N.W.

Edgcumbe, Kenelm, A.M.I.C.E., M.I.E.E. (Everett, Edgcumbe & Co., Ltd.), Collindale Works, Hendon, N.W.

Edler, A., & Co., 19 & 20, Appold-st., Finsbury, E.C.

Edmundson, J. W., Sunbeam Lamp Co., Ltd., Gateshead-on-Tyne.

Edward & Co., 10, Rose-st., Edinburgh.

Edwards, J. Herbert, 2, Fernbank-rd., Bristol.

Edwards, W. R., A.M.I.E.E., Weybridge.

Edwards, W. V., A.M.I.E.E., Hastings & District Electric Tramway Co., Ltd., Hastings.

Edwards, E. E., & Co., 43, Mincing-lane, E.C.

Edwards, H., & Co., 39, Lombard-st., London, E.C.

Edwards, S. J., & Son, 129, Claughton-rd., Birkenhead.

Efficient Lighting & Heating Co., 15, Hill-st., Park-rd., Regent's Park, London, N.W.

Ekin, Tom, M.I.C.E., M.I.M.E., 21, Old Queen-st., Westminster, London, S.W.

Ekins & Co., Ltd., G.N. Works, Hertford.

Elders, J., J. Butler & Co., Stanningley, Leeds.

Electric & Automatic Eng. Co., George-st., Chatham.

Electric Control, Ltd., 177, Reid-st., Bridgeton, Glasgow.

Electric Locomotive Motor Propulsion Co., Ltd., 25, Brewer-st., Regent-st., London, W.

ELECTRIC & ORDNANCE ACCESSORIES CO., LTD., Cheston-rd., Aston, Birmingham. (Telegs.: "Stellite, Birmingham." Teleph. Nos.: Nat. 176 & 179, East; & P.O. 9 (Trunk Calls).) *See page* 134 *for full entry.*

Electrical Contracts & Maintenance Co., Ltd., Sanctuary House, Westminster, S.W.

Electrical Illuminating Co., Lowther Arcade, Carlisle.

Electrical Industries Supply Co., 2, Macdonald's-lane, Corporation-st., Manchester.

ELECTRICAL POWER STORAGE CO., LTD. SOLE MANUFACTURERS OF THE CELEBRATED E.P.S. STORAGE BATTERIES. HEAD OFFICE: 4, GREAT WINCHESTER-ST., E.C. WORKS: MILLWALL, LONDON, E. Storage battery makers by Royal Warrant to His Majesty the King. (TELEGS.: "STORAGE, LONDON." TELEPH. LONDON WALL 1253.) *See advt., page* 427.

Engineers—Electrical—*continued.*

Electrical Trades Supply, Ltd., Britannia Works, Great Charles-st., Birmingham.

Electrofons Co., 26, Corporation-st., Manchester.

Eley, C. V. A., 2, Victoria-sq., Birmingham.

Elliot, Chas. H., Kirk Braddon, Croydon-rd., Beckenham.

ELLIOTT, J. E., & CO., 12, Broad-st., Oxford; & 23, Bridge-st., Banbury.

Elliott & Mansell, 12, Soho-st., Soho-sq., London, W.

Ellis, G. A., Goring-on-Thames.

Ellis, T. W., 52, St. George-st., Swansea.

Ellis, C. H., & Co., 29, Chivalry-rd., New Wandsworth, S.W.

Ellis & Ward, 75, Edmund-st., Birmingham.

Elmhirst, R. J., A.M.I.E.E., Peninsular & Oriental Steam Navigation Co., P. & O. Factory, Royal Albert Docks, London, E.

Elphinstone, G. K. B., M.I.E.E., 14, Sussex Mansions, South Kensington, S.W.

Elsden Manufacturing Co., Gloucester Works, Old Ford, London, E.

Elyard-Brown, D., c/o C. A. Vandervell & Co., Warple Way, Acton Vale, London, W.

Emley & Sons, Ltd., 42, Westgate-rd., Newcastle-on-Tyne.

Engel, L., & Co., 46, Fore-st., London, E.C.

English, S. W., 82, Cromwell-rd., Wimbledon, S.W.

Entwisle & Gass, Ltd., Atlas Foundry, Nelson-st., Bolton.

Epstein, F., Milford Works, Battersea, S.W.

Esson, C., 102, Fetter-lane, E.C.

ESSON, W. B., M.I.C.E., M.I.E.E., Bank-bldgs., Kingsway, London, W.C.

Evans, F. J., M.I.E.E., Barry Railway Co., Barry, Glamorgan.

Evans & Son, Swan-sq., Burslem.

Evans, T. A., & Co., Heathfield-st., Swansea.

Everest, A. R., M.AM.I.E.E., British Thomson-Houston Co., Rugby.

Everitt, A. E., 5, Free School-lane, Cambridge.

Everitt, M., Free School-lane, Cambridge.

Ewart & Son, Ltd., 346 & 350, Euston-rd., N.W.

Ewing, J. L., & Co., 156, St. Vincent-st., Glasgow.

Eyears, A. E., A.M.I.E.E., 4, Linkenholt Mansions, Hammersmith, W.

Eynon, George L., A.M.I.E.E., 3, Adelaide-st., Charing Cross, W.C.

Fairchild, H. E., 4, Violet Hill, St. John's Wood, N.W.

Fairhurst, W. V. F., Darwen, Lancs.

Falconar, O. L., A.M.I.E.E., 7 & 9, Ridley-pl., Newcastle-on-Tyne.

Falkenstein, C. K., jun., A.M.I.E.E., Northstead-rd., Tulse Hill Park, London, S.W.

Falshaw, Reginald, Albert-chbrs., Albert-st., Harrogate.

Fardon, E. S., A.M.I.E.E., 2, Swan-st., Manchester

Farmer, Henry, A.M.I.E.E., 76, King's Hall-rd., Beckenham, Kent.

Farr, J., Sherwood-st., Nottingham.

Engineers—Electrical—*continued.*

Farrar, Sidney H., M.I.C.E., 4, London Wall-bldgs., London, E.C.
Fawcett, D. L., 32, Sholebroke Mount, Leeds.
Fawcett, E. M., 4, Sydney-ter., New-st., Paignton, Devon.
Fawcus, Geo. H., Altrincham Electric Supply, Ltd., Altrincham.
Fazakerley, J., Victoria Station, Manchester.
Fearnley, V., c/o The Mint (Birmingham), Ltd., Birmingham.
Feld Bros. & Co., Ltd., 25, Budge-row, E.C.
Felgate & Storey, 2 & 4, Woodstock-rd., Oxford.
Fell, A. W., 44, Murray-rd., Rugby.
Fellingham, A. E., 115, North-st., Brighton.
Feltham, J. B., A.M.I.E.E., Electricity Works, Gloucester.
Fenton, Horrocks & Co., Ltd., 1, Berkshire-st., Miles Platting, Manchester.
Ferguson & Co., 10, South Anne-st., Dublin.
Ferranti, S. Z. de, M.I.E.E., Grindleford, Sheffield.
Ffinch, B. T., C.I.E., M.I.E.E., Liskeard Lodge, Liskeard-gdns., Blackheath, S.E.
Field, A. M. C., Consett Iron Co., Ltd., Consett, Co. Durham.
Field, F., Corp. Tramways, Blackpool.
Field, M. B., M.I.E.E., Ferranti Ltd., Hollinwood, nr. Manchester.
Fielding, J. W., & Co., 31, Birley-st., Blackpool.
Fifoot, S. C., 37, St. Mary-st., Cardiff.
Fildes & Barlow, Howard-st., Stockport.
Fileman, M., 99, Queen's-rd., Brighton.
Firth, H. W., M.I.E.E., G.E. Rly., Liverpool Street Station, London, E.C.
Fish & Co., Park-rd., Wellingborough.
Fisher, Chas. V., 11, High-st., Doncaster; & 1, West-st., Mexborough.
Fitz, R., Morris & Co., 8, Milk-st., Shrewsbury.
Fitzhayne, F. A., Corporation Tramways, Town Hall, Leith.
Fitzsimons, H., 9, Stanley-st., Govan, N.B.
Flather & Co., Ltd., Park Electrical Works, Marshall-st., Holbeck, Leeds.
Fletcher, J. W., A.M.I.C.E., M.I.E.E., Homestead, Cale Green, Stockport.
Fletcher Bros, 13, High Friar-st., Newcastle-on-Tyne.
Flower, J. W., A.M.I.E.E., Electrical Co., Ltd., 121–125, Charing Cross-rd., W.C.
Foote, Henry, 66, Victoria-st., London, S.W.
Foote & Milne, Ltd., 66, Victoria-st., London, S.W. (Telegrams: "Pedetentim, London." Telephone No. 352, Westminster.)
Forbes, F. E., 16, Chestnut-st., Southport.
Forrest, J. H., Metropolitan Amalgamated Railway Carriage & Wagon Co., Ltd., Lancaster.
Forrest, T., & Sons, 29, S. Clerk-st., Edinburgh.
Foster, H. Llewellyn T., A.M.I.C.E., M.I.E.E., British Engine, Boiler & Electrical Insurance Co., Ltd., 12, King-st., Manchester.
Foster, J., City Meat Market, Birmingham.
Foster-Curtis, G., & Co., 6A, Wrotham-rd., Camden Town, N.W.
Foundries, Ltd., Waltham Cross, Herts.

Engineers—Electrical—*continued.*

Fowler, H., William-st., Windsor.
Fox, F. W., 39, Bank-street, Ashford.
Foyster, A. H., M.I.E.E., Corporation Electricity Works, Edinburgh.
Frampton & Paine, 29, Old Queen-st., Westminster, S.W.
Frazer, T., A.M.I.C.E., 114, Broadway, Plaistow, E.
Freeman, John George, A.M.I.E.E., London Electric Supply Corporation, 25A, Cockspur-st., S.W.
Freeman, G. H., & Co., Castle Works, Fisher-st., Birmingham.
French, J. L., & Co., 36, Devonshire-rd., Bexhill.
Fricker, Guy C., M.I.E.E., "Nevin," Avenue-rd., Southfields, S.W.
Frith, Julius, M.SC., M.I.E.E., The Homestead, Victoria Park, Manchester.
Frizell Bros. & Louis, 79, Denmark Hill, S.E.
Fuller, E. E., A.M.I.E.E., Ed. Lloyd, Ltd., *Daily Chronicle* Paper Mills, Sittingbourne, Kent.
Fuller, G. C., British Thomson-Houston Co., 83, Cannon-st., London, E.C.
Fuller, George, M.I.E.E., Woodland Works, Wicklane, Old Ford-rd., Bow, London, E.
Fulton, D., Harbour Trustees, Swansea.
Fulton, T. Crichton, A.I.E.E. (consulting), 44, West George-st., Glasgow.
Furniss, W. M., Electric Construction Co., Ltd., Wolverhampton.
Fynn, V. A., M.I.E.E., 18, Blessington-rd., Blackheath, S.E.
Galbraith, Wm., J. Finlay & Co., Ltd., 18, Renfield-st., Glasgow.
Gallacher, E., Roden-pl., Dundalk, Ireland.
Galsworthy, S. S., A.M.I.E.E., Galsworthy Ltd., 15 & 16, Newman-st., Oxford-st., W.
Gant, L. W., 28, Brudenell-ave., Hyde Park, Leeds.
Gardner, L., & Sons, Ltd., Barton Hall Engine Works, Patricroft, Manchester.
Garrett, Hunt & Co., 181, High-st., Lewisham, S.E.
Garstang, H., 69, Darwen-st., Blackburn.
Garty, Bone & Co., Anderston Electrical Works, Bishop-ct. & Bishop-st., Anderston, Glasgow.
Gaskell, S. A., Wilcock-st., Wigan.
Gaumont, L., & Co., 22, 23, 25 & 27, Cecil-ct., Charing Cross-rd., W.C.
Gavey, A., c/o Sir J. Gavey, Fairlight, Hampton Wick, Middlesex.
Gee, J. H., & Co., 8, Bath-lane, Newcastle-on-Tyne.
Geen, H., A.M.I.C.E., A.I.E.E., Avenue-rd., Torquay.
General Electric Co., Ltd. (*G. Byng, chairman*). Head office: 71, Queen Victoria-st., London, E.C. Works: London, Manchester, Birmingham & Witton. For branch offices, telegraphic addresses & telephone numbers, *see* Alphabetical Section. *See advts., pages* 446, 707 & 734.
GENT & HURLEY, 24, Belvoir-st., Leicester. (Nat. Teleph. No. 535.)
George, A. E., 21, High-st., Lymington.
George, S., 1A, Sussex-rd., Hove.
Gerland, R. P., & Co., Electric Works, Church, nr. Accrington.

Engineers—Electrical—*continued.*

Gerrard, A., A.M.I.E.E., 5, Leslie-st., Pollokshields, Glasgow.
Gibbard, T., & Sons, 37, High-st., Wimbledon, S.W.
Gibson, G. H., A.M.I.E.E., 246, Bath-st., Glasgow.
Gifford, G. L., 27, Bassett-rd., North Kensington, W.
Gifkins, A. V., & Co., 68, Victoria-st., London, S.W.
Gilkes, Gilbert & Co., Ltd., Canal Iron Works, Kendal.
Gill, V. W., A.M.I.E.E., 8, St. Quintin-ave., W.
Gillespie, M. M., M.I.E.E. (Gillespie & Beales), Amberley House, Norfolk-st., Strand, W.C.
Gillmore, G., 11, Athol-st., Douglas, Isle of Man.
Gilmore & Co., 25, Fountain-st., Belfast.
Girdlestone & Co., 16, Davies-st., Berkeley-sq., W.
Gladdy, T., Siemens Bros. Dynamo Works, Ltd., 39, Upper Thames-st., E.C.
Gladwin, E. H., Witham-rd., Woodhall Spa, Lincs.
Glazebrook, R. T., M.A., D.SC., F.R.S., M.I.E.E., National Physical Laboratory, Teddington.
Glendinning, Wm. M., 19, Rathgar-rd., Brixton, London, S.W.
Glover, E. F., & Co., 16, South Castle-st., Liverpool.
GLOVER, F. A., & CO., LTD., Vine-st., Clerkenwell-rd., E.C.
Godfrey, H. J., 188, Balham High-rd., London, S.W.
Godfrey, W. B., M.I.E.E., M.I.C.E., 23, St. Swithin's-lane, E.C.
Godfrey & Clowes, 92, High-st., Saffron Walden, Essex.
Golding, W., G.P.O., Drogheda.
Golledge, W. T., A.M.I.MECH.E., A.I.E.E., Tutbury Engineering Co., Ltd., Tutbury, Burton-on-Trent.
Goodall, F. H., A.M.I.E.E., 52, Toothill-rd., Loughborough.
Goodburn, G. C., Western Electric Co., North Woolwich, E.
Goodchild, Walter C., M.I.E.E., Electrical Department, Midland Railway, Derby.
Goodfellow, H. W., Wm. Cory & Son, Ltd., Rochester.
Gooding, H., & Son, Stowmarket.
Gooding & Taylor, 43, Upper Russell-st., Brighton.
Goodman, S. S., M.I.E.E., 34, Hardy-rd., Westcombe Park, S.E.
Goodwin, F. H., 7, Norbury-ave., Pendleton, Manchester.
Goodwin, Robert, 58, Renfield-st., Glasgow.
Gorham, J. M., M.I.C.E., M.I.E.E., 66, Victoria-st., London, S.W.
Gott, A. E., A.M.I.E.E., 30, Cecil-rd., Gravelly Hill, Birmingham.
Gott, John, M.I.E.E., 6, Lorna-rd., Hove, Brighton.
Goudge, W. F., & Co., 363, Seven Sisters-rd., S. Tottenham, N.
Gould, H. C., Erdwick Cottage, Topsham.

Engineers—Electrical—*continued.*

Goundry, J. E. J., 31, High-st., Reigate.
Gourlay, Alex., 35, George-st., Stranaer.
Gower, G. F., A.M.I.E.E., South-Eastern & Chatham Railway, Victoria Station, S.W.
Grace & Sutcliffe, Cavendish-st., Keighley.
Graham, A., & Co., St. Andrew's Works, Crofton Park-rd., S.E.
Graham & Banks, Ltd., 445, Oxford-st., London, W.
Graham Bros., Zetland-pl., Middlesbrough.
Grainge, J. R. W., Electrical Engineers' Dept., Great Western Railway, Power Station, Park Royal, Willesden, N.W.
Grant & Blake, 41, St. John's-rd., Clapham Junction, S.W.
Grant, J. O., & Taylor, 63, Queen Victoria-st., E.C.
Gray, Tom L., 18, Grainger-st. West, Newcastle-upon-Tyne.
Green & Smith, Low Hall Mills, Holbeck-lane, Leeds.
Greenall, E. B., A.I.E.E., Danks & Co., Nottingham.
Greenhill, J. H., 37, New King-st., Belfast.
Greenhill & Craig, 33, 35 & 37, King-st., Belfast.
Greenwood, T. S., 11, Lime Grove, Manchester.
GREENWOOD & BATLEY, LTD., Albion Works, Leeds; & 16, Great George-st., Westminster, S.W. (Telegrams: "Greenwood, Leeds;" "Outflank, London.") *See advt., page* 20.
Gregory, V. H., A.I.E.E., 59, Park-rd., Chiswick, London, W.
Greyson & Gartside, George-st., Ashton-under-Lyne.
Gridley, H. J., A.I.E.E., Hampton Wick, Kingston-on-Thames.
Griesbach, R. C., Venner & Co., Old Queen-st., Westminster, S.W.
Griffith, S., Railway Foundry & Engineering Works, Reading.
Griffith, S. B., A.M.I.E.E., 8, John-st., Adelphi, W.C.
Grimley, W. R. N., A.I.E.E., Regent House, Regent-st., London, W.
Grimshaw, J. W., M.I.E.E., 22, Clifton-gdns., Folkestone.
Grimsley & Co., Queen-st., Leicester.
Grindrod, J. K., Oulder Hill, Rochdale.
Groome, A., Commercial-st., Newport, Mon.
Groome, H., Electricity Works, Ryde, I.W.
Grossmith & Co., Southsea & Portsea.
Groves & Co., 96, Churchfield-rd., Acton, W.; & Archer Street Works, Piccadilly Circus, W.
Grundy & Coombs, High-st., Walton-on-Thames.
Gudgson, E. H., & Co., Station Parade, Exmouth.
Guthrie Bros. & Ogilvy, Prudential-bldgs., Mosley-st., Newcastle-on-Tyne.
Guy, A. F., A.I.E.E., Eng. Dept., G.P.O., Manchester.
Guy, G., 29, Orchard-st., London, W.
Haddow, W. M., M.I.E.E., 9, Bank-st., Hillhead, Glasgow.
Hadfield, Sir Robert A., F.R.S., M.I.E.E., 28, Hertford-st., Mayfair, W.
Haggie, R. Hood, M.I.E.E., M.I.MECH.E., A.M.I.C.E., 49, Queen Victoria-st., E.C.
Hale, H., A.M.I.E.E., Savoy Hotel, Ltd., London.

Engineers—Electrical—*continued.*

Halford, Julian, 12, Blomfield-rd., London, W.
Hall, H. Cuthbert, M.I.E.E., 23, Albemarle-st., W.
Hall, J. P., Gorse Bank, Oldham. (Telegs.: "Hall, Gorsebank, Oldham." Teleph. No. 300A.)
Hall, P. B., A.M.I.E.E., 5, Chapel Walks, Cross-st., Manchester.
Hall, R. C., A.M.I.E.E., A.M.I.C.E., 89, Parchmore-rd., Thornton Heath.
Hall & Matthews, 46 & 80, West-st., Sheffield.
Hamilton, C. K., Trafford Villa, Wilberforce-rd., Southsea, Hants.
Hamilton, P., B.SC., A.M.I.C.E., M.I.E.E., 87, Victoria-st., S.W.
Hamilton Bros., 19, Waterloo-st., Glasgow.
Hamilton, Claud (Aberdeen), Ltd., 254A, Union-st., Aberdeen.
Hamilton, Claud, Ltd., 247, St. Vincent-st., Glasgow.
Hamilton, J., & Son, Guildford-st., Chertsey.
Hammersley-Heenan, R. H., M.I.C.E., M.I.E.E., 56, Victoria-st., S.W.
Hammond, C. P., M.I.E.E., "Trefusis," Ditton-rd., Surbiton, Surrey.
Hampton, Edwin, Abergavenny.
Hampton & Sons, Ltd., Pall Mall, Trafalgar-sq., London, W.C.
Hanchett, G., Barratt & Co., Lower Gold-st., Croft-st., Pendleton, Manchester.
Handcock, H. W., A.M.I.C.E., M.I.E.E., Westminster-chbrs., 1, Victoria-st., S.W.
Hands, Albert C., Snow Hill, London, E.C. (Telegs.: "Thraldom, London." Teleph. No. 1033, Holborn.)
Hanna, J. W., 14, Peel-pl., Kensington, W.
Hanna & Son, 107, Church-st., Kensington, W.
Hanson, C. J. Whistler, A.I.E.E., Precision Engineering Co., Ltd., 143, 145 & 147, Rosebery-ave., E.C.
Hanson, G. H., & Son, 17, Bloomsbury-st., Birmingham.
Haran, N. G., & Sons, 99 & 100, Causeyside-st., Paisley.
Hardcastle, E., M.I.E.E., Wm. Fulton & Sons, Ltd., Glenfield Works, Paisley, N.B.
Harden, G. F., A.M.I.E.E., Sandwell, Radlett, Herts.
Harden, T., 62, Hurlingham-rd., S.W.
Harding, S. J., 75, Cedars-rd., Beckenham, Kent.
Harding Bros., 48, Commercial-st., Hereford.
Hardwick, G. H., A.M.I.E.E., 101, Bath-st., Rugby.
Hardy, J. T., A.I.E.E., Abbey Walk, Coronation-rd., Halifax, Yorkshire.
Harford, G. J., A.M.I.E.E., 92, Liverpool-rd., Birkdale, Southport, Lancs.
Harraway Bros., 45, King's-rd., Sloane-sq., S.W.
Harrington, J., Hill & Harrington, 41, Berners-st., London, W.
Harris, A. F., A.M.I.E.E., Nalder Bros. & Thompson, Ltd., 34, Queen-st., London, E.C.; & Roselle, Lansdown-rd., Sidcup.
Harris, H. M., 24, Castellain-rd., Maida Vale, W.

Engineers—Electrical—*continued.*

Harris, R. J., Hurst House, Woodford Green, Woodford.
Harris, W., 46, Longbrook-st., Exeter.
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Havord & Co., 2, Wrotham-rd., Gravesend.
Hawes, J. W. H., A.M.I.E.E., 117, Middlesex-st., E.
Hawker, H., 37, Gloucester-rd., Brighton.
Hawkes & Walton, 10, Castle-sq., Brighton.
Hawkins, C. C., M.A., M.I.E.E., 44, Westbere-rd., Cricklewood, N.W.
Hawkins, H. J., A.M.I.E.E., Electricity Works, Salford, Manchester.
Hawkins, T., M.I.E.E., 51, Whitcomb-st., W.C.
Hawley, R., Pope's Grove, Twickenham.
Hawtayne, W. C. C., M.I.E.E., 9, Queen-st.-pl., London, E.C.
Hayes, M., 13, Johnson-rd., Southall, Middlesex.
Hayne, R. H., A.M.I.E.E., 37, Bromley Common, Kent.
Haynes, F. T. J., M.I.E.E., Taunton.
Haynes, J. T., A.M.I.E.E., 60, St. Martin's-la., W.C.
Haywood, W. G., & Co., 56, High-st., W.C.
Headley, F. H., 65, Stirling-rd., Birmingham.
Heaney & Co., 327, Borough-rd., Birkenhead.
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Heap, S., 47, Regent-st., Lancaster.
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Heath, W., 21, Bride-lane, Fleet-st., London, E.C.
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Heath, W. G., & Co., Frankfort-st., Plymouth.
Heaver, Northcote & Co., 43, King's-rd., Camden-rd., N.W.
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Herbert & Co., 22, St. Mary's Butts, Reading.
Hermes, L., & Co., 205, High-st., Acton, W.
Heriot, W. S., 1, Anfield-rd., Partick, Glasgow.
Hewett, A. E., Mautby Hill, Osborne-rd., Preston, Brighton.
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Heyes & Co., Water-Heyes Elec. Works, Wigan.
Heys, W. E., M.I.E.E., 51, Deansgate Arcade, Manchester.
Hicks, G., St. Faith's Cottage, Enfield.
Higgins & Griffiths, 4, Albany-st., Regent's Park, N.W.
Highfield Foundry Co., Wellingborough.
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Hill, Alfred W., A.M.I.E.E., Maxim Elec. Co., Ltd., Ravenswood House, Shernhall-st., Walthamstow.
Hill, H., A.M.I.E.E., c/o Greenwood & Batley, Ltd., Armley-rd., Leeds.
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Hill & Harrington, 41, Berners-st., London, W. (Teleph. No. 593, Gerrard.)
Hill, Upton & Co., 22, George-st., Oxford.
Hird, F., B.A., M.I.E.E., 1, Ingleside-grove, Blackheath.
Hird, W. B., B.A., M.I.E.E., Sandon, Prospect-ave., Cambuslang, N.B.
Hirsch, Dr. P., Veritys, Ltd., Aston, Birmingham.
Hirst, H., M.I.E.E., 71, Queen Victoria-st., E.C.
Hirst, P. N., St. John's Garage, Leeds.
Hirst A., & Son, Ltd., Dewsbury.
Hoad, H. G., London County Council, Hungerford House, Victoria Embankment, W.C.
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Hobart, H. M., M.I.C.E., Oswaldestre House, Norfolk-st., Strand, W.C.
Hocking, E. L., A.I.E.E., 12, Birchington-rd., Crouch End, London, N.
Hodge, R., A.M.I.E.E., British Westinghouse Electric & Manufacturing Co., Ltd., High Bridge, Newcastle-on-Tyne.
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Hodgson, A. J., Crompton & Co., Ltd., Arc Works, Chelmsford.
Hodgson, E., Northgate Mill, Cleckheaton.
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Holden, S. H., M.I.E.E., Chamberlain & Hookham, Ltd., Birmingham.
Holden, T., 135, Belvoir-st., Princes-ave., Hull.

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Holmes & Cooper, 160, The Grove, Wandsworth, S.W.
HOLMES, J. H., & CO., Portland-rd., Newcastle-on-Tyne; also at 17, Soho-sq., London, W.; Examiner-bldgs., Strutt-st., Manchester; & 19, Waterloo-st., Glasgow.
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Hooper, H., & Co., Ltd., 181, High-rd., Lewisham, London, S.E. (Teleph. Lee Green 755.)
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Hopkins, H. H., Rhodes Motors, Ltd., 31, Mauldeth-rd. W., Withington, Manchester.
Hopkins, G., & Sons (Clerkenwell), Ltd., 148, 150, 152 & 154, St. John-st., London, E.C.
Hopkinson, Dr. Edw., M.A., M.I.C.E., M.I.E.E., M.I.M.E., Salford Iron Works, Manchester.
Hopps, B., 83, Hillmorton-rd., Rugby.
Horsfall, F., Southgate, Elland.
Horton & Son, Ltd., New Alma Works, Station-street, Darlaston.
Hough, C. R., 23, Woodland Park, Newport, Mon.
Hounslow, A. E., 12, Albany-st., Regent's Park, N.W.
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Howard, A. H., M.I.E.E., Parliament Mansions, Victoria-st., London, S.W.
Howard, F. Geere, 63, Berners-st., London, W.
Howard, Selby B., Urban Electric Supply Co., Ltd., Weybridge.
Howard, T. R., The Hollies, Hallowell-rd., Northwood.
Howard, W., 174, Blackfriars-rd., London, S.E.
Howl, E., A.I.E.E., The Quarries, nr. Dudley.
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Huddleston, J. Snow, c/o Siemens Bros. & Co., Ltd., Caxton House, Westminster, S.W.
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Hughes, W. M., New-rd., Kidderminster.
Hughes & Lancaster, 47, Victoria-st., Westminster, London, S.W.
Hughes & Whiteley, 2, Bk. Clement-st., Llandudno.
Hulett, D., & Co., Ltd., 55 & 56, High Holborn, London, W.C.
Hull, W. G., Pangbourne, Reading, Berks.
Hulse, R. P., British Westinghouse Co., Winchester House, Victoria-sq., Birmingham.
Humber Electrical Engineering Co., 68, Brook-st., Hull.
Humphrey, H. A., M.I.E.E., M.I.M.E., M.I.C.E., 38, Victoria-st., London, S.W.
Humphreys, T., 158, Whitworth-rd., Rochdale, Lancs.
Hunns & Co., Stopford-rd., Plaistow, London, E.
Hunt, A. H., 115–117, Cannon-st., E.C. (Telegs.: "Keyage, London." Teleph. Bank 8114.) *See advt., page* 442.
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Hunter, C. E., Ediswan Works, Ponder's End, London, N.
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Hunter, David, Lanark.
Hunter & Goudie, Causeyside-st., Paisley.
Hunter & Swan, Ltd., 31, Queen-st., Bute Docks, Cardiff.
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Ings, W., "Northleigh," Willcott-rd., Acton Hill, London, W.

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Inniss & Riddle, City-chbrs., New-st., Birmingham.
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Jackson, A. E., M.I.E.E., c/o Kincaid, Waller, Manville & Dawson, St. Stephen's House, Victoria Embankment, S.W.
Jackson, F. A., A.I.E.E., Mann, Egerton & Co., Ltd., Bank Plain, Norwich.
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Jacomb-Hood, J. W., M.I.E.E., Engineers' Office, Waterloo Station, S.E.
Jacques, H. S., & Co., 35, Tangier-st., Whitehaven.
James, H. J., 63, Bonhay-rd., Exeter.
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Joly, Henri L., A.M.I.E.E., A.M.AM.I.E.E., 4, Glebe-pl., Chelsea, S.W.

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Kendall, F., Forman-st., Nottingham.

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King, W. N. Y., A.M.I.E.E., Tramway Power Station, Kelham Island, Sheffield.

King Engineering Co., Craven House, Kingsway, W.C.

Kingdon, Z. H., H.M. Dockyard, N. Devonport.

Kingsbury, J. E., M.I.E.E., general manager, Western Electric Co., Norfolk House, Victoria Embankment, London, W.C.

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Kingston & Co., Ltd., 8, Trinity-sq., Margate.

Kipps, E. J., A.M.I.E.E., Engineering Department, The University, Edgbaston, Birmingham.

Kirk, A., 24, Holborn, E.C.

Kirk, G. A., Corlett Electrical Engineering Co., Ltd., Wigan.

Kirker, H. L., c/o British Westinghouse Co., 2, Norfolk-st., W.C.

Kirtley & Dunford, 14A, Tower-st., Hartlepool.

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Knight, O. C., 54, Barwick-st., Birmingham.

Knight & Farr, 25, Mansfield-rd., Nottingham.

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Krupka & Jacoby, 11, Queen Victoria-st., E.C.

Kuhl & Vogt, 5, Chester-rd., Anfield, Liverpool.

Kuner, J. A., Crouch-st., Colchester.

Kyle, J. Archibald, 29, The Vineyard, Richmond, Surrey.

Lacey, F. W., M.I.C.E., F.R.I.B.A., M.I.E.E., Municipal-bldgs., Bournemouth.

Lacy, Howard, 6, Eccleston-pl., S.W.

Lacy & Co., Eccleston-yard, Eccleston-pl., S.W.

Laing, G. O., Hexham & District Electric Supply Co., Ltd.

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Lancaster, E. W., M.I.E.E., 12, Upper Thames-st., E.C.; & Eliot Bank, Sydenham Hill, S.E.

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LAURIE, T., & CO., West End, Falkirk. *See advt., page* 19.

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Lawson, J., & Sons, Commercial-st., Brighouse.

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Leaf, Henry M., 47, Victoria-st., S.W.

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Leake, H. C., A.M.I.C.E., A.M.I.E.E., Spring Hill, The Downs, Altrincham.

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Leith, Alex., & Co., 10, Neville-st., Newcastle-on-Tyne.

Leng, E., 79, Percy-st., Newcastle-on-Tyne.

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Lester, J. E., 2, Cank-st., Leicester.

Lester, Ll. R., 23, Neal-st., W.C.

Lewis, H. A., B.A., A.M.I.E.E., Electrical Dept., North Staffordshire Railway, Stoke-on-Trent.

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Linsley, W. A., 8, Airedale Cliff, Pollard-lane, Bramley, Leeds.

Little, C. W. G., M.I.E.E., British Electric Traction Co., Ltd., Electrical Federation Offices, Kingsway, London, W.C.

Littleboy, T. G., A.M.I.E.E., Brymbo, near Wrexham.

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Lock, F. J., Station-rd., Taunton.

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Lowe, Egerton & Co., South View-cres., Sheffield.

Lowman, A., 26, Nutford-pl., W.

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Prestwich & Burt, Ltd., Caxton House, Westminster, S.W.
Pretty, W., & Co., Ltd., Osmondeston Works, Scole, Norfolk.
Price, B., 6, Woodbine-ave., Gosforth, Newcastle-on-Tyne.
Primrose & Primrose, 199, Bath-st., Glasgow.
Pringle, J. S., A.M.I.E.E., Admiralty, S.W.
Pritchett, C. R. D., 58, Victoria-st., Westminster, S.W.
Pritchett, G. E. B., Feltham, Middlesex.
Pritchett, T. W., A.I.E.E., Uplands, Feltham, Middlesex.

Engineers—Electrical—*continued.*

Proctor, C. Faraday, M.I.E.E., M.I.M.E., Edison & Swan United Electric Light Co., Ltd., Benwell, Newcastle-on-Tyne.
Proger, J. G., & Sons, Trinity-st., Cardiff.
Pudney, C. C., & Co., 11, Guildhall-st., Bury St. Edmunds.
Pullan, C., 51 & 52, King's Arcade, Market-st., Bradford.
Purcell & Nobbs, 87 & 89, Cleveland-st., Fitzroy-sq., London, W.
Purton, F. J., 4, Hardman-rd., Old Charlton, S.E.
Pybus Bros., 7, Marriott's-ct., Manchester.
Pynegar, Henry, 5, Dowgate-hill, London, E.C.
Quicke, Chas. F., M.I.E.E., 315, Euston-rd., London, N.W.
Radcliffe & Creasey, 24, Bride-la., Fleet-st., E.C.
Radford, F. W. A., 100, Hatton Garden, London, E.C.
Raine, A. D., Telegraph Works, Silvertown, E.
Ramage, Percy A., A.M.I.E.E., Park Works, Manchester.
Randolph, A. M., British Westinghouse Co., Trafford Park, Manchester.
Ranken, A. W., A.M.I.C.E., M.I.E.E., 39, Victoria-st., S.W.
Rankin, J. H., 66, St. Thomas-st., Weymouth.
Rankin, R., B.SC., Electrical Co., Manchester.
RASHLEIGH PHIPPS & CO., 147, Oxford-st., London, W. (Telegs.: "Diffuser, London." Tel. Nos.: 3973, Gerrard; & 12155, Central.)
Ratcliff, H. A., A.M.I.E.E., 15, Filey-rd., Fallowfield, Manchester.
Rawlingson, J., Burnley.
Rawson, F. L., A.M.I.C.E., M.I.E.E., Cross Keys House, 56, Moorgate-st., E.C.
Ray Motor Co., Boulters Island, Maidenhead.
Raymond-Barker, E., M.I.E.E., I. R., G. P. & Telegraph Works Co., Ltd., Silvertown, E.
Raynor, W. H., & Sons, 164, London-rd., Nottingham.
Read, C. M., Stockwell, Silverton, Devon.
Reade, F., & Co., The Broadway, Church End, Finchley, N.
Record, J. W., A.I.E.E., General Electric Co., Ltd., Salford, Manchester.
Redfern, E. M., Ltd., 9, Ethel-st., New-st., Birmingham.
Rees, B., Albert-chbrs., High-st., Cardiff.
Rees, E. S. G., Rees Roturbo Mfg. Co., Ltd., Wolverhampton.
Rees & Co., Swansea.
Rees & Morgan, De la Beche-st., Swansea.
Reeves, F. R., M.I.E.E., F.I.S., Salisbury House, London Wall, London, E.C.
Regent Electric Co., Ltd., 46, Irongate Wharf-rd., Paddington, W.
Reid, D., M.I.E.E., 18, Cambridge-st., Glasgow.
Reid, Edwin J., M.I.E.E., 12, Wharf-rd., London, N.
Reid, H. A., Siemens Bros. Dynamo Works, Ltd., 196, Deansgate, Manchester.
Reid, W. D., Callender's Cable & Construction Co., Hamilton House, Victoria Embankment, E.C.

Engineers—Electrical—*continued.*

REID BROS., 12, Wharf-rd., London, N. (Telegrams: "Supra, London." Telephone No. 12249, Central.) *See advt., page* 571.
Reilly, W., A.M.I.E.E., Elmhurst, Lichfield-rd., Four Oaks, Sutton Coldfield, nr. Birmingham.
Reiss, F. E., Swyncombe, Henley-on-Thames.
Remington, Chas., M.I.E.E., National Telephone Co., 14, Astley Gate, Blackburn.
Rendell & Sons, 16, St. Thomas-st., Weymouth.
Rennie, John, M.I.E.E., Board of Trade Electrical Standards Laboratory, 8, Richmond-ter., Whitehall, London, S.W.
Rentell, Sidney, A.M.I.E.E. (editor of *Electricity*), 36, Maiden-lane, Strand, W.C.; & Haroldene, Clarence-rd., Harpenden.
Reside & Co., Ltd., Brighouse.
Rettie, C., jun., 75, Upper Hill-st., Liverpool.
Revy, Phillips & Co., Ltd., 181, Queen Victoria-st., E.C.
Reynolds, H. H., M.I.E.E., c/o Kilburn, Brown & Co., Orient House, New Broad-st., E.C.
Reynolds & Bradwell, 134, Edmund-st., Birmingham.
Reynolds Bros., Tudor Works, Daventry.
Reynolds, T., & Co., 19, High-st., Coventry.
Reyrolle, A., & Co., Ltd., Hebburn-on-Tyne; 8, Howland-mews W., Fitzroy-sq., London, W.
Rhodes, A. L., Rhodes Motors, Ltd., Riverside Works, Doncaster.
Rhodes, F. W., Commercial-st., Morley.
Rhodes, Gill & Co., Primitive-st., Leeds.
Richards, John, 48, High-st., Burton-on-Trent.
Richards, A. W., & Co., 70–71, Bishopsgate-st. Within, E.C.
Richardson, Chas., A.M.I.E.E., Romily, nr. Stockport.
Richardson, F. W., A.I.E.E., 402, High-st., West Bromwich.
Richardson & Carlmark, 402, High-st., West Bromwich.
Richardson & Co., Nelson-st., Stretford-rd., Manchester. (Telegs.: "Fuses, Manchester." Teleph. City 6468, Manchester.)
Richardsons, Westgarth & Co., Ltd., Hartlepool; & 17, Victoria-st., Westminster, S.W.
Richmond, G. S., Llanelly, Carmarthenshire.
Richmond, W. P., A.M.I.E.E., Green Bank, Colne.
Richmond & Chandler, Globe Works, Manchester.
Ridley, Herbert W., A.M.I.E.E., "Cleeve," Foxley Hill-rd., Purley, Surrey.
Ridpath & Wells, 20, Bath-st., Ilkeston, Derby.
Rimmer, G. F., & Co., Ltd., 3 & 5, Brownlow Hill, Liverpool.
Rippon, F. H., A.I.E.E., Gandy-st., Exeter.
Ritchie, T., A.M.I.E.E., A.M.I.MECH.E., A.AM.I.E.E., Royce, Ltd., Manchester.
Robb, G. C., James Carrick & Sons, Ltd., Dalry Iron Works, Edinburgh.
Robb, J. McL., M.I.E.E., Post Office, Newcastle-upon-Tyne.
Robbins, S. T., 320, Clapham-rd., S.W.
Roberts, Ernest, 3, Holborn-pl., London, W.C.

Engineers—Electrical—*continued.*

Roberts, J. E., A.M.I.E.E., Phœnix Dynamo Manufacturing Co., 29, Trafalgar-ter., Swansea.
Roberts Bros., 3, Nutter-pl., North-parade, Bradford.
Roberts Bros., 1, Silk-st., Leigh, Lancs.
Roberts, Cornford & Co., 8A, City-rd., London, E.C.
Roberts, Frederick A., Ltd., 49, King William-st., E.C.
Robertson, George, jun., A.M.I.E.E., Snawdoun Works, 55, Back Sneddon-st., Paisley.
Robertson & Co., 55, Back Sneddon-st., Paisley.
Robertson & Hogg, 31, Nicholson-st., Edinburgh.
Robinson, F. Foley, A.M.I.C.E., 1, Telford-ave., Streatham Hill, London, S.W.
Robinson, H. A., Union of London & Smith's Bank, 2, Prince's-st., London, E.C.
Robinson, L., 3, Staple Inn, Holborn, W.C.
Robinson, N., Star Life-bldgs., Dublin.
Robinson, O. M., c/o Woodhouse Bros., 66, Scotland-rd., Liverpool.
Robinson, Prof. Henry, M.I.E.E., Parliament Mansions, Victoria-st., Westminster, S.W.
Robinson, S. T., A.I.E.E., 27, South King-st., Dublin.
Robinson & Carter, Castle Works, 5, Thomas-st., Liverpool.
Robinson & Emerson, 222, Victoria-st., Great Grimsby.
Robinson, Howard Farrar Co., Ltd., Egypt House, New Broad-st., London, E.C.
Robinson & Jones, 21, Collingwood-st., Newcastle-on-Tyne.
Robinson, J. & T., 51, George-st., Croydon.
Robison, J. W., Highfield Works, Feltham, Middlesex.
Robson, W. T., Station-rd., Bexhill-on-Sea.
Robson, W., & Sons, 226, Westminster-rd., Liverpool.
Rock, A. F., M.I.E.E., North Staffs. Railway, Stoke-on-Trent.
Rodd, R. J., Church-st., Walton-on-Thames.
Rodgers, J. T., 34, College-st., Rotherham.
Roebuck, J., 5, Clifton-st., Blackpool.
Rogers, David, 2, Jackson-rd., Holloway, N.
Rogers, F. M., F.C.S., M.I.E.E., 21, Finsbury Pavement, E.C.
Rogers, H. I., A.M.I.E.E., Thrissell-st., Bristol.
Roget, S. R., M.A., A.M.I.C.E., A.M.I.E.E., 13, Phillimore-gdns., Kensington, W.
Ronald Manufacturing Co., Milner Works, Barnsbury-st., N.
Rook, Thos., & Co., Workington.
Roper, W. L., Siemens Bros. Dynamo Works, Ltd., 196, Deansgate, Manchester.
Rorke Bros., Thames Bank Electrical Works, Barnes, S.W.
Rose, A. H., 38 & 39, Beech-st., Barbican, London, E.C.
Rose, S. A. M., A.M.I.E.E., 14, Abchurch-lane, E.C.
Rose, T. A., M.I.E.E., Rose Vacuum Pump, Ltd., 38 & 39, Beech-st., Barbican, E.C. (Telegs.: "Cryselco, London." Teleph. Central 7043.)

Engineers—Electrical—*continued.*

Rosenberg, Dr. E., British Westinghouse Co., Trafford Park, Manchester.
Rossignol, Alfred Ernest Le, M.I.E.E., 27, Great George-st., Westminster, S.W.
Roth, S. B., A.I.E.E., 51, Vanbrugh Park, Blackheath, London, S.E.
Rotherham Electrical Engineering Co., Hunter's-bldgs., High-st., Rotherham.
Rouch & Penny, 17, Prince-st., Bristol.
Rouse, F. R. C., 53, St. George's-rd., Regent's Park, N.W.
Rowan, N. C., Cleveland & Durham Electric Power, Ltd., Middlesbrough.
Rowell, Jones & Co., Ltd., 27, Broad-st.-ave., E.C.
Rowell, J., & Sons, 57, High Friar-st., Newcastle-on-Tyne.
Rowland & Hulton, Ltd., 62, King William-st., E.C.
Rowlandson, W., 67, Lord-st., Liverpool, W.
Royal-Dawson, W. G., A.M.I.E.E., 40, Creffield-rd., Ealing, W.
Royce, F. H., M.I.E.E., M.I.MECH.E., Royce, Ltd., Manchester.
Rudd, J. A., M.I.E.E., 68, Gordon-st., Glasgow.
Rugby Electrical Co., Henry-st., Rugby.
Rupprecht, A. A., & Co., Ltd., Carlton House, Regent-st., London, S.W.
Rushforth, S., & Son, Eldon-st., Barnsley.
Russ, S. C., Bassishaw House, Basinghall-st., London, E.C.
Russell, A., M.A., D.SC., M.I.E.E., Faraday House, 66–70, Southampton-row, London, W.C.
Russell, Earl, M.I.E.E., Telegraph House, Chichester.
Russell, Louis, Bexhill-on-Sea.
Russell, S. A., M.I.E.E., Indiarubber Co., Silvertown, London, E.
Russell, S. G. C., M.I.E.E., Phœnix Assurance Co., 19, Lombard-st., E.C.
Russell, W. E., Wood-st., St. Anne's-on-Sea.
Russell, W. H., A.M.I.E.E., 26, Davies-lane, Leytonstone, Essex.
Russell & Wardrop, Pritchard-st., Chorlton-on-Medlock, Manchester.
Rust, H., A.M.I.E.E., 238, Ashton Old-rd., Openshaw, Manchester.
Rutherford, G., 104, Clarence Drive, Glasgow.
Rutherford, A., & Co., Bridge-st., Birkenhead.
Rymer-Jones, J., M.I.E.E., 91, Blackheath Hill, Blackheath, S.E.
S.P. (Suchostawer) Patents Syndicate, Ltd., 88, Fenchurch-st., E.C.
Sabine, W. H., Fratton-rd., Landport, Portsmouth.
Sadler, A. H., Electric Construction Co., Wolverhampton.
Sage, Ernest, 9 & 21, Elnathan-mews, Formosa-st., London, W.
St. John-Dixon, A. O., Callender's Cable & Construction Co., Hamilton House, Victoria Embankment, E.C.
Sale, D., 63, Fore-st., Devonport.

Engineers—Electrical—*continued.*

Sale Electrical Installation Co., 54, School-rd., Sale, Cheshire.
Salisbury Electrical Engineering Co., Ltd., 143, New Kent-rd., S.E.
Salmony, H. M., 70, Canfield-gdns., Finchley-rd., London, N.W.
Saltrick, W. R., 72A, St. Thomas-st., S.E.
Sambidge, J., & Co., 17, Victoria-st., S.W.
Sanders, A. G., M.I.E.E., The Birches, Cheltenham.
Sands, G., & Son, Colwick, Notts.
Saner, E. J., A.M.I.E.E., c/o Kilburn, Brown & Co., Orient House, New Broad-st., E.C.
Sansom, C. I., St. James's Gate Brewery, Dublin.
Santler, C., & Co., Malvern.
Saunders, J. B., & Co., White Mansion, 91, York-st., Westminster, S.W.; & at Cardiff, Brecon, Welshpool, Swindon, Builth, Portmadoc, Barrow-in-Furness, Barnstaple & Isle of Wight.
Savage, J., 114, Westfield-st., St. Helens.
Savage Bros., 100, High-st., Putney, S.W.
Sax, Julius & Co., Ltd., 100, Charing Cross-rd., W.C.
Sayer, E., A.M.I.E.E., Central Electric Light Station, Hampstead, London, N.W.
Sayers, J., & Sons, 94, North-rd., Brighton.
Scattergood, B. P., M.A., M.I.E.E., 7 & 9, Cookridge-st., Leeds.
Scharina, W. E. H., M.I.E.E., 163, Hope-st., Glasgow.
Scholes, Wm., 3, Willan-rd., Eccles.
Scholes & Co., 3, Willan-rd., Eccles.
Sclater, A. W., A.M.I.C.E., M.I.E.E., 182, Oxford-st., London, W.
Scotcher & Sons, High-st., Hampton Wick.
Scott, Arthur, 37 & 38, Haven Green, Ealing.
Scott, Wm., 76, Stratford-st., Glasgow.
Scott, William, 196, St. Vincent-st., Glasgow.
Scott, W. H., M.I.E.E., Laurence, Scott & Co., Ltd., Gothic Works, Norwich.
Scott, James, Ltd., Knowsley Electrical Works, Bootle, nr. Liverpool.
Scott, Walter, & Co. (Edinburgh), Ltd., 148, Rose-st., Edinburgh.
Scott-Moncrieff, K. A., M.I.E.E., Electric Supply Corporation, Salisbury House, London Wall, London, E.C.
Seager, J. A., A.M.I.C.E., A.I.E.E., Emerson-chbrs., Blackett-st., Newcastle-on-Tyne.
Sears, A. H., A.M.I.E.E., 57, Lee-ter., Blackheath, S.E.
Seaton, W. Sharpey, A.M.I.C.E., Montague House, Richmond, Surrey.
Selden & Son, 180, King-st., Hammersmith, London, W.
Sellon, R. Percy, M.I.E.E., Mansion House-bldgs., 4, Queen Victoria-st., London, E.C.
Selvey, Wm. M., A.I.E.E., c/o C. H. Merz, Collingwood-bldgs., Newcastle-on-Tyne.
Severs, J., A.M.I.E.E., G.N. & City Railway, Drayton Park, N.
Sewell & Varley, 23, Lloyd-st., Manchester.
Shalders & Davis, 17, High-st., Southampton.

Engineers—Electrical—*continued.*

Shanahan, H. F., Corporation Electricity Works, Blackpool.
Shanks, D., A.I.E.E., 40, Gt. Charles-st., Birmingham.
Shardlow, C., & Co., Ltd., Britannia Foundry, St. Peter's-lane, Leicester.
Sharp, Sidney, M.I.MECH.E., M.I.E.E., 13, Victoria-st., Westminster, S.W. (Telegs.: "Vivax, London.")
Sharpe, W., 2A, Fernshaw-rd., Chelsea, S.W.
Sharples, Hill & Co., 24, Brazennose-st., Manchester.
Shaw, A., 94, Prospect-st., Hull.
Shaw, R., c/o British Insulated & Helsby Cables, Ltd., 2, Parsonage, Blackfriars, Manchester.
Shaw, R., & Sons, Bridge-st., Worksop.
Shearer, Robert, 30, Gower-place, Gower-street, London, E.C.
Shearn, C. H., Midsomer Norton.
Shears & Son, East Central Works, Bournemouth.
Shepherd, F., A.I.E.E., 23, Thornbury-rd., Clapham Park, S.W.
Sheppard, E. G., A.M.I.E.E., 72, Deodar-rd., London, S.W.
Sheridan, P., 43, Harder's-rd., Peckham, S.E.
Shields Construction Syndicate, Ltd., 62, London Wall, E.C.
Shill, P. Richardson, & Co., Bassishaw House, 70A, Basinghall-st., London, E.C.
Shilston, T. P., B.SC., A.M.I.E.E., 46, Cameron-rd., Ilford.
Shiras, Oliver, A.M.I.E.E., 2, Norfolk-st., Strand, W.C.
Shirras, Laing & Co., Ltd., 46, Schoolhill, Aberdeen.
Shone, R., & Co., 24, Fenwick-st., Liverpool.
Shore & Co., Mawdsley-st., Bolton.
Sibun, R. A., & Co., 3, Mulgrave-rd., Sutton, Surrey.
Siebe, Gorman & Co., Ltd., 187, Westminster Bridge-rd., London, S.E.
Siemens Bros. & Co., Ltd., Caxton House, Westminster, London, S.W. *See advt., page* 573.
Siemens Bros. Dynamo Works, Ltd., Caxton House, Westminster, London, S.W.
Sillar, G. C., M.I.E.E., 35, Poolbeg-st., Dublin.
Silvester, Fred, & Co., Castle Hill Works, Newcastle, Staffs.
Simkins, A. R. M., M.I.E.E., Marconi's Wireless Telegraph Co., Ltd., Dalston, N.E.
Simms, W., & Co., Felixstowe, Suffolk.
Simon, H. F., A.C.G.I., Bassishaw House, Basinghall-st., E.C.
Simpson, G. P., B.SC., M.I.E.E., Exhibition Branch, Board of Trade, Queen Anne's-chbrs., Westminster, S.W.
Simpson, J. W., King-st., Margate.
Sims & Sons, 17, Princess-rd., Regent's Park, N.W.
Sinclair, Dane, M.I.E.E., British Insulated & Helsby Cables, Ltd., Prescot, Lancs.
Singer & Co., Wyndham-st., Bridgend.

Engineers—Electrical—*continued.*

Sisling, W. B., Laurence, Scott & Co., Ltd., Gothic Works, Norwich.

Sivewright, Hon. Sir Jas., K.C.M.G., M.I.E.E., Tulliallan, Kincardine-on-Forth; & Devonshire Club, St. James', London, S.W.

Skinner, E., Fairfield Shipbuilding & Engineering Co., Govan, N.B.

Skinner, T. W., A.M.I.E.E., 9, Silchester-rd., St. Leonards-on-Sea.

Slacke, R. B., M.I.E.E., Key Engineering Co., Ltd., 38, Deansgate, Manchester.

Slade, F. T., 141, Anlaby-rd., Hull.

Slark & Co., Shepperton, Middlesex.

Slater, A., c/o J. & P. Coats, Ltd., Paisley.

Slater, Ernest, M.I.E.E., A.M.I.MECH.E., *Electrical Times*, 8, Bream's-bldgs., Chancery-lane, London, E.C.

Slater Bros., 25, Dickinson-st., Manchester.

Slatter, F. V., 56, Fann-st., E.C.

Sleigh & Wood, 3, Royal Arcade, Newcastle-on-Tyne.

Smallwood, G. H., & Co., 10, Milk-st., Shrewsbury.

Smart, C., A.M.I.E.E., 11, Brooklyn-ter., Mumbles R.S.O., Glamorgan.

Smart, Wm. Chas., A.I.E.E., 29, Prospect-rd., Moseley, Birmingham.

Smeeton & Page, 63, Queen Victoria-st., E.C.

Smethurst, Wm., A.M.I.E.E., 18, Eckersley-rd., Bolton.

Smith, A., Lord-st., Keighley.

Smith, C. E., Messrs. Christy Bros. & Co., Ltd., Broomfield-rd., Chelmsford.

Smith, F. A., De Bohun-rd., Reading.

Smith, F. H., Steam & Electric Crane Works, Rodley, nr. Leeds.

Smith, F. W., 81A, Grieg-st., Liverpool.

Smith, G. A., 18, Regent-rd., Liverpool.

Smith, Harold, Netherheys, Colne.

Smith, J. S., Parliament-st., Nottingham.

Smith, J. W., 6, Low Pavement, Nottingham.

Smith, R. A., M.I.M.E., M.I.E.E., c/o Dorman & Smith, Ordsal Electrical Works, Salford.

Smith, R. T., B.SC., A.M.I.C.E., M.I.M.E., M.I.E.E., Great Western Railway, Paddington, W.

Smith, W., Municipal Tech. School, Birmingham.

Smith, W. H., Eccleston-yard, Eccleston-pl., S.W.

Smith, W. J., 16, John Dalton-st., Manchester.

Smith, W. T., Steam & Electric Crane Works, Rodley, nr. Leeds.

Smith Bros., Rotherham, Ltd., 14, High-st., Rotherham.

Smith & Clarke, 10, Vine-st., Grantham.

Smith & Co., 25, Lower Clapton-rd., N.E.

Smith, F. W., & Co., Ltd., 12, Tib-lane, Cross-st., Manchester.

Smith, J. F., & Co., 10, Edmund-st., Birmingham.

Smith, Major & Stevens, Ltd., Janus Works, Queen's-rd., Battersea, London, S.W.

Smith & Payne, Wellingborough.

Smith, T. H., & Co., 8, East Parade, Leeds; Harrogate; & Knaresborough.

Engineers—Electrical—*continued.*

Smith, Warren & Co., 66, College-st., Chelsea, S.W.

Smith-Saville, R. W., A.M.I.C.E., A.M.I.E.E., Corporation Tramways, Darwen.

Smithson, H., 18, Park-ave., Alexandra Park, Manchester.

Sneath, J. G., 5, Wallwood-st., Limehouse, London, E.

Snell, C. Scott, 53, Victoria-st., S.W.

Snell & Tinsley, Stanley House, Eldon Park, South Norwood, S.E.

Snowden, C., 129, Arundel-st., Landport, Hants.

Snowden & Son, Market-st., Barnsley.

Solenoid Regulator Co., Geoffrey-bldgs., Severn-st., John Bright-st., Birmingham.

Sotheby & Co., 12, Carey-st., Westminster, S.W.

Soutar, G., Greyfriars Foundry, Elgin.

Southam & Wood, Ltd., 162, Oxford-st, London, W.

Southend Electrical Engineering Co., Weston-rd., Southend-on-Sea.

Southey, H. E., 40, Crouch End-hill, London, N.

Southey, J., & Co., 43, King's-rd., Southsea.

Southgate, H. MacL., M.I.E.E., Trafford Park, Manchester.

Southport Electric Lighting Co., 2, Bold-st., Southport.

Sowerbutts & Rogers, 3, Cambridge-ave., High-rd., Kilburn, N.W.

Sparkes, T., 205, Rolfe-st., Smethwick, Birmingham.

Sparks, H. H., 24, High-st., Cowes.

Sparks (Sheffield), Ltd., 11, Broomhall-st., Sheffield.

Speedy, Eynon & Co., 3, Adelaide-st., Charing Cross, W.C.

Speirs, C. W., M.I.E.E., c/o Morgan Crucible Co., Ltd., Battersea Works, Church-rd., Battersea, S.W.

Spencer, H., & Sons, Lawkholme-lane, Keighley.

Sperati, J., 12, Mortimer-st., London, W.

Sphere Electrical Co., 3, Unity-st., College Green, Bristol.

Spreadborough, L., 153, Norman-rd., Leyton-stone, N.E.

Squirrell & Co., Ltd., 4, Upper Station-rd., Bexhill.

Stafford & Co., 117, Oxton-rd., Birkenhead.

Stallybrass, L., Wallington, Jones & Co., 13, Crutched Friars, E.C.

Standard Engineering Co., Leeds, Ltd., Imperial-bldgs., 28, Bond-st., Leeds.

Stanley, J. E., Walsall.

Stannard & Co., Stowmarket.

Stansell & Son, East-st. & Billett-st., Taunton.

Stark, A. Kennedy, & Co., 163, W. Nile-st., Glasgow.

Stark, W. B., & Co., Ltd., Plymouth.

Staveley, Alwyn W., Faraday Works, Leicester.

Stearn, C. H., M.I.E.E., Avoca Lodge, Branstone-rd., Kew Gardens, S.W.

Steel, R., & Co., 12, Renfield-st., Glasgow.

Stegmann & Co., Brighton Railway Approach, Clapham Junction, London, S.W.

Engineers—Electrical—*continued.*

Stenner & Gunn, Tiverton, Devon.
Stephens, H. C. J., Central Electric Supply Co., Ltd., 3, Lodge-pl., St. John's Wood, N.W.
Stephens, J. N., A.M.I.E.E., 40, Princes-sq., Hyde Park, W.
Stephens, Smith & Co., Ltd., 1, Cuba-st., Millwall, London, E.
Stevens, W. A., Ltd., St. Peter-st., Maidstone.
Stevenson, A. D., M.I.E.E., Talbot & Stevenson, 26, Victoria-st., S.W.
Stevenson, C. A., B.SC., M.I.C.E., A.I.E.E., F.R.S.E., 84, George-st., Edinburgh.
Stevenson, G., British Thomson-Houston Co., 91, Wellington-st., Glasgow.
Stevenson, H., Crompton & Co., Ltd., Salisbury House, London Wall, E.C.
Stewart, B. G., A.I.E.E., "Elstree," Ellesmere-rd., Chiswick, W.
Stewart, G. C. I., 8, Dene-rd., Blaydon, Newcastle-on-Tyne.
Stewart, J., Murano-pl., Leith-walk, Edinburgh.
Stewart, J. A., Boyle, Ireland.
Stewart, T. B., Wenlockhead, Abington, N.B.
Stewart, W. J., 180, Shirland-rd., Paddington, W.
Stewart, W. N., Electrocars, Ltd., Alderman's House, Alderman's Walk, E.C.
Stewart & Bucher, 9, North St. Andrew-st., Edinburgh.
Stewart & McDonald, 245, Buchan-st., Glasgow.
Still, A., A.M.I.C.E., M.I.E.E., 13, Half Edge-lane, Eccles, Lancs.
Still, W. A., & Co., 105, Bothwell-st., Glasgow.
Stillman, W. H., 31, Mount Ephraim, Tunbridge Wells.
Stirling, A. D., 8, Ashley-ter., Edinburgh.
Stokes, H., A.M.I.E.E., 76, Ellerby-st., Fulham Park, S.W.
Stokes, Sydney, 94, Sandford Grove-rd., Sheffield.
Stone, C., Electrical Contracts & Maintenance Co., Ltd., Sanctuary House, London, S.W.
Stoney, Gerald, B.E., M.I.E.E., M.I.C.E., Oakley, Heaton-rd., Newcastle-on-Tyne.
Stonham, W. F., 11 & 13, Mount Ephraim, Tunbridge Wells.
Stoodley Bros., The Arcade, Aldershot.
Stottner, J., M.I.E.E., Electrical Co., Ltd., 121–125, Charing Cross-rd., London, W.C.
Strafford, H., & Son, 68, Mayfield-grove, Harrogate.
Strathpeffer & Dingwall Electric Co., Ltd., Kildary, Ross-shire.
Straube, A. A. L., M.I.E.E., 355, Caxton House, Tothill-st., Westminster, London, S.W.
Street, J. H., Ltd., Unicorn Hill, Redditch.
Strudwick, C., Sidmouth, Devon.
Stuart & Moore, Victoria Works, Ealing, W.
Stubbs, R. F., London County Council's Electricity Dept., 42, Cranbourn-st., London, W.C.
Sturge, W. H., c/o C. Joyner & Co., Icknield-sq., Birmingham.
Styles, Jas., & Son, 2, Market-st., S.W.
Suckling-Baron, A. I., M.I.E.E., General Electric Co., Ltd., 71, Queen Victoria-st., E.C.

Engineers—Electrical—*continued.*

Sugden, Arnold, A.I.E.E., Woodfield, Brighouse, Yorks.
Summerscales, W., M.I.E.E., Morley Electrical Engineering Co., Ltd., Troy Works, Stanningley, nr. Leeds.
Sumner, E. H., 45, Osborne-rd., Forest Gate, E.
Sunderland, Leo., A.M.I.E.E., 39, Victoria-st., S.W.
Sunderland Bros., Halifax Old-rd., Huddersfield.
Sunderland Forge & Engineering Co., Ltd., Sunderland.
Sunderland, J., & Co., 183, Gibbet-st., Halifax.
Sutcliffe, G. G., Callender's Cable & Construction Co., Hamilton House, Victoria Embankment, E.C.
Suter, Frank, A.M.I.E.E., 66, Berners-st., W.
Sutherland, D. G. (Mitchell, Graham & Son), 46, Buccleuch-st., Edinburgh.
Swan, Sir Joseph W., M.A., D.SC., F.R.S., HON. M.I.E.E., Overhill, Warlingham, Surrey.
Sweetland, A., & Son, 24, Powis-ter., & 145, Tavistock-cres., W.
Swinnerton, J. R., Electric Construction Co., Ltd., Bushbury, Wolverhampton.
Swinton, A. A. Campbell, 66, Victoria-st., Westminster, London, S.W.
Sykes, E., 7, King Cross-st., Halifax.
Sykes, J. Roberts, jun., M.I.E.E., c/o T. K. Grant, 89, Great Russell-st., W.C.
Sykes & Sugden, Ltd., Spring-pl. Works, Springwood-st., Huddersfield.
Taffs, H., 30, Gilda Crescent-rd., Eccles.
Taffs, H., & Co., 40, Brazennose-st., Manchester.
Tallis, John Fox, The Firs, Ebbw Vale, Mon.
Tamplin & Makovski, Ltd., 27, Charles-st., Haymarket, London, S.W.; & Reigate.
Tangyes, Ltd., Cornwall Works, Soho, Birmingham.
Tann, R. F. & C., 95, Lee Bank-rd., Birmingham.
Tarrant, Kenneth J., Sun Fire Office, Threadneedle-st., London, E.C.
Tasker, E. E., M.I.E.E., The Chase, Chigwell Row, Essex.
Tasker, P. S., A.M.I.E.E., 33, Edwardes-sq., Kensington, W.
Tate, T. F., A.I.E.E., 50, Queen Anne's Gate, S.W.
TATE, LEONARD G., & CO., 20, Bucklersbury, London, E.C., Room 582 (Telegs.: "Entraining, London." Teleph. No. 881, Bank); & Vineyard House, Richmond.
Tatlow, W., A.M.I.E.E., 20, Fleet-st., Dublin.
Tattersall & Clarke, Snowdon-rd., Middlesbrough.
Tayler Smith Electric Co., The, 53, South Molton-st., London, W.; 1B, Hill-st., & 52, Frederick-st., Edinburgh; 233, St. Vincent-st., Glasgow; & 28, St. Anne-st., Dublin.
Taylor, A. M., M.I.E.E., 14, Dale End, Birmingham.
Taylor, Jas., May Day Green, Barnsley, Yorks.
Taylor, J. H., Macaulay-st., Huddersfield.
TAYLOR, T. H., 181, Queen Victoria-st., London, E.C.; & Dodworth, Yorks.
Taylor, G. E., & Co., 8, Bush-lane, London, E.C.

Engineers—Electrical—*continued.*

Taylor, J. E., & Co., 78 & 80, Bentinck-st., Ashton-under-Lyne.
Taylor, R., & Sons, Marsden, Yorks.
Taylor, Wilfrid, & Co., 13, Lowgate, Hull.
Teale, L. H., & Co., 38, Cookridge-st., Leeds.
Teeton, H. W., 19A, Lichfield-st., Hanley.
Telford, M., 7, Moray-pl., Strathbarn, Glasgow.
Telford, Grier & Mackay, Ltd., 220–222, Broomielaw, Glasgow.
Telford, Walt & Co., The Arcade, Lord-st., Liverpool.
Terry, H., 78–80, Carlton House, 28, High-st., Birmingham.
Tervet, R., A.M.I.E.E., 28, Meynell-rd., S. Hackney, N.E.
Tett, C., 7, Queen-st., Weymouth.
Thames Ironworks, Shipbuilding & Engineering Co., Ltd. (Electrical Department), Canning Town, E.
Theedam, E. C., Ltd., King-st. Electrical Works, Dudley.
Theerman, W. P., Electric Light, Power & Hiring Co., Ltd., 491, Manchester-rd., Haslingden.
Theermann, W. P., & Co., Oxford-rd., Manchester.
Thomas, H., Corporation Electricity Works, Blackpool.
Thomas, Bertram & Co., Castle-st., Northwich.
Thompson, A. J., 5, St. Mary's-pl., Newcastle-on-Tyne.
Thompson, E., 12, Newgate-st., Bishop Auckland.
Thompson, E. A., Westinghouse Works, Trafford Park, Manchester.
Thompson, F. J., A.M.I.E.E., 42, Clarence-rd., Teddington; & c/o Wm. Clowes & Sons, Ltd., Duke-st., S.E.
Thompson, R. O., 10, St. James-st., Brighton.
Thompson, Ritchie & Co., Ltd., 34, Buckingham Gate, London, S.W.
Thomson, C. S., M.SC., M.I.E.E., 28, Victoria-st., Westminster, S.W.
Thomson, Wilfred C., M.I.E.E., G.N.R. Co., Engineer's Office, Holloway, N.

Engineers—Electrical—*continued.*

Thornton, M., 210, Helmsley-rd., Jesmond, Newcastle-on-Tyne.
Thornton, W. R., & Son, Ramsden-sq., Barrow.
Thorp & Simpson, Shakespeare-st., Nottingham.
Thwaites, J. W., 4, Higham-pl., Newcastle-on-Tyne.
Tibbits, O., A.M.I.E.E., Geo. Nelson Dale & Co., Ltd., Warwick.
Tillyer, E. G., A.M.I.E.E., Salisbury-ave., St. Albans.
Tinsley, H., Stanley House, Eldon Park, South Norwood, S.E.
Titherley, C. P. L., Northern Electrical & Ventilating Co., Ltd., 49, Dale-st., Liverpool.
Tolman, G., & Son, 53, Drayton-st., Wolverhampton.
Tomlinson, E. T., 8, St. George's-sq., Westminster, S.W.
Tomlinson, T., M.I.E.E., 16, Beresford-pl., Dublin.
Tothill, Chas., M.I.E.E., Eastern Telegraph Co., Electra House, Moorgate, E.C.
Tracy, P., 5, Castle-st., Finsbury, E.C.
Travers, J. L., & Co., Newcastle-on-Tyne & Whitley Bay.
Trenbath, G., Corporation, Salford.
Tricket & Co., 130, Norwood-rd., W. Norwood, S.E.
Triplex Co., Wrexham.
Trippe, C. F., A.M.I.E.E., 36, Brooke-st., Holborn, E.C.
Trollope, George, & Sons, 14, Mount-st., Grosvenor-sq., & 5, Victoria-st., London, S.W.
Trotter, A. P., B.A., M.I.M.E., M.I.C.E., M.I.E.E., 8, Richmond-ter., Whitehall, S.W.
Trotter, H. B., & Co., 63, Queen Victoria-st., E.C.
Troughton & Shipton, 7, Park Mansions Arcade, Knightsbridge, S.W.
Trube, G. A., Engine Dept., British Westinghouse Co., Trafford Park, Manchester.
Tuck & Co., Ltd., 19–22, Lower Abbey-st., Dublin.
Turnbull, J., 3, New-st., Birmingham.
Turner, F., 61, Western-rd., Hove.
Turner, G. P., 16A, Eccleston-st., London, S.W.
Turner, H. H., Denton, Lancs.

DYNAMOS ARC LAMPS
MOTORS METERS
SWITCHGEAR
STARTERS
Union Electric Co Ltd.
NEWCASTLE PARK ST. SOUTHWARK. LONDON, S.E. GLASGOW

Engineers—Electrical—*continued.*

Turner, M., Colne & Trawden Light Railways Co., Colne.
Turner, Atherton & Co., Ltd., Denton, Manchester.
Turner, G. & H., 2, High-st., Harlesden, London, N.W.
TURNERS & MANVILLE, LTD., 5, Lloyd's-ave., E.C. (Telegs.: "Vulbeston, London." Teleph. No. 1458, Avenue.)
Tutt, C. B., A.M.I.E.E., County Asylum, Rainhill, Lancs.
Tyer & Co., Ltd., 16, Ashwin-st., Dalston Junction, London, N.E.; & Metcalfe-st., Carlisle.
Tyler, H. W., 45, High-st., Beckenham.
Umney, H. W., & A. Peckett, 46, King William-st., E.C.
Underhill, W. R., & Co., 79, Bath-st., Glasgow.
Union Cable Co., Ltd., The, Eagle Wharf-rd., London, N. *See advt., page* 4.
UNION ELECTRIC CO., LTD., Park-st., Southwark, London, S.E. (Telegs.: "Abeam, London." A.B.C. Code. Teleph. Hop. 2970.) *See advt., page* 563.
Unity Motor, Electrical & General Engineering Co., Ltd., 52, Queen-st., Bristol.
Ure, R. A., A.M.I.E.E., 192A, S. Vincent-st., Glasgow.
Urton, W., West Bars, Chesterfield.
Utting, W., & Co., 91, Albert-rd, Handsworth, Birmingham.
Vaudrey, J. C., M.I.C.E., M.I.E.E., Grassdale, Westfield-rd., Edgbaston, Birmingham.
Vaughton, W. S., 38, Barwick-st., Birmingham.
Verity, G., M.I.E.E., 7, Basil-st., S.W.
VERITYS, LTD., King-st., Covent Garden, London, W.C.; & Birmingham, Manchester, Glasgow, Bristol, &c. *See* ALPHABETICAL SECTION.
Victor, C., 201, Junction-rd., Upper Holloway, London, N.
Victoria Garage & Electrical Co., Ltd., 68, St. John-st., Coventry.
Vivian, G., Southampton.
Volk, Magnus (Volk's Electric Railway), Madeira-road, Brighton.
Voss & Co., Ltd., Dashwood House, 9, New Broad-st., E.C.
Voysey, A. A., Corporation of London Public Health Department, Guildhall, E.C.
Vyle, G. C., A.M.I.E.E., Premier Works, Percy-rd., Greet, Birmingham.
Wade, E. J., M.I.E.E., 16, Elm-st., W.C.
Wainwright, S. B., 25, Pritchard-st., Manchester.
Wakelin, J. F., A.M.I.E.E., 5, Tottenham-st., Tottenham Court-rd., W.
Walker, T. L., 216, High-st., Bangor.
Walker, E. O., & Co., Trevelyan-bldgs., Manchester.
Walker & Vickery, Widemarsh-st., Hereford.
Wallace, H. W., 114A, Wellesley-rd., Croydon.
Wallis-Jones, Reginald J., M.I.E.E., M.I.C.E., 50, Queen Anne's-gate, Westminster, London, S.W.
Walsall Electrical Co., Ltd., 57, Bridge-st., Walsall. For branches, telegrams & telephone numbers, *see* ALPHABETICAL.

Engineers—Electrical—*continued.*

Walters, W., 57, Lower Mosley-st., Manchester.
Walter's Electrical Manufacturing Co., Ltd., 249 & 251, Kensal-rd., W. (P.O. Teleph. No. 653, Western.)
Walton, Alfred Hy., M.I.C.E., M.I.E.E., 92, Queen's-rd., Brownswood Park, London, N.
Walton, F., 10, Castle-sq., Brighton.
Walton, W. A., A.M.I.E.E., London-rd., Gloucester.
Warburg, H. C., M.I.E.E., "Helverton," Thornbury-rd., Isleworth, W.
Ward, E., 1A, Pleasant View, Bootle.
Ward, F., M.I.E.E., Commercial Cable Co., 55 & 56, Bishopsgate-st. Within, London, E.C.
Ward, W., Callender's Cable & Construction Co., Hamilton House, Victoria Embankment, London, E.C.
Ward & Fulton, 4, Browne-st., Bootle, Liverpool.
Warde, Henry W., A.M.I.E.E., Beaumont, Busby.
Wardle Engineering Co., Ltd., 196, Deansgate, Manchester.
Wares, A. J., Ltd., King-st., South Shields.
Waring & Son, 45, New-st., Daventry.
Warr, J. W., A.M.I.E.E., 100, Prescot-rd., Croppers Hill, St. Helens, Lancs.
Wassell, G., 25, Centre-st., Glasgow.
Waterfall, H. & R., & Barber, Bailey-lane, Sheffield.
Waterson's, 39, Glassford-st., Glasgow.
Wathes, T. H., & Co., Ltd., Coronation-bldgs., High-st., Leicester.
Watkins, Fredk. A., Borough Electricity Works, Hornsey, Middlesex.
Watkins, J. H., A.M.I.E.E., c/o Royce, Ltd., Manchester.
Watson, C. G., Callender's Cable & Construction Co., Hamilton House, Victoria Embankment, E.C.
Watson, C. G., Milburn House, Dean-st., Newcastle-on-Tyne.
Watson, C. G., 115, Sunderland-st., Houghton-le-Spring, Durham.
Watson, H. S., B.A., A.M.I.C.E., A.M.I.E.E., Melrose, Whytecliffe-rd., Purley.
Watson, J. F., Callender's Cable & Construction Co., Hamilton House, Victoria Embankment, E.C.
Watson, J. H. G., 10, Glasshouse-st., London, W.
Watson, P., A.M.I.E.E., Northern Electrical Co., Grimsby.
Watson, Stanley J., 12A, St. Anns-ter., Barnes, London, S.W.
Watson, W. D., Rochdale Electric Co., Ltd., Lydstep, Falinge-rd., Rochdale.
Watson, Archibald, & Co., Ltd., 36, George-st., Glasgow.
Watts Bros., 101, Castleton-rd., Goodmayes, Ilford.
Way, A. G., M.I.E.E., A.M.I.C.E., Westminster Engineering Co., Ltd., Willesden Junction, N.W.
Webster, S. M., 421, Victoria-rd., Aston, Birmingham.
Weddell, A. H., B.SC., A.M.I.E.E., George Russell & Co., Ltd., Motherwell, N.B.

Engineers—Electrical—*continued.*

Weekey, R. F., Wenlock, Thorkhill-rd., Thames Ditton.
Welbourn, B., M.I.E.E., British Insulated & Helsby Cables, Ltd., Prescot, Lancs.
Wellman, Seaver & Head, Ltd., 47, Victoria-st., London, S.W.
Wells, E. J., A.M.I.E.E., Granville Hotel, Bexhill.
Wells, A. T., & Co., 95, High-st., Southampton.
Wells, C. A., & Co., Etna Works, Lewes, Sussex.
Wells & Co., 230, Smithdown-rd., Liverpool.
Wells, Rayner & Co., Ltd., 56, Paddington-st., London, W.
Welsh, F. E., Broome House, near Fence Houses, co. Durham.
Wenham, James, Paragon Works, Croydon, Surrey.
Wenham & Waters, Ltd., Paragon Works, Croydon.
West, H., A.I.E.E., Cyclops Steel & Iron Works, Sheffield.
West, H., & Son, 31, High-st., Taunton.
West of Scotland Trading Co., Ltd., 62, Robertson-st., Glasgow.
Western Electric Co., Norfolk House, Victoria Embankment, London, W.C. Works: North Woolwich. *See advts., pages* 439 *&* 720.
Wetton, C. E., A.I.E.E., British Insulated & Helsby Cables, Ltd., Lennox House, Norfolk-st., W.C.
Wetzler, Joseph, M.I.E.E., 13, Southampton-st., High Holborn, W.C.
Wharam, Wm., Brunswick-ter., Leeds.
Wharfe, J., 37, Brock-st. West, Macclesfield.
Wharton, C. C., A.I.E.E., British Thomson-Houston Co., Ltd., Rugby.
Wharton, Charles J., M.I.E.E., Palace-chbrs., Bridge-st., Westminster, London, S.W.
Wheat, H. C., Julius Sax & Co., Ltd., 100, Charing Cross-rd., W.C.
Wheatland & Co., 85, High-rd., Chiswick, W.
Wheeler, F., Moxton Colliery, Newton Heath, Manchester.
Wheeler, P. A., Muscovy House, Trinity-sq., E.C.
Whieldon, A. W., M.I.E.E., Great Northern Railway Co. (I.), Sutton, co. Dublin.
Whitaker, C., Canal-rd., Bradford.
Whitaker, J. W., Brotherhood Works, 26, Victoria-rd., Leeds.
White, Jas., 1, Hamilton Drive, Pollokshields, Glasgow.
White, John B., J. G. White & Co., Ltd., 9, Cloak-lane, Cannon-st., E.C.
White, T., 66, Berners-st., London, W.
White, Wm., & Co., 25, Budge-row, Cannon-st., E.C.
Whitehead Bros., Farsley, Leeds.
Whitehouse, J., 15, The Parade, Golder's Green, N.W.
Whitehouse, W. P., Callender's Cable & Construction Co., Ltd., 35, Market-st., Burslem.
Whitelaw, J., 15A, Duncan-st., Edinburgh.
Whiteley, Wm., Ltd., Queen's-rd. & Westbourne Grove, London, W.

Engineers—Electrical—*continued.*

Whiting, F. A., 5, Clarence-st., Gloucester.
Whitmore, H. B., A.M.I.E.E., Brereton Cottage, Bramhall-lane, nr. Stockport.
Whitworth, H., 19, Martin's-lane, Liscard, Cheshire.
Wight, H. D., M.I.E.E., 1, Park-ter., Roker, Sunderland.
Wight, E., & Co., High-st., Hornsey, London, N.
Wild, A. G., A.M.I.E.E., W. S. Laycock, Ltd., Victoria Works, Sheffield.
Wild, M. B., & Co., Ltd., Argyle-st., Nechells, Birmingham.
Wilkin & Co., 1, Florence-st., New Cross, London, S.E.
Wilkinson, William, 22, Crosshills, Halifax, Yorks.
Wilkinson, F. A., & Partners, Ltd., 58, Leighton-rd., West Ealing, W.
Willats, J., & Son, 19, Gray's Inn-rd., London, W.C.
Willatt, W. H., Reckitt & Sons, Ltd., Hull.
Willesden Electrical Engineering Co., 95, High-st., Harlesden, N.W.
Williams, A., Mount-st., Preston.
Williams, Alan, A.M.I.E.E., 16, Messaline-ave., Friars Park, Acton, W.
Williams, E. D., Cambrian Works, Aberdare.
Williams, F., A.M.I.E.E., 12, Cornwallis-gdns., Hastings.
Williams, F. R., Brunswick House, 1, New Church-rd., Hove.
Williams, J. R., F.R.G.S., F.S.A., A.M.I.MECH.E., A.M.I.E.E., Tramway Power Station, Sheffield.
Williams, W. E. O., 29, West Bute-st., Cardiff.
Williams, W. E. O., & Co., 29, West Bute-st., Cardiff.
Willis, R. H., M.I.E.E., British Electric Plant Co., Ltd., Alloa, N.B.
Wilson, Archibald, A.M.I.E.E., Leith Electric Works, Leith.
Wilson, C., A.I.E.E., Brook Green Works, Hammersmith, London, W.
Wilson, D. T., 28, West Campbell-st., Glasgow.
Wilson, G., Abbey-st., Nuneaton.
Wilson, J. Gordon, A.M.I.E.E., 20, Sanderson-rd., Newcastle-on-Tyne.
Wilson, J. G., British Westinghouse Co., Ltd., Trafford Park, Manchester.
Wilson, J. R., The Willows, Gosforth, Newcastle-upon-Tyne.
Wilson, T., Callender's Cable & Construction Co., Hamilton House, Victoria Embankment, London, E.C.
Wilson, W. R., B.SC., M.I.E.E., 142, Hyndland-rd., Glasgow, W.
Wilson, C. S., & Co., 76A–82, Regent-rd., Liverpool.
Wilton, W. S., & Co., 43, Bromham-rd., Bedford.
Windsor, J. B., A.M.I.E.E., 16, Glaydis-ave., North End, Portsmouth.
Windsor & District Electrical Co., 53, Thames-st., Windsor.

Engineers—Electrical—*continued.*

Wingett, R., 22, Hartfield-rd., Wimbledon, S.W.
Winsborough, Walter, Douglas Bank Colliery, 291, Gidlow-lane, Wigan.
Winter, Thomas, & Co., Ltd., Perseverance Works, Byron-st., Blackburn.
Wittrick, W. A., 33, Coleraine-rd., Westcombe Park, S.E.
Wolverhampton Electric Fittings Co., 28, Darlington-st., Wolverhampton.
Wontner-Smith, J., Gray & Co., 81, Finsbury-pavement, E.C.
Wood, Arthur P., M.I.E.E., Lancashire Dynamo & Motor Co., Ltd., Trafford Park, Manchester.
Wood, D. P., 41, Loudoun-rd., N.W.
Wood, G. St. John, 37, Moorfields, Liverpool.
Wood, H. A., A.M.I.E.E., Lancashire County Asylum, Prestwich, nr. Manchester.
Wood, H. M., High-st., Staines.
Wood, G., & Son, King Charles' Croft, Leeds.
Woodeson, W. A., 14, Bewick-rd., Gateshead-on-Tyne.
Woodfall & Morris, 187, Shaftesbury-ave., London, W.C.
Woodhouse Bros., 66, Scotland-rd., Liverpool.
Woodman, A. G., Wisbech.
Woolard & Co., Hightown, Hereford.
Wooler & Co., Pemberton, 2, Park-pl., Leeds.
Woolley, A. H., Pudding-lane, Maidstone.
Woolley, T., 3, Church-st., Bexhill-on-Sea.
Wootten, A. E., & Co., Quarry Wood Boathouse, Cookham Dean, Berks.
Wootton, G. A. H., 7, Findon-rd., Shepherd's Bush, W.
Wordingham, C. H., M.I.C.E., M.I.M.E., M.I.E.E., H.M. Navy, Admiralty Offices, London.
Wordley, F., 33, Norman-rd., St. Leonards-on-Sea.
Worsley, F. S., Veritys, Ltd., Aston, Birmingham.
Wray, L., I.S.O., M.I.E.E., The Laurels, Grayshott.
Wray, T., Petergate, James-st., Harrogate.
Wrench, Wm. G., 5, Oswald-street, Glasgow.
Wright, George H., 33, Albury Park-rd., Tynemouth.
Wright, A. P., & Co., 60, Queen Victoria-st., E.C.
Wright Bros. & Co., 27, Garlick Hill, London, E.C.
Wright & Co., of Southwark, Ltd., 157, Southwark-bridge-rd., London, S.E.
Wyand, F. W., A.M.I.E.E., Elswick Works, Newcastle-on-Tyne.
Wyman, W. M., & Son, Commercial-rd., Gloucester.
Wynne, R., Corporation Gas Office, Carnarvon.
Yates, A. E., 30, Brown-st., Manchester.
Yates & Eagle, 7, St. Nicholas-st., Leicester.
Yetton, J., Co., 4, Carr-st., Limehouse, London, E.
Young, A. Rowell, Caxton Works, Salford.
Young, A. T., British Westinghouse Electric & Manufacturing Co., Ltd., Collingwood-bldgs., Collingwood-st., Newcastle-on-Tyne.
Young, T., M.I.E.E., 203, W. George-st., Glasgow.
Young, B., & Co., Leek-st., Birmingham.
Young & Garratt, Railway-ter., Rugby.
Young, P., & Co., 494, Hertford-rd., Lr. Edmonton, N.

Engineers—Electrical—*continued.*

Zani, A. P., M.I.E.E., c/o Dick, Kerr & Co., Ltd., Abchurch-yard, Cannon-st., E.C.
Zone Dynamo & Motor Patents Co., Ltd., Parliament Mansions, Victoria-st., Westminster, S.W.

Engineers—Electrical Consulting.

F.—Ingénieurs—electriciens consultants.
G.—Elektrotechniker—Beratende.

à Court, S., 39, Victoria-st., London, S.W.
Adam, M. A., B.SC., A.M.I.C.E., A.M.I.E.E., 57 & 58, Lincoln's Inn Fields, W.C.
Alabaster, H., Gatehouse & Co., 4, Ludgate Hill, London, E.C.
Arnot, William, A.M.I.C.E., M.I.E.E., M.I.M.E., 163, Hope-st., Glasgow.
Bamford, R., 17, Toronto-rd., Stockport.
Barnes, J. E. Lloyd (Sloan & Lloyd Barnes), 34, Castle-st., Liverpool.
Barrett, Arthur, 6, Mortimer-rd., Cambridge.
Bennett, A. W., 43, Elford-grove, Roundhay-rd., Leeds.
Blakey, E., M.I.E.E., Barmouth, N. Wales.
Bock, J. K., A.M.I.E.E., Finsbury Pavement House, Finsbury Pavement, E.C.
Bottomley, J. T., M.A., F.R.S., F.R.S.E., F.C.S., M.I.E.E., 13, University-gardens, Glasgow.
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Maxwell, W., & Co., 204, Goldhawk-rd., London, W.

Morley Electrical Engineering Co., Ltd., Troy Works, Stanningley, nr. Leeds.

Morris & Lister, Ltd., Carlton Works, Lockhurst-lane, Coventry.

Moy, Ernest F., Ltd., Greenland-pl., Camden Town, London, N.W. (Telegrams: "Movedor, London.") *See advt., page* 709.

NALDER BROS. & CO., 7, Carteret-st., Queen Anne's Gate, Westminster, S.W. (late 16, Red Lion-st., Clerkenwell). (Telegs.: "Secohm, London." Teleph. Gerrard 779.)

NALDER BROS. & THOMPSON, LTD. (managing director, F. H. Nalder), 34, Queen-st., Cheapside, London, E.C. *See advt., page* 643.

Oliver Arc Lamp Ltd., Cambridge-pl., Burrage-rd., Woolwich, S.E.

Parmiter, Hope & Sugden, Hulme Electrical Works, Manchester.

Phillips, H. F., & Co., Guildford Electric Works, Guildford.

PHŒNIX DYNAMO MANUFACTURING CO., LTD. Head offices: Thornbury Works, Bradford. (Telegs.: "Dynamo, Bradford." Teleph. No. 952.) London office: 17, Victoria-st., S.W.

Reason Manufacturing Co., Ltd. Offices & works: Lewes-rd., Brighton.

REES ROTURBO MANUFACTURING CO., Wednesfield-rd., Wolverhampton.

REID BROTHERS, 12, Wharf-rd., London, N. (Telegrams: "Supra, London." Telephone No. 12249, Central.) *See advt., page* 571.

REYROLLE, A., & CO., LTD., Hebburn-on-Tyne; 8, Howland Mews W., Fitzroy-sq., London, W.

Ryman, F., & Co., Cox st., St. Paul's sq., Birmingham.

Sanders, W., & Co., Falcon Electrical Works, Wednesbury.

Sandycroft Foundry Co., Ltd., The, Chester (Telegrams: "Sandycroft, Hawarden"); & 6, Queen-st.-pl., London, E.C.

Scott, Ernest, & Mountain, Ltd., Close Works, Gateshead-on-Tyne; & London.

Seage, A., & Co., Cambridge Works, Cambridge-rd., Hammersmith, W.

Simpkin, Wilkinson & Gibson, 66, Kirkstall-rd., Leeds.

Spurr, Inman & Co., Ltd., Calder Vale Boiler Works, Wakefield.

Stephens, Smith & Co., Ltd., 1, Cuba-st., Millwall, London, E. (Telegs.: "Reckenzaun, London.")

TETLEY & CO., Falcon Works, Bedford-st., Greengate, Salford.

Union Cable Co., Ltd., The, Eagle Wharf-rd., London, N. *See advt., page* 4.

UNION ELECTRIC CO., LTD., Park-st., Southwark, London, S.E. (Telegs.: "Abeam, London." A.B.C. Code. Teleph. Hop. 2970.) *See advt., page* 563.

Engineers—Electrical Manufacturing—*continued.*

Veritys, Ltd., King-st., Covent Garden, London, W.C.; & Birmingham, Manchester, Glasgow, Bristol, &c. *See* ALPHABETICAL SECTION.

Wandsworth Electrical Manufacturing Co., Ltd., Ludgate Hill, Birmingham; & 15, Newman-st., Oxford-st., London, W.

Webster & Son, Alexandra Works, Folkestone.

Wellman, Seaver & Head, Ltd., 47, Victoria-st., London, S.W.

Wilson-Wolf Engineering Co., Ltd., Thornton-rd., Bradford.

Wyatt, T., 11, Neal-st., Long Acre, London, W.C.

Wyatt Bros., Wayland Works, Whitchurch, Salop.

Young & Marten, Ltd., Caledonian Works, Stratford, London, E.

Engineers—Electrical Testing.

F.—Ingénieurs—essai électrique.
G.—Ingenieure für Elektrische Prüfungen.

Apps, A., 433, Strand, London, W.C.

Baily, F. G., M.A., M.I.E.E., Heriot Watt College, Edinburgh.

BRITISH ENGINE, BOILER & ELECTRICAL INSURANCE CO., LTD., 12, King-st., Manchester. *See advt., page* 17.

DAVIES & RANSOME, Caxton House, Westminster, London, S.W. *See advt., page* 14.

Dawe, Philip, A.M.I.C.E., "Boldrewood," Worple-rd., Wimbledon, S.W.

Fulton, T. Crichton, A.I.E.E., 44, West George-st., Glasgow.

Muirhead & Co., Ltd. Laboratory: 7, Carteret-st., Queen Anne's Gate, Westminster, S.W. (Telegs.: "Muirheads, London." Teleph. No. 779, Westminster.) *See advt., page* 619.

NALDER BROS. & CO., 7, Carteret-st., Queen Anne's Gate, Westminster, S.W. (late 16, Red Lion-st., Clerkenwell). (Telegrams: "Secohm, London." Telephone No. 779, Westminster.)

O'Gorman & Baillie, 82, Victoria-st., Westminster, S.W.

Peto & Radford, Ltd., 100, Hatton Garden, E.C.

Rowland, Wm., 23, Eastcombe-ave., Old Charlton.

Walsall Electrical Co., Ltd., Bridge-st., Walsall. For branches, telegrams & telephone numbers, *see* ALPHABETICAL.

WESTMINSTER ELECTRICAL TESTING LABORATORIES, York Mansion, York-st., Westminster, London, S.W.

Engineers—Electricity Works.

F.—Ingénieurs—Usines électriques.
G.—Ingenieure—Elektricitäts Centrale.

Abraham, A. J., A.M.I.E.E., Cambuslang.

Acland, R. L., M.I.E.E., Corporation, Chesterfield.

Alderton, H. L., Guildford Electric Supply Co., Ltd., Guildford.

Allbright, W. J., Southern Area, South Metropolitan Electric Light & Power Co., Ltd., Wells-rd., Upper Sydenham, S.E.

SIEMENS BROS. & Co. LTD

Electrical Engineers.

Manufacturers. ——— **Contractors.**

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Caxton House, Westminster, London, S.W.

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Switchboard, Laboratory and all kinds of Testing Instruments.

Electric Mine Exploders and Torpedo Apparatus.

Dry and Fluid Batteries of all descriptions.
(Sole Makers in the United Kingdom of Obach, Dura and Hellesen Dry Cells, and of the Neotherm Copper Oxide Regenerative Battery.)

Iron Telegraph Poles, Insulators and all Materials for Land Lines.

Electro-Chemical Apparatus.

All types of Indicating and Recording Pyrometers, and Platinum Thermometers for Cold Storage.

Electro-Medical Apparatus.

Electrical Accessories for Automobiles.

"Tantalum" Lamps.

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The Manufacture, Laying and Maintenance of Submarine Cables and Cables for Electric Light and Power, and for the Erection and Maintenance of Land Telegraph and Telephone Lines.

Works: WOOLWICH, KENT.

For telegraphic addresses & telephone numbers, see Alphabetical Section.

Engineers—Electricity Works—*continued.*

Allen, S. T., Corporation, Carlisle.
Allen, W. H., Corporation, Loughborough.
Angus, H. W., A.M.I.E.E., Corp., Eccles.
Appelbee, N., M.I.E.E., Corporation, Ashton-under-Lyne.
Arthur, A. J., Tonyrefail & Gilfach Goch Electric Light Co., Ltd., Mill-st., Tonyrefail.
Aspinall, A., Corporation, Brighouse, Yorks.
Astbury, C. T., District Council, Atherton, Lancs.
Atchison, C. C., M.I.E.E., Corporation, Rochdale.
Ayton, Frank, Corporation Electric Supply & Tramways Departments, Ipswich.
Bache, W. J., M.I.E.E., Corporation, Cheltenham.
Bacon, A. R., A.M.I.E.E., County of London Electric Supply Co., Ltd., City-rd., London, E.C.
Bailey, Frank, M.I.C.E., M.I.E.E., City of London Electric Lighting Co., Bankside, S.E.
Baker, W. J. R., Urban District Council, Malvern.
Bale, Geo. F., Bovey Light & Power Co., Ltd., Bovey Tracey.
Barker, E. A., M.I.E.E., Corporation, Barnsley.
Barker, R. R., Bromley (Kent) Electric Light & Power Co., Ltd., 1, West-st., Bromley.
Barnard, A. S., M.I.E.E., A.M.I.C.E., Corporation, Walsall.
Barnes, John A. T., A.M.I.E.E., Corporation, Kendal, Westmoreland.
Barnett, C. J., North Metropolitan Electric Power Supply Co., Edmonton.
Barnley, A. W., Middlesbrough, Stockton-on-Tees & Thornaby Electric Tramways, Middlesbrough.
Baron, J. T., M.I.E.E., St. Pancras Boro' Council, Regent's Park, & King's-rd., N.W.
Barwell, W. H., Parish Council, Treeton.
Bates, H. T., South Metropolitan Electric Tramways & Lighting Co., Ltd., Sutton, Surrey.
Batty, F. R., Northallerton Electric Light & Power Co., Ltd., Northallerton.
Baynes, S. W., M.I.E.E., St. Pancras Borough Council.
Beauchamp, J. W., A.M.I.E.E., Corporation, Tunbridge Wells.
Beckett, A. J., Corporation, Bridlington.
Bell, A. R., A.M.I.E.E., Waterloo-rd., Uxbridge.
Bell, G. G., Borough Electricity Works, Hammersmith.
Bell, H., M.I.E.E., Corporation, Hull.
Bell, J. A., M.I.E.E., Corporation, Aberdeen.
Bennett, A. H., North Metropolitan Electrical Power Distribution Co., Ltd., Enfield.
Bennett, C. G. M., A.M.I.E.E., Kensington & Notting Hill Electric Lighting Works, Shepherd's Bush, W. (resident).
Bentham, H., A.M.I.E.E., Birkdale District Electric Supply Co., Ltd., Birkdale.
Bentley, C. W., U.D.C., Cromer.
Bibby, W. H., Northern Counties Electricity Supply Co., Ltd., Morpeth, Northumberland.
Binns, W., Town Council Tramways, Reading.
Bird, A. G., A.M.I.E.E., Guernsey Railway Co., Ltd., Guernsey.
Birkett, R., Corporation, Southend.

Engineers—Electricity Works—*continued.*

Bishop, H. C., M.I.E.E., Corp., Newport, Mon.
Black, A. S., Corporation, Southport.
Blackman, A. S., M.I.E.E., Corp., Sunderland.
Blair, J. Martin, A.M.I.E.E., Urban District Council, Acton, W.
Blake, A., Urban District Council, Fareham.
Blascheck, C. A., A.M.I.E.E., Corporation, Canterbury.
Bloxam, T. W., M.I.E.E., Corporation, Belfast.
Bolam, J. H., M.Sc., Corporation, Weymouth.
Bond, F. A., A.M.I.E.E., Borough Council, Battersea, S.W.
Bottomley, C. F., Market Drayton Electric Light & Power Co., Ltd., Market Drayton, Salop.
Bowden, J. H., Borough Council, Poplar.
Bowman, J. M., North Metropolitan Electrical Power Supply Co., Hertford.
Boyd, Wm., A.M.I.E.E., A.M.I.M.E., Northwich Electric Supply Co., Ltd., Northwich.
Brandreth, W. E., Wycombe (Borough) Electric Light & Power Co., Ltd., High Wycombe.
Bremner, Ashton, M.I.E.E., Corporation, Burslem, Staffs.
Bremner-Smith, E., Oswestry Electric Lighting & Power Co., Ltd., Oswestry.
Briggs, F. H., Tyneside Tramways & Tramroads Co., Neptune Bank, Wallsend-on-Tyne.
Britton, S. E., Chester.
Brown, Jas., A.M.I.E.E., Kilmacolm, Renfrewshire, N.B.
Brown, J. W., New Rottingdean Electricity Co., Ltd., Rottingdean, Sussex.
Bruce, G. A., M.I.E.E., Corporation, Lowestoft.
Bruce, J. G., A.I.E.E., Willesden District Council, Salusbury-rd., Kilburn, N.W.
Bryant, G., A.M.I.E.E., Corporation, Gt. Yarmouth.
Brydges, J. K., M.I.E.E., Corporation, Eastbourne.
Bulfin, I., M.I.E.E., A.M.I.C.E., B.Sc., Corporation, Bournemouth.
Bulmore, A. W. E., Letchworth, Herts.
Bunderg, R. A., Chipping Norton.
Burbidge, A. H., Corporation, Kilmarnock, Scotland.
Burbridge, J., Corporation Tramways, Leeds.
Burnett, H. R., Corporation, Barrow-in-Furness.
Bush, H. W., Urban Electric Supply Co., Ltd., Newbury, Berks.
Butler, C. F., A.M.I.E.E., Lewes & District Electric Supply Co., Lewes.
Caldwell, H. C., A.M.I.E.E. (sta. supt.), Altrincham Electric Supply, Altrincham, Cheshire.
Calvert, E., A.M.I.E.E., Urban District Council, Finchley, N.
Cameron, H., Penarth Electric Lighting Co., Ltd., Penarth.
Cameron, J. F., Corporation, Northampton.
Campion, R. H., A.M.I.E.E., Corporation, Dewsbury.
Cardwell, G., Hartlepool Electric Tramways Co., Ltd., West Hartlepool.
Carr, R. M., A.M.I.E.E., Urban District Council, Leek, Staffs.

Engineers—Electricity Works—*continued.*

Carter, G. H., A.I.E.E., Urban District Council, Heckmondwike, Yorks.
Cave, J. C., Belturbet Electric Lighting Co., Belturbet, Ireland.
Cawthra, J. H., M.I.E.E., Corporation, South Shields.
Chalmers, A. D., A.M.I.E.E., A.M.I.MECH.E., Corporation, Gillingham, Kent.
Charlton, A., Kidderminster & District Electric Lighting & Traction Co., Ltd., Kidderminster.
Charlton, G., Weston-super-Mare.
Chattock, R. A., M.I.E.E., Corporation, Birmingham.
Christie, J., M.I.E.E., Corporation, Brighton.
Churchward, E. C., Scottish Central Electric Power Co., Bonnybridge, Scotland.
Clarke, G. E., Corporation, Boston.
Clegg, S., M.I.E.E., Corporation, Lincoln.
Clothier, J. H., Urban District Council, St. Anne's-on-Sea.
Clothier, T. D., Corporation, Bootle.
Clough, A., A.M.I.C.E., Corporation, Liverpool.
Colson, A., M.I.E.E., Corporation, Leicester.
Colson, T. M., A.M.I.E.E., Hamilton.
Constable, J. A., Generation Dept., South Metropolitan Electric Light & Power Co., Ltd., 183 & 185, High-st., Lewisham, S.E.
Cooke, W. H., Corporation, Luton.
Cooksey, D. F., A.M.I.C.E., M.I.E.E., 5, Maitland-rd., Reading.
Coombs, D. H., Whitchurch & Pangbourne Electric Supply Co., Ltd., Whitchurch, Oxon.
Cooney, Wm. A., Kildare, Ireland.
Cooper, A. G., A.M.I.E.E., boro', Colne, Lancs.
Cooper, A. R., A.M.I.C.E., A.M.I.E.E., District Electric & London Underground Electric Railways, St. James' Park, S.W.
Copperthwaite, R. A., Tynemouth Electric Railway, Heaton Carriage & Wagon Works, Walker Gate.
Cottam, G. H., M.I.E.E., Borough Council, Hampstead.
Coutts, F., Paisley District Tramways, Paisley.
Couzens, H. H., A.M.I.E.E. West Ham Corporation Electricity Supply, Canning Town, E.
Coveney, A., Corporation, Erith.
Coventon, G. L., Chepstow Electric Light & Power Co., Nelson-st., Chepstow.
Cox, E. F., Burgh, Wishaw, N.B.
Cramb, Alex. C., M.I.E.E., Corporation, Croydon.
Cross, E., A.M.I.E.E., Corporation, Rotherham.
Crowther, J. A., Urban District Council, Wallasey.
Crowther, J. P., A.M.I.E.E., Urban District Council, Worksop, Notts.
Cunningham, T., Corporation, Pwllheli, Carnarvon.
Dalling, T., Strathpeffer & Dingwall Electric Lighting Co., Strathpeffer, S.O., Ross-shire.
Darlington, A. E., Chislehurst Electric Supply Co., Ltd., Chislehurst.
Davidson, C. S., Barnes U.D.C., Mortlake, S.W.
Davies, Ernest, Mardy Electric Light Co., Ltd., Mardy, Glam.

Engineers—Electricity Works—*continued.*

Davies, T. Pritchard, U.D.C., Llandilo.
Day, A. A., A.M.I.C.E., M.I.E.E., Corporation, Bolton.
Day, S. E., Corporation, Bury St. Edmunds.
Dayson, A. R., M.I.E.E., Corporation Tramways, Sunderland.
Deeley, R. M., Heysham, Morecambe & Lancaster Railway, Heysham.
Denton, E., Town Council, Pudsey.
Denton, H. H., M.I.E.E., Corporation, Crewe.
De Renzi, A. J. C. (resident), Corporation, Newcastle-under-Lyme.
Dickinson, H., A.M.I.C.E., M.I.E.E., M.I.M.E., Corp. Elec. Lighting Dept., Leeds.
Dimmack, A., Corporation, Swindon.
Dixon, H., A.M.I.E.E., The Electric Supply Corp., Ltd., St. Andrews, N.B.
Dixon, H. L., Leatherhead & District Electricity Co., Ltd., Leatherhead.
Dixon, Lewis Wm., A.I.E.E., Merthyr Electric Traction & Lighting Co., Ltd., Merthyr Tydvil.
Dobson, S. T., St. James' & Pall Mall Electric Light Co., Duke-st., S.W.; & Carnaby-st., W.; & (joint) Central Electric Supply Co., Ltd.
Dowling, E., Smithfield Markets Electric Supply Co., Ltd., 57, Charterhouse-st., London, E.C.
Downe, R. S., M.I.E.E., Brompton & Kensington Electricity Supply Co., Ltd., 254, Earl's Court-rd., London, S.W.
Drummond, B. G., Hendon Electric Supply Co., Ltd., Hendon.
Duesbury, Trevor, A.M.I.E.E., Corporation, Sutton Coldfield.
Dufton, H. C., Herne Bay Pier Co., Ltd., Herne Bay.
Durnford, C. W., A.M.I.E.E., Devonport & District Tramways Co., Devonport.
Eachus, T. E., North Metropolitan Electrical Power Distribution Co., Ltd., St. Albans.
Edgcombe, J. E., M.I.M.E., M.I.E.E., Corp., Kingston-on-Thames.
Edmondson, F., A.M.I.E.E., Manx Electric Railway Co., Ltd., 1, Strathallan-cres., Douglas, I.M.
Edmundson, J. E., A.M.I.E.E., Urban Electric Supply Co., Ltd., Grantham; & Melton Mowbray Electric Light Co., Ltd., Melton Mowbray.
Edwards, G. T. C., Bristol Tramways & Carriage Co., Ltd., Bristol.
Edwill, G., Pontypool Electric Light & Power Co., Ltd., Club-chbrs., Pontypool, Mon.
Ellis, A., M.I.M.E., M.I.E.E., Corporation, Cardiff.
Ellis, John E., A.M.I.E.E., Corporation, Morley, nr. Leeds.
Eustace, J., A.M.I.E.E., Electric Supply Corp., Ltd., Chelmsford.
Evans, D. O., M.I.E.E., Corporation, Carnarvon.
Everett, H. W., U.D.C., Clacton-on-Sea.
Fairweather, C. W., Northern Counties Electricity Supply Co., Ltd., Alnwick.
Falcke, C. D., Stratford-on-Avon Electricity Co., Ltd., Stratford-on-Avon.
Farrer, M., A.M.I.E.E., Twickenham.

Engineers—Electricity Works—*continued.*

Farrow, A. E., A.M.I.E.E., Windsor Electrical Installation Co., Ltd., Windsor; & Slough & Datchet Electric Supply Co., Ltd.

Fedden, S. E., M.I.C.E., M.I.MECH.E., Corporation, Sheffield.

Feetham, M., M.I.M.E., M.I.E.E., London Electric Supply Corporation, Ltd., Stowage Wharf, Deptford, S.E.

Fennell, W., A.M.I.E.E., Corporation Electricity Works, Wednesbury.

Fenwick, J. B., Corporation Electricity Works, East Retford, Notts.

Ferguson, J., Corporation Tramways, Glasgow.

Ferguson, Russell F., M.I.E.E., Corp., Hastings.

Ferguson, W. J., A.I.E.E., U.D.C., Redditch.

Fisher, D., Dundee, Broughty Ferry & District Tramways Co., Ltd., Dundee.

Fletcher, F. P., A.M.I.C.E., A.M.I.MECH.E., A.M.I.E.E., Admiralty Power Station, Chatham Dockyard, Kent.

Foale, W. S., Corporation, Portsmouth.

Forde, J. A., Isle of Thanet Electric Tramways & Lighting Co., Ltd., St. Peter's, Broadstairs; & Margate, Kent.

Foster, R., A.M.I.E.E., Corporation, Aston Manor.

Fox, Dundas, Penrith Electric Supply Co., Ltd., Penrith.

Fox, H., Roundhay & District Electric Light Co., Ltd., 34, Albion-st., Leeds.

Francis, F. H., A.M.I.E.E., Oxford Electric Co., Ltd., Oxford.

Francis, O. F., M.I.E.E., Corp., Kirkcaldy, N.B.

Friederichs, H. F., Corporation, West Hartlepool.

Fry, Raymond F., Greystones Electric Light & Power Co., Ltd., Greystones, co. Wicklow.

Fuller, A. J., Borough Council, Fulham.

Furness, C., M.I.E.E., M.I.M.E., Corporation, Blackpool.

Garnett, Chas., A.M.I.E.E., Corporation, Darwen, Lancs.

Garside, E., U.D.C. Tramways, Hurst, Lancs.

Garside, F., District Council, Aldershot.

Garside, J. W., U.D.C., Hebden Bridge, Yorks.

Gay, Albert, M.I.E.E., Islington Borough Council, Eden-grove, Holloway, N.

Gaze, H. P., A.M.I.C.E., A.M.I.E.E., Central Electric Supply Co., Grove-rd., St. John's Wood, N.W.

Gibson, S. C., A.M.I.E.E., Corporation, Nuneaton.

Gill, H. Macdonald, U.D.C., Surbiton.

Gill, J. C., A.M.I.C.E., Corporation, Peterborough.

Gillies & Hornidge, Buckingham Electric Light Co., Buckingham.

Gilling, A. C., Urban District Council, Bromley Hurst, Charles-st., Epsom.

Glenn, J. F., Portsdown & Horndean Light Railway, Cosham; Gosport & Fareham Tramways, & Gosport & Alverstoke Electric Lighting Co., Ltd., Gosport, Hants.

Goldston, R. C., Yorkshire (Woollen District) Electric Tramways Co., Tramway Depôt, Frost Hill, Liversedge, Yorks.

Gothard, B. W., Minehead Electric Supply Co., Ltd., Minehead, Somerset.

Engineers—Electricity Works—*continued.*

Grainge, J. R. W., Great Western Railway, Park Royal Generating Station, Willesden, N.W.

Gray, C. E., Ross, Herefordshire.

Gray, H., A.M.I.E.E., Corporation, Accrington.

Grimshaw, C. O., M.I.C.E., M.I.E.E., Westminster Electric Supply Corp., Eccleston-pl., Belgravia, London, S.W.

Grove, E. P., Central London Railway Co., Shepherd's Bush, W.

Hadfield, J. W., A.M.I.E.E., Electricity Works, Barnstaple, Devon.

Hame, J. W., A.I.E.E., Corporation, York.

Hann, S., Borough Council, Stoke Newington, London, N.

Hansom, O. G. E., A.M.I.E.E., Fleetwood.

Hards, L. A., A.I.E.E., Urban Electric Supply Co., Ltd., Redruth, Cornwall.

Hardy, W. E., Bath Electric Tramways, Ltd., Walcot-st., Bath.

Harpur, R. C., Corporation, Dover.

Harrison, H., Dublin & Lucan Electric Railway Co., Fonthill Power Station, Dublin.

Harriss, G. M., M.I.C.E.I., Carlow.

Hartley, H., South Staffordshire Tramway (Lessee) Co., Ltd., Tramways Depôt, Darlaston, Staffs.

Harvey, H. B., M.I.E.E., Kent Electric Power Co., Findsbury Power House, Strood, Kent.

Harvey & Co., Ltd., 183, Gresham House, Old Broad-st., London, E.C.

Hawkins, A. S., Newquay Electric Light & Power Co., Newquay.

Hays, D., Falkirk & District Tramways Co., Ltd., Larbert-rd., Larbert, N.B.

Heenan, W. E. J., M.I.E.E., Boro', Bermondsey, S.E.

Helme, D., Corporation, Nelson.

Heron, T., Cleveland & Durham Electric Power, Ltd., Hinton-bldgs., Middlesbrough.

Hesketh, E., A.M.I.E.E., Alderley & Wilmslow Electric Supply, Ltd., Alderley Edge.

Hesketh, T., M.I.E.E., Folkestone Electricity Supply Co., Folkestone.

Hewlett, E. F. J. Holcombe, M.I.E.E., M.AM.I.E.E., Corporation, Mansfield.

Highfield, J. S., M.I.C.E., M.I.E.E., Metropolitan Electric Supply Co., Ltd., Amberley-rd., Manchester-sq.; & Sardinia-st., W.

Hill, E. R., Reading Electric Supply Co., Ltd., Reading.

Hill, H. H., Rothesay Tramways Co., Ltd., Rothesay, Scotland.

Hill, T., St. Austell & District Electric Lighting & Power Co., Ltd., St. Austell, Cornwall.

Hills, F. B., North of Scotland Electric Light & Power Co., Ltd., Montrose & Brechin, N.B.

Hoadley, E. E., M.I.E.E., Corp., Maidstone.

Hockley, W., Frinton-on-Sea & District Electric Light & Power Co., Ltd., Frinton-on-Sea.

Holden, F. G., B.A., A.M.I.C.E., M.I.E.E., Scarborough Electric Supply Co.

Holland, H. N. (resident), Treforest Electrical Consumers Co., L'd., Treforest, nr. Pontypridd.

Engineers—Electricity Works—*continued.*

Holliday, T. B., A.M.I.E.E., Hastings & District Tramways Co., Hastings.

Hollingsworth, E. M., A.M.I.E.E., Corporation, St. Helen's, Lancs.

Holmes, C. R. (resident), London United Tramways, 74, High-rd., Chiswick, W.

Home, J. Hayward, A.M.I.E.E., Urban Electric Supply Co., Ltd., Berwick-on-Tweed.

Horley, G., Westminster Electric Supply Corp., Millbank-st. Station, London, S.W.

Horsfall, W., Ebbw Vale.

Horsfall, W. Miles, M.I.E.E., Liverpool District Lighting Co., Ltd.

Horsley, J. A. B., A.M.I.E.E., Harrow Electric Light & Power Co., Ltd., West-st., Harrow.

Howard, H. L., A.M.I.E.E., District Council, Barking.

Hughes, G., Liverpool, Southport & Crossens Elec. Railway (L. & Y. Rly.), Horwich, Lancs.

Hume, C. E., Ramsgate & District Electric Supply Co., Ltd., Ramsgate.

Humphries, E., Blockley Electric Supply Co., Blockley, Worcs.

Hunter, F. R., Southwold, Suffolk.

Hunter, W. D., M.I.E.E., Newcastle & District Electric Lighting Co., Newcastle-on-Tyne.

Ingram, E. Ll., M.I.E.E., Bournemouth & Poole Electricity Supply Co., Ltd., Verulam House, Yelverton-rd., Bournemouth.

Jackson, C. D'A., Paignton Electric Light & Power Co., Paignton.

Jackson, G. H., M.I.E.E., M.I.M.E., Northampton Electric Light & Power Co., Ltd., 25, Bridge-st., Northampton.

Jackson, W. A., Corporation, West Bromwich.

Jackson, Wm., Keswick Electric Lighting Co., Ltd., Keswick.

Jenkins, D. M., Corporation, Neath, Glam.

Jensen, W., Chatham & District Light Railways Co., Chatham.

Jewell, R. F., Gosport & Fareham Tramways Power Station & Sub-station, Hoe-Ford, Fareham, Hants.

Johnson, F., Mevagissey Electric Supply Co., Ltd., Mevagissey, Cornwall.

Johnson, H., Mevagissey Electric Supply Co., Ltd., Mevagissey.

Johnston, C. M., M.I.E.E., M.I.M.E., Corporation, Shrewsbury.

Johnston, L., A.M.I.E.E., Corporation Light Railways, Gloucester.

Jones, Chas., M.I.C.E., M.I.E.E., Metropolitan Railway Co., Neasden, N.W.

Jones, H., M.I.E.E., Waterloo & City Railway Co., Waterloo Station, S.E.

Jones, J. Lloyd, Llangollen & District Electric Light & Power Co., Ltd., Llangollen.

Jones, R. H., Colwyn Bay.

Jones, S. Derwen, A.M.I.E.E., Corporation, Batley, Yorks.

Jones, W. J. S., A.M.I.E.E., County of Northampton Electric Power & Traction Co., Ltd., Wellingborough.

Engineers—Electricity Works—*continued.*

Joseph, Henry, Urban Electric Supply Co., Ltd., Caterham.

Joseph, H., A.M.I.E.E., Dorking.

Joyce, W. H., Cork Electric Tramways & Lighting Co., Ltd., Queenstown, Ireland.

Keats, G. W., Woolwich Borough Council, Town Hall, Woolwich, S.E.

Kemp, J. P., A.M.I.E.E., Corporation Electricity Works, Summer-lane, Birmingham.

Kerr, T. A., Trafford Power & Light Supply (1902), Ltd., Trafford Park, Manchester.

Kerr, W. T., Corporation, Hereford.

Kimmins, P. T., Lynton & Lynmouth Electric Light Co., Lynmouth, Devon.

King, L. H., Urban District Council, Whitby.

Kinghorn, D. M., Borough Council, Southwark, London, S.E.

Kingston, H. W., Charing Cross, West End & City Electricity Supply Co., Ltd., 60, St. Martin's-lane, London, W.C.

Kirk, G. L., Sheerness & District Electric Power & Traction Co., Sheerness.

Knight, J. D., A.M.I.C.E., M.I.E.E., Corporation, Ealing, London, W.

Knowles, C. E., A.I.E.E., A.M.I.C.E., Urban Electric Supply Co., Ltd., Glossop, Derbyshire.

Ketley, F. W., Norwich Electric Tramways Co., Norwich.

Lackie, W. W., M.I.C.E., M.I.E.E., Corporation, 75, Waterloo-st., Glasgow.

Lambert, E. A., A.M.I.E.E., Coast Development Corp., Ltd., Walton-on-the-Naze.

Lambert, J., M.I.E.E., Corporation, Perth.

Langford, W., Corporation, Longton.

Laverty, G., Electric Supply Corporation, Hitchin.

Lawrence, A., Tayside Electric & Gas Light Co., Ltd., Hall-bldgs., Wormit, N.B.

Lawrie, J., Corporation, Paisley.

Leach, R. B., U.D.C., Farnworth.

Lee, A. E., Rugby School Electricity Works, Dunchurch-rd., Rugby.

Leeming, W. J., A.M.I.E.E., Urban District Council, Buxton.

Le Feuvre, W. T., A.M.I.E.E., Corporation, Bexhill.

Lewis, F. Harman, A.I.E.E., Urban District Council, Leyton.

Lironi, V. G., M.I.M.E., A.M.I.E.E., Corporation Electric Tramways, Portsmouth.

Lomax, C. J., Urban District Council, Gorton, Lancs.

Lomax, R., Corporation, Stockport.

Long, E. D., A.M.I.E.E., Grays.

Long, F. M., Corporation, Duke-st., Norwich.

Loos, A. E., Derbyshire & Nottinghamshire Electric Power Co., Ilkeston.

Lovely, J. G., Northern Counties Electricity Supply Co., Ltd., Blyth & Cowpen, Northumberland.

Lunn, J. R. P., M.I.E.E., Corporation, Darlington.

Lydall, C. H., Cleveland & Durham Co. Electric Power Co., Bishop Auckland, Durham.

Engineers—Electricity Works—*continued.*

McCausland, C., Bournemouth & Poole Electricity Supply Co., Ltd., Christchurch, Hants.

McCormick, H. J., Cheltenham & District Tramways, Cheltenham.

McCowen, V. A. H., M.I.E.E., M.I.M.E., Corp., Salford.

McCulloch, R. L., Leamington & Warwick Electrical Co., Ltd., Warwick.

McInnes, C. F., M.I.E.E., Corp., Gravesend.

McKee, O. St. J., Alexander's Electricity Works, Carlow.

McKenzie, A. E., A.M.I.E.E., Stuart-st. Generating Station, Manchester.

McLean, J. H., M.I.E.E., Midland Elec. Corp. for Power Distribution, Ltd., Ocker Hill, Tipton.

McLoughlin, F. H. (resident), Cleveland & Durham Electric Power, Ltd., Consett, Durham.

McMahon, P. V., M.I.C.E., M.I.E.E., M.I.M.E., City & South London Railway Generating Station, 195, Clapham-rd., Stockwell, S.W.

McMillan, John, Falkirk, N.B.

Macnamara, P. T., Corporation, Limerick.

Macrory, R. V., A.I.E.E., Corp., Londonderry.

Marco, P. H., Barnsley & District Electric Traction Co., Ltd., Barnsley.

Marks, A. E. (electrician), Ogmore Valley Electricity Supply Co.

Marshall, R., M.I.E.E., Corporation, Ayr, N.B.

Mason, A. V., South Metropolitan Electric Tramways & Lighting Co., Ltd., Sutton, Surrey.

Mathias, F. V. L., A.M.I.E.E., Corporation, Warrington, Lancs.

Mayes, A. E., A.M.I.E.E., Isle of Wight Electric Light & Power Co., Ventnor; & Shanklin.

Merritt, F. H., A.M.I.E.E., Frome.

Miller, H. W., M.I.C.E., M.I.E.E., Kensington & Knightsbridge Electric Lighting Co., Ltd., Kensington-ct. Station.

Mittelhausen, Chas., Urban District Council, Bexley, Kent.

Money, A.W., A.M.I.E.E., Chiswick Electric Supply Corporation, Chiswick, W.

Morgan, J. B., Urban District Council, Horsham, Sussex.

Morgan, W. D., Coatbridge & Airdrie Electric Supply Co., Ltd., Coatbridge.

Mountain, A. B., M.I.E.E., Corp., Huddersfield.

Munro, H. D., M.I.E.E., Corporation, Exeter.

Murray, E. T. Ruthven, M.I.E.E., M.I.MECH.E., North Metropolitan Electric Power Supply Co.; & North Metropolitan Electrical Power Distribution Co., Ltd., Spencer House & South-pl., Finsbury Pavement, London, E.C.

Nalder, H. H., A.I.E.E., Cork Electric Tramways & Lighting Co., Ltd., Cork.

Napier, J. W., Town, Alloa, N.B.

Nash, R. P. (British Insulated & Helsby Cables, Ltd.), Prescot.

Nevill, H. A., Corporation, Wakefield.

Newington, Frank A., M.I.E.E., Corporation, Edinburgh.

Newington, S. Wilmott, Corporation, Oldham.

Engineers—Electricity Works—*continued.*

Nicholson, L., Milford-on-Sea Electric Supply Co., Milford-on-Sea, Hants.

Nisbett, H. J., A.I.E.E, Rhondda Tramways Co., Porth, South Wales.

Nixon, F. A., A.M.I.C.E., A.I.E.E., District Council, Handsworth, Staffs.

Okell, E. G., M.I.E.E., Corporation, Plymouth.

Olver, P., A.M.I.E.E., Midland Electric Light & Power Co., Leamington.

Orton, Reginald, Douglas Southern Electric Tramways, Ltd., Douglas, Isle of Man.

O'Sullivan, P. F., M.I.C.E.I., Dublin United Tramways Co., 1896, Ltd., 9, Upper Sackville-st., Dublin.

Papworth, J. W., A.M.I.E.E., A.M.I.MECH.E. (burgh), Stirling, N.B.

Parkinson, C. F., M.I.M.E., M.I.E.E., Corp., Paisley, Scotland.

Parsons, T. C., M.I.E.E., Town Council, Govan.

Partridge, G.W., M.I.E.E., London Electric Supply Corporation, Deptford.

Payne, G., Church Stretton, Salop.

Pearce, S. L., M.I.C.E., M.I.E.E., M.I.MECH.E., M.AM.I.E.E., Corporation, Manchester.

Pember, J. D., A.M.I.E.E., Urban District Council, Dartford.

Perkins, E. P., A.M.I.E.E., Chiswick Electricity Supply Corp., Ltd., Aberystwith.

Phillips, R. W. L., A.M.I.E.E., Corp., Bedford.

Pickersgill, A., A.M.I.E.E., Urban District Council, Cleckheaton, Yorks.

Pilditch, G. F., M.I.E.E., Urban District Council, Rathmines, co. Dublin.

Pilling, J., M.I.E.E., Corporation, King's Lynn, Norfolk.

Plunkett, M. P., A.M.I.E.E., Urban District Council, Tonbridge.

Pooley, H., A.M.I.C.E., Corporation Gas & Electricity Department, Stafford.

Porter, G., A.M.I.C.E., Corporation, Worthing.

Pott, Arthur H., A.M.I.C.E., M.I.E.E., A.M.AM.I.E.E., Metropolitan Electric Tramways, Ltd., Spencer House, South-pl., Finsbury Pavement, London, E.C.

Powell, David, Gorseinon Electric Light Co., Gorseinon.

Prentice, J., Kelvinside, Glasgow.

Prentice, Napier, A.I.E.E., Suffolk Electricity Supply Co., Ltd., Stowmarket, Suffolk.

Price, S. L. R., District Council, Pembroke, Dublin.

Priestly, P., Mexborough & Swinton Tramways Co., Rawmarsh, Yorks.

Pringle, P. J., M.I.E.E., M.I.M.E., Corporation, Burton-on-Trent.

Proctor, H. Faraday, M.I.C.E., M.I.E.E., Corp., Bristol.

Prusmann, C. A. L., A.M.I.M.E., M.I.E.E., Corporation, Swansea.

Pullan, M. Chas., Grassington Electric Supply Co., Ltd., Grassington, Yorks.

Purse, F. W., A.M.I.E.E., A.M.I.M.E., U D.C., Watford.

Engineers—Electricity Works—*continued.*

Randall, A. B., M.I.E.E., Salisbury Electric Light Co., Town Mill, Salisbury.

Rankin, A., Limavady.

Rayner, E. S., A.M.I.E.E., Corporation, Doncaster.

Reader, T., A.M.I.E.E., Hindhead & District Electric Light Co., Ltd., Hindhead, Surrey.

Reed, G. H., Chagford & Devon Electric Light Co., Chagford, Devon.

Reid, Irvine, Fort William Electric Light Co.

Richardson, H., A.M.I.E.E., Town Council, Dundee.

Richardson, R., Wemyss & District Tramways Co., Ltd., Aberhill, Methil, Fife.

Rider, J. H., M.I.C.E., M.I.E.E., &c., L.C.C. Tramways, 62, Finsbury Pavement, E.C.

Riseley, H. L., M.I.E.E., M.I.M.E., Newcastle-on-Tyne Electric Supply Co., Ltd., Newcastle-on-Tyne.

Ritchie, W. A., Electric Supply Corp., Ltd., Dumbarton, Scotland.

Roberts, R. W., Kensington & Knightsbridge Co., Chapel-pl., Brompton-rd., S.W.

Robertson, J. A., M.I.E.E., Corporation, Greenock.

Robertson, R. S., Urban Electric Supply Co., Ltd., Godalming.

Robinson, L. L., A.M.I.C.E., M.I.E.E., Hackney Electricity Works, Millfields-rd., Clapton.

Robinson, Sir Clifton, A.I.C.E., M.I.E.E., Imperial Tramways Co., Middlesbrough.

Rogerson, W. M., M.I.E.E., Corporation, Halifax.

Roles, T., Corporation, Bradford.

Ross, W. S., Corporation, Reigate.

Rowland, R., A.M.I.E.E., District Council, Stretford, Lancs.

Ruddle, Mark, M.I.E.E., Corporation, Dublin.

Russell, C. Newton, A.M.I.C.E., M.I.E.E., Borough Council, Shoreditch.

Rutherford, A. P., M.I.E.E., Corporation, Leith.

Ryan, V., A.I.E.E., Kerry Electric Supply Co., Ltd., Killarney.

Rycroft, P. E., A.M.I.E.E., Heston & Isleworth Council, Hounslow, W.

Rye, A. N., Urban Electric Supply Co., Ltd., Hawick.

Sale, H. B., A.M.I.E.E, North Metropolitan Electrical Power Distribution Co., Ltd., Barnet.

Salmon, H., Wadebridge & District Electric Supply Co., Wadebridge, Cornwall.

Salter, Glynn, Lymington Electric Light & Power Co., Lymington.

Salter, J. R., M.I.E.E., Lancs. United Tramways, Ltd., Atherton, Lancs.

Sanderson, W., Broxburn & Uphall Lighting Committee, Broxburn, N.B.

Sankey, B., A.M.I.E.E., Corporation, Whitehaven.

Savage, C. E., Corporation, Dudley.

Schofield, S. D., M.I.E.E., A.M.I.MECH.E., Urban District Council, Shipley.

Schultz, G., A.M.I.E.E., Notting Hill Electric Lighting Co., 140, High-st., Notting Hill, W.

Scott, W. H., Dumfries Electricity Supply Co., Ltd., Dumfries, N.B.

Engineers—Electricity Works—*continued.*

Seabrook, A. H., M.I.E.E., M.I.MECH.E., St. Marylebone Borough Council Electricity Works, 19 & 20, York-pl., London, W.

Senior, J., Urban District Council, Mexborough.

Shaw, A. H., M.I.E.E., Urban District Council, Ilford.

Shaw, Cyril M., A.M.I.E.E., Corporation, Worcester.

Shaw, J., M.I.E.E., Mersey Railway Co., Birkenhead.

Shawfield, C. E. C., A.M.I.E.E., M.I.MECH.E. Corporation, Wolverhampton.

Sheardown, Percy S., M.I.E.E., Dublin United Tramway Co., Ringsend, Dublin.

Shenton, T. S., Urban District Council, Rugby.

Sillar, A. R., M.I.E.E., Corporation, Colchester.

Sillery, W., A.M.I.E.E., Corporation, Partick.

Simpson, F. A., Newmarket Electric Light Co., Ltd., Newmarket.

Simpson, J. F., M.I.E.E., Corp. Tramways, Preston.

Simpson, R., London County Council Pumping Station, Shad Thames, S.E.

Simpson, R., North Shields, Tynemouth & Whitley Tramways, Tynemouth.

Slevin, Jas., Corporation, Wigan.

Smeeton, E. E., A.M.I.E.E., Electric Supply Corp., Ltd., Falmouth.

Smith, A. T., A.M.I.E.E., Corporation, Leigh, Lancs.

Smith, C. B., M.I.E.E., Hove Electric Lighting Co., Ltd., Hove.

Smith, C. L., Guernsey E. L. & P. Co., Ltd., Les Amballes, St. Peter's Port, Guernsey.

Smith, G. E. J., A.M.I.E.E., Urban Electric Supply Co., Ltd., Dartmouth & Newton Abbot.

Smith, J. J., A.M.I.E.E., Corporation, Stockton.

Smith, T. R., A.M.I.E.E., Corporation Tramways, Leicester.

Smith, W. B., Harrington Electric Light Co., Ltd., Long Eaton, Derbyshire.

Smith, W. B., Corporation Electricity Dept., Greenock, N.B.

Smyth, J. M., M.I.E.E., Corp., York.

Smyth, M. G., A.M.I.E.E., Larne, co. Antrim.

Sommerville, A., A.M.I.E.E., A.M.I.MECH.E. (resident), Corporation Tramways, Ayr.

Sommerville, G., A.M.I.E.E., Corporation, Faversham, Kent.

Sowter, W. J. U., M.I.E.E., U.D.C., Bray, Ireland.

Spalding, P. A., A.M.I.C.E., A.M.I.E.E., Galway Electric Co., Ltd., Newtownsmyth, Galway.

Spark, J. W., Corporation, Devonport.

Sparks, C. P., M.I.E.E., M.I.C.E., County of London Electric Supply Co., Ltd., Moorgate-ct., Moorgate-pl., London, E.C.

Spruut, H. W., A.M.I.M.E., A.M.I.E.E., S. London Electric Supply Corp., Ltd., Loughborough Junction, S.E.

Spurr, G. R., A.M.I.E.E., District Council, Walthamstow.

Spurr, R. D. (resident), Derbyshire & Nottinghamshire Electric Power Co., Ilkeston.

Staniland, N., M.I.E.E., Hornsey.

Starkie, J. E., A.M.I.E.E., Corporation, Burnley.

Stewart, C. L. E., Corporation, Rawtenstall.

Engineers—Electricity Works—*continued.*

Stewart, E. A., Tayside Electric & Gas Light Co., Ltd., Electric Station-bldgs., Wormit-on-Tay.

Stewart, H. J. F., Ilfracombe Electric Light & Power Co., Ltd., Ilfracombe, Devon.

Stewart, J. C., Yorkshire (West Riding) Electric Tramways Co, Ltd., Welldon-lane, Castleford.

Still, Percy, M.I.E.E., M.I.C.E., Chelsea Electricity Supply Co., 19, Cadogan-gardens, S.W.

Stiven, E. B., Police Commissioners' Electricity Works, Rothesay.

Storey, P., A.M.I.E.E., Town Council, Torquay.

Stott, J., Corporation, Heywood.

Stratton, G., Sunderland & District Electric Tramways, Ltd., Philadelphia, nr. Fence Houses, co. Durham.

Street, H. F., Corporation, Southampton.

Summerside, J. W., Northern Counties Electricity Supply Co., Ltd., Alnwick, Northumberland.

Sutherland, M., Town Council, Oban, N.B.

Swan, R. J. J., A.M.I.E.E., Chesham.

Szlumper, Sir J., Brompton & Piccadilly Circus Railway Co., St. James's Park Station, S.W.

Taite, C. D., M.I.E.E., Lancashire Electric Power Co., 196, Deansgate, Manchester.

Talbot, H., M.I.E.E., Corporation, Nottingham.

Talbot, Henry, Corporation, Todmorden.

Tapper, J. E., A.M.I.E.E., U.D.C., Beckenham.

Tapper, W. C. P., A.M.I.E.E., Stepney Borough Council, Whitechapel, E.

Tattersall, D., Ingleton Electric Lighting & Power Co., Ingleton.

Taylor, H. M., Corporation, Middlesbrough.

Teague, F., Corporation, Bath.

Teasdel, J. E., U.D.C., Pontypridd.

Tester, W. A., M.I.E.E., A.M.I.M.E., Corporation, Lancaster.

Thom, Wm., M.I.E.E., Potteries Electric Traction Co., Ltd., Tramways Depôt, Stoke-on-Trent.

Thomas, B., Llandrindod Wells Electric Light & Power Co., Ltd., Llandrindod Wells.

Thomas, T. (resident), District Council, Bridgend.

Thompson, C. W., A.M.I.E.E., Cleveland Trust, Ltd., Saltburn-by-the-Sea.

Thomson, G. H., A.I.E.E., R.D.C., Neath.

Thomson, J. S., Fife Electric Power Co., Dunfermline, N.B.

Thornhill, E. J. B., A.M.I.E.E., Corp., Taunton.

Tiddeman, P. J. S., M.I.E.E., Corporation, Stoke-on-Trent.

Todd, E. T., Oldham, Ashton & Hyde Electric Tramway, Denton.

Tomlinson-Lee, H., A.M.I.E.E., Wimbledon.

Tonge, J. H., M.I.E.E., National Electric Supply Co., Ltd., Preston.

Tough, G., Corporation, Coventry.

Toulmin, J., A.M.I.E.E., Burton & Ashby Light Railway, Swadlincote, Burton-on-Trent.

Traill, W. A., C.E., Giants' Causeway & Portrush Electric Tramway Co., Portrush.

Engineers—Electricity Works—*continued.*

Trimnell, L. C. B., A.M.I.E.E., A.M.I.MECH.E., Richmond (Surrey) Electric Light & Power Co., Ltd., Richmond, Surrey.

Tudman, A. R., A.M.I.E.E., Electricity Works, Colwyn Bay.

Turnbull, C., M.I.E.E., Tynemouth Corporation, North Shields.

Turnbull, Jas. L., Corporation, Broughty Ferry, Forfarshire.

Turner, C. J., A.M.I.E.E., District Council, Hoylake.

Ullmann, W. C., M.I.E.E., M.I.MECH.E., Corporation, Nelson-st., East Ham.

Vignoles, W. A., M.I.E.E., Corp., Great Grimsby.

Walker, C. R., Mansfield & District Tramways, Ltd., Sutton-rd., Mansfield.

Walker, Harold, A.M.I.E.E., Bridgewater & District Electric Supply & Traction Co., Ltd., Mount-st., Bridgewater.

Walker, J. R., A.M.I.E.E., L.C.C. Generating Station, East Greenwich, S.E.

Walker, W. A., U.D.C., Kettering.

Warburton, H. N., Winchester Electric Light & Power Co., Ltd., Winchester.

Wardrop, A. V., District Council, Elland, Yorks.

Watkins, A. A., A.M.I.E.E., Musselburgh & District Electric Light & Traction Co., Ltd., Musselburgh.

Watkins, H. S., Sunderland & District Tramways, Ltd., Philadelphia, nr. Fence Houses, Co., Durham.

Watson, S. J., M.I.E.E., Corporation, Bury.

Watts, H. W., A.M.I.M.E., A.M.I.E.E., Urban Electric Supply Co., Ltd., Weybridge, Surrey.

Wheelwright, P. P., M.I.E.E., Corp., Blackburn.

White, P. F., Bangor.

Whitehead, T. R., M.I.M.E., Coventry Electric Tramways Co., Coventry.

Whitie, Wm., Brompton & Kensington Electricity Supply Co., Richmond-rd., Earl's-ct., W.

Whitlock, A. A., M.I.E.E., County of London Electric Supply Co., Ltd., The Causeway, Wandsworth.

Wilkinson, G., M.I.E.E., Corporation, Harrogate.

Wilkinson, H., District Council, Radcliffe.

Wilkinson, J., M.I.E.E., M.I.MECH.E., Corporation Tramways, Hull.

Wilkinson, R. H., Corporation, Huddersfield.

Williams, E. J., North of Scotland Electric Light & Power Co., Ltd., Inverness, N.B.

Williams, P., Urban District Council, Holyhead.

Williams, S., Corporation, Motherwell, N.B.

Wilmshurst, T. P., M.I.E.E., Corporation, Derby.

Wilson, A. (deputy), Corporation, Bristol.

Wilson, J. (resident), North Metropolitan Electric Power Supply Co., 520, High-st., Tottenham, N.

Wilson, W. H., Municipality, Sleaford.

Windsor, F. W., Corporation, Monmouth.

Winslow, I. E., Coventry Electric Tramways Co., Coventry.

Woodhouse, W. B., A.M.I.MECH.E., A.M.I.E.E., Yorkshire Electric Power Co., Thornhill, nr. Dewsbury.

Engineers—Electricity Works—*continued.*

Woodman, L. W., M.I.E.E., Corporation, Dover.
Worrall, F., District Council, Long Eaton.
Wray, A. J., A.I.E.E., Banbury & District Electric Supply Co., Ltd., Banbury, Oxon.
Wright, A., Foots Cray Electric Supply Co., Foots Cray.
Wright, E. H., A.M.I.E.E., Urban District Council, Rhyl, Flintshire.
Wyld, W., M.I.M.E., M.I.E.E., Corp., Birkenhead.
Yale, T. P. O., A.M.I.E.E., Yale Electric Power Co., Ltd., Blaenau-Festiniog, Merionethshire.
Yeaman, C. H., Corporation, Hanley.
Yerbury, H. E., M.I.E.E., Corporation Tramways Department, Sheffield.
Young, H. G., Town Council, Bo'ness.

Engineers—General.

F.—Ingénieurs—En général.
G.—Ingenieure—im Allgemeinen.

Adams, A. R., 3 & 5, Emerald-st., Theobalds-rd., W.C.
Army & General Stores, Ltd., 26, Broad Marsh, Nottingham.
Aylesbury Engineering Works, St. James-st., Clerkenwell, E.C.
Ayrton, William, & Co., Gorebrook Iron Works, Longsight, Manchester.
Baerlein & Co., 12, Blackfriars-st., Salford, Manchester.
BELLISS & MORCOM LTD., Ledsam-st. Works, Birmingham. London office: 8, Victoria-st., S.W. (Telegs.: "Belliss, Birmingham." Tel. Nos. 4480 & 4481.) *See advt., page* 533.
BLACKWELL, ROBERT W., & CO., LTD., 14, Gt. Smith-st., S.W. (Telegs.: "Kurkee, London." Teleph. Nos. 766 & 767, Westminster.)
Bomford & Evershed, Ltd., Pershore.
Bow, McLachlan & Co., Ltd., Paisley.
Bridge, D., & Co., Castleton Iron Works, Castleton, Manchester.
Brown, William, Sons & Co., Ltd., Kinning Park, Glasgow.
Carter, J., Sons & Co., Ltd., New Bailey-st., Salford, Manchester.
Clarence Engineering Co., Ltd., 3, Cherry Tree-ct., Aldersgate-st., London, E.C.
Coalbrookdale Co., Ltd., 15 & 16, Rathbone-pl., Oxford-st., W.
Cole, T. & W., Ltd., Park-rd. Ironworks, St. Ann's-rd., Burdett-rd., London, E.
Cort, R., & Son, Ltd., Kennet Iron Works, De Bohun-rd., Reading.
Dashwood & Sons, Ltd., Sycamore Works, Wimbledon, Surrey.
DAVEY, PAXMAN & CO., LTD., Standard Iron Works, Colchester. (Telegrams: "Paxman, Colchester.") *See advt., page* 531.
Davies & Metcalfe, Ltd., Romiley, nr. Manchester.
DAVIES & RANSOME, Caxton House, Westminster, London, S.W. *See advt., page* 14.

Engineers—General—*continued.*

Down, Fred. J., Harpenden, Herts.; & 6, 7 & 8, Crutched Friars, London, E.C. A founder, 1883, of Laing, Wharton & Down.
Eddison, R. W., Steam Plough Works, Leeds.
ELECTRIC & ORDNANCE ACCESSORIES CO., LTD., Cheston-rd., Aston, Birmingham. (Telegs.: "Stellite, Birmingham." Teleph. Nos.: Nat. 176 & 179, East; & P.O. 9 (Trunk Calls).) *See page* 134 *for full entry.*
Electrical Contracts & Maintenance Co., Ltd., Sanctuary House, Westminster, S.W.
Estler Bros., 3, Cross-lane, E.C. Works: South Molton-rd., Victoria Docks, London, E.
Fenton, W., Burton-pl., Hanley.
Gardner, E. A., & Sons, Ltd., Brewer-st., Maidstone.
Gifkins, A.V., & Co., 68, Victoria-st., Westminster, S.W.
Gosling & Gatensbury, Atlas Works, Victoria-rd., Staffs.
Graham, Wm., & Sons, 3, Rochester-row, Westminster, S.W.
Gwyn, A. E. W., Ltd., 75A, Queen Victoria-st., London, E.C.
Haden, G. N., & Sons, Trowbridge.
Handyside, Andrew & Co., Ltd., Britannia Iron Works, Derby; & 104, Queen Victoria-st., London, E.C.
Hastie, J., & Co., Ltd., Nicholson-st., Greenock, N.B.
Head, Wrightson & Co., Thornaby-on-Tees.
Hetherington, J., & Sons, Ancoats, Manchester.
Hughes & Stirling, Bootle, Liverpool; & 7, Arundel-st., London, W.C.
Johnson & Phillips, Ltd., Victoria Works, Charlton, S.O., Kent; & 12, Union-ct., Old Broad-st., E.C. *See advt. inside back cover.*
Johnson, William, & Sons (Leeds), Ltd., Castleton Foundry, Armley, Leeds.
Kennedy, H., & Son, Colerainc, Ireland.
Lancaster & Tonge, Ltd., Pendleton, Manchester.
Lea, Son & Co., Ltd., Pengwerne Works, Shrewsbury (Telegs.: "Lea Son, Shrewsbury." Teleph. No. 60); & St. Mary's Walk, Stafford. (Telegs.: "Lea Son, Stafford." Tel. No. 1 Y.)
Leeds Forge Co., Ltd., Leeds; & 108, Fenchurch-st., & 63, Queen Victoria-st., London, E.C.
Longbotham, R. H., & Co., Ltd., Ings Foundry, Ings-rd., Wakefield.
Manlove, Alliott & Co., Ltd., Bloomsgrove Works, Nottingham; & 41 & 42, Parliament-st., S.W.
MATHER & PLATT, LD., Salford Iron Works, Manchester; & Queen Anne's-chbrs., Westminster, London, S.W. (Telegrams: "Mather, Manchester;" "Sprinkler, London." Nat. Telephone Nos.: 5781, 5782 & 5783, Manchester; & 851 & 852, Westminster.)
Mechan & Sons, Ltd., Scotstoun Iron Works, Glasgow, N.B.
Miles, Woodward & Co., Cardigan Engineering Foundry, Cardigan.

Engineers—General—*continued.*

Millfield Foundry, 114, Millfield, Belfast.

Mumford, A. G., Ltd., Culver-st., Colchester.

Newman, F., & Co., Ltd., Victoria Foundry, Lever-st., Wolverhampton.

Nicholson, W. N., & Sons, Ltd., Newark-on-Trent.

Pal, Michael, & Co., Parliament Mansions, Victoria-st., London, S.W.

Pearn, Frank, & Co., Ltd., West Gorton, Manchester.

Peirson & Co., 17 & 18, St. Dunstan's Hill, Great Tower-st., London, E.C.

Plenty & Son, Ltd., Eagle Iron Works, Newbury, Berks.

Pulsometer Engineering Co., Ltd., The, Nine Elms Ironworks, Reading, Berks. London offices: 61 & 63, Queen Victoria-st., E.C. *See advt., page* 735.

Raybould, E. J., & Co., Ltd., Workington.

Robertson & Orchar, Wallace Foundry, Dundee.

Rushworth & Co., Sowerby Bridge, Yorks.

St. Pancras Ironwork Co., Ltd., 171, Pancras-rd., London, N.W.

Sanderson & Robinson, Ltd., Mansfield, Notts.

Seagers, Ltd., Dartford.

Shore & Son, Albion Foundry, Etruria, Staffs.

Smedley Bros., Ltd., Belper.

Sowden, David, & Sons, Shipley.

Stegmann & Co., Brighton Railway Approach, Clapham Junction, London, S.W.

Stephens, Smith & Co., Ltd., 1, Cuba-st., Millwall, E. (Telegrams: "Reckenzaun, London.")

Stevenson & Co., Ltd., Canal Foundry, Preston, Lancashire.

Sturtevant Engineering Co., Ltd., 147, Queen Victoria-st., London, E.C.

Sykes, Henry, Ltd., 66, Bankside, London, S.E.

TATE, LEONARD G., & CO., 20, Bucklersbury, London, E.C., Room 582 (Telegs.: "Entraining, London." Teleph. No. 881, Bank); & Vineyard House, Richmond.

Taylor Bros. & Co., Ltd., Clarence Iron & Steel Works, Leeds; & Dacre House, Victoria-st., Westminster, S.W.

Tourtel Manufacturing Co., Ltd., 57, Chiswell-st., London, E.C.

Vauxhall Engineering Co., 141, Vauxhall-rd., Liverpool.

Wadham's Engineering Co., 146A, Queen Victoria-st., London, E.C.

Wallsend Slipway & Engineering Co., Wallsend-on-Tyne.

Warner, H., & Son, Lion-st., Ipswich.

WHEATLEY KIRK, PRICE & CO., 46, Watling-st., London, E.C. (Telegs.: "Indices, London." Teleph. Bank 5077); Manchester & Newcastle-on-Tyne. *See advt., page* 422.

Whittaker Bros., Horsforth, Leeds.

Yates & Thom, Ltd., Canal Engineering & Boiler Works, Blackburn.

Engineers—Hydraulic.

F.—Ingénieurs—Hydrauliques.
G.—Ingenieure—Wasserkraft.

BÖVING, JENS ORTEN, & CO., 9½, Union-ct., Old Broad-st., London, E.C.

Causer, W., & Co., 48, St. Paul's-sq., Birmingham.

CHRISTY BROS. & CO., LTD., Broomfield-rd. Works, Chelmsford. (Telegs.: "Engineering, Chelmsford." Teleph. No. 8.)

DRAKE & GORHAM, LTD., 66, Victoria-st., Westminster, London, S.W. Works: 1, Felix-st., S.E. For branches, telegrams & telephone numbers, *see* ALPHABETICAL. *See advt., page* 459.

Easton & Bessemer, Ltd., Whitehall Iron Works, Taunton.

ESCHER, WYSS & CO., 109, Victoria-st., Westminster, London, S.W. *See advt., page* 732.

Hadfield's Steel Foundry Co., Ltd., East Hecla Works, Sheffield; & Norfolk House, Laurence Pountney Hill, London, E.C.

Lambeth Brass & Iron Co., Ltd., 91 & 93, Southwark-st., London, S.E.

Le Grand & Sutcliff, 125, Bunhill-row, London, E.C.

MATHER & PLATT, LD., Salford Iron Works, Manchester; & Queen Anne's-chbrs., Westminster, London, S.W. (Telegrams: "Mather, Manchester;" "Sprinkler, London." Nat. Telephone Nos.: 5781, 5782 & 5783, Manchester; & 851 & 852, Westminster.)

Nell, Frederic, 46, Queen Victoria-st., London, E.C.

Pulsometer Engineering Co., Ltd., Nine Elms Iron Works, Reading, Berks. London offices: Queen Victoria-st., E.C. *See advt., page* 735.

REES ROTURBO MANUFACTURING CO., LTD., Wolverhampton.

Shand, Mason & Co., 75, Upper Ground-st., Blackfriars-rd., London, S.E. (Telegrams: "Shand, London.")

Sharp, Sidney, M.I.MECH.E., M.I.E.E., 13, Victoria-st., Westminster, S.W. (Telegs.: "Vivax, London.")

Steiger, Alph., M.I.C.E., 28, Victoria-st., Westminster, S.W.

Waller, G., & Son, 165, Queen Victoria-st., London, E.C.; & Stroud, Glos.

Williams, A., & Co., 814, Old Ford-rd., Bow, London, E.

Engineers—Lighthouse.

F.—Ingénieurs—Phares.
G.—Ingenieure für Leuchtthürme.

Chance Bros. & Co., Ltd., Smethwick, Birmingham.

Steven & Struthers, Anderston Brass Foundry, Glasgow. (Telegrams: "Bronze, Glasgow." Telephone Nos.: Nat. 133, Argyle; 1775, Corp.)

Stevenson, D. & C., 84, George-st., Edinburgh.

Engineers—Mechanical.

F.—Ingénieurs—Mecaniciens.

G.—Ingenieure—Maschinenbau.

Allchin, Wm., Ltd., Globe Works, Northampton.

Allen, C., & Son, Tone Engineering Works, Taunton.

Apps, A., 433, Strand, London, W.C.

Barber & Coleman, Ltd., 38, King-st. West, Manchester.

Barnett, Rowland. Head office & works: 3, Hanover-sq., Newcastle-on-Tyne. Branch: 17, Dean-st.

Beck, W. H., & Co., 115, Cannon-st., London, E.C. (Teleph. No. 1519, Central.)

BELLISS & MORCOM LTD., Ledsam-st. Works, Birmingham. London office: 8, Victoria-st., S.W. (Telegs.: "Belliss, Birmingham." Tel. Nos. 4480 & 4481.) *See advt., page* 533.

Bennis, Alf. W., M.I.MECH.E., A.I.E.E., Westcliffe, Eccles.

Bentley, Wallace, Royal Insurance-buildings, Crossley-st., Halifax.

Bessemer, H., & Co., Ltd., Bessemer Steel Works, Sheffield.

Bickerton's Engine Syndicate, Ltd., Amberley House, Norfolk-st., Strand, W.C.

Broadbent, T., & Sons, Ltd., Queen-st. South, Huddersfield.

Broom & Wade, Ltd., High Wycombe.

Bumsted & Chandler, Ltd., Cannock Chase Foundry, Hednesford.

Burrell, C., & Sons, Ltd., St. Nicholas Works, Thetford.

Butterley Co., Butterley Iron Works, Derby.

"Certus" Gearless Co., Ltd., Inverness Works, Staines-rd., Hounslow.

CLARKE, CHAPMAN & CO., LTD., Victoria Works, Gateshead-on-Tyne. (Telegrams: "Cyclops, Gateshead.")

Clarke, T. A. W., Ltd., Leicester.

Combe Barbour, Falls Foundry, Belfast.

Danks, John, & Son, Proprietary, Ltd., 32, Union-st., Wednesbury.

Dargue, Griffiths & Co., Ltd., 51, North John-st., Liverpool.

DAVEY, PAXMAN & CO., LTD., Standard Iron Works, Colchester; & 78, Queen Victoria-st., London, E.C. (Telegrams: "Paxman, Colchester;" "Paxman, London." Telephone No. 52, Colchester.) *See advt., page* 531.

DAVIES & RANSOME, Caxton House, Westminster, London, S.W. *See advt., page* 14.

Denison, T., & Co., Arrow Works, West-st., Leeds.

Dennison, Kett & Co., Ltd., Mansion House-chbrs., 11, Queen Victoria-st., E.C.

Donovan & Co., Ltd., Broughton Bridge Iron Works, Salford.

Down, Fred. J., Harpenden, Herts.; & 6, 7 & 8, Crutched Friars, London, E.C. A founder, 1883, of Laing, Wharton & Down.

Engineers—Mechanical—*continued.*

DRAKE & GORHAM, LTD., 66, Victoria-st., Westminster, London, S.W. Works: 1, Felix-st., S.E. For branches, telegrams & telephone numbers, *see* ALPHABETICAL. *See advt., page* 459.

Easton & Bessemer, Ltd., Whitehall Iron Works, Taunton.

Edmiston, Brown & Co., 224, St. Vincent-st., Glasgow.

Edwards, A. E. A., 105, Colmore-row, Birmingham.

EDWARDS AIR PUMP SYND., LTD., THE, 3 & 5, Crown-ct., Old Broad-st., London, E.C.

Efandem Co., Piccadilly Circus Mansions, 67A, Shaftesbury-ave., W.

Electric Lighting & Engineering Co., 137 & 139, Duke-st., Liverpool.

ELLIOTT, J. E., & CO., 12, Broad-st., Oxford; & 23, Bridge-st., Banbury.

Farmer, Sir James, & Sons, Ltd., Adelphi Ironworks, Salford, Manchester.

Fawcett, Preston & Co., Ltd., 17, York-st., Liverpool.

Feneley, G. H., Great Longstone, nr. Bakewell, Derby.

Ferranti Ltd., Hollinwood, Lancs. (Telegs.: "Ferranti, Hollinwood." Teleph. Failsworth 31 & 48); & 78, King-st., Manchester.

Flamwell, T., & Son, Worksop.

Fletcher, George, & Co., Masson & Atlas Works, Derby.

Foxcroft & Duncan, Phœnix Works, Mentmore-ter., London Fields, London, N.E.

Gaster, Leon, 32, Victoria-st., Westminster, S.W. (Telegrams: "Gaster, London." Telephone No. 5215, Westminster.)

Gibbons Bros., Ltd., Dibdale Works, Dudley, Worcs. *See advt., page* 528.

Gifkins, A. V., & Co., 68, Victoria-st., Westminster, S.W.

Gillespie & Co., Leadenhall-bldgs., London, E.C.

Gould, H. T., A.M.I.MECH.E., 17, Quay-st., Cardiff.

Grangemouth Gas Co., Ltd., Grange-st., Grangemouth.

Granger, W. A., Windsor-rd., Palmers Green, London, N.

GREENWOOD & BATLEY, LTD., Albion Works, Leeds; & 16, Great George-st., Westminster, London, S.W. (Telegrams: "Greenwood, Leeds;" & "Outflank, London.") *See advt., page* 20.

Hall, J. P., & Co., Ltd., Blackriding Iron Works, Werneth, Oldham. (Telegrams: "Dynamo, Oldham." Telephone No. 300.)

Harfield & Co., Arundel House, Victoria Embankment, London, W.C.

Harris, J., Langstone-rd., Peverell, Plymouth.

Harrison & Co., Ure Bank Engine Works, Ripon.

Hartnell, Wilson, & Co., Ltd., Volt Works, Kirkstall-rd., Leeds.

Hathorn, Davey & Co., Ltd., Sun Foundry, Leeds.

Engineers—Mechanical—*continued.*

Hawthorns & Co., Leith Engine Works, Leith.
Heberlein Co., Ltd., Suffolk House, Laurence Pountney Hill, E.C.
Hedleys, Ltd., Forward Works, Bell-st., West Bromwich.
Heenan & Froude, Newton Heath Iron Works, Manchester; & 56, Victoria-st., Westminster, London, S.W.
Hopkins, G., & Sons (Clerkenwell), Ltd., 148, 150, 152 & 154, St. John-st., London, E.C.
Hopps, James, Englefield-green, Surrey.
Hyde-Beadle Power System, Ltd., Palace-chbrs., Westminster, S.W.
Kelley, H., & Co., 26, Pall Mall, Manchester.
Kitson & Co., Airedale Foundry, Leeds.
Ledward & Beckett, Ltd., 11, Tothill-st., London, S.W.
Lindley, Herbert, Kendall & Gent, Victoria Works, Gorton, Manchester.
MacLellan, P. & W., Ltd., 129, Trongate, Glasgow; & 108A, Cannon-st., London, E.C.
Macnamara, P. T., Corporation Electricity Works, Limerick.
Magnetic Separator, Ltd., 36, Dale-st., Liverpool.
Massey, W. H., M.I.C.E., M.I.E.E., 25, Queen Anne's Gate, London, S.W. (Telegs.: "Massive, London." Teleph. No. 2528, Victoria.)
Massey, B. & S., Openshaw, Manchester.
MATHER & PLATT, LD., Salford Iron Works, Manchester; & Queen Anne's-chbrs., Westminster, London, S.W. (Telegrams: "Mather, Manchester;" "Sprinkler, London." Nat. Telephone Nos.: 5781, 5782 & 5783, Manchester; & 851 & 852, Westminster.)
Mechanical Appliances Co., Ltd., 48, Great Eastern-st., London, E.C.
Mitchell, J., & Co., Craven House, Kingsway, W.C.
Moreland, Richard, & Son, Ltd., 80, Goswell-rd., London, E.C.
Morris Herbert & Bastert, Ltd., Loughborough, Leicestershire.
Moy, Ernest F., Ltd., Greenland-pl., Camden Town, London, N.W. (Telegrams: "Movedor, London.") *See advt., page* 709.
Munro, Robert W., 103–149, Cornwall-rd., South Tottenham, London, N.
Musker, C. & A. (1901), Ltd., Tue Brook, Liverpool.
Newall Engineering Co., Blackhorse-lane, Walthamstow, London, E.
Noakes, T., & Sons, Ltd., 4 & 5, Osborn-pl., Brick-lane, Whitechapel, London, E.
Northern Engineering & Construction Co., Ltd., 19, Wentworth-pl., Newcastle-on-Tyne.
Nott, J. E., & Co., Ltd., High-st., Brecon; & Middleton-ter., Llandrindod Wells.
Palmers Shipbuilding & Iron Co., Ltd., 60, Fenchurch-st., London, E.C.; & Jarrow.
Patrick & Son, 155, Fulham-rd., London, S.W.
Perry, Thos., & Son, Ltd., Highfield Works, Bilston.

Engineers—Mechanical—*continued.*

PHŒNIX DYNAMO MANUFACTURING CO., LTD. Head offices: Thornbury Works, Bradford. (Telegs.: "Dynamo, Bradford." Teleph. No. 952.) London office: 17, Victoria-st., S.W.
Player, W. & J., Smithfield Works, Sherlock-st., Birmingham.
Pollit & Wigzell, Ltd., Sowerby Bridge, Yorks.
Pontifex & Wood, 176, Salisbury House, London Wall, E.C.
Powell, E., 41, High-st., Tunbridge Wells.
Price & Belsham, 52, Queen Victoria-st., London, E.C.
Prockter & Kenyon, Ltd., 30, Cross-st., Manchester.
Ramsay Bros., Phœnix Works, Whitehaven.
Reeves, A. R., M.I.M.E., 46, Queen Victoria-st., London, E.C.
Ritson, T., Redheugh Bridge-rd., Gateshead-on-Tyne.
Robertson, W. H. A., & Co., Ltd., Lynton Works, Bedford.
Robey & Co., Ltd., Globe Works, Lincoln.
Robinson, John, Regent-st., Kingswood, near Bristol.
Rogers, H. J., M.I.M.E., M.I.E.E., Engineering Works, Watford.
Rose, Downs & Thompson, Ltd., Old Foundry, Cannon-st., Hull.
Russell, H. S., B.SC., M.I.E.E., 225, Gresham House, Old Broad-st., E.C.
Sharp, Sidney, M.I.MECH.E., M.I.E.E., 13, Victoria-st., Westminster, S.W. (Telegs.: "Vivax, London.")
Shepherd & Watney, Greek-st.-chbrs., Leeds.
Sherley-Price, Henry, M.I.MECH.E., M.I.E.E., &c., 46, Watling-st., London, E.C.; Manchester & Newcastle-on-Tyne.
Shill, P. Richardson, & Co., Bassishaw House, 70A, Basinghall-st., London, E.C.
Sinclair, J., 26, Beaver Bank-pl., Edinburgh.
Smillie, Samuel, Havelock Copper Works, 71, Lancefield-street, Glasgow.
Snowball & Co., Prudential-bldgs., Mosley-st., Newcastle-on-Tyne.
Snowdon, Wm., 24, Basinghall-st., Leeds.
Spencer & Co., Ltd., Melksham Foundry, Melksham, Wilts.
Stegmann & Co., Brighton Railway Approach, Clapham Junction, London, S.W.
Stevenson & Parry, 16, South Castle-st., Liverpool.
Stirk, J., & Sons, Ltd., 7, Turney-st., Ovenden-rd., Halifax.
Swallow & Grey, 18, Grainger-st. W., Newcastle-on-Tyne.
Sykes, Joseph, Bros., Acre Mills, Lindley, Huddersfield.
TATE, LEONARD G., & CO., 20, Bucklersbury, London, E.C., Room 582 (Telegs.: "Entraining, London." Teleph. No. 881, Bank); & Vineyard House, Richmond.
Taylor, Wm., of Taylor, Taylor & Hobson, Ltd., Stoughton-st. Works, Leicester.

Engineers—Mechanical—*continued.*

Taylor & Challen, Ltd., 60 & 62, Constitution Hill, Birmingham.
Taylor & Sons, Ltd., Briton Ferry, South Wales.
Thompson, Wm. J., 22, Hart-st., London-rd., Liverpool.
Tyer & Co., Ltd., 16, Ashwin-st., Dalston Junction, London, N.E.; & Metcalfe-st., Carlisle.
Uskside Engineering Co., Ltd., Uskside Iron Works, Newport, Mon.
Walley, J., St. Mary's-bridge Works, Derby.
Walmsley, A. R., Newton Lodge, Links Gate, St. Anne's-on-the-Sea.
Warburton, J. S., 19, Stanwick-rd., West Kensington.
Warners & Son, Phœnix Foundry, Hanley.
Warwick Machinery Co., Ltd. (1908), 83, Cannon-st., London, E.C.
Watson, H., & Sons, High-bridge Works, Walker Gate, Newcastle-on-Tyne.
Westinghouse Brake Co., Ltd., York-road, King's Cross, London, N.
WHEATLEY KIRK, PRICE & CO., 46, Watling-st., London, E.C. (Telegs.: "Indices, London." Teleph. Bank 5077); Manchester & Newcastle-on-Tyne. *See advt., page* 422.
Whessoe Foundry Co., Ltd., Darlington.
Williams, Hal, & Bridges, 3, Salters' Hall-ct., London, E.C. (Telegs.: "Kawaka, London." Teleph. No. 4960, London Wall (2 lines).)
Wood & Robinson, Alma Engineering Works, Sheffield.
Youngs, Ryland-st. Works, Birmingham.

Engineers—Mining.

F.—Ingénieurs—Mines.
G.—Ingenieure—Gruben.

Bowes, Scott & Western, Ltd., Broadway-chbrs., Westminster, London, S.W.
Commans, R. E., M.I.C.E., 6, Queen-st.-pl., E.C.
DAVEY, PAXMAN & CO., LTD., Standard Iron Works, Colchester. (Telegrams: "Paxman, Colchester.") *See advt., page* 531.
DAVIES & RANSOME, Caxton House, Westminster, London, S.W. *See advt., page* 14.
Glover, W. T., & Co., Ltd., Trafford Park, Manchester. (Telegs.: "Cables, Manchester." Tel. Central 7200 (6 lines).) London: Parliament Mansions, Orchard-st., S.W. *See* ALPHABETICAL.
Hadfield's Steel Foundry Co., Ltd., East Hecla Works, Sheffield; & Norfolk House, Laurence Pountney Hill, London, E.C.

Engineers' Stores.

F.—Ingénieurs—Fournisseurs et magasins pour.
G.—Ingenieure—Lagerhaüs.

Andrews, W. Osborne, 27, New Bailey-st., Salford; & 17, Denstone-rd., Irlams o' th' Height, Manchester.
BROWN, HEDLEY O., & CO., Victoria Oil Works, Soap House Wharf, Hull. *See advt., page* 636.

Engineers' Stores—*continued.*

BURNS, J., LTD., 189, Central-st., London, E.C. *See advt., page* 738.
Donovan & Co., 22, Barwick-st., Birmingham.
General Seating Co., Ltd., Northampton Park, Canonbury, London, N.
Miller, I., & Co., 112 & 114, Golden-lane, London, E.C.
Willcox, W. H., & Co., Ltd. Offices: 23, Southwark-st. Warehouse: 32, 34 & 36, Southwark-st. Works: Castle-st., London, S.E. (Telegs.: "Willcox, Southwark-st., London." Teleph. Hop 3740 & 3741.) *See advt. facing inside front cover.*

Engineers—Telegraph.

F.—Ingénieurs—Télégraphie.
G.—Ingenieure—Telegraphenbau.

Anderson, J. S., superintendent Commercial Cable Co., Dundee.
Apps, A., 433, Strand, W.C.
Bolton, W., Eastern Telegraph Co., K13, Exchange-buildings, Liverpool.
BRITISH INSULATED & HELSBY CABLES, LTD. Head office: Prescot, Lancs. Works: Prescot, Helsby & Liverpool. For branch offices, telegraphic & telephonic addresses, *see* ALPHABETICAL ENTRY. *See advt., page* 437.
British L. M. Ericsson Manufacturing Co., Ltd., The, Byron House, 82/85, Fleet-st., London, E.C. Works: Beeston, Notts. *See advt., page* 719.
Budden, R. W., Commercial Cable Co., 18, Moult-st., Manchester.
Bullers, Ltd. London office: 6, Laurence Pountney Hill, E.C. Works: Tipton & Hanley. (Telegs.: "Bullers, London." Teleph. Nos. 4907/8, London Wall. *See advt., page* 15.
Burley, T., Midland Railway, Gloucester.
Carr, G. M., M.I.E.E., Postal Telegraphs, Leeds.
Crawford, Francis C., India Rubber, Gutta Percha & Telegraph Works Co., Ltd., Silvertown, Essex.
Crotch, A., Engineer-in-Chief's Dept., G.P.O. (West), St. Martin's-le-Grand, London, E.C.
Cullen, Jas., Postal Telegraphs, Southern District, Tipperary.
Culley, W. R., I.S.O., Submarine Department, Post Office Telegraphs, Woolwich.
Dearlove, A. L., M.I.C.E., M.I.E.E., 4, Great Winchester-st., London, E.C.
Dering, G. E., M.I.E.E, Lockleys, Welwyn, Herts.
Dutton, S., Telegraph Dept., Relay Station, Haverfordwest.
Dwyer, J. J., Postal Telegraphs, Southern District, Waterford.
Electrical Contracts & Maintenance Co., Ltd., Sanctuary House, Westminster, S.W.
Furze, J., superintendent, Commercial Cable Co., Liverpool.

Engineers—Telegraph—*continued.*

Gray, Matthew Hamilton, Silvertown, Essex.

Groves, J. W., Postal Telegraphs, Manchester.

Harben, Alfred, 101, Charlton-rd., Blackheath, S.E.

HENLEY'S, W. T., TELEGRAPH WORKS CO., LTD. Offices: Blomfield-st., London, E.C. *See advt., page* 22.

Herbert, T. E., A.M.I.E.E., G.P.O., Sheffield.

Hoeltzer, C., Craignethan Lodge, St. John's-rd., Blackheath, S.E.

Holmes, J. R., & Co., "Baltic," 50, Wellington-st., Glasgow; & 7 & 8, Idol-lane, Eastcheap, London, E.C.

Hooper, J. P., M.I.E.E., 31, Lombard-st., London, E.C.

INDIA RUBBER, GUTTA PERCHA & TELEGRAPH WORKS CO., LTD. Head offices: 106, Cannon-st., E.C. Warehouses: 100 & 102, Cannon-st., London, E.C.; & 97, boul. Sebastopol, Paris. Works: Silvertown, Essex; & Persan, France. For telegraphic addresses & branches, *see advt. outside of back cover.*

Johnson, R., Post Office Telegraph Department, Moseley, Birmingham.

Johnson & Phillips, Ltd., Victoria Works, Charlton, S.O., Kent; & 12, Union-ct., Old Broad-st., London, E.C. *See advt. inside back cover.*

Lucas, F. R., Telegraph Construction & Maintenance Co., Ltd., 38, Old Broad-st., London, E.C.; & Greenhall, Forest-row, Sussex.

McIlroy, R., Postal Telegraphs, Cardiff.

McWhirter, Wm., & Son, 212, 214 & 216, Holm-st., Glasgow. (Telegs.: "Testing, Glasgow.")

Peake, R. E., M.I.C.E., 4, Great Winchester-st., London, E.C.

Phillips, E. G., Telegraph Dept., Metropolitan Railway, Bishop's-rd. Station, London, W.

Plummer, T., A.M.I.E.E., G.P.O., Liverpool.

Price, Hugh, Engineering Department, Postal Telegraphs, Cardiff.

Price, J. P., Central Metropolitan District, 57 & 59, Long Acre, W.C.

Saunders, H. A. C., M.I.E.E., Electra House, Finsbury Pavement, London, E.C.

Saunders, J. B., & Co., White Mansion, 91, York-st., Westminster, S.W.; & at Cardiff, Brecon, Welshpool, Swindon, Builth, Portmadoc, Barrow-in-Furness, Barnstaple & Isle of Wight. (Telegs.: "Lightable, London." Teleph. No. 961, Victoria.)

Siemens Bros. & Co., Ltd., Caxton House, Westminster, London, S.W. *See advt., page* 573.

Smith, J., Commercial Cable Co.'s Office, Leith, Scotland.

Stallibrass, E., 27, Cumberland Mansions, Bryanston-sq., W.

Stewart, D., Postal Telegraphs, Glasgow.

Sullivan, Herbert W., M.I.E.E., 19, Great Winchester-st., London, E.C. Works: Liverpool House, Middlesex-st.

Engineers—Telegraph—*continued.*

SYKES, W. R., INTERLOCKING SIGNAL CO., LTD., manufacturers of single needle lock & block, signal & light indicators, galvanometers, large electric bells, & all kinds of electrical signalling instruments for railways. Works: Voltaire-rd., High-st., Clapham, London, S.W. (Telegs.: "Blockish, London." Teleph. No. 325, Battersea.) Glasgow office: Atlantic-chbrs., 45, Hope-st.

Taylor, H. A., M.I.C.E., M.I.E.E., 4, Great Winchester-st., E.C.

Tremain, F., M.I.E.E., Postal Telegraphs, Bristol.

Tyer & Co., Ltd., 16, Ashwin-st., Dalston Junction, London, N.E.; & Metcalfe-st., Carlisle.

Union Cable Co., Ltd., The, Eagle Wharf-rd., London, N. *See advt., page* 4.

Walter's Electrical Manufacturing Co., Ltd., 249 & 251, Kensal-rd., London, W. (P.O. Teleph. No. 653, Western.)

Western Electric Co., Norfolk House, Victoria Embankment, London, W.C. Works: North Woolwich. *See advts., pages* 439 *&* 720.

Engineers—Telephone.

F.—Ingénieurs—Téléphone.

G.—Ingenieure—Telephon.

BRITISH INSULATED & HELSBY CABLES, LTD. Head office: Prescot, Lancs. Works: Prescot, Helsby & Liverpool. For branch offices, telegraphic & telephonic addresses, *see* ALPHABETICAL ENTRY. *See advt., page* 437.

British L. M. Ericsson Manufacturing Co., Ltd., The, Byron House, 82/85, Fleet-st., London, E.C. Works: Beeston, Notts. *See advt., page* 719.

Brown, H. P., Post Office Central, City & Trunk Telephone Exchanges, London.

Brown, Wm., district manager, National Telephone Co., Ltd., 13, Panmure-st., Dundee.

Bullers, Ltd. London office: 6, Laurence Pountney Hill, E.C. Works: Tipton & Hanley. (Telegs.: "Bullers, London." Teleph. Nos. 4907/8, London Wall.) *See advt., page* 15.

Chambers, J. L., A.M.I.E.E., Post Office Telephones, 83, Wellington-st., Glasgow.

Clack, C. W., National Telephone Co., Ltd., Telephone House, Victoria Embankment, E.C.

Cohen, B. S., A.M.I.E.E., National Telephone Co., Telephone House, Victoria Embankment, London, E.C.

Cox-Walkers, Ltd., Darlington. *See advt., page* 15.

Edmonds, J. F., A.M.I.E.E., 4, The Crescent, Barnes, S.W.

ELECTRIC & ORDNANCE ACCESSORIES CO., LTD., Cheston-rd., Aston, Birmingham. (Telegs.: "Stellite, Birmingham." Teleph. Nos.: Nat. 176 & 179, East; & P.O. 9 (Trunk Calls).) *See page* 134 *for full entry.*

Fletcher, Thomas, M.I.E.E., National Telephone Co., Ltd., Victoria Embankment, London, E.C.

Gibson, Mansfield, 82, Pilgrim-st., & Market-lane, Newcastle-on-Tyne.

Engineers—Telephone—*continued.*

Gill, Frank, M.I.E.E., National Teleph. Co., Ltd., Telephone House, Victoria Embankment, E.C.

Gilmour, R., A.I.E.E., National Telephone Co., Ltd., Telephone House, Rose-st., Edinburgh.

Haley, A. C., 8, Exchange-st., Bolton.

HENLEY'S, W. T., TELEGRAPH WORKS CO., LTD. Offices: Blomfield-st., London, E.C. *See advt., page* 22.

Jewson, F. K., A.I.E.E., Western Electric Co., North Woolwich, E.

King & Co., Park-row, Bristol.

McLean, Robert, States Telephone Dept., Guernsey.

Medlyn, W. J., P.O. Telegraphs, Manchester.

PARSONS, E. M., 67, King Edward-st., Hull.

Pease, H. M., A.M.I.E.E., Western Electric Co., North Woolwich, E.

Prout, T. A., A.I.E.E., 19, Courtenay-rd., Waterloo, Liverpool.

Rhodes, T. C., National Telephone Co., Ltd., Bedford.

Saunders, J. B., & Co., White Mansion, 91, York-st., Westminster, S.W.; & at Cardiff, Brecon, Welshpool, Swindon, Builth, Portmadoc, Barrow-in-Furness, Barnstaple & Isle of Wight. (Telegs.: "Lightable, London." Teleph. No. 961, Victoria.)

Shill, P. Richardson, & Co., Bassishaw House, 70A, Basinghall-st., London, E.C.

Siemens Bros. & Co., Ltd., Caxton House, Westminster, London, S.W. *See advt., page* 573.

Stewart, J. D. W., National Telephone Co., Ltd., Telephone-bldgs., Upper Queen-st., Belfast.

Stockens, E. E., National Telephone Co., Ltd., Aberdeen.

TATE, LEONARD G., & CO., 20, Bucklersbury, London, E.C. Room 582 (Telegs.: "Entraining, London." Teleph. No. 881, Bank); & Vineyard House, Richmond.

Union Cable Co., Ltd., The, Eagle Wharf-rd., London, N. (Telegs.: "Cablewell, London." Teleph. No. 975, North.) *See advt., page* 4.

Walsall Electrical Co., Ltd., 57, Bridge-st., Walsall. For branches, telegrams & telephone numbers, *see* ALPHABETICAL.

Webb, Herbert Laws, M.I.E.E., M.AM.I.E.E., 35, Old Queen-st., S.W.

Western Electric Co., Norfolk House, Victoria Embankment, London, W.C. Works: North Woolwich. *See advts., pages* 439 *&* 720.

Wilson, L. E., & Co., 20, Cross-st., Manchester.

Wood, E. J., National Telephone Co., Ltd., 12, Market-pl., Cambridge.

Engineers—Torpedo.

F.—Ingénieurs—Torpédo.

G.—Ingenieure—Torpedo.

BELLISS & MORCOM LTD., Ledsam-st. Works, Birmingham. London office: 8, Victoria-st., S.W. (Telegs: "Belliss, Birmingham." Tel. Nos. 4480 & 4481.) *See advt., page* 533.

Engineers—Ventilating.

F.—Ingénieurs—Ventilation.

G.—Ingenieure—Ventilation.

Acme Ventilating & Heating Co., 39, Tarleton-st., Liverpool.

Aland & Co., 46, Commercial-rd., Lambeth, London, S.E.

Alldays & Onions Pneumatic Engineering Co., Ltd., Gt. Western Works, Sydenham-rd., Birmingham.

BELLISS & MORCOM LTD., Ledsam-st. Works, Birmingham. London office: 8, Victoria-st., S.W. (Telegs.: "Belliss, Birmingham." Tel. Nos. 4480 & 4481.) *See advt., page* 533.

Blackman Export Co., Ltd., 70, Finsbury Pavement, E.C.

Braby, Frederick, & Co., Ltd., Fitzroy Works, 352–364, Euston-rd., London, N.W. For branches, telegraphic addresses & telephone numbers, *see* ALPHABETICAL ENTRY.

ELECTRIC & ORDNANCE ACCESSORIES CO., LTD., Cheston-rd., Aston, Birmingham. (Telegs.: "Stellite, Birmingham." Teleph. Nos.: Nat. 176 & 179, East; & P.O. 9 (Trunk Calls).). *See page* 134 *for full entry.*

Electrical Contracts & Maintenance Co., Ltd., Sanctuary House, Westminster, S.W.

Flitton Engineering Co., 4, New Cross-rd., London, S.E.

Gibbs, J., & Son, 72–78, Duke-st., Liverpool.

Gifkins, A. V., & Co., 68, Victoria-st., Westminster, S.W.

Hayward Bros. & Eckstein, Ltd., 187–193, Union-st., Borough, London, S.E.

Howorth, James, & Co., Ltd., Victoria Works, Farnworth, nr. Bolton or Manchester.

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Matthews & Yates, Ltd., Cyclone Works, Swinton, Manchester.

Ozonair, Ltd., patentees & manufacturers of apparatus for the commercial production of ozone for ventilating, medical & manufacturing purposes, 96, Victoria-st., London, S.W.

PICKARD, F. HATTERSLEY, & CO., Phœnix Engineering Works, Meanwood-rd., Leeds. Makers of patent fans, electric & belt-driven, for ventilating, cooling, &c.

Engineers—Ventilating—*continued.*

Potter, F. W., & Co., Phipp-st., Great Eastern-st., London, E.C. (Telegrams: "Wirework, London." Telephone No. 1169, London Wall.)
Shipley Fan Co., Well Croft, Shipley.
Standard Electrical Co., Lowbridge Iron Works, Keighley, Yorks.
Stott, J., & Co., 158, Queen Victoria-st., London, E.C.
Veritys, Ltd., King-st., Covent Garden, London, W.C.; & Birmingham, Manchester, Glasgow, Bristol, &c. Sole makers of the "Aston" & "Typhoon" fans. *See* ALPHABETICAL SECTION.
Waddle Patent Fan & Engincering Co., Ltd., Llanmore Works, Llanelly.
Walker, Henry, & Son, Ltd., Gallowgate & 55, Westgate-rd., Newcastle-on-Tyne.
WALKER, W. G., & CO., Emery Hill-st., Victoria-st., Westminster, S.W. (Telegs.: "Walker, Emery Hill Street, London." Teleph. No. 1622, Victoria.) *See advts., pages* 485 *&* 590.
Walsall Electrical Co., Ltd., 57, Bridge-st., Walsall. For branches, telegrams & telephone numbers, *see* ALPHABETICAL.
Wilson-Wolf Engineering Co., Ltd., Thornton-rd., Bradford.
Wing Disc Fan (F. W. Potter & Co.), Phipp-st., London, E.C. (Telegrams: "Wirework, London." Telephone No. 1169, London Wall.)

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F.—Graveurs—en général.
G.—Graveure—Allgemeinen.

Bowman, Charles, Ltd. (brass, &c.), 6, King-st., Tower Hill, London, E.
Carmichael, J., & Co., Ltd., Ward Foundry, Dundee.
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G.—Versuchsweise Elektrische Arbeit.

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Benford, J., 38, Kimberley-rd., Nunhead, S.E.
Bray, Markham & Reiss, Ltd., Blackhorse-lane, Walthamstow, London, E.
Burns, J., Ltd., 189, Central-st., London, E.C. *See advt., page* 738.
Electric Fountain Co., Sheffield House, 162, Oxford-st., London, W.
Kirkaldy, D., & Son, 99, Southwark-st., S.E.
Lundberg, A. P., & Sons, Pioneer Electrical Works, 477–487, Liverpool-rd., London, N. (Telegs.: "Lundberg, London." Teleph. No. 1746, North.) Agents: Scotland, Messrs. Yuille & Co., 60, Brown-st., Glasgow; other districts: leading wholesale houses.

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See advt., page 710 *& on lower outside edges.*

MACKIE, W., & CO., 47½, Old-st., London, E.C. (P.O. Teleph. No. 2704, Central.) *See* DYNAMO MANUFACTURERS.
Moy, Ernest F., Ltd., Greenland-pl., Camden Town, London, N.W. (Telegrams: "Movedor, London.") *See advt., page* 709.
Muirhead & Co., Ltd., Elmers End, Kent. (Telegs.: "Muirheads, Elmers-End." Teleph. Bromley 50.) Laboratory: 7, Carteret-st., Queen Anne's Gate, Westminster, S.W. (Telegs.: "Muirheads, London." Teleph. Gerrard 779.) *See advt., page* 619.
Newman, J. E., A.I.E.E., Tilesford, Pershore.
O'Gorman & Baillie, 82, Victoria-st., Westminster, S.W.
Paul, Robt. W., Newton-ave. Works, New Southgate, London, N. Show-rooms: 33, Leicester-sq., London, E.C. *See* ALPHABETICAL. *See advt., page* 617.
TETLEY & CO., Falcon Works, Bedford-st., Greengate, Salford.
Victoria Engineering Co., Ltd., 21½, Market-pl., Wednesbury.

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Bickford Smith & Co., Ltd., Tuckingmill, Camborne, Cornwall.

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Electric Blasting Apparatus Co., Cinderford, Glos.

Exporters & Importers of Electrical & Telegraphic Plant.

F.—Exportateurs et importateurs d'outillage électr. et télégr.

G.—Ausführer & Einführer von Electr. & Telegr. Materialen.

Armstrong & Co., Twickenham, London, S.W.

Boddy, G. M., & Co., 15, Gray's Inn-rd., London, W.C.; & St. Peter's-sq., Manchester. *See advt., page* 646.

Brent & Co., 44, Great Tower-st., London, E.C.

Bullers, Ltd. London office: 6, Laurence Pountney Hill, E.C. Works: Tipton & Hanley. (Telegs.: "Bullers, London." Teleph. Nos. 4907/8, London Wall.) *See advt., page* 15.

Burns, J., Ltd., 189, Central-st., London, E.C. *See advt., page* 738.

DAVIES & RANSOME, Caxton House, Westminster, S.W. *See advt., page* 14.

DONOVAN & CO., 22, Barwick-st., Birmingham.

DORMAN & SMITH, Ordsal Electrical Works, Salford, Manchester. (Telegs.: "Current, Manchester." Teleph. No. 1741, Nat.) Agents—London: Sambidge & Co., 17, Victoria-st., S.W. (Telegs.: "Prefix, London." Teleph. Victoria 530.) Scottish: Andrews & Co., 198A, St. Vincent-st., Glasgow. Birmingham: S. T. Pemberton, Council-chbrs., Colmore-row. Newcastle-on-Tyne: F. T. Hanks, 1, Higham-pl. *See also page* 123 & *advt., page* 21.

Down, Fred. J., Harpenden, Herts.; & 6, 7 & 8, Crutched Friars, London, E.C. A founder, 1883, of Laing, Wharton & Down.

Fry, Miers & Co., 112, Cannon-st., E.C.

Gillespie & Beales, Amberley House, Norfolk-st., Strand, London, W.C.

Glover, W. T., & Co., Ltd., Trafford Park, Manchester. (Telegs.: "Cables, Manchester." Tel. Central 7200 (6 lines).) London: Parliament Mansions, Orchard-st., S.W. *See* ALPHABETICAL.

Harrower, Peter, 134, Bath-st., Glasgow.

Healing, L. J., & Co., Ltd., 84, Fenchurch-st., London, E.C.

Hunter, E. H., & Co., 1, St. Mary Axe, E.C.

Johnson & Phillips, Ltd., Victoria Works, Charlton, S.O., Kent; & 12, Union-ct., Old Broad-st., London, E.C. *See advt. inside back cover.*

Keep Bros., 35 & 36, Great Charles-st., Birmingham.

Kidston, A. G., & Co., 155, Fenchurch-st., London, E.C.

Exporters & Importers of Electrical & Telegraphic Plant—*continued.*

Kilburn, Brown & Co., Orient House, New Broad-st., London, E.C.

Levetus, E. & A., & Co., Stone House, 55 & 56, Basinghall-st., London, E.C.

Lundberg, A. P., & Sons, Pioneer Electrical Works, 477–487, Liverpool-rd., London, N.

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(Telegs.: "Lundberg, London." Teleph. No. 1746, North.) Agents: Scotland, Messrs. Yuille & Co., 60, Brown-st., Glasgow; other districts: leading wholesale houses.

By Royal Warrant to H.M. the King.

See advt., page 710 *& on lower outside edges.*

McWhirter, Wm., & Son, 212, 214 & 216, Holm-st., Glasgow. (Telegs.: "Testing, Glasgow.")

Markt Bros. & Co., 38, Beech-st., Barbican, E.C.

Neville, Williams & Co., 80A, Southwark-st., S.E.

Siemens Bros. Dynamo Works, Ltd., Caxton House, Westminster, London, S.W.

Stegmann & Co., Brighton Railway Approach Clapham Junction, London, S.W.

TUCKER, J. H., & CO., King's-rd., Hay Mills, Birmingham. Branches: London, Glasgow & Belfast. For telegrams & telephone numbers, *see* ALPHABETICAL.

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Behrens, P., 18 & 19, Queenhithe, E.C.

British Central Electrical Co., 17, Hatton Garden, London, E.C.

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CROMPTON & CO., LTD., Salisbury House, London Wall, London, E.C. Works: Chelmsford. *See advt. inside front cover.*

Davidson & Co., Ltd., Sirocco Engineering Works, Belfast.

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Electrical & Engineering Supplies Co., Ltd. (agents), 36 & 37, Upper Thames-st., London, E.C. *See advt., page* 652.

Garty, Bone & Co., Anderston Electrical Works, 61, Bishop-st., Anderston, Glasgow. Radio patent light weight ball bearing fans.

Hall, J. P., & Co., Ltd., Blackriding Iron Works, Werneth, Oldham. (Telegs.: "Dynamo, Oldham." Teleph. No. 300.)

Hartnell, Wilson, & Co., Ltd., Volt Works, Kirkstall-rd., Leeds.

Johnson & Phillips, Ltd., Victoria Works, Charlton, S.O., Kent; & 12, Union-ct., Old Broad-st., London, E.C. *See advt. inside back cover.*

Marples, Leach & Co. *See* Adnil Electric Co., Ltd.

MATHER & PLATT, LD., Salford Iron Works, Manchester; & Queen Anne's-chbrs., Westminster, London, S.W. (Telegrams: "Mather, Manchester;" "Sprinkler, London." Nat. Telephone Nos.: 5781, 5782 & 5783, Manchester; & 851 & 852, Westminster.)

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SUN ELECTRICAL CO., LTD., 118 & 120, Charing Cross-rd., London, W.C. (Telegrams: "Secabilis, London." Telephone Nos. 2291 & 2292, Gerrard.) *See advt., page* 596.

UNION ELECTRIC CO., LTD., Park-st., Southwark, London, S.E. (Telegs.: "Abeam, London." A.B.C. Code. Teleph. Hop. 2970.) *See advt., page* 563.

VERITYS, LTD., King-st., Covent Garden, London, W.C.; & Birmingham, Manchester, Glasgow, Bristol, &c. *See* ALPHABETICAL SECTION.

WALKER, W. G., & CO., Emery Hill-st., Victoria-st., Westminster, S.W. (Telegs.: "Walker, Emery Hill-st., London." Teleph. Victoria 1622.) *See advts., page* 485 *&* BELOW.

Wilson-Wolf Engineering Co., Ltd., Thornton-rd., Bradford.

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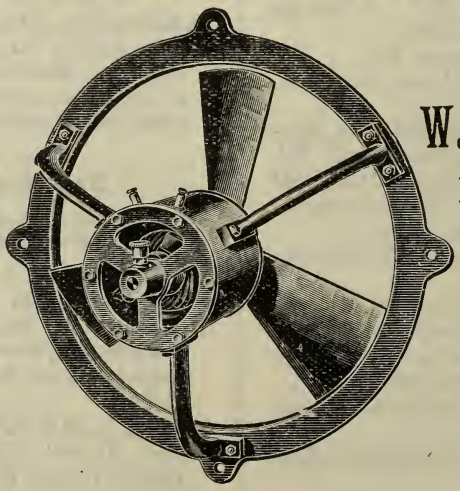

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Hawksley, Wild & Co., Ltd., Sheffield.
HEAP & IOHNSON, 28, Hatton Garden, E.C. *See advt., page* 444.
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Lindsay Burnet & Co., Moore Park Boiler Works, Govan, N.B.
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Willcox, W. H., & Co., Ltd. Offices: 23, Southwark-st. Warehouse: 32, 34 & 36, Southwark-st., London, S.E. Works: Castle-st. (Telegs.: "Willcox, Southwark-st., London." Teleph. Hop 3740 & 3741.) *See advt. facing inside front cover.*

Field Rheostats.

ELECTRIC & ORDNANCE ACCESSORIES CO., LTD., Cheston-rd., Aston, Birmingham. (Telegs.: "Stellite, Birmingham." Teleph. Nos.: Nat. 176 & 179, East; & P.O. 9 (Trunk Calls).) *See page* 134 *for full entry.*
Geipel, Wm., & Co. (late Geipel & Lange), Vulcan Works, 72A, St. Thomas-st., London, S.E. (Telegs.: "Patella, London." Teleph. No. 594, Hop. (2 lines).) *See advt., page* 19.

File Manufacturers.

F.—Limes—fab. de.
G.—Feilenhauer.

Allen, Edgar, & Co., Ltd., Imperial Steel Works, Sheffield; 52, Queen Victoria-st., London, E.C.
Groves, R., & Sons, Ltd., Beehive Wks., Sheffield.
Smith & Sons, 42, 44, 46, 47, 50 & 52, St. John's-sq., London, E.C.
Willcox, W. H., & Co., Ltd. Office: 23, Southwark-st. Warehouse: 32, 34 & 36, Southwark-st., London, S.E. Works: Castle-st. (Telegs.: "Willcox, Southwark-st., London." Teleph. Hop 3740 & 3741.) *See advt. facing inside front cover.*

Filter Manufacturers.

MATHER & PLATT, LD., Salford Iron Works, Manchester; & Queen Anne's-chbrs., Westminster, London, S.W. (Telegrams: "Mather, Manchester;" "Sprinkler, London." Nat. Telephone Nos.: 5781, 5782 & 5783, Manchester; & 851 & 852, Westminster.)
PULSOMETER ENGINEERING CO., LTD., THE, Nine Elms Ironworks, Reading, Berks.; & 61 & 63, Queen Victoria-st., E.C., manufacturers of the "Torrent" Filter. *See advt., page* 735.
Reeves Patent Filters Co., Ltd., 9 & 11, Fenchurch-ave., London, E.C.
WELLS, A. C., & CO., 102, 103 & 104, Midland-rd., St. Pancras, London. Works: Manchester. (Telegrams: "Unbreakable, London;" "Unbreakable, Manchester." Telephone No. 341, North.) *See advt., page* 655.

Fire Engineers—Electric.

F.—Ingénieurs d'électr.—feu.
G.—Electr. Feuer Ingenieure.

Brown, A. C., 7, Queen-sq., Finsbury-ave., E.C.
Electrical Contracts & Maintenance Co., Ltd., Sanctuary House, Westminster, S.W.
Gifkins, A. V., & Co., 68, Victoria-st., Westminster, S.W.
Oatway, G. H., M.I.E.E., 94, Paul-st., E.C.; & 82, Milton Park, Highgate, N.
Pearson Fire Alarm, Ltd., Jewin House, Redcross-st., London, E.C.
PULFORD BROS., LTD. Head office, showroom & works: 108 & 110, Whitechapel, Liverpool.
Shand, Mason & Co., 75, Upper Ground-st., Blackfriars-rd., London, S.E. (Telegrams: "Shand, London.")

Fire Engines (Electric)—Portable & Stationary.

F.—Appareils électr. à feu—portables et fixés.
G.—Electr. Feuer Spritzen—Tragbar & Feststehend.

Merryweather & Sons, 63, Long-acre, W.C.
Shand, Mason & Co., 75, Upper Ground-st., Blackfriars-rd., S.E. (Telegs.: "Shand, London.")

Fire Extinguishing Apparatus.

F.—Extincteurs d'incendie.
G.—Feuer Losch apparate.

Baily, Grundy & Barrett, Ltd., 2, St. Mary's Passage, Cambridge.
HEATHMAN, J. H., & CO., 10, Parsons Green S.W. (Teleph. Putney 150); & 37, Endell-st., W.C.
MATHER & PLATT, LD., Salford Iron Works, Manchester; & Queen Anne's-chbrs., London, S.W. (Telegs.: "Mather, Manchester;" "Sprinkler, London." Nat. Teleph. Nos.: 5781, 5782 & 5783, Manchester; & 851 & 852, Westminster.)
Pearson Fire Alarm, Ltd., Jewin House, Redcross-st., London, E.C.
SHAND, MASON & CO., 75, Upper Ground-st., Blackfriars-rd., London, S.E. (Telegrams: "Shand, London.")
SPAGNOLETTI, LTD., Goldhawk Works, Goldhawk-rd., W.
Wallach Bros., Ltd., Royal London House, Finsbury-sq., London, E.C.

Fire-Proof Paints for Casings, &c.

Griffiths Bros. & Co., Macks-rd., Bermondsey, London, S.E. "Armour" special fire-resisting liquid & paint for casings, cotton covered wires, &c. *See advt., page 18.*
Wallach Bros., Ltd., Royal London House, Finsbury-sq., London, E.C.

Fittings (Electric Light)—Porcelain & China.

Bullers, Ltd. London office: 6, Laurence Pountney Hill, E.C. Works: Tipton & Hanley. (Telegs.: "Bullers, London." Teleph. Nos. 4907/8, London Wall.) *See advt., page 15.*
Lundberg, A. P., & Sons, Pioneer Electrical Works, 477–487, Liverpool-rd., London, N. (Telegs.: "Lundberg, London." Teleph. No. 1746, North.) Agents: Scotland, Messrs. Yuille & Co., 60, Brown-st., Glasgow; other districts: leading wholesale houses.

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See advt., page 710 & on lower outside edges.

Fittings Makers—Electrical.

F.—Fournitures pour l'éclairage électrique.
G.—Armaturen—Electrische.

(*See also* ARTISTIC FITTINGS.)

Accessories Manufacturing Co., Ltd., 11, Dean-st., Oxford-st., London, W.
Adnil Electric Co., Ltd., Adnil-bldg., Artillery-lane, London, E.C.
Anglo-Foreign Manufacturing Co., Ltd., 44, Farringdon-st., E.C.
Apps, A., 433, Strand, London, W.C.
AUTOMATIC STANDARD SCREW CO., HALIFAX. (TELEGS.: "STANDARD." TELEPH. NO. 992.)
Bagués Frères, 30, Little Britain, E.C.
Barnes & Hacker, 113, Suffolk-st., Birmingham.
Barwell, J., Sons & Co., Worcester Works, Clement-st., Birmingham.
Baxendale & Co., Miller-st. Works & Warehouses, Manchester; Hanover-st., Edinburgh; Capel-st., Dublin; & Hood-st., Liverpool.
BAXTER & CAUNTER, 86, Charing Cross-rd., W.C. (Telegs.: "Rapidolite, London." Teleph. Gerrard 3463 & 4.)
Beaten Metal Co., Ltd., 90, Bromsgrove-st., Birmingham.
Bibby, P. H., 34, Livery-st., Birmingham.
Benson, W. A. S., & Co., Ltd., 82 & 83, New Bond-st., London, W.
Billing & Co., 39, Drury-lane, W.C.
Birmingham Guild of Handicraft, Ltd., 45, Great Charles-st., Birmingham. London showroom: 7, Newman-st., Oxford-st., W.
Birmingham Lighting Co., 133–135, Conybere-st., Birmingham.
Booth, S., & Co., Cheapside Works, Birmingham.
Bradbury & Co., Woodcock-st., Birmingham.
Breeden, Joseph, & Co., Ltd., New Mill Works, Fazeley-street, Birmingham.
Carpenter, T. R., 171–179, Bishop-st., Birmingham.
Carter & Aynsley, 54, Bishopsgate-st. Without, E.C.
Chalwin & Edwards, 70, High Holborn, W.C.

Fittings Makers—Electrical—*continued.*

Chesterton, Jones & Co., 44, Littleton-st., Walsall.
Cranmer & Cheshire, 82, Vyse-st., Birmingham.
CROGGON & CO., LTD., 16 & 230, Upper Thames-st., London, E.C.; Colonial-chbrs., Temple-st., Liverpool; & 7, John-st., Glasgow. *See advt., page* 494.
Cross & Co., Apollo Works, Blews-st., Birmingham; & London.
Crouch, J. M., Mason's Hill, Bromley, Kent.
DAVIS, JOHN, & SON (DERBY), LTD., All Saints' Works, Derby. (Telegrams: "Davis, Derby." Telephone No. 240, Derby.)
Davis, Smith & Co., Star Works, Bracebridge-st., Birmingham.
Dickinson, H. H., Church-rd., Formby, Lancs.
Dodd & Oulton, Ltd., 8, Stanley-st., Liverpool.
DORMAN & SMITH, Ordsal Electrical Works, Salford, Manchester. (Telegs.: "Current, Manchester." Teleph. No. 1741, Nat.) Agents—London: Sambidge & Co., 17, Victoria-st., S.W. (Telegs.: "Prefix, London." Teleph. No. 530, Victoria.) Scottish: Andrews & Co., 198A, St. Vincent-st., Glasgow. Birmingham: S. T. Pemberton, Council-chbrs., Colmore-row. Newcastle-on-Tyne: F. T. Hanks, 1, Higham-pl. *See also page* 123 *& advt., page* 21.

Fittings Makers—Electrical—*continued.*

Dugdill, J., & Co., Failsworth, nr. Manchester.
E.M.F., LTD., 10, Ironmonger-lane, London, E.C. Stores: 172-176, King's Cross-rd. Works: 205A, Pentonville-rd.; & Victoria Works, Walsall. *See advt., page* 645.
Eaton, Samuel, & Sons, 66-72, Barr-st., St. George's, Birmingham.
EDISON & SWAN UNITED ELECTRIC LIGHT CO., LTD. Head office, depôt & show-rooms: Ediswan-bldgs., Queen-st., London, E.C.
Edwards & Barnes, 237, Broad-st., Birmingham.
Ehrich & Graetz, 66, Queen-st., E.C.
ELECTRIC & ORDNANCE ACCESSORIES CO., LTD., Cheston-rd., Aston, Birmingham. (Telegs.: "Stellite, Birmingham." Teleph. Nos.: Nat. 176 & 179, East; & P.O. 9 (Trunk Calls).) *See page* 134 *for full entry.*
Electrical Fittings Co., Ltd., 38, Conduit-st., W.
Emanuel, A., & Sons, Ltd., 9, 11 & 13, George-st., Manchester-sq., London, W.
Emery, W., & Co., Albion Brass Works, 167, Arundel-st., Sheffield.
FALK, STADELMANN & CO., LTD., 83, 85 & 87, Farringdon-rd., London, E.C.; & Glasgow.
Fleet Brass Co., Birmingham.

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Fryers, Ltd., 6, Henrietta-st., Cavendish-sq., London, W.

Galloway, M. P., Ltd., 24, Shore, Leith.

Galsworthy Ltd., formerly The London Electrical Fittings Co., Ltd., Roberts Works, Hampstead-rd., N.W. (Telegs.: "Filosofone, London." Teleph. No. 441, North.) Showrooms: 15 & 16, Newman-st., Oxford-st., London, W. (Teleph. No. 6621, Gerrard.) *See advts., pages* 593 *&* 604.

Gardner, R., & Co., 66, Granville-st., Birmingham.

General Electric Co., Ltd. (*G. Byng, chairman*). Head office: 71, Queen Victoria-st., London, E.C. Works: London, Manchester, Birmingham & Witton. For branch offices, telegraphic addresses & telephone numbers, *see* ALPHABETICAL SECTION. *See advts., pages* 446, 707 *&* 734.

Giddings & Dacre, Ltd., Victoria Works, Chapel-st., Salford.

Gooch, F., 38, Eagle-st., W.C.

Graham, C. H., 26, Foundry-st., Brighton.

Gratrix, Samuel, jun., & Bro., Ltd., Alport Works, Quay-st., Deansgate, Manchester.

GREVENER, J. & H., Eldon-st. House, Eldon-st., London, E C.

Hall, J., & Co., 71, Queen-st., E.C.

Fittings Makers—Electrical—*continued.*

HANDS, ALBERT C., Snow Hill, London, E.C. (Telegrams: "Thraldom, London." Telephone No. 1033, Holborn.) Works: Birmingham.

Harper, H., Howard Works, Witton-rd., Aston, Birmingham.

Harquin Pendant Co., 136 & 138, Kentish Town-rd., N.W.

Hart, Son, Peard & Co., Ld., 138 & 140, Charing Cross-rd., London, W.C.; & Grosvenor Works, Birmingham.

Haseler, C., & Son, 94, Bridge-st. W., Birmingham.

Hatton & Co., 18, Bury-st., New Oxford-st., W.C.

HAWKES, O. C., LTD., 69 & 70, Aldersgate-st., London, E.C.; & Globe Works, Bromsgrove-st., Birmingham.

Hayes & Finch, Ltd., Vernon-st., Dale-st., Liverpool.

Hinks, J., & Son, Ltd., Gt. Hampton-st., Birmingham.

Höfler, Ltd., 26A, Soho-sq., W.

Holland House Electrical Co., Ltd., 121A, St. Vincent-st., Glasgow.

Hunt, J. A. H., 233, Bradford-st., Birmingham.

Ingram & Kemp, Ltd., 209, Newtown-row, Birmingham.

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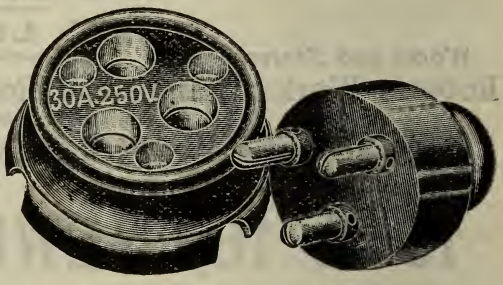

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Joyner, Charles, & Co., Ltd., Icknield-sq., Monument-rd., Birmingham. London office & showrooms: 15, Charterhouse-st., E.C. Glasgow: 130, West Regent-st.

Kemp, Wm., & Co., 159, Buchanan-st., Glasgow.

Kensington Stamping Co., Ltd., Kensington-st., Aston, Birmingham. (Telegs.: "Supports, Birmingham." Teleph. Northern 83.)

Lea & Perrins, Midland Works, Bracebridge-st., Birmingham.

Lee & Co., 57, Theobald's-rd., London, W.C.

Linolite Co., 25, Victoria-st., S.W.

Loach & Clarke, 20–25, Essington-st., Birmingham.

Lockerbie & Wilkinson (Birmingham), Ltd., 2, Exeter-st., Birmingham.

London Electrical Fittings Co., Ltd. *See* Galsworthy Ltd.

Lundberg, A. P., & Sons, Pioneer Electrical Works, 477–487, Liverpool-rd., London, N. (Telegs.: "Lundberg, London." Teleph. No. 1746, North.) Agents: Scotland, Messrs. Yuille & Co., 60, Brown-st., Glasgow; other districts: leading wholesale houses.

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See advt., page 710 & on lower outside edges.

McFarlane, James, 154, St. Vincent-lane, off Douglas-st., Glasgow.

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Telegrams: "OUSEY, LONDON."

Fittings Makers—Electrical—*continued.*

McGeoch, William, & Co., Ltd., Warwick Works, 46, Coventry-rd., Birmingham; & 28, West Campbell-st., Glasgow. (Telegs.: "McGeoch," Glasgow, Birmingham & London. Teleph. Nos.: Nat. 2181 (4 lines); & P.O. 101 & 2.)

Macintyre, J., & Co., Ltd. (porcelains for electric heating apparatus), Washington China Works, Burslem. (Telegs.: "Macintyre, Burslem." Teleph. No. 338, Burslem.) *See advt., page 662.*

McWhirter, Roberts & Co., 249 & 251, East India Dock-road, London, E.

Marsh, Son & Co., Ltd., 15, Gerrard-st., London, W. (Telegs.: "Voltmeters, London." Teleph. No. 2414, Gerrard.) *See advt., page 402.*

Mason, B., & Co., Wharf-st., Aston, Birmingham.

Moffat Bros., 49, West Campbell-st., Glasgow.

Munro, Wm., 185, Trongate, Glasgow.

Oldaker, W., Phœnix Art Metal Works, Trinity-st., Smethwick.

OUSEY, GEO. RYDER, & CO., 7, Bunhill-row, London, E.C. *See advt.* IN PREVIOUS COLUMN.

Perry & Co., 17, Grafton-st., Bond-st., London, W.

Peyton & Peyton, Ltd., Bordesley Works, Bordesley, Birmingham.

Power Appliances Co., 189, Hope-st., Glasgow.

Richardson, C., 214, Vauxhill Bridge-rd., S.W.

Richardson Electrical Co., Ltd., 16, Dorset-st., Baker-st., W.

RIPPINGILLE MANUFACTURING CO., LTD., Plume-st., Aston, Birmingham. *See inset advt., pages 597 & 598.*

Robinson & Hands Electrical Co., Ltd., 54, Barwick-st., Birmingham.

Robson, A. S., 347 & 349, Lord-st., Southport.

Sanders, T., 71, Queen-st., London, E.C.

Schreiber & Neffen (Vienna). Agents: Kiesow & Co., 25, Fore-street-avenue, London, E.C.

Seymour & Co., 1, St. James' Walk, Clerkenwell, E.C.

SIEMENS BROS. DYNAMO WORKS, LTD., CAXTON HOUSE, WESTMINSTER, LONDON, S.W. (TELEGS.: "SIEMBRALOS, LONDON." TELEPH. GERRARD 860.) SHOW-ROOMS AT 39, UPPER THAMES-ST., E.C. (TELEGS.: "SIEMOTOR, LONDON." TELEPH. WALL 6520.)

SIMPLEX CONDUITS, LTD. Head office: Garrison-lane, Birmingham. Works: Maxstoke-st., Birmingham; also at 113, 115, 117, Charing Cross-rd., London, W.C.; 16, Corporation-st., Manchester; & 72A, Waterloo-st., Glasgow; Newcastle; Bristol; & Liverpool. *See advts., pages 455 & 456.*

Singer, J. W., & Sons, Ltd., Frome.

Sitch, W., & Co., Ltd., 48, Berwick-st., London, W.

Smethurst & Co., 72, Duke-st., Grosvenor-sq., W.

Smith, Sydney, & Sons, Ltd., Basford Brass Works, Nottingham.

Smyth, J., & Sons, 17, Wicklow-st., Dublin.

South Western Brass Foundry, Ltd., Mill-st. & Russell-st., Plymouth.

Standard Foundry Co., 58 & 60, Paradise-st., Liverpool.

Fittings Makers—Electrical—*continued.*

Stegmann & Co., Brighton Railway Approach, Clapham Junction, London, S.W.

Summers, Jabez, & Son, 169, London-rd., Kingston-on-Thames.

SUN ELECTRICAL CO., LTD., 118 & 120, Charing Cross-rd., London, W.C. (Telegrams: "Secabilis, London." Telephone Nos. 2291 & 2292, Gerrard.) *See advt.* BELOW.

Taylor, E. D., 6, Rosebery-bldgs., John Bright-st., Birmingham.

Thursfield, C. J., & Co., 42, Clement-st. Parade, Birmingham; & 28, Berners-st., Oxford-st., London, W. (Telegs.: "Electrolier, Birmingham;" "Thursfield, London." Teleph. Nos.: 6267, Birmingham; 6792, P.O. Central.)

Tompkins, J. B., 79, Plashet-lane, East Ham, E.

VERITYS, LTD., King-st., Covent Garden, London, W.C.; & Birmingham, Manchester, Glasgow, Bristol, &c. *See* ALPHABETICAL SECTION.

Wakefield, J., & Sons, Ltd., Birmingham.

Walsall Electrical Co., Ltd., 57, Bridge-st., Walsall. For branches, telegrams & telephone numbers, *see* ALPHABETICAL.

Whitehouse, Wm., & Co., Ltd., Empire Works, Brueton-st., Birmingham; & 59, Holborn Viaduct, London, E.C.

Williams, Owen & David, 402 & 404, Scotland-rd., & 12, 14, & 16, Taylor-st., Liverpool.

Wootton & Morrall, Birmingham.

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F.—Tubes flexibles—Fab. de.
G.—Biegsame Röhren—Fab. von.

OUSEY, GEO. RYDER, & CO., 7, Bunhill-row, London, E.C. *See advt., page* 595.

Willcox, W. H., & Co., Ltd. Office: 23, Southwark-st. Warehouse: 32, 34 & 36, Southwark-st., London, S.E. Works: Castle-st. (Telegs.: "Willcox, Southwark-st., London." Teleph. Hop. 3740 & 3741.) *See advt. facing inside front cover.*

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G.—Biegsame Drähte für elek. Licht.

Adnil Electric Co., Ltd., Adnil-bldg., Artillery-lane, London, E.C.

ARMORDUCT MANUFACTURING CO., LTD., Farringdon-ave., London, E.C.; & 44, Blackett-st., Newcastle-on-Tyne. Works: Bathurst Works, Witton, nr. Birmingham. (Telegs.: "Armorduct," London, Newcastle-on-Tyne, Birmingham. Teleph. Nos.: London, 400, Holborn (2 lines): Newcastle-on-Tyne, 2827, Central; Witton Works, 812, East.) *See advt. on top edges.*

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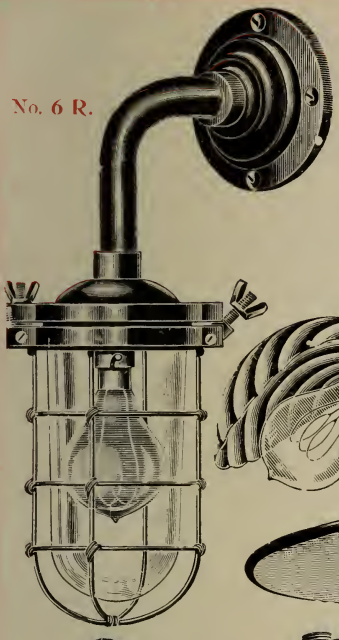

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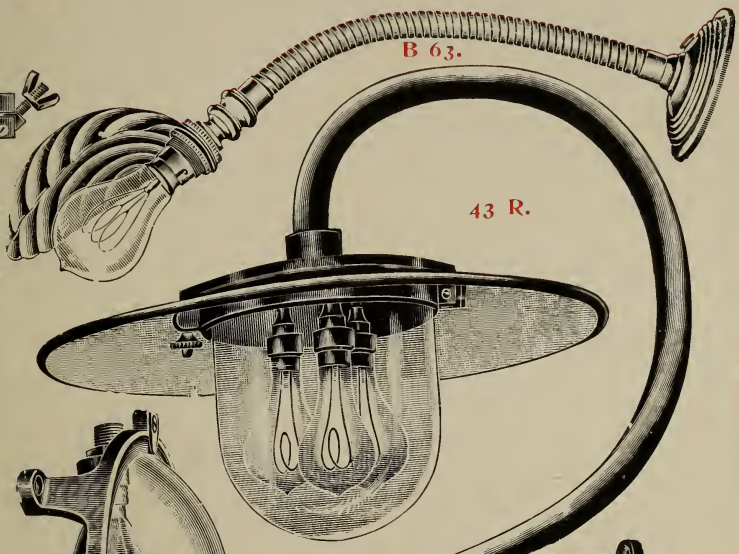

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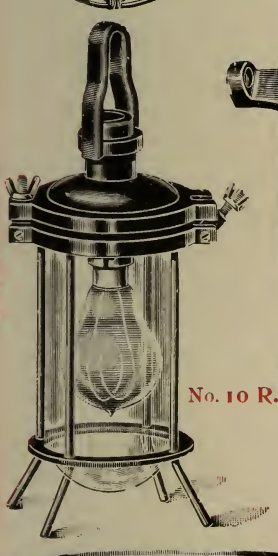
43 R.



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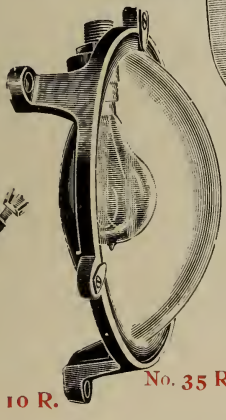

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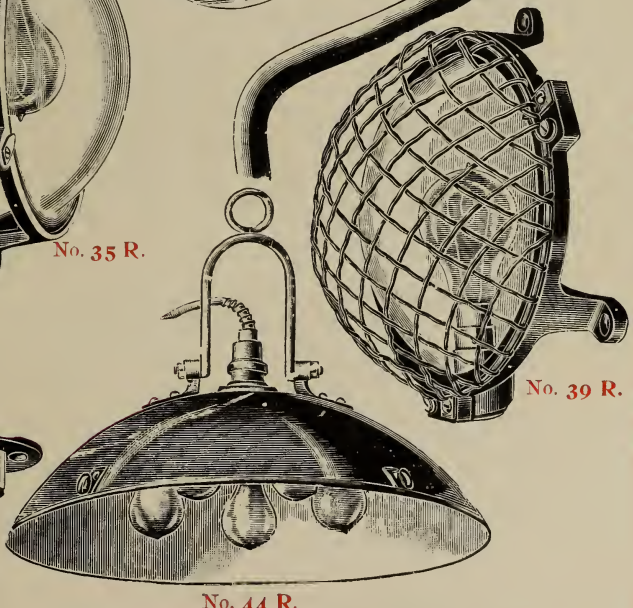

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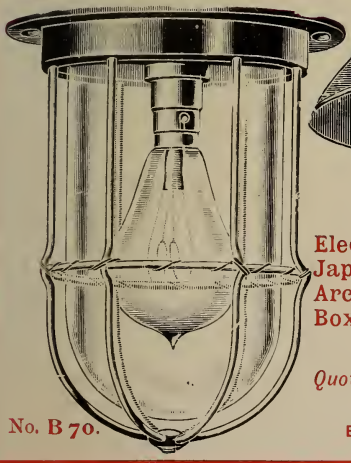

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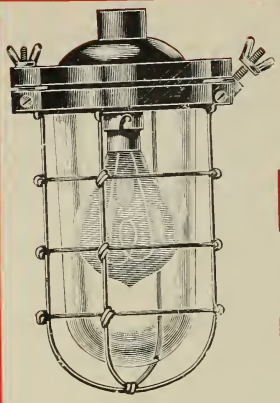

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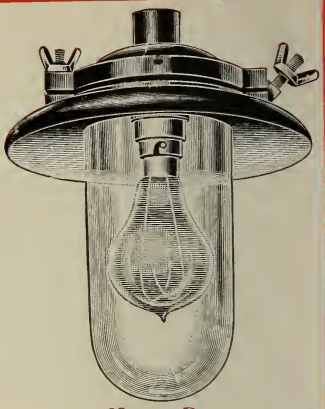

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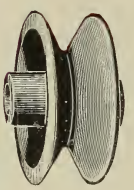

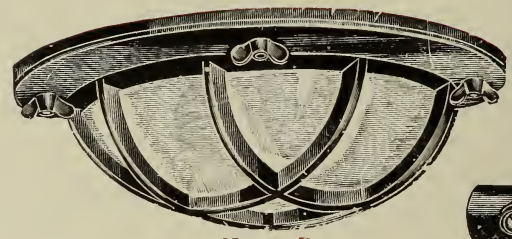

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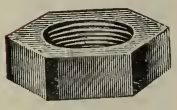

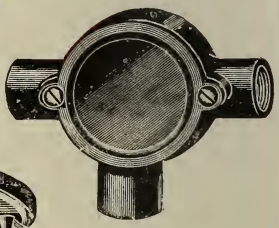

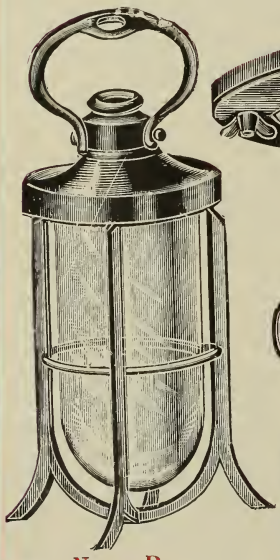

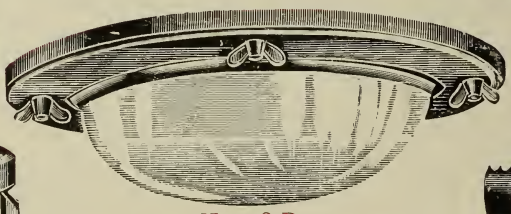

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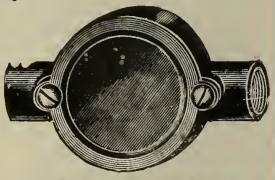

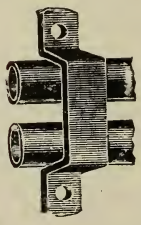

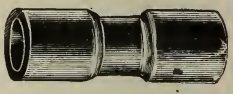

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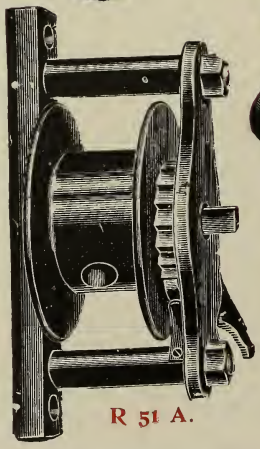
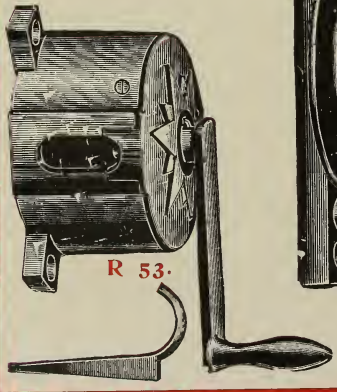
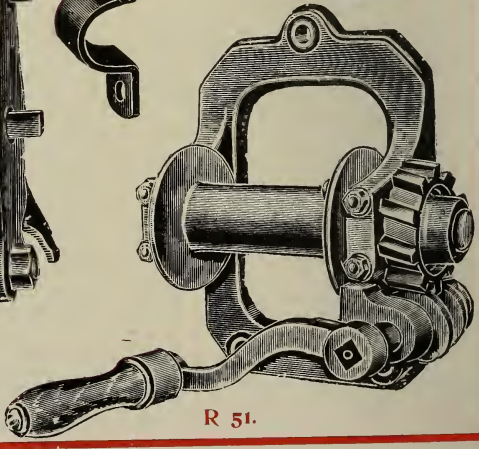


R 51 A.



R 53.



R 51.

OVER.]

Flexible Wires & Cords for Electric Light—*continued.*

Baxendale & Co., Miller-st. Works & Warehouses, Manchester; Hanover-st., Edinburgh; Capel-st., Dublin; & Hood-st., Liverpool.

BRITISH INSULATED & HELSBY CABLES, LTD. Head offices: Prescot, Lancs. Works: Prescot, Helsby & Liverpool. For branch offices, telegraphic & telephonic addresses, *see* ALPHABETICAL ENTRY. *See advt., page* 437.

Callender's Cable & Construction Co., Ltd., Hamilton House, Victoria Embankment, London, E.C. *See advt., page* 441.

DAVIES, KENT & STEWART, LTD., 17, Berners-st., Oxford-st., London, W. (Telegrams: "Polarizing, London." Telephone No. 6150, Gerrard.)

EDISON & SWAN UNITED ELECTRIC LIGHT CO., LTD. Head office, depôt & show-rooms: Ediswan-bldgs., Queen-st., E.C.

GALSWORTHY LTD., formerly The London Electrical Fittings Co., Ltd., Roberts Works, Hampstead-rd., London, N.W. (Telegs.: "Filosofone, London." Teleph. No. 441, North.) Show-rooms: 15 & 16, Newman-st., Oxford-st., London, W. (Teleph. No. 6621, Gerrard.) *See advts., pages* 593 & 604.

Geipel, Wm., & Co. (late Geipel & Lange), Vulcan Works, 72A, St. Thomas-st., London, S.E. (Telegs.: "Patella, London." Teleph. No. 594, Hop. (2 lines).) *See advt., page* 19.

Geoffroy & Delore (A. H. Hunt), 115–117, Cannon-st., London, E.C. (Telegrams: "Keyage, London." Telephone No. 8114, Bank.)

Globe Electric Co., Ltd., 11, Farringdon-ave., London, E.C. Works: Holloway, N. (Telegs.: "Santochimo, London." Teleph. Central 4774.)

TRADE MARK

Glover, W. T., & Co., Ltd., Trafford Park, Manchester. (Telegs.: "Cables, Manchester." Tel. Central 7200 (6 lines).) London: Parliament Mansions, Orchard-st., S.W. *See* ALPHABETICAL.

Hands, Albert C., Snow Hill, London, E.C. (Telegrams: "Thraldom, London." Telephone No. 1033, Holborn.)

HAWKINS BROS. & CO., LTD., Hatfield-st., & Basterfield-st., Golden-lane, London, E.C. *See advt., page* 440.

INDIA RUBBER, GUTTA PERCHA & TELEGRAPH WORKS CO., LTD. Head offices: 106, Cannon-st., E.C. Warehouses: 100 & 102, Cannon-st., London, E.C.; & 97, boul. Sebastopol, Paris. Works: Silvertown, Essex; & Persan, France. For telegraphic addresses & branches, *see advt. outside of back cover.*

Johnson & Phillips, Ltd., Electric Cable Works, Charlton, S.O., Kent. Depôts: Glasgow, Newcastle, &c. *See advt. inside back cover.*

Flexible Wires & Cords for Electric Light—*continued.*

Liverpool Electric Cable Co., Ltd., Vauxhall-rd., Liverpool. (Telegs.: "Concentric, Liverpool." Teleph. No. 6563.) *See advt., page* 440.

LONDON ELECTRIC WIRE COMPY. & SMITHS, LTD., THE, Playhouse-yard, Golden-lane, London, E.C. *See advt. facing inside back cover.*

London Electrical Fittings Co., Ltd. *See* Galsworthy Ltd.

Marples, Leach & Co. *See* Adnil Electric Co., Ltd.

Marsh, Son & Co., Ltd., 15, Gerrard-st., London, W. (Telegs.: "Voltmeters, London." Tel. No. 2414, Gerrard.) *See advt., page* 402.

MIDLAND ELECTRIC WIRE CO., LTD., Leicester. (Telegs.: "Conductors, Leicester." Teleph. No. 45.) *See advt., page* 482.

MULLER, CHAS. A., 10, Arcade, Westgate, Bradford, Yorks.

NORTHERN ELECTRIC WIRE CO., THE, SEDBURGH MILLS, HALIFAX. (TELEGRAMS: "CABLES, HALIFAX." TELEPHONE NO. 127.) *See advt., page* 744.

Pirelli, Ltd., 45, Basinghall-st., London, E.C.

RICKARD, WILLIAM, LTD., Ashbourne-rd. Mills, Derby. (Telegrams: "Rickard, Derby." Telephone No. 18.) *See advt., facing title-page.*

St. Helen's Cable & Rubber Co., Ltd., Warrington.

SAXONIA ELECTRICAL WIRE CO., LTD., Roan Works, Roan-st., Greenwich, S.E.

Siemens Bros. & Co., Ltd., Caxton House, Westminster, London, S.W. *See advt., page* 573.

Smith, H. W., & Co., Lydbrook, Glos.

Union Cable Co., Ltd., The, Eagle Wharf-rd., London, N. *See advt., page* 4.

UNSWORTH, G. B., & SONS, LTD., Green Lane Mills, Derby. (Telegrams: "Unsworth, Derby.") *See advt., page* 742.

Veritys, Ltd., King-st., Covent Garden, London, W.C.; & Birmingham, Manchester, Glasgow, Bristol, &c. *See* ALPHABETICAL SECTION.

WARD & GOLDSTONE, Sampson Works, Salford, Manchester. (Telegs.: "Multum, Manchester." Teleph. Nos. 7084 & 7085, & Trunk line.) Manufacturers of every description of electric light cords in pure & vulcanized rubber for shop, mansion or factory use. Silk, cotton & asbestos braidings. *See advt., page* 756.

Floor Sockets & Plugs—Makers of.

Lundberg, A. P., & Sons, Pioneer Electrical Works, 477–487, Liverpool-rd., London, N. (Telegs.: "Lundberg, London." Teleph. No. 1746, North.) Agents: Scotland, Messrs. Yuille & Co., 60, Brown-st., Glasgow; other districts: leading wholesale houses.

REGD LEKTRIK TRADE MARK

By Royal Warrant to H.M. the King.

See advt., page 710 *& on lower outside edges.*

Flux—for breaking up Rubber.

Massachusetts Chemical Co., 6, 7 & 8, Crutched Friars, London, E.C.

Forced Draught.

ELECTRIC & ORDNANCE ACCESSORIES CO., LTD., Cheston-rd., Aston, Birmingham. (Telegs.: "Stellite, Birmingham." Teleph. Nos.: Nat. 176 & 179, East; & P.O. 9 (Trunk Calls).) *See page* 134 *for full entry.*

Granger, W. A., Windsor-rd., Palmer's Green, London, N.

Forgings.

F.—Forges (outils et objets).
G.—Schmiedewaaren.

Bagnall, J., & Son (*steel*), Langley Forge, Oldbury, nr. Birmingham.
Clark, Hunt & Co., Ltd., 159 & 160, High-st., Shoreditch, London, E.
Fownes Forge & Engineering Co., Ltd., Tyne Dock, Newcastle; & Cardiff.
Hadfield's Steel Foundry Co., Ltd., East Hecla Works, Sheffield; & Norfolk House, Laurence Pountney Hill, London, E.C.
Hale & Son, 179½, Tottenham Court-rd., London, W.
Sharpe, A. H., 8, Eastcheap, E.C.

Foundation for Preventing Vibration.

Down, Fred. J., Harpenden, Herts.; & 6, 7 & 8, Crutched Friars, London, E.C. A founder, 1883, of Laing, Wharton & Down.

Friction Gear Manufacturers.

F.—Engrenage-friction.
G.—Reibungstriebwerk.

Frogs—Tramcar Replacers.

Down, Fred J., Harpenden, Herts.; & 6, 7 & 8, Crutched Friars, London, E.C. A founder, 1883, of Laing, Wharton & Down.

Fuel Economizers—Makers of.

F.—Appareils pour l'Economie du combustible.
G.—Brennstoff Ersparer—Fabr. von.

Carter, J., & Sons, Stalybridge.
Claycross Co., Claycross, Derbyshire.
Furnaces Appliances Co., 9, Bedford-row, W.C.
Goodbrand & Co., Clarence-st., Stalybridge.
GREEN, E., & SON, LTD., Wakefield; also 2, Exchange-st., Manchester; & at London & Glasgow. (Telegrams: "Economiser." Telephone Nos.: Wakefield, 43; Manchester, 1375.)
Johnson Economiser & Smoke Consumer, Ltd., 6, Lloyd's-ave., E.C.
Lowcock, A., Ltd., 69, Lombard-st., London, E.C.
Roberts Bros., Dukinfield, Manchester.

Fuel Experts.

Kershaw, J. B. C., West Lancashire Laboratory, Waterloo, Liverpool.

Furnaces—Electric.

BÖVING, JENS ORTEN, & CO., 9½, Union-ct., Old Broad-st., London, E.C.

Fuse Boards & Distribution Boards—Makers of.

F.—Planches fusées et planches de distribution.
G.—Sicherungs-Brette & Verteilungs-Brette.

Armorduct Manufacturing Co., Ltd., Farringdon-ave., London, E.C.; & 44, Blackett-st., Newcastle-on-Tyne. Works: Bathurst Works, Witton, nr. Birmingham. (Telegs.: "Armorduct," London, Newcastle-on-Tyne, Birmingham. Teleph. Nos.: London, 400, Holborn (2 lines); Newcastle-on-Tyne, 2827, Central; Witton Works, 812, East.) *See advt. on top edges.*

Baxendale & Co., Miller-st. Works & Warehouses, Manchester; Hanover-st., Edinburgh; Capel-st., Dublin; & Hood-st., Liverpool.
British Electric Calibrated Fuse Co., The, Harpenden, Herts.
Donovan & Co., 22, Barwick-st., Birmingham.
DORMAN & SMITH, Ordsal Electrical Works, Salford, Manchester. (Telegs.: "Current, Manchester." Teleph. No. 1741, Nat.) Agents—London: Sambidge & Co., 17, Victoria-st., S.W. (Telegs.: "Prefix, London." Teleph. No. 530, Victoria.) Scottish: Andrews & Co., 198A, St. Vincent-st., Glasgow. Birmingham: S. T. Pemberton, Council-chbrs., Colmore-row. Newcastle-on-Tyne: F. T. Hanks, 1, Higham-pl. *See also page* 123 *& advt., page* 21.
EDISON & SWAN UNITED ELECTRIC LIGHT CO., LTD. Head office, depôt & show-rooms: Ediswan-bldgs., Queen-st., London, E.C.
ELECTRIC & ORDNANCE ACCESSORIES CO., LTD., Cheston-rd., Aston, Birmingham. (Telegs.: "Stellite, Birmingham." Teleph. Nos.: Nat. 176 & 179, East; & P.O. 9 (Trunk Calls).) *See page* 134 *for full entry.*
Ferranti Ltd., Hollinwood, Lancs. (Telegs.: "Ferranti, Hollinwood." Teleph. Failsworth 31 & 48); & 78, King-st., Manchester.
GALSWORTHY LTD., formerly The London Electrical Fittings Co., Ltd., Roberts Works, Hampstead-rd., London, N.W. (Telegs.: "Filosofone, London." Teleph. No. 441, North.) Show-rooms: 15 & 16, Newman-st., Oxford-st., London, W. (Teleph. No. 6621, Gerrard.) *See advts., pages* 593 *&* 604.
Harris, A. E., & Co. (stampers to the trade. Fuse clips in all sizes), 95, Camden-st., Birmingham. *See advt., page* 700.

Fuse Boards & Distribution Boards—Makers of—*continued.*

HODGES, CECIL, & CO., Balfour House, Finsbury Pavement, London, E.C.

JAEGER BROS., 47, Victoria-st., London, S.W. (Telegrams: "Lampaient, London." Telephone No. 5026, Gerrard.) *See advt., page* 594.

London Electrical Fittings Co., Ltd. *See* Galsworthy Ltd.

McCARTNEY, GEO., & CO., BURNSIDE WORKS, CUMNOCK, N.B. Sole makers of the "Orb" Electrical Switchgear, &c., &c.

Mole, M., & Son, 52, Charlotte-st., Birmingham. Fuse clips & other accessories for the trade.

Morris & Lister, Ltd., Carlton Works, Lockhurst-lane, Coventry.

Moy, Ernest F., Ltd., Greenland-pl., Camden Town, London, N.W. (Telegs.: "Movedor, London.") *See advt., page* 709.

REYROLLE, A., & CO., LTD., Hebburn-on-Tyne; & 8, Howland Mews W., Fitzroy-sq., W.

Roberts, Adlard & Co. (slate), 25 & 26, Bermondsey Wall, S.E.; & Queen-st., Cheapside, E.C.

SANDERS, W., & CO., Falcon Electrical Works, Wednesbury.

SPAGNOLETTI, LTD., Goldhawk Works, Goldhawk-rd., W.

TETLEY & CO., Falcon Works, Bedford-st., Greengate, Salford.

TUCKER, J. H., & CO., King's-rd., Hay Mills, Birmingham. Branches: London, Glasgow & Belfast. For telegrams & telephone numbers, *see* ALPHABETICAL.

TELAC
REG. TRADE MARK.

UNION ELECTRIC CO., LTD., Park-st., Southwark, London, S.E. (Telegs.: "Abeam, London." A.B.C. Code. Teleph. Hop. 2970.) *See advt., page* 563.

Veritys, Ltd., King-st., Covent Garden, London, W.C.; & Birmingham, Manchester, Glasgow, Bristol, &c. *See* ALPHABETICAL SECTION.

Fuse Boards & Distribution Boards—Makers of—*continued.*

WALSALL ELECTRICAL CO., LTD., 57, Bridge-st., Walsall. For branches, telegrams & telephone numbers, *see* ALPHABETICAL.

WARD & GOLDSTONE, Sampson Works, Salford, Manchester. (Telegs.: "Multum, Manchester." Teleph. Nos. 7084 & 7085, & Trunk line.) *See advt., page* 756.

Fuse Boxes—House & Main.

Johnson & Phillips, Ltd., Electric Cable Works Charlton, S.O., Kent. Depôts: Newcastle, Glasgow, &c. *See advt. inside back cover.*

TUCKER, J. H., & CO., King's-rd., Hay Mills, Birmingham. Branches: London, Glasgow & Belfast. For telegrams & telephone numbers, *see* ALPHABETICAL.

TELAC
REG. TRADE MARK.

Fuse Manufacturers—Electric.

(*See* CUT-OUTS—MAKERS OF.)

Fuse Switches.

British Electric Calibrated Fuse Co., The, Harpenden, Herts.

Fuse Wire (Electric)—Manufacturers of.

F.—Fil fusible pour Coupe-Circuit—Fab. de.
G.—Draht für Sicherungen.

British Electric Calibrated Fuse Co., The, Harpenden, Herts.

Connolly Bros., Ltd., Blackley Vale Mills, Blackley, Manchester. *See advt., page* 438.

Glover, W. T., & Co., Ltd., Trafford Park, Manchester. (Telegs.: "Cables, Manchester." Tel. Central 7200 (6 lines).) London: Parliament Mansions, Orchard-st., S.W. *See* ALPHABETICAL.

P. ORMISTON & SONS,

79, CLERKENWELL ROAD, E.C.

Registered Telegraphic Address:—"ORMISTON, LONDON."

P.O. Telephone No. 13259, CENTRAL.

FINE WIRE DRAWERS IN ALL METALS. SILK & COTTON COVERERS.

Brass and Copper Manufacturers and Merchants.

FLEXIBLE STEEL WIRE ROPES FOR ARC LAMPS. COPPER & PICTURE CORDS.

High Conducting Copper Wires for Electrical Purposes.

FUSE WIRES IN PURE TIN, LEAD & COPPER. WIRE SPRING MAKERS.

FINE BRASS, RED AND COPPER WIRES FOR WEAVING, PAPER MACHINES, &C., &C.

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For telegraphic addresses & telephone numbers, see Alphabetical Section.

Fuse Wire (Electric)—Manufacturers of —*continued.*

HAWKINS BROS. & CO., LTD., Hatfield-st., & Basterfield-st., Golden-lane, London, E.C. *See advt., page* 440.

LONDON ELECTRIC WIRE COMPY. & SMITHS, LTD., THE, Playhouse-yard, Golden-lane, London, E.C. *See advt. facing inside back cover.*

MIDLAND ELECTRIC WIRE CO., LTD., Leicester. (Telegs.: "Conductors, Leicester." Teleph. No. 45.) *See advt., page* 482.

NORTHERN ELECTRIC WIRE CO., THE, SEDBURGH MILLS, HALIFAX. (TELEGRAMS: "CABLES, HALIFAX." TELEPHONE NO. 127.) *See* WIRE COVERERS—SILK.

Ormiston, P., & Sons, 79, Clerkenwell-rd., E.C. (Telegrams: "Ormiston, London." Telephone No. 13259, Central.) *See advt., page* 601.

Fuses.

British Electric Calibrated Fuse Co., The, Harpenden, Herts.

Galvanic Apparatus Manufacturers & Dealers.

F.—Appareils galvaniques—Fab. et negoc. d'.
G.—Galvanische Apparate—Fab. & Händler von.

Apps, A., 433, Strand, London, W.C.

Galvanized Iron Manufacturers.

F.—Fer galvanisé—Fab. de.
G.—Verzinktes Eisen—Fab. von.

Braby, Frederick, & Co., Ltd., Fitzroy Works, 352 to 364, Euston-rd., London, N.W. For branches, telegraphic addresses & telephone numbers, *see* ALPHABETICAL ENTRY.

Bratt, J. & A., & Sons, Clarence-st., Wolverhampton.

Brownlee, A., & Co., 33 & 34, Anderson Quay, Glasgow.

Lysaght, J., Ltd., St. Vincent's Iron Works, Bristol.

Galvanized Iron Wire Manufacturers.

(*See* WIRE MANUFACTURERS—GALVANIZED IRON.)

Galvanometers—Makers of.

F.—Galvanomètres—Fab. de.
G.—Galvanometer—Fab. von.

CAMBRIDGE SCIENTIFIC INSTRUMENT CO., LTD., Chesterton-rd., Cambridge.

CROMPTON & CO., LTD., Salisbury House, London Wall, London, E.C. Works: Chelmsford. *See advt. inside front cover.*

Galvanometers—Makers of—*continued.*

Geipel, Wm., & Co. (late Geipel & Lange), Vulcan Works, 72A, St. Thomas-st., London, S.E. (Telegs.: "Patella, London." Teleph. No. 594, Hop. (2 lines).) *See advt., page* 19.

INDIA RUBBER, GUTTA PERCHA & TELEGRAPH WORKS CO., LTD. Head offices: 106, Cannon-st., E.C. Warehouses: 100 & 102, Cannon-st., London, E.C.; & 97, boul. Sebastopol, Paris. Works: Silvertown, Essex; & Persan, France. For telegraphic addresses & branches, *see advt. outside of back cover.*

NALDER BROS. & CO., 7, Carteret-st., Queen Anne's Gate, Westminster, S.W. (late 16, Red Lion-st., Clerkenwell). (Telegs.: "Secohm, London." Teleph. Gerrard 779.)

PAUL, ROBT. W., Newton-ave. Works, New Southgate, London, N. Show-rooms: 33, Leicester-sq., London, W.C. *See* ALPHABETICAL. *Single-Pivot, Moving-Coil Portable Galvanometers. See advt., page* 617.

PITKIN, JAMES, & CO., 56, Red Lion-st., Clerkenwell, London, E.C. (Telegs.: "Barograph, London." Teleph. No. 11273, Central.)

UNION ELECTRIC CO., LTD., Park-st., Southwark, London, S.E. (Telegs.: "Abeam, London." A.B.C. Code. Teleph. Hop. 2970.) *See advt., page* 563.

WESTON ELECTRICAL INSTRUMENT CO., Audrey House, Ely-pl., London, E.C. *See advts., pages* 615 *&* 616.

Gas Engines.

(*See* ENGINE MAKERS—GAS.)

Gas Generating Machine Manufacturers.

F.—Gaz—Machines pour la fab. de.
G.—Gaserzeugungs Maschinen.

Capel & Co., "Engine Works," 168, Dalston-lane, London, N.E.

Dowson Economic Gas & Power Co., Ltd., 39, Victoria-st., Westminster, S.W. (Telegs.: "Gaseous, London." Teleph. No. 29, Victoria.)

Griffin Engineering Co., Ltd., Kingston Iron Works, Oldfield Park, Bath.

Gauge Glass Manufacturers.

F.—Calibre—Fab. de verre de.
G.—Wasserstandsgläser—Fab. von.

Bishop, S. & C., & Co., St. Helens, Lancashire.

Butterworth Bros., Ltd., Newton Heath Glass Works, Manchester. (Telegrams: "Glasses, Newton Heath." Telephone No. 22, Failsworth.) T.A. Tubes a speciality.

GUILBERT-MARTIN (BEACON & TITAN), 9, Edmund-pl., London, E.C. (Telegrams: "Photophore, London." Telephone No. 2799, Central.)

Sutcliffe Bros., Grosvenor Works, Godley, Manchester. (Telegs.: "Sutcliffe Bros., Hyde." Teleph. No. 70, Hyde.)

Gauge Glass Manufacturers—*continued.*

Tomey, J., & Sons, Ltd., Catherine-st., Aston, Birmingham. (Telegs.: "Tomey, Birmingham.") (Estab. 1853.)

TOMEY & SONS, Tay Glass Works, Perth. (Telegrams: "Tomey, Perth.")

Treasure, J. B., & Co., Vauxhall-road, Liverpool.

Willcox, W. H., & Co., Ltd. Office: 23, Southwark-st. Warehouse: 32, 34 & 36, Southwark-st., London, S.E. Works: Castle-st. (Telegs.: "Willcox, Southwark-st., London." Teleph. Hop 3740 & 3741.) *See advt. facing inside front cover.*

Gauge Glass Protectors.

Tomey, J., & Sons, Ltd., Catherine-st., Aston, Birmingham. (Telegs.: "Tomey, Birmingham.")

Gauge Makers—Steam.

F.—Calibre—Fab. de.

G.—Aichmaasse—Fab. von.

Hopkinson, J., & Co., Ltd., Britannia Works, Huddersfield; & 165, Queen Victoria-st., London, E.C.

Tomey, J., & Sons, Ltd., Aston, Birmingham. (Telegs.: "Tomey, Birmingham.")

Willcox, W. H., & Co., Ltd. Office: 23, Southwark-st. Warehouse: 32, 34 & 36, Southwark-st., London, S.E. Works: Castle-st. (Telegs.: "Willcox, Southwark-st., London." Teleph. Hop 3740 & 3741.) *See advt. facing inside front cover.*

Gear Shield (Lubricant).

Down, Fred. J., 6, 7 & 8, Crutched Friars, London, E.C.

Gearing & Framework for Motor Carriages.

British Electromobile Co., Ltd. (Carl Oppermann, manager). Garage: 5 & 6, Halkin-st., Hyde Park Corner, S.W. *See advt., page* 651.

Gears & Pinions—Manufacturers of.

F.—Engrénages et Pignons.

G.—Tricbwerke.

Barlow & Chidlaw, Ltd., Pendleton Gear Works, Manchester.

BRITISH INSULATED & HELSBY CABLES, LTD. Head office: Prescot, Lancs. Works: Prescot, Helsby & Liverpool. For branch offices, telegraphic & telephonic addresses, *see* ALPHABETICAL ENTRY. *See advt., page* 437.

BUFFOLINE NOISELESS GEAR CO., LTD., Chapel-st., Levenshulme, nr. Manchester.

BURNS, J., LTD., 189, Central-st., London, E.C. *See advt., page* 738.

Dixon, W. F., & Co., 60, Percival-st., C.-on-M., Manchester.

Gears & Pinions—Manufacturers of—*continued.*

Down, Fred. J., Harpenden, Herts.; & 6, 7 & 8, Crutched Friars, London, E.C. (Wear & noise saving lubricant.) Gear Shield.

Gibbons Bros., Ltd., Dibdale Works, Dudley, Worcs. *See advt., page* 528.

Hamilton, J. B., & Co., Unica Works, Southey-rd., South Tottenham, N.

North, Wilmot, Rodley-lane, & St. Mary's-rd., Sheffield.

Pochin, E. Arnold, & Bro., Trafford Park, Manchester.

POWER PLANT CO, LTD., sole licensees, makers of Wuest Patent MACHINE-CUT DOUBLE HELICAL WHEELS, PATENT LIFT GEARS & "DR" Gears for ratios up to 60: 1, Temple Bar House, Fleet-st., London, E.C. (Telegs.: "Biceps, London." Teleph. No. 10968, Central.) Works: West Drayton. (Telegs.: "Roc, West Drayton." Teleph. No. 22, Yiewsley.)

REID GEAR CO., THE, Linwood, nr. Paisley. Makers of all descriptions of Cut Gears, Rawhide & Paper Pinions for Noiseless Drives.

Ross, R. G., & Son, Greenhead, Glasgow.

Saggerson, T., & Co., West-st., Prescot, Lancs.

Strachan & Henshaw, Ltd., Whitehall Ironworks, Whitehall, Bristol.

Urquhart, Lindsay & Co., Ltd., Blackness Foundry, Dundee.

Wallwork, Henry, & Co., Ltd., Roger-st., Manchester.

Watlington & Co., Moorgate Station-chbrs., London, E.C.; & Trafford Park, Manchester.

General Suppliers of Electrical Requisites.

F.—Fournitures générales électriques.

G.—Bedarfsartikel-Lieferanten.

Anderson, J. & A., 231, St. Vincent-st., Glasgow. Sole agents in Scotland for The Electric & Ordnance Accessories Co., Ltd., switchboards, motors, &c.; Armorduct Manufacturing Co., Ltd., cables & conduits; Ward & Goldstone, flexible & light wires; Premier Accumulator Co.

ANDREWS, W. OSBORNE, 27, New Bailey-st., Salford; & 17, Denstone-rd., Irlams o' th' Height, Manchester.

Apps, A., 433, Strand, London, W.C.

Armorduct Manufacturing Co., Ltd., Farringdon-ave., London, E.C.; & 44, Blackett-st., Newcastle-on-Tyne. Works: Bathurst Works, Witton, nr. Birmingham. (Telegs.: "Armorduct," London, Newcastle-on-Tyne, Birmingham. Teleph. Nos.: London, 400, Holborn (2 lines); Newcastle-on-Tyne, 2827, Central; Witton Works, 812, East.) *See advt. on top edges.*

General Suppliers of Electrical Requisites—*continued.*

Armstrong & Co., Twickenham, London, S.W.

Boddy, G. M., & Co., 15, Gray's Inn-rd., London, W.C.; & St. Peter's-sq., Manchester. *See advt., page* 646.

British Thomson-Houston Co., Ltd. Head office & works: Rugby. Registered office: 83, Cannon-st., London, E.C. Branch offices: 91, Wellington-st., Glasgow; 41, Church-st., Sheffield; Collingwood-bldgs., Newcastle-on-Tyne; Star Life-bldgs., 30, Cross-st., Manchester; Maritime-bldgs., Middlesbrough; 115, Colmore-row, Birmingham; & Greek-st.-chbrs., Leeds. (Telegs.: "Asteroidal." Teleph. Nos.: Head offices, Rugby 54 & 55; London office, London Wall 135 (4 lines).)

Burns, J., Ltd., 189, Central-st., London, E.C. *See advt., page* 738.

Commercial Contract Corporation, Ltd., 58, Lombard-st., London, E.C.

Davies, Kent & Stewart, Ltd., 17, Berners-st., Oxford-st., London, W. (Telegs.: "Polarizing, London." Tel. No. 6150, Gerrard.)

Donovan & Co., 22, Barwick-st., Birmingham.

General Suppliers of Electrical Requisites—*continued.*

DORMAN & SMITH, Ordsal Electrical Works, Salford, Manchester. (Telegs.: "Current, Manchester." Teleph. No. 1741, Nat.) Agents—London: Sambidge & Co., 17, Victoria-st., S.W. (Telegs.: "Prefix, London." Teleph. No. 530, Victoria.) Scottish: Andrews & Co., 198A, St. Vincent-st., Glasgow. Birmingham: S. T. Pemberton, Council-chbrs., Colmore-row. Newcastle-on-Tyne: F. T. Hanks, 1, Higham-pl. *See also page* 123 *& advt., page* 21.

Down, Fred. J., Harpenden, Herts.; & 6, 7 & 8, Crutched Friars, London, E.C. A founder, 1883, of Laing, Wharton & Down.

Drake & Gorham, Ltd. (for arc lamps), 66, Victoria-st., Westminster, London, S.W. Works: 1, Felix-st., S.E. For branches, telegrams & telephone numbers, *see* ALPHABETICAL. *See advt., page* 459.

EDISON & SWAN UNITED ELECTRIC LIGHT CO., LTD. Head office, depôt & show-rooms: Ediswan-bldgs., Queen-st., London, E.C.

Electrical Contracts & Maintenance Co., Ltd., Sanctuary House, Westminster, S.W.

Manufacturers and Suppliers of Electrical Accessories of every Description.

GALSWORTHY LTD.,

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ROBERTS WORKS, HAMPSTEAD ROAD, N.W. (Telephone No. 441, North.)
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ENAM. IRON SHADES,
COUNTER WEIGHTS,
WOOD BLOCKS,
RADIATORS.

ELECTRIC LIGHT FITTINGS.

Telegrams:
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THE WANDSWORTH ELECTRICAL MANUFG. CO., Ltd., BIRMINGHAM.

High-Class Tumbler Switches, Fuseboards, &c., a Speciality.

General Suppliers of Electrical Requisites—*continued.*

Electrical & Engineering Supplies Co., Ltd., 36 & 37, Upper Thames-st., London, E.C. *See advt., page* 652.

Ferabin Lamp & Electrical Accessories Co., 118, Queen Victoria-st., London, E.C.

GALSWORTHY LTD., formerly The London Electrical Fittings Co., Ltd., Roberts Works, Hampstead-rd., N.W. (Telegs.: "Filosofone, London." Teleph. No. 441, North.) Showrooms: 15 & 16, Newman-st., Oxford-st., London, W. (Teleph. No. 6621, Gerrard.) *See advts., page* 593 & OPPOSITE.

GENERAL ELECTRIC CO., LTD. (*G. Byng, chairman*). Head office: 71, Queen Victoria-st., London, E.C. Works: London, Manchester, Birmingham & Witton. For branch offices, telegraphic addresses & telephone numbers, *see* ALPHABETICAL SECTION. *See advts., pages* 446, 707 & 734.

Globe Electric Co., Ltd., 11, Farringdon-ave., London, E.C. Works: Holloway, N. (Telegs.: "Santochimo, London." Teleph. Central 4774.)

TRADE MARK

GLOVER, F. A., & CO., LTD., Vine-st., Clerkenwell-rd., E.C.

GRIFFITHS BROS. & CO., Macks-road, Bermondsey, London, S.E., paints, varnishes, lacquers. Sole makers of "Anti-Sulphuric" Enamel; "Armacell" & "Ohmaline" Insulating Varnishes; "Shaydolite" for colouring incandescent lamps; "Sticoline" Varnish for building mica. *See advt., page* 18.

Hands, Albert C., Snow Hill, E.C. (Telegs.: "Thraldom, London." Teleph. Holborn 1033.)

Hindle, Robert, & Co., Ltd., Sabden, Lancs.

Jacobs, W. & R., 39c, King William-st., E.C.

London Electrical Fittings Co., Ltd. *See* Galsworthy Ltd.

Lundberg, A. P., & Sons, Pioneer Electrical Works, 477-487, Liverpool-rd., London, N. (Telegs.: "Lundberg, London." Teleph. No. 1746, North.) Agents: Scotland, Messrs. Yuille & Co., 60, Brown-st., Glasgow; other districts: leading wholesale houses.

REGº LEKTRIK TRADE MARK

By Royal Warrant to H.M. the King.

See advt., page 710 & *on lower outside edges.*

McGeoch, William, & Co., Ltd., Warwick Works, 46, Coventry-rd., Birmingham; & 28, West Campbell-st., Glasgow. (Telegs.: "McGeoch," Glasgow, Birmingham & London. Teleph. Nos.: Nat. 2181 (4 lines); P.O. 101 & 2.)

Marsh, Son & Co., Ltd., 15, Gerrard-st., London, W. (Telegs.: "Voltmeters, London." Teleph. No. 2414, Gerrard.) *See advt., page* 402.

General Suppliers of Electrical Requisites—*continued.*

PULFORD BROS., LTD. Head office, showroom & works: 108 & 110, Whitechapel, Liverpool.

ROBERTSON ELECTRIC LAMPS, LTD., makers of low & high voltage, fancy, battery & heater lamps of every description, Brook Green Works, Hammersmith, London, W. *See advt., page* 611.

Siemens Bros. Dynamo Works, Ltd., Caxton House, Westminster, London, S.W.

Stegmann & Co., Brighton Railway Approach, Clapham Junction, London, S.W.

United Electric Supply Co., Micklehurst, Mossley, nr. Manchester.

VERITYS, LTD., King-st., Covent Garden, London, W.C.; & Birmingham, Manchester, Glasgow, Bristol, &c. *See* ALPHABETICAL SECTION.

Willcox, W. H., & Co., Ltd. Office: 23, Southwark-st. Warehouse: 32, 34 & 36, Southwark-st., London, S.E. Works: Castle-st. (Telegrams: "Willcox, Southwark-st., London." Teleph. Hop 3740 & 3741.) *See advt. facing inside front cover.*

Generators—Electric.

(*See* DYNAMOS & ALTERNATE CURRENT GENERATORS.)

Glass Blowers for Electrical Purposes.

F.—Verre (Cintreurs de).

G.—Glas-Spanner.

Cossor, A. C., Ltd., 54, Farringdon-rd., E.C.

Ide, T. & W., Glass Works, Glasshouse Fields, Ratcliffe, London, E.; & at Birmingham.

Tomey, J., & Sons, Ltd., Aston, Birmingham. (Telegs.: "Tomey, Birmingham.") (Est. 1853.)

Glassbulbs for Incandescent Lamps.

Gunz, N., 46, Queen Victoria-st., London, E.C. Agent for James Fraser & Co., Lemington-on-Tyne.

Glass Cell (Battery) Manufacturers.

F.—Vases en verre pour piles.

G.—Glaskrüge für Electrische Batterien.

Atlas Carbon & Battery Co., Ltd., 19, Ewer-st., London, S.E. (Telegrams: "Altisonant, London.")

BREFFIT, E., & CO., LTD., 83, Upper Thames-st., London, E.C. Glass jars & cells of all descriptions.

CHLORIDE ELECTRICAL STORAGE CO., LTD., Pendlebury, Manchester; & 39, Victoria-st., Westminster, S.W. For telegraphic addresses & telephone numbers, *see* ALPHABETICAL ENTRY. *See advt., page* 404.

Glass Cell (Battery) Manufacturers—*continued.*

De Grelle, Houdret & Co., 130, London Wall, London, E.C.

Espir, Fernand, 3, East India-ave., London, E.C. *See advts., pages* 662 *&* 751.

Pilkington Bros., Ltd., St. Helens, Lancs.

Pritchetts & Gold, Ltd., 58, Victoria-st., Westminster, S.W.; & Feltham, Middlesex. *See* ALPHABETICAL. *See advt., page* 429.

South Yorkshire Glass Bottle Co., Swinton, nr. Rotherham, Yorks.

Glass Insulators.

Butterworth Bros., Ltd., Newton Heath Glass Works, Manchester. (Telegrams: "Glasses, Newton Heath." Telephone No. 22, Failsworth.)

Glass Lamps.

Butterworth Bros., Ltd., Newton Heath Glass Works, Manchester. (Telegrams: "Glasses, Newton Heath." Telephone No. 22, Failsworth.)

Glass-lined Tubing—Makers of.

Tomey, J., & Sons, Ltd., Aston, Birmingham. (Telegs.: "Tomey, Birmingham.")

Glass Manufacturers.

F.—Vererries—Fab. de.

G.—Glas—Fabr. von.

Bailey, M., & Co., Triumph Works, Church-path, Newington-green, London, N.

Boulton & Mills. London show-rooms: 31, Ely-place, E.C. Works: Stourbridge.

Butterworth Bros., Ltd., Newton Heath Glass Works, Manchester. (Telegs.: "Glasses, Newton Heath." Teleph. Failsworth 22.)

Couper, James, & Sons, City Glass Works, Glasgow.

De Grelle, Houdret & Co., 130, London Wall, London, E.C.

FALK, STADELMANN & CO., LTD., 83, 85 & 87, Farringdon-rd., London, E.C.; & Glasgow.

GUILBERT-MARTIN (Tubes, Rods & Enamels), 9, Edmund-pl., London, E.C. (Telegs.: "Photophore, London." Teleph. No. 2799, Central.)

Kray, Max & Co., 70 & 71, Chiswell-st., London, E.C.

Powell, James, & Son, 26, Tudor-st., London, E.C.

Reich, S., & Co., 23, Aldermanbury, London, E.C.

Tomey, J., & Sons, Ltd., Catherine-st., Aston, Birmingham. (Telegs.: "Tomey, Birmingham.")

Walsh, John Walsh. Works: Lodge-rd., Birmingham.

Glass Supplies—Electrical.

F.—Verrerie élect.—fournisseurs de.

G.—Electr. Glaswaaren—Bezugsquellen von.

Braulik, G., 8, Lambeth Hill, London, E.C.

Butterworth Bros., Ltd., Newton Heath Glass Works, Manchester. (Telegrams: "Glasses, Newton Heath." Telephone No. 22, Failsworth.)

EDISON & SWAN UNITED ELECTRIC LIGHT CO., LTD. Head office, depôt & show-rooms: Ediswan-bldgs., Queen-st., London, E.C. For branches & telegraphic & telephonic addresses, *see* ALPHABETICAL ENTRY.

Hingley, L. & S., & Sons, Wordsley, Staffs.

Tomey, J., & Sons, Ltd., Aston, Birmingham. (Telegs.: "Tomey, Birmingham.")

Globes for Electric Lighting—Makers of.

F.—Globes en verre pour lampes électr.—Fab. de.

G.—Glas Glocken für Electr. Licht.

Arc Lamps, Ltd. (Davy Arc Lamps). Works: Sphere Engineering Works, St. Albans, Herts. (Telegs.: "Voltarcon, St. Albans." Teleph. No. 258, St. Albans.) *See advts., pages* 417 *&* 418.

Arculus, A., & Co., 295, Broad-st., Birmingham.

Baxendale & Co. (merchants), Miller-st. Works & Warehouses, Manchester; Hanover-st., Edinburgh; Capel-st., Dublin; & Hood-st., Liverpool.

Braulik, G., 8, Lambeth Hill, London, E.C.

Butterworth Bros., Ltd., Newton Heath Glass Works, Manchester. (Telegrams: "Glasses, Newton Heath." Telephone No. 22, Failsworth.)

De Grelle, Houdret & Co., 130, London Wall, London, E.C.

GENERAL ELECTRIC CO., LTD. (*G. Byng, chairman*). Head office: 71, Queen Victoria-st., London, E.C. Works: London, Manchester, Birmingham & Witton. For branch offices, telegraphic addresses & telephone numbers, *see* ALPHABETICAL SECTION. *See advts., pages* 446, 707 *&* 734.

Gilbert, A., & Co., 82, Turnmill-st., London, E.C.

Globe Electric Co., Ltd., 11, Farringdon-ave., London, E.C. Works: Holloway, N. (Telegs.: "Santochimo, London." Teleph. Central 4774.)

TRADE MARK

Holophane Glass Co., 12, Carteret-st., Westminster, S.W.

Johnson & Phillips, Ltd., Victoria Works, Charlton, S.O., Kent; & 12, Union-ct., Old Broad-st., E.C. *See advt. inside back cover.*

Kiesow & Co., 25, Fore-st.-ave., London, E.C. Agents for Schreiber & Neffen, Vienna.

Globes for Electric Lighting—Makers of—*continued.*

Northwood, J. & J., Glass Works, Wordsley, near Stourbridge.

Percival, Vickers & Co., Ltd., Glass Works, Jersey-st., Manchester.

Quitmann, Carl, 3, Cloth-st., Long-lane, E.C.

ROBERTSON ELECTRIC LAMPS, LTD., makers of low & high voltage, fancy, battery & heater lamps, of every description, Brook Green Works, Hammersmith, London, W. *See advt., page* 611.

Shaw, E. J., & Co., Astral Works, Hatherton-st., Walsall.

Smith, J. & W. B., 17–23, Farringdon-rd., E.C.

Stevens, Jas., & Son, Victoria Glass Works, Dartmouth-st., Birmingham.

Syer, Ernest (factor), 101, Hatton Garden, London, E.C.

Thompson, R. B., & Co., 54, West Howard-st., Glasgow.

UNION ELECTRIC CO., LTD., Park-st., Southwark, London, S.E. (Telegs.: "Abeam, London." A.B.C. Code. Teleph. Hop. 2970.) *See advt., page* 563.

Glow Lamps.

(*See* INCANDESCENT LAMPS—ELECTRIC.)

Government Officials.

BOARD OF TRADE. President, The Right Hon. Winston Churchill, M.P. Parliamentary Secretary, H. J. Tennant, M.P. Permanent Secretary, Sir Hubert Llewellyn Smith, K.C.B. Assistant Secretary Railway Department (includes tramways), W. F. Marwood. Chief Inspecting Officer of Railways, Lieut.-Colonel H. A. Yorke, R.E., C.B. Inspecting Officers of Railways, Lieut.-Colonel P. G. Von Donop, R.E., Major J. W. Pringle, R.E., Lieut.-Col. E. Druitt, R.E. Assistant Secretary Harbour Department (includes electric lighting & power), Hon. T. H. W. Pelham, C.B. Clerk in Charge of Electric Lighting Work, M. J. Collins. Electric Adviser, A. P. Trotter. Electrician, J. Rennie.

HOME OFFICE, Whitehall, S.W. Principal Secretary of State for Home Affairs, The Rt. Hon. Herbert Gladstone, M.P. Factory Department: H.M. Chief Inspector, A. Whitelegge, C.B., M.D.; Deputy-Chief Inspectors, S. H. Knyvett, I.S.O., & H. M. Robinson; Electrical Inspector, G. Scott Ram, M.I.E.E.; H.M. Chief Inspector of Mines, R. A. S. Redmayne; H.M. Electrical Inspector of Mines, R. Nelson.

INDIA OFFICE, Whitehall, S.W. Secretary of State, The Rt. Hon. Viscount Morley of Blackburn, O.M. Under Secretaries of State, Sir Arthur Godley, G.C.B.; & The Rt. Hon. T. R. Buchanan, M.P. Director-in-Chief of the Indo-European Telegraph Department, H. A. Kirk. Accountant-General, Walter Badsch. Director-General of Stores, E. Grant Burls, C.S.I. Consulting Engineer for State Railways, Sir A. M. Rendel, K.C.I.E.

Governor Makers.

F.—Régulateurs—Fab. de.

G.—Regulatoren—Fab. von.

Hartung, Kuhn & Co., 49, Newgate-st., London, E.C. (Telegs.: "Cecampart,London." Teleph. No. 3497, Central.)

Governor Makers—Electric.

F.—Régulateurs élec.—Fab. de.

G.—Regulator-Fabrikanten—Elek.

Apps, A., 433, Strand, London, W.C.

Hartnell, Wilson, & Co., Ltd., Volt Works, Kirkstall-rd., Leeds.

"Gral" Metal Filament Lamps.

Armorduct Manufacturing Co., Ltd., Farringdon-ave., London, E.C.; & 44, Blackett-st., Newcastle-on-Tyne. Works: Bathurst Works, Witton, nr. Birmingham. (Telegs.: "Armorduct," London, Newcastle-on-Tyne, Birmingham. Teleph. Nos.: London, 400, Holborn (2 lines); Newcastle-on-Tyne, 2827, Central; Witton Works, 812, East.) *See advt. on top edges.*

Grinding Machines—Electrical.

Armorduct Manufacturing Co., Ltd., Farringdon-ave., London, E.C.; & 44, Blackett-st., Newcastle-on-Tyne. Works: Bathurst Works, Witton, nr. Birmingham. (Telegs.: "Armorduct," London, Newcastle-on-Tyne, Birmingham. Teleph. Nos.: London, 400, Holborn (2 lines); Newcastle-on-Tyne, 2827, Central; Witton Works, 812, East.) *See advt. on top edges.*

Gutta-Percha Wires & Cables.

F.—Fil et cables—Gutta-Percha.

G.—Gutta-Percha Draht und Kabel.

(*See also* WIRE COVERERS.)

Armorduct Manufacturing Co., Ltd., Farringdon-ave., London, E.C.; & 44, Blackett-st., Newcastle-on-Tyne. Works: Bathurst Works, Witton, nr. Birmingham. (Telegs.: "Armorduct," London, Newcastle-on-Tyne, Birmingham. Teleph. Nos.: London, 400, Holborn (2 lines); Newcastle-on-Tyne, 2827, Central; Witton Works, 812, East.) *See advt. on top edges.*

Cort, Arthur, & Co., 303½, Camberwell-rd., London, S.E. Factory: Bullace Works, Camberwell.

GREVENER, J. & H., Eldon-st. House, Eldon-st., London, E.C.

Gutta-Percha Wires & Cables—*continued.*

INDIA RUBBER, GUTTA PERCHA & TELEGRAPH WORKS CO., LTD. Head offices: 106, Cannon-st., E.C. Warehouses: 100 & 102, Cannon-st., London, E.C.; & 97, boul. Sebastopol, Paris. Works: Silvertown, Essex; & Persan, France. For telegraphic addresses & branches, *see advt. outside of back cover.*

Liverpool Electric Cable Co., Ltd., Vauxhall-rd., Liverpool. (Telegrams: "Concentric, Liverpool." Teleph. No. 6563.) *See advt., page* 440.

NORTHERN ELECTRIC WIRE CO., THE, SEDBURGH MILLS, HALIFAX. (TELEGRAMS: "CABLES, HALIFAX." TELEPHONE NO. 127.) *See advt., page* 744.

Siemens Bros. & Co., Ltd., Caxton House, Westminster, London, S.W. *See advt., page* 573.

Hack Saws (Portable).

Down, Fred. J., 6, 7 & 8, Crutched Friars, London, E.C.

Heating & Cooking Apparatus Makers —Electric.

F.—Appareils elec. de chauffage et de cuisine.—Fab. d'.
G.—Heizungs-und Koch-Apparaten (Elek.)—Fabr. von.

Bastick, J., 40, Chestnut-st., Southport, Lancs.

BRITISH PROMETHEUS CO., LTD., Salop Street Works, Highgate, Birmingham. London show-rooms: 27, Ely-pl., E.C.

Dowsing, H. J., M.I.E.E., 24, Budge-row, Cannon-st., London, E.C.

Dowsing Radiant Heat Co., Ltd., 24, Budge-row, Cannon-st., London, E.C. Patentees of Dowsings Luminous Electric Radiator.

ELECTRIC & ORDNANCE ACCESSORIES CO., LTD., Cheston-rd., Aston, Birmingham. (Telegs.: "Stellite, Birmingham." Teleph. Nos.: Nat. 176 & 179, East; & P.O. 9 (Trunk Calls).) *See page* 134 *for full entry.*

Falk, Stadelmann & Co., Ltd., 83, 85 & 87, Farringdon-rd., London, E.C.; & Glasgow.

General Electric Co., Ltd. (*G. Byng, chairman*). Head office: 71, Queen Victoria-st., London, E.C. Works: London, Manchester, Birmingham & Witton. For branch offices, telegraphic addresses & telephone numbers, *see* ALPHABETICAL SECTION. *See advts., pages* 446 *&* 707, *& also* UTENSILS—ELECTRIC.

Gillespie & Beales, Amberley House, Norfolk-st., Strand, London, W.C.

HAWKES, O. C., LTD., 69 & 70, Aldersgate-st., London, E.C.; & Globe Works, Bromsgrove-st., Birmingham. Patentees & manufacturers of the X.L. Patent Induced Draught System of Electric Heating.

Isenthal & Co., 85, Mortimer-st., London, W.

Phœnix Electric Heating Co., Ltd., 17, Morwell-st., Tottenham Court-rd., W.C.

Heating & Cooking Apparatus Makers —(Electric)—*continued.*

PREMIER ELECTRIC HEATERS, LTD., manufacturers of electric heating & cooking appliances of all kinds, for domestic, scientific & commercial purposes. Electric heating engineers, Ashley-st., Birmingham. (Telegs.: "Fahrenheit." Teleph. Midland 981.)

SPAGNOLETTI, LTD., Goldhawk Works, Goldhawk-rd., London, W. "Therol" apparatus.

Sweet, Andrew, A.I.E.E., 100 & 102, Hampstead-rd., & 41, George-st., N.W.

VERITYS, LTD., King-st., Covent Garden, London, W.C.; & Birmingham, Manchester, Glasgow, Bristol, &c. *See* ALPHABETICAL SECTION.

Heating Engineers.

WALKER, W. G., & CO., Emery Hill-st., Victoria-st., Westminster, S.W. (Telegs.: "Walker, Emery Hill Street, London." Teleph. No. 1622, Victoria.) *See advts., pages* 485 *&* 590.

Heating Experts—Electrical.

BRITISH PROMETHEUS CO., LTD., Salop Street Works, Highgate, Birmingham. London show-rooms: 27, Ely-pl., E.C.

DOWSING, H. J., M.I.E.E., 24, Budge-row, Cannon-st., London, E.C.

Dowsing Radiant Heat Co., Ltd., 24, Budge-row, Cannon-st., London, E.C.

HAWKES, O. C., LTD., 69 & 70, Aldersgate-st., London, E.C.; & Globe Works, Bromsgrove-st., Birmingham.

High Pressure Steam Mains.

SPENCER, JOHN, LTD., Globe Tube Works, Wednesbury; & 14, Great St. Thomas Apostle, London, E.C. (Telegrams: "Tubes, Wednesbury;" "Tubes, London.") High pressure steam mains with welded flanges.

High Speed Engine Makers.

(*See* ENGINE MAKERS—HIGH SPEED.)

High Voltage Supplies.

Lundberg, A. P., & Sons, Pioneer Electrical Works, 477–487, Liverpool-rd., London, N. (Telegs.: "Lundberg, London." Teleph. No. 1746, North.) Agents: Scotland, Messrs. Yuille & Co., 60, Brown-st., Glasgow; other districts: leading wholesale houses.

REGD LEKTRIK TRADE MARK

By Royal Warrant to H.M. the King.

See advts., page 710 *& on lower outside edges.*

Hoisting Machinery—Electric.

Carrick & Ritchie, Ltd., Waverley Engineering Works, Abbeyhill, Edinburgh. By hand, steam, power or electricity.

CLARKE, CHAPMAN & CO., LTD., Victoria Works, Gateshead-on-Tyne. (Telegrams: "Cyclops, Gateshead.")

Switch Gear & Apparatus for.

Andrews, W. Osborne, 27, New Bailey-st., Salford; & 17, Denstone-rd., Irlams o' th' Height, Manchester.

Hot Air Engines.

(*See* Engines—Hot Air.)

House Service Fuse Boxes.

Johnson & Phillips, Ltd., Electric Cable Works, Charlton, S.O., Kent. Depôts: Newcastle, Glasgow, &c. *See advt. inside back cover.*

House Transformers.

Braulik, G., 8, Lambeth Hill, London, E.C.

Electrical Contracts & Maintenance Co., Ltd., Sanctuary House, Westminster, S.W.

Ignition Accumulator Makers.

F.—Accumulateurs d'allumage.
G.—Zündung—Accumulatoren.

Armstrong & Co., Twickenham, London, S.W. Largest Makers. Hundreds of Sizes.

Benford, J., 38, Kimberley-rd., Nunhead, London, S.E.

CHLORIDE ELECTRICAL STORAGE CO., LTD., Pendlebury, Manchester; & 39, Victoria-st., Westminster. For telegraphic addresses & telephone numbers, *see* Alphabetical Entry. *See advt., page* 404.

City Ignition Co., 14, Spencer-st., Goswell-rd., E.C.

Hobson, H. M., Ltd., 29, Vauxhall Bridge-rd., London, S.W.

Longstreth's, Ltd., 190, Queen's-rd., Battersea, London, S.W.

Plutte, Scheele & Co., 18 & 19, Queenhithe, London, E.C.

Vandervell, C. A., & Co., Warple Way, Acton Vale, London, W. C.A.V. Accumulators. Equipment Manufacturers.

Illuminators.

Imperial Lighting Co., 157, Blackfriars-rd., London, S.E. (Telegs.: "Implitico, London." Teleph. Central 3161.)

Incandescent Lamp Mfrs.—Electric.

F.—Lampes électriques à incandescence—Fab. de.
G.—Elektrische Gluhlampen.

Adnil Electric Co., Ltd., Adnil-bldg., Artillery-lane, London, E.C.

Allen, Laurence E., & Co., Ltd., 56 & 57, Aldermanbury, E.C.

Anderson, F. L., 1, Furnival-st., London, E.C.

Armorduct Manufacturing Co., Ltd., Farringdon-ave., London, E.C.; & 44, Blackett-st., Newcastle-on-Tyne. Works: Bathurst Works, Witton, nr. Birmingham. (Telegs.: "Armorduct," London, Newcastle-on-Tyne, Birmingham. Teleph. Nos.: London, 400, Holborn (2 lines); Newcastle-on-Tyne, 2827, Central; Witton Works, 812, East.) *See advt. on top edges.*

Baxendale & Co. (merchants), Miller-st. Works & Warehouses, Manchester; Hanover-st., Edinburgh; Capel-st., Dublin; & Hood-st., Liverpool.

BODDY, G. M., & CO., 15, Gray's Inn-rd., London, W.C.; & St. Peter's-sq., Manchester. *See advt., page* 646.

Bonnella, D. H., & Son, Ltd., 58 & 60, Mortimer-st., W. Works: Kirby-st., Hatton Garden, E.C. (Telegs.: "Boncinello, London." Teleph. Gerrard 1882 & 9784.) *See advt., page* 626.

Braulik, G., 8, Lambeth Hill, London, E.C.

BRISTOL ELECTRIC SAFETY LAMP WORKS. Offices & works: 40, Great Smith-st., S.W. *See advt., page* 405.

BRITISH ECONOMICAL LAMP CO., THE, Kingsway House, Kingsway, London, W.C.

British Tungsten Lamp Co., Ltd., Huyton Quarry, nr. Liverpool.

British Westinghouse Electric & Manufacturing Co., Ltd., The, Westinghouse Works, Trafford Park, Manchester.

BRUSH ELECTRICAL ENGINEERING CO., LTD., THE. London office: Electrical Federation Offices, Kingsway, W.C. Works: Loughborough, Leicestershire. *See* Alphabetical.

BRYANT TRADING SYND., LTD., Clarendon Works, Horsell-rd., Highbury, London, N.

Commercial Electric Co., Wellington-chbrs., 2, Victoria-st., Manchester.

CRYSELCO, LTD., Kempston Works, Bedford. *See advt., page* 612.

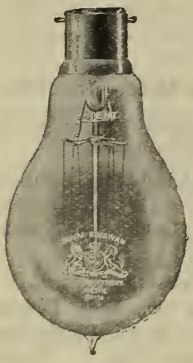
De Grelle, Houdret & Co., 130, London Wall, London, E.C.

Donovan & Co., 22, Barwick-st., Birmingham.

E.M.F., LTD., 10, Ironmonger-lane, E.C. Stores: 172–176, King's Cross-rd. Works: Victoria Works, Walsall; & 205a, Pentonville-rd. *See advt., page* 645.

Incandescent Lamp Manufacturers—Electric—*continued.*

EDISON & SWAN UNITED ELECTRIC LIGHT CO., LTD. Head office, depôt & show-rooms: Edi-swan-bldgs., Queen-st., London, E.C.



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Falk, Stadelmann & Co., Ltd., 83, 85 & 87, Farringdon-rd., E.C.; & Glasgow.

Incandescent Lamp Manufacturers—Electric—*continued.*

Gabriel Lamp Co., 15, Victoria-st., London, S.W.

Geipel, Wm., & Co. (late Geipel & Lange), Vulcan Works, 72A, St. Thomas-st., London, S.E. (Telegs.: "Patella, London." Tel. No. 594, Hop. (2 lines).) Sole agents for Fabius Henrion, Nancy, France. *See advt., page* 19.

General Electric Co., Ltd. (*G. Byng, chairman*). Head office: 71, Queen Victoria-st., London, E.C. Works: London, Manchester, Birmingham & Witton. For branch offices, telegraphic addresses & telephone numbers, *see* ALPHABETICAL SECTION. *See advts., pages* 446, 707 & 734.

GOOSSENS, E., POPE & CO., LTD., 5, Arthur-st., New Oxford-st., W.C. (Teleph. No. 3000, Gerrard); & 21, Manesty's-lane, Liverpool.

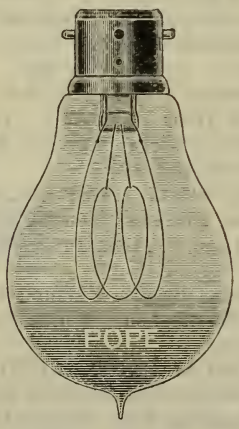
Hands, Albert C., Snow Hill, London, E.C. (Telegs.: "Thraldom, London." Teleph. No. 1033, Holborn.)

Haslam & Schontheil, manufacturers of the "Thor" incandescent lamp (carbon filament), Western Mail-chbrs., Cardiff.

HUNTALITE, LTD., 23, Newman-st., Oxford-st., W.

Imperial Lamp Works (Brimsdown), Ltd., Imperial Works, Brimsdown, Middlesex.

Lichtenberger, R., 183, Finchley-rd., N.W.



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Incandescent Lamp Manufacturers—Electric—*continued.*

Lotz, Abbott & Co., Ltd., 66, Queen-st., London, E.C.
Mackey's Electric Lamp Co., Ltd., Tulip-pl., New Church-st., Bermondsey, London, S.E.
MAXIM LAMP WORKS, LTD., Maxim Works, Walthamstow.

Incandescent Lamp Manufacturers—Electric—*continued.*

Mayer, H. G., & Co., 67, Aldersgate-st., London E.C.
Ohl, G. E., Hamburg, Germany. London office: 9 & 10, St. Mary-at-Hill, E.C.
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Incandescent Lamp Manufacturers—Electric—*continued.*

Pulsford, G. E., 25, Coleman-st., London, E.C.; & 10, rue Taitbout, Paris.

RASHLEIGH ELECTRIC LAMPS, all voltages, 10*s.* 6*d.* per dozen, delivered free. English make. Rashleigh Phipps & Co., 147, Oxford-st., London, W. (Telegs.: "Diffuser, London." Teleph. Nos.: 3973, Gerrard; & 12155, Central.)

ROBERTSON ELECTRIC LAMPS, LTD., makers of low & high voltage, fancy, battery & heater lamps of every description, Brook Green Works, Hammersmith, W. *See advt., page* 611.

RUGBY LAMP CO., LTD., THE, 92, Lower Hillmorton-rd., Rugby. (Telegs.: "Lamps, Rugby." Teleph. No. 89, Rugby.) London office & stores: J. L. Cateaux & Co., 10, Bush-lane, E.C. *See advt., page* 646.

SIEMENS BROS. DYNAMO WORKS, LTD., CAXTON HOUSE, WESTMINSTER, LONDON, S.W.; & TYSSEN-ST., DALSTON, N.E. (TELEGS.: "SIEMODYN, LONDON." TELEPH. CENTRAL 8388; & DALSTON 4.) SOLE BRITISH AGENTS FOR TANTALUM LAMPS.

Sloan Electrical Co., Ltd. (agents), 15, Fore-st.-ave., London, E.C.

Smith & Christie, 115-127, James-st., Bridgeton, Glasgow.

Société Centrale d'Electricité, 163, Wool Exchange, Coleman-st., E.C.

STEARN ELECTRIC LAMP CO., LTD., THE, successors to The Zurich Incandescence Lamp Co., 47, Victoria-st., Westminster, S.W. *See advt., page* 611.

SUN ELECTRICAL CO., LTD., 118 & 120, Charing Cross-rd., London, W.C. (Telegrams: "Secabilis, London." Telephone Nos. 2291 & 2292, Gerrard.) *See advt., page* 596.

Incandescent Lamp Manufacturers—Electric—*continued.*

Sunbeam Lamp Co., Ltd., Gateshead-on-Tyne, London, Newcastle, Birmingham & Manchester.

Tiffin, F. J., 3, Great Winchester-st., London, E.C. (Telephone No. 1993, Central.)

United Incandescent Lamp & Electrical Co., Ltd., 211, Upper Thames-st., E.C.

Veritys, Ltd., King-st., Covent Garden, London, W.C.; & Birmingham, Manchester, Glasgow, Bristol, &c. *See* ALPHABETICAL SECTION.

"Z" Electric Lamp Syndicate, Ltd., Orient House, New Broad-st., E.C.

Incandescent Lamp Socket Makers.

F.—Douilles de lampes à incand.—Fab. de.
G.—Glühlamp Fassungen—Fab. von.

Adnil Electric Co., Adnil-bldg., Artillery-lane, London, E.C.

EDISON & SWAN UNITED ELECTRIC LIGHT CO., LTD. Head office, depôt & show-rooms: Ediswan-bldgs., Queen-st., London, E.C.

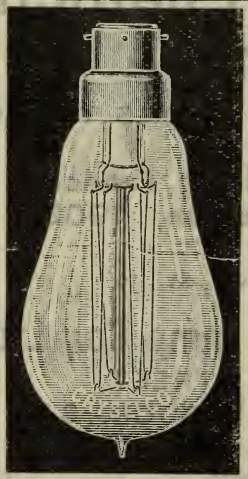
Indiarubber & Gutta-Percha Manufacturers & Dealers.

F.—Caoutchouc—Fab. et Mar. de.
G.—Gummi—Fabr. und Händler.

Bates, W. & A., Ltd., St. Mary's Mills, Leicester.

Bentham, J. H., & Co., Bentham-bldgs., Newcastle-on-Tyne.

Bridge, D., & Co. (machinery makers), Castleton Iron Works, Castleton, Manchester.



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Indiarubber & Gutta-Percha Manufacturers & Dealers—*continued.*

BRITISH INSULATED & HELSBY CABLES, LTD. Head office: Prescot, Lancs. Works: Prescot, Helsby & Liverpool. For branch offices, telegraphic & telephonic addresses, *see* ALPHABETICAL ENTRY. *See advt., page* 437.

Broadhurst & Co., Ltd., Bradford, Manchester.

Burns, J., Ltd., 189, Central-st., London, E.C. *See advt., page* 738.

CARSON & EVANS, 3, Fenchurch-bldgs., Fenchurch-st., London, E.C. (Telegs.: "Irishism, London." Teleph. Avenue 2507.) *See advts., pages* 486 & 737.

Castle Rubber Co., Ltd., Dashwood House, New Broad-st., London, E.C. Works: Warrington.

Cort, Arthur, & Co., 303½, Camberwell-rd., London, S.E. Factory: Bullace Works, Camberwell.

Gutta Percha Company, Wharf-rd., City-rd., London, N.

Hanover Rubber Co., 29 & 31, Old-st., London, E.C.

Harburg & Vienna Indiarubber Co. (of Great Britain), Ltd., 9-14, Tower-chbrs., Finsbury Pavement, London, E.C.

"Hellewell" Rubber Co., 15-19, Corporation-st., Manchester.

HENLEY'S, W. T., TELEGRAPH WORKS CO., LTD. Offices: Blomfield-st., London, E.C. *See advt., page* 22.

HESSBERG BROS., 102, Fenchurch-st., London, E.C. (Telegrams: "Pulkha, London." P.O. Telephone No. 9159, Central.)

INDIA RUBBER, GUTTA PERCHA & TELEGRAPH WORKS CO., LTD. Head offices: 106, Cannon-st., E.C. Warehouses: 100 & 102, Cannon-st., London, E.C.; & 97, boul. Sebastopol, Paris. Works: Silvertown, Essex; & Persan, France. For telegraphic addresses & branches, *see advt. outside of back cover.*

Irwell & Eastern Rubber Co., Ltd., Mill-st., Ordsal-lane, Salford; 4, Lloyd's-ave., Fenchurch-st., London, E.C.; 58, Queen-st., Hull; & 25, Hope-st., Glasgow.

Johnson & Phillips, Ltd., Electric Cable Works, Charlton, S.O., Kent. Depôts: Glasgow, Newcastle, &c. *See advt. inside back cover.*

Macintosh, Chas., & Co., Ltd., Cambridge-st., Manchester.

McLellan, George, & Co., Glasgow Rubber Works, Glasgow.

MANNHEIM INDIA RUBBER, GUTTA PERCHA & ASBESTOS WORKS CO., LTD., 61, Leadenhall-st., London, E.C.

Moseley, D., & Sons, Ltd., Chapel Field Works, Ardwick, Manchester.

Pirelli, Ltd., 45, Basinghall-st., London, E.C.

Siemens Bros. & Co., Ltd., Caxton House, Westminster, London, S.W. *See advt., page* 573.

Smith, Alex., & Son (agents), 9, Howard-st., Glasgow.

Statham, H., & Co., 9, 10 & 11, Corporation-st., Manchester.

Indiarubber & Gutta-Percha Manufacturers & Dealers—*continued.*

Union Cable Co., Ltd., The, Eagle Wharf-rd., London, N. (Telegs.: "Cablewell, London." Teleph. No. 975, North.) *See advt., page* 4.

Victoria Rubber Co., Ltd., Victoria Rubber Mills, Edinburgh.

VULCANITE WORKS, DR. HEINR. TRAUN & SONS, LONDON AGENCY (formerly Harburg Indiarubber C. Co.) (F. Winter, manager), 8, Redcross-st., London, E.C. (Telegrams: "Instantly, London." Telephone No. 3186, Central.) *See* EBONITE & VULCANITE.

Wallace, Wilkie & Newton, 5, York-st., Glasgow.

Willcox, W. H., & Co., Ltd. Office: 23, Southwark-st. Warehouse: 32, 34 & 36, Southwark-st., London, S.E. Works: Castle-st. (Telegrams: "Willcox, Southwark-st., London." Teleph. Hop 3740 & 3741.) *See advt. facing inside front cover.*

WOODITE CO., Mitcham, Surrey.

Indicators—Makers of.

E.—Indicateurs—Fab d'.
G.—Indikatoren—Fabr. von.

Bonnella, D. H., & Son, Ltd., 58 & 60, Mortimer-st., W. Works: Kirby-st., Hatton Garden, London, E.C. (Telegs.: "Boncinello, London." Teleph. Gerrard 1882 & 9784.) *See advt., page* 626.

Dobbie, McInnes, Ltd. (the "McInnes-Dobbie" patent for high & slow speed steam, gas & oil engines), 57, Bothwell-st., Glasgow. London office: 113, Fenchurch-st., E.C. (Telegs.: "Compass, Glasgow." Nat. Teleph. Nos.: 1545, Argyle; Corp., 2913.)

Lunken Valve Co., 35, Gt. Dover-st., London, S.E.

Smith, Sydney, & Sons, Ltd., Basford Brass Works, Nottingham.

Induction Coils.

Apps, A., 433, Strand, London, W.C.

Castle Electrical Manufacturing Co., 45, Poland-st, W.

Miller, Leslie, A.M.I.E.E., 66, Hatton Garden, London, E.C. Jointless section (patent) coils for Wireless Telegraphy & X-Rays.

Influence Machine Makers.

F.—Influence—Fab. de mach. à.
G.—Influenz Maschinen—Fab.

Scientific Appliance Manufacturing Co., 15, New Oxford-st., London, W.C.

Tudsbury, Rd., & Sons, Edwinstowe, Newark.

Injector & Steam Jet Pump Makers.

F.—Injecteurs—Fab. d'.
G.—Dampfeinspritzer—Fabr. von.

Green & Boulding, Ltd., 28, New Bridge-st., E.C.

Gresham & Craven, Ltd., Craven Iron Works, Ordsall-lane, Manchester.

Injector & Steam Jet Pump Makers—*continued.*

Madan, C. S., & Co., Ltd., Mansfield Injector Works, Crowther-street, Salford.
Smith, Sydney, & Sons, Ltd., Basford Brass Works, Nottingham.
Willcox, W. H., & Co., Ltd. Office : 23, Southwark-st. Warehouse : 32, 34 & 36, Southwark-st., London, S.E. Works : Castle-st. (Telegrams : "Willcox, Southwark-st., London." Teleph. Hop 3740 & 3741.) *See advt. facing inside front cover.*

Ink Makers.

(*See* TELEGRAPH INSTRUMENT INK MAKERS.)

Inspectors (Electrical)—Government, Municipal, &c.

F.—Inspecteurs électr. du gouvernement et municipalité.
G.—Electr. Inspectoren—Regierungs & Städtische.

Brown, H. W., British Engine, Boiler & Electrical Insurance Co., Ltd., 12, King-st., Manchester.
Calver, W. G., Corporation Tramways, Reading.
Clegg, W. H., A.M.I.C.E.I., district superintendent of the Edison & Swan United Electric Light Co., Ltd., 127, Albion-st., Leeds.
Crawford, C., British Engine, Boiler & Electrical Insurance Co., Ltd., 12, King-st., Manchester.
Crowther, W. C., British Engine, Boiler & Electrical Insurance Co., Ltd., 12, King-st., Manchester.
Davidson, W., British Engine, Boiler & Electrical Insurance Co., Ltd., 12, King-st., Manchester.
Drake, A. P., British Engine, Boiler & Electrical Insurance Co., Ltd., 12, King-st., Manchester.
FitzGerald, M. F., Queen's College, Belfast.
Gatehouse, J. W., 36, Broad-st., Bath.
Haigh, E., British Engine, Boiler & Electrical Insurance Co., Ltd., 12, King-st., Manchester
Harrison, E. W. L., A.M.I.E.E., British Engine, Boiler & Electrical Insurance Co., Ltd., 12, King-st., Manchester.
Henderson, A., British Engine, Boiler & Elec. Insurance Co., Ltd., 12, King-st., Manchester.
Hey, J., British Engine, Boiler & Electrical Insurance Co., Ltd., 12, King-st., Manchester.
Holman, C. W., British Engine, Boiler & Electrical Insurance Co., Ltd., 12, King-st., Manchester.
Johnston, Jas., British Engine, Boiler & Electrical Insurance Co., Ltd., 12, King-st., Manchester.
Lamb, G., Corporation, Newcastle-on-Tyne.
Loring, F. G., Lieut. R.N., M.I.E.E., General Post Office, London, E.C.
Macintosh, J. S., British Engine, Boiler & Electrical Insurance Co., Ltd., 12, King-st., Manchester.

Inspectors (Electrical)—Government, Municipal, &c.—*continued.*

Mansfield, C. E., British Engine, Boiler & Electrical Insurance Co., Ltd., 12, King-st., Manchester.
Moir, J., British Engine, Boiler & Electrical Insurance Co., Ltd., 12, King-st., Manchester.
Morgan, R. J., British Engine, Boiler & Electrical Insurance Co., Ltd., 12, King-st., Manchester.
Morrison, R. L., British Engine, Boiler & Electrical Insurance Co., Ltd., 12, King-st., Manchester.
Mullowney, J., British Engine, Boiler & Electrical Insurance Co., Ltd., 12, King-st., Manchester.
Naftel, P. H., A.I.E.E., Liverpool Corp. Electric Supply Works, Liverpool.
Nelson, R., Home Office, Whitehall, S.W.
Nuttall, H. A., British Engine, Boiler & Electrical Insurance Co., Ltd., 12, King st., Manchester.
Palmer, H., Corporation Tramways, Bournemouth.
Pollock, H., British Engine, Boiler & Electrical Insurance Co., Ltd., 12, King-st., Manchester.
Roberts, J. A., Electric Tramways, Lowestoft.
Robertson, J. I., British Engine, Boiler & Electrical Insurance Co., Ltd., 12, King-st., Manchester.
Robinson, J. R., British Engine, Boiler & Electrical Insurance Co., Ltd., 12, King-st., Manchester.
Southey, G., 156, Richmond-rd., Cardiff.
Stewart, C. C., British Engine, Boiler & Electrical Insurance Co., Ltd., 12, King-st., Manchester.
Townsend, E. H., British Engine, Boiler & Electrical Insurance Co., Ltd., 12, King-st., Manchester.
Whipp, R., British Engine, Boiler & Electrical Insurance Co., Ltd., 12, King-st., Manchester.
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F.—Joailliers d'instruments électr.
G.—Electr. Instrumenten Juweliere.

Smith, G. J., 17, Malta-st., Clerkenwell, London, E.C.

Instrument Manufacturers—Electrical.

(*See also* APPARATUS MFRS.—ELECTRICAL.)

F.—Instruments électriques—Fab.
G.—Elektrische Instrumente—Fabr.

Adie, Patrick, Broadway Works, 1, Broadway, Westminster, London, S.W.
Apps, A., 433, Strand, London, W.C.
Arnold & Sons, 26, 30 & 31, West Smithfield, & 1–3, Giltspur-st., London, E.C.
Baird, T., 34, Queen-street, Glasgow.

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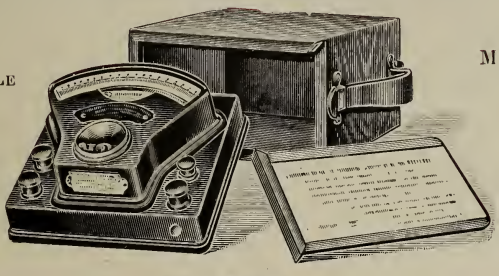

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MODEL 155.
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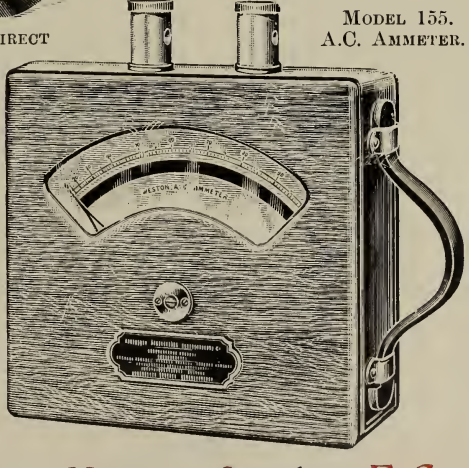

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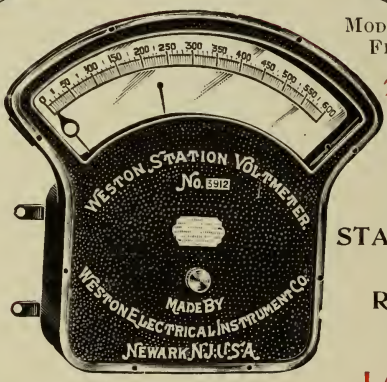

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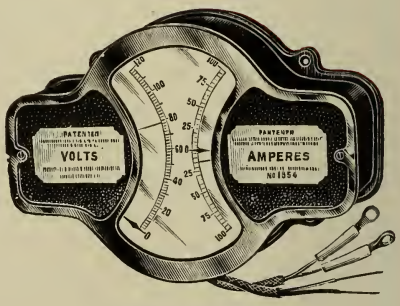

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WESTON ELECTRICAL INSTRUMENT CO.

Instrument Manufacturers—Electrical— *continued.*

BAT METER CO., LTD., 3, Eden-st., Hampstead-rd., N.W.

Beckett & Parker, Tenby-st., Birmingham.

Bonn, J., & Co., Ltd., 97, New Oxford-st., London, W.C.

Braulik, G., 8, Lambeth Hill, London, E.C.

Bristol Electric Safety Lamp Works. Office & works: 40, Great Smith-st., S.W. *See advt., page* 405.

BRITISH INSULATED & HELSBY CABLES, LTD. Head office: Prescot, Lancs. Works: Prescot, Helsby & Liverpool. For branch offices, telegraphic & telephonic addresses, *see* ALPHABETICAL ENTRY. *See advt., page* 437.

British L. M. Ericsson Manufacturing Co., Ltd., The, Byron House, 82/85, Fleet-st., London, E.C. Works: Beeston, Notts. *See advt., page* 719.

British Westinghouse Electric & Manufacturing Co., Ltd., The, Westinghouse Works, Trafford Park, Manchester.

Brown & Son, 25, Charlotte-st., Caledonian-rd., N.

BURNAND, W. E., & CO., Chippinghouse Works, Lowfields, Sheffield. (Teleph. No. 16, Sharrow.)

CAMBRIDGE SCIENTIFIC INSTRUMENT CO., LTD., Chesterton-rd., Cambridge.

Coxeter & Son, 18–20, King's-rd., St. Pancras, London, N.W.

Cox-Walkers, Ltd., Darlington. *See advt., page* 15.

CROMPTON & CO., LTD., Salisbury House, London Wall, London, E.C. Works: Chelmsford. Current & potential indicators. *See advt. inside front cover.*

Davison, Alex., 47, London-street, Glasgow.

Ditton Instrument Co., Ferry Works, Thames Ditton, Surrey.

DORMAN & SMITH, Ordsal Electrical Works, Salford, Manchester. (Telegs.: "Current, Manchester." Teleph. No. 1741, Nat.) Agents—London: Sambidge & Co., 17, Victoria-st., S.W. (Telegs.: "Prefix, London." Teleph. Victoria 530.) Scottish: Andrews & Co., 198A, St. Vincent-st., Glasgow. Birmingham: S. T. Pemberton, Council-chbrs., Colmore-row. Newcastle-on-Tyne: F. T. Hanks, 1, Higham-pl. *See also page* 123 *& advt., page* 21.

Instrument Manufacturers—Electrical— *continued.*

Drake & Gorham, Ltd., 66, Victoria-st., Westminster, London, S.W. Works: 1, Felix-st., S.E. For branches, telegrams & telephone numbers, *see* ALPHABETICAL. *See advt., page* 459.

Dring & Fage, 56, Stamford-st., London, S.E.

EDISON & SWAN UNITED ELECTRIC LIGHT CO., LTD. Head office, depôt & show-rooms: Ediswan-bldgs., Queen-st., London, E.C.

Everett, Edgcumbe & Co., Ltd., 117, Victoria-st., London, S.W.; & Collindale Works, Hendon, London, N.W. Send for latest lists post free. *See advt., page* 643.

EVERSHED & VIGNOLES, LTD., Acton-lane Works, Chiswick, London, W.

Ferranti Ltd., Hollinwood, Lancs. (Telegs.: "Ferranti, Hollinwood." Teleph. Failsworth 31 & 48); & 78, King-st., Manchester.

Frampton & Paine, 29, Old Queen-st., Westminster, S.W.

Gardner, T. A., 53, St. Vincent-st., Glasgow.

GEIPEL, WM., & CO. (late Geipel & Lange), Vulcan Works, 72A, St. Thomas-st., London, S.E. (Telegs.: "Patella, London." Teleph. No. 594, Hop. (2 lines).) *See advt., page* 19.

GENERAL ELECTRIC CO., LTD. (*G. Byng, chairman*). Head office: 71, Queen Victoria-st., London, E.C. Works: London, Manchester, Birmingham & Witton. For branch offices, telegraphic addresses & telephone numbers, *see* ALPHABETICAL SECTION. *See advts., pages* 446, 707 *&* 734.

Harvey & Peak, 56, Charing Cross-rd., W.C.

Hicks, J. J., 8–10, Hatton Garden, London, E.C.

Hilger, Adam, Ltd., 75A, Camden-rd., London, N.W.

Home & Rowland, Troughton-rd., Charlton, London, S.E.

Hudson & Son, Stockwell-st., Greenwich, London, S.E.

INDIA RUBBER, GUTTA PERCHA & TELEGRAPH WORKS CO., LTD. Head offices: 106, Cannon-st., E.C. Warehouses: 100 & 102, Cannon-st., London, E.C.; & 97, boul. Sebastopol, Paris. Works: Silvertown, Essex; & Persan, France. For telegraphic addresses & branches, *see advt. outside of back cover.*

Telephone: 566 Hornsey. **ROBT. W. PAUL,** Telegrams: "UNIPIVOT."

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(Show-rooms: 33, LEICESTER SQUARE, W.C.)

ELECTRICAL TESTING AND STANDARDISING

INSTRUMENTS.

Instrument Manufacturers—Electrical—*continued.*

Johnson, W., 188, Tottenham Court-rd., London, W.

Johnson & Phillips, Ltd., Victoria Works, Charlton, S.O., Kent; & 12, Union-ct., Old Broad-st., London, E.C. *See advt. inside back cover.*

KELVIN & JAMES WHITE, LTD., 18, Cambridge-st., Glasgow (Telegs.: "Meter, Glasgow." Teleph. P.O. 4519, Central; Nat. 172, Douglas); & 11, Billiter-st., London, E.C. (Telegs.: "Stormglass, London." Teleph. London Wall 9779.)

Lancaster, Jas., & Son, 275, Broad-st., Birmingham.

Leyland & Birmingham Rubber Co., Ltd., Golden Hill Works, Leyland, nr. Preston; 49, Queen-st., Glasgow; Tower-chbrs., 29, Brown-st., Manchester; 26 & 30, Duke-st., Aldgate, London, E.C.; & 124, New-st., Birmingham.

Llewellin's Machine Co., Bristol.

MACKIE, W., & CO., 47½, Old-st., London, E.C. (P.O. Teleph. No. 2704, Central.) *See advt., page* 483.

McWhirter, Wm., & Son, 212, 214 & 216, Holm-st., Glasgow. (Telegs.: "Testing, Glasgow.")

Marples, Leach & Co. *See* Adnil Electric Co., Ltd.

Mason, R. G., 69, Park-rd., Clapham, S.W.

Moy, Ernest F., Ltd., Greenland-pl., Camden Town, London, N.W. (Telegrams: "Movedor, London.") *See advt., page* 709.

Muirhead & Co., Ltd., Elmers End, Kent. (Telegrams: "Muirheads, Elmers-End;" & "Muirheads, London." Telephone No. 50, Bromley.) *See advt.* OPPOSITE.

NALDER BROS. & CO., 7, Carteret-st., Queen Anne's-gate, Westminster, S.W. (late 16, Red Lion-st., Clerkenwell). (Telegs.: "Secohm, London." Teleph. Gerrard 779.) *See advt.* OPPOSITE.

NALDER BROS. & THOMPSON, LTD. (managing director, F. H. Nalder), 34, Queen-st., Cheapside, E.C. *See advt., page* 643.

Negretti & Zambra, Holborn Viaduct, London, E.C.

Newman & Guardia, Ltd., 90 & 92, Shaftesbury-avenue, London, W.

PAUL, ROBT. W., Newton-ave. Works, New Southgate, London, N. Show-rooms: 33, Leicester-sq., London, W.C. *See advt., page* 617.

Perken, Son & Co., Ltd., 99, Hatton Garden, London, E.C.

Pye, W. G., & Co., Granta Works, Mill-lane, Cambridge.

Rae Bros., 77, Renfield-st., Glasgow.

Reid Brothers, 12, Wharf-rd., London, N. (Telegrams: "Supra, London." Telephone No. 12249, Central.) *See advt., page* 571.

Sadler, Michael, 19, Aston-st., Birmingham.

Schall, Karl, 75, New Cavendish-st., London, W.

SIEMENS BROS. & CO., LTD., Caxton House, Westminster, London, S.W. *See advt., page* 573.

Townson & Mercer, 89, Bishopsgate-st.-within; & 34, Camomile-st., London, E.C.

Instrument Manufacturers—Electrical—*continued.*

Tyer & Co., Ltd., 16, Ashwin-st., Dalston Junction, London, N.E.; & Metcalfe-st., Carlisle.

VINTER, W., 10 & 11, Dyer's-bldgs., Holborn, E.C. (Tel. No. 12713, Central.) Every variety of accurate mathematical dividing, machine, ornamental, & general engraving. *See advt., page* 588.

Walsall Electrical Co., Ltd., 57, Bridge-st., Walsall. For branches, telegrams & telephone numbers, *see* ALPHABETICAL.

Walter's Electrical Manufacturing Co., Ltd., 249 & 251, Kensal-rd., W. (P.O. Teleph. No. 653, Western.)

WESTON ELECTRICAL INSTRUMENT CO., Audrey House, Ely-pl., London, E.C. *See inset advt., pages* 615 *&* 616.

Insulated Wire.

(*See* WIRE MANUFACTURERS.)

Insulating Fittings Manufacturers.

F.—Fournitures isolants—Fab. de.

G.—Isolations—Armaturen—Fabr. von.

Crystalate Manufacturing Co., Ltd., Tonbridge, Kent.

LITHOLITE, LTD., 55, Hackney Grove, London, N.E. (Telegs.: "Ferrules, London." Teleph. North 1492.) *See advt., page* 620.

Insulating Material Manufacturers.

F.—Isolation—Fab. de matière.

G.—Isolations Materialen—Fab. von.

American Hard Fibre Co. (F. Winter, agent), 8, Redcross-st., London, E.C. (Telegs.: "Instantly, London." Teleph. Central 3186.)

American Hard Rubber Co., 13A, Fore-st., London, E.C.

ATTWATER & SONS, HOPWOOD-ST. MILLS, PRESTON. (TELEGS.: "ATTWATERS, PRESTON." NAT. TELEPH. NO. 45.) PEERLESS LEATHEROID INSULATION. THE GREATEST INSULATING PAPER MADE. ALSO VULCANIZED FIBRE EBONITE & ALL OTHER INSULATING MATERIALS.

BRANDT, HENRICH A., 28, MINORIES, LONDON, E.C. MICA (SLAB, CUT & SPLITTINGS), MICA INSULATING MATERIALS, OILED INSULATING FABRICS, PRESSPAHN, FIBRE, SHELLAC, VARNISHES, OILS, &c.

Briggs, Thomas (Manchester), Ltd., 21, Major-st., Manchester; & 2, Budge-row, London, E.C. Works: Salford, London & Rishworth.

BRITANNIA RUBBER & KAMPTULICON CO., LTD., 9, Bradford-ave., Redcross-st., London, E.C.

British & Colonial Insulating Co., Ltd., Brown's-bldgs., Exchange, Liverpool.

MUIRHEAD & Co., Ltd.,

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WORKS: ELMERS END, BECKENHAM, KENT.
Telegrams: "MUIRHEADS, ELMERS-END." Telephone No. 50, Bromley.

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Telegrams: "MUIRHEADS, LONDON." Telephone No. 779, Gerrard.

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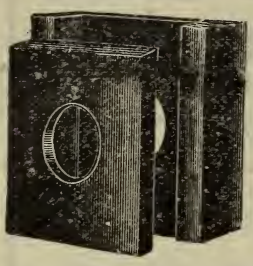

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Insulating Material Manufacturers—
continued.

British Electrical Trade Supply & Bitumen Co., The. Offices & works: Canal Bank, Trundley-rd., Deptford, S.E. (Telegs.: "Trinidite, London." Teleph. No. 794, Deptford.)

British Isola Co., 60, Water-lane, S.W.

BRITISH MICA CO., LTD., Lebanon-rd. Works, Wandsworth, S.W. (Telegs.: "Micamini, London." Teleph. No. 405, Putney.) MERCHANTS & MANUFACTURERS of mica insulators of every description for commutators, condensers, &c. MICA Washers, Bushes, Lightning Arresters, Powder, &c. MICANITE Plates, Paper, Cloth, Tubes, Rings, &c. Contractors to H.M. Government. *See advt., page* 482.

British Vulcanized Fibre, Ltd. Registered office: 21, Major-st., Manchester. (Telegs.: "Fibrine, Manchester." Teleph. No. 2700.) Vulcanized Fibre, hard & flexible, sheets, rods, tubes & specialities.

British Xylonite Co., Ltd., Hale End, London.

BURNS, J., LTD., "Delaware" vulcanized fibre & mica, 189, Central-st., London, E.C. *See advt., page* 738.

Callender's Cable & Construction Co., Ltd., Hamilton House, Victoria Embankment, E.C. *See advt., page* 441.

Insulating Material Manufacturers—
continued.

CONNOLLY BROS., LTD., Blackley Vale Mills, Blackley, Manchester. *See advt., page* 438.

Cort, Arthur, & Co., 303½, Camberwell-rd., London, S.E. Factory: Bullace Works, Camberwell.

Delaware Hard Fibre Co. *See* J. Burns, Ltd.

Donovan & Co., 22, Barwick-st., Birmingham.

Down, Fred. J., Harpenden, Herts. A founder, 1883, of Laing, Wharton & Down.

EBONESTOS MANUFACTURING CO., THE, 127, Pomeroy-st., Old Kent-rd., S.E. (Telegs.: "Ebonestos, London." Teleph. No. 887, Deptford.) *See advt.* BELOW.

Electrical Stores Supply Co., Marsden-chbrs., Marsden-st., Manchester.

Equatorial Trading & Manufacturing Co., Ltd., 5 & 6, Gt. Winchester-st., E.C.

Estler Bros., 3, Cross-lane, E.C. Works: South Molton-rd., Victoria Docks, E.

EVERITT & CO., 40, Chapel-st., Liverpool. (Telegs.: "Persistent, Liverpool." Teleph. No. 1134 (3 lines).) *See advt., page* 640.

Flexible Compound Co., 55, Chancery-lane, W.C.

FORD & MARGRETT, Camphill Slate Works, Birmingham. (Telegrams: "Mantel, Birmingham." Teleph. No. 75, Victoria.) *See advt., page* 690.

Galalith & Co., 6, 7 & 8, Crutched Friars, E.C.

AGENTS.

LANCS. and YORKS:
D. C. BATE,
40, Brazennose St., Manchester.

BIRMINGHAM:
L. S. HEAVEN,
147, Corporation St.

SCOTLAND:
JAMES GRAY & CO.,
212, St. Vincent St., Glasgow.

NEWCASTLE-ON-TYNE:
W. S. FOGGIN,
18, Bigg Market.

Insulating Material Manufacturers— *continued.*

Geipel, Wm., & Co. (late Geipel & Lange), Vulcan Works, 72A, St. Thomas-st., London, S.E. (Telegs.: "Patella, London." Teleph. No. 594, Hop. (2 lines).) Sole European agents for the Okonite Co. of New York for Okonite & Manson Insulating Tapes, Wires & Cables. *See advt., page* 19.

General Electric Co., Ltd. (*G. Byng, chairman*). Head office: 71, Queen Victoria-st., London, E.C. Works: London, Manchester, Birmingham & Witton. For branch offices, telegraphic addresses & telephone numbers, *see* ALPHABETICAL SECTION. *See advts., pages* 446, 707 *& 734.*

Glover, W. T., & Co., Ltd., Trafford Park, Manchester. (Telegs.: "Cables, Manchester." Tel. Central 7200 (6 lines).) London: Parliament Mansions, Orchard-st., S.W. *See* ALPHABETICAL.

Goodson & Co., 13, Maze Pond, St. Thomas's-st., London Bridge, S.E.

GRIFFITHS BROS. & CO., Macks-road, Bermondsey, London, S.E., sole makers of "Anti-Sulphuric" Enamel, "Armacell" high insulating varnishes, & "Ohmaline," "Pakyderm" & "Insulderm" for coils & wires; Shellac & India Rubber Varnishes. *See advt., page* 18.

Hawnt, Montague & Co., 136–142, Clerkenwell-rd., E.C.

INDIA RUBBER, GUTTA PERCHA & TELEGRAPH WORKS CO., LTD. Head offices: 106, Cannon-st., E.C. Warehouses: 100 & 102, Cannon-st., London, E.C.; & 97, boul. Sebastopol, Paris. Works: Silvertown, Essex; & Persan, France. For telegraphic addresses & branches, *see advt. outside of back cover.*

Johnson & Phillips, Ltd., Electric Cable Works, Charlton, S.O., Kent. Depôts: Glasgow, Newcastle, &c. *See advt. inside back cover.*

Justice, Howard R., M.I.M.E., 55 & 56, Chancery-lane, London, W.C.

LITHOLITE, LTD., 55, Hackney Grove, London, N.E. (Telegs.: "Ferrules, London." Tel. No. 1492, North.) LITHOLITE moulded insulating material for Handles, Bushes, Nipples, &c. *See advt.* OPPOSITE.

Lonsdale Bros., Ltd., Pump-st., Blackburn.

Major & Co., Ltd., Sculcoates, Hull.

G. BIHL & CO.,

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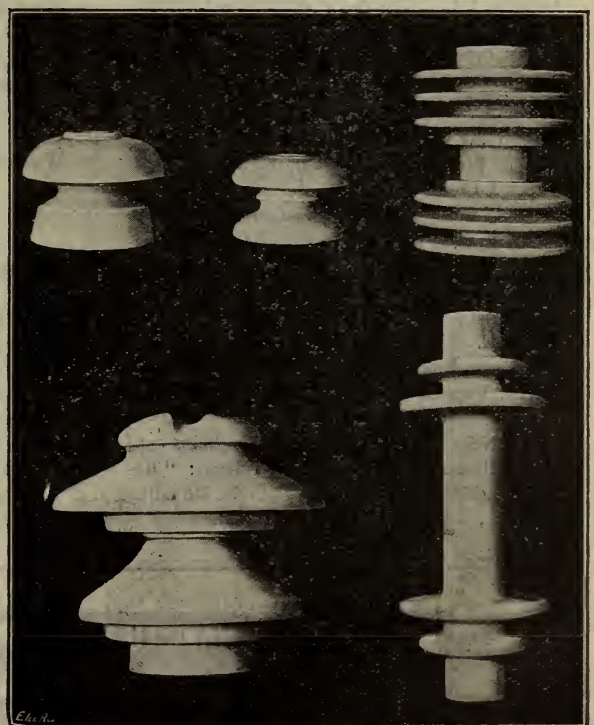

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Insulating Material Manufacturers—*continued.*

MANNHEIM INDIA RUBBER, GUTTA PERCHA & ASBESTOS WORKS CO., LTD., 61, Leadenhall-st., London, E.C.

Massachusetts Chemical Co., 6, 7 & 8, Crutched Friars, London, E.C.

Meek Watson & Co., 10, Fore-st., London, E.C.

Mica Plate Co., Ltd., Dagenham, Essex.

MICANITE & INSULATORS CO., LTD., Empire Works, Blackhorse-lane, Walthamstow, London, E. (Telegs.: "Mytilite, London." Tel. No. 38, Walthamstow.) *See advt., page* 647.

MOSSES & MITCHELL, 122 & 124, Golden-lane, E.C. Sole makers of the Original VULCANIZED FIBRE SHEETS. Tubing, sticks & rods. (Telegs.: "Insulator, London.") *See advts., page* 737 *&* BELOW.

Neville, Williams & Co., 80A, Southwark-st., London, S.E. Sole manufacturers of "Varsulat" varnishes.

Ostermann, F. W. (H. Schomburg & Söhne), 57/58, Leadenhall-st., London, E.C. (Teleph. No. 2492, Central.)

Plutte, Scheele & Co., 18 & 19, Queenhithe, London, E.C. Agents for United Kingdom & Colonies for Vorwerk & Sohn, Barmen.

Popper, O., 24, Railway Approach, London Bridge, S.E.

POTH, HILLE & CO., LTD., 6, Lloyd's-ave., London, E.C. (Telegs.: "Pothaska, London." Teleph. Avenue 5856.) Insulite & insulating waxes, ceresines.

Roburine Co., 15, Victoria-st., S.W.

Roth, Schmidt & Co., 20, Gt. St. Helens, E.C.

RUBEROID CO., LTD., 81–83, Knightrider-st., Queen Victoria-st., London, E.C. P. & B. Tapes & Compounds.

St. Helen's Cable & Rubber Co., Ltd., Warrington.

Siemens Bros. & Co., Ltd., Caxton House, Westminster, London, S.W. *See advt., page* 573.

Silicate Paint Co. (J. B. Orr & Co., Ltd.), 46, Cannon-st., London, E.C.; & Charlton, London, S.E.

Spicer Bros., Ltd., 19, New Bridge-st., E.C.

Standard Varnish Works, 27, Bevis Marks, E.C. *See advt.* OPPOSITE.

STERLING VARNISH CO., Brougham-st., Blackfriars-rd., Manchester. (Telegs.: "Reduction, Manchester." A.B.C. Code, 4th edit.)

Taylor, D., 8, Brunswick-st., Liverpool.

Insulating Material Manufacturers—*continued.*

TULLY, WM., & CO., 16, Water-lane, Great Tower-st., London, E.C. (Telegrams: "Glist, London." Telephone No. 975, Central.)

Turner, H. W., A.M.I.E.E., Sterling Varnish Co., Brougham-st., Blackfriars-rd., Manchester.

TURNERS & MANVILLE, LTD., 5, Lloyd's-ave., E.C. (Telegs.: "Vulbeston, London." Teleph. No. 1458. Avenue.)

Union Cable Co., Ltd., The, Eagle Wharf-rd., London, N. (Telegs.: "Cablewell, London." Teleph. No. 975, North.) *See advt., page* 4.

United Berlin-Frankfort India Rubber Co., 11A, Upper Thames-st., London, E.C.

Velvril-Bonnaud, Ltd., Norfolk-rd., Ponders End, N.

Volenite, Ltd., Dunster House, Mark-lane, London, E.C.

VULCANITE WORKS, DR. HEINR. TRAUN & SONS, LONDON AGENCY (formerly Harburg Indiarubber C. Co.) (F. Winter, manager), 8, Redcross-st., London, E.C. (Telegrams: "Instantly, London." Telephone No. 3186, Central.) *See* EBONITE & VULCANITE.

Western Electric Co., Norfolk House, Victoria Embankment, London, W.C. Works: North Woolwich. *See advts., pages* 439 *&* 720.

WHITELEY BROS. (Press-spahn), Slitheroe Mills, Rishworth, nr. Halifax. (Telegs.: "Boards, Ripponden." Nat. Teleph. No. 45, Rishworth.)

Wihl, Ed., & Co., 17, Nicholas-st., Manchester.

Willesden Paper & Canvas Works, Ltd., Willesden Junction, London, N.W.; & 61, South John-st., Liverpool.

Windschuegl, C., & Co., 1, Leadenhall-st., London, E.C.

Woodite Co., Mitcham, Surrey.

Insulating Materials—Enamel.

GRIFFITHS BROS. & CO., Aquol Works, Macks-rd., Bermondsey, London, S.E. Flat, Egg-shell Flat; Highly glossy finishing Enamels, one coat sufficient. "Vitros" for great heat. Sole makers of "Anti-Sulphuric" Enamel for acid resisting; "Armacell" High Insulating Varnishes, "Ohmaline," "Pakyderm" & "Insulderm" for coils & wires. *See advt., page* 18.

GENUINE VULCANISED FIBRE SHEETS, RODS, TUBES, GEAR WHEELS, INSULATORS, WASHERS, &c.
MOSSES & MITCHELL, 122 & 124, GOLDEN LANE, LONDON, E.C.

Insulating Paper.

Burns, J., Ltd., 189, Central-st., London, E.C. *See advt., page* 738.

RUBEROID CO., LTD., 81-83, Knightrider-st., Queen Victoria-st., London, E.C. Giant Paper for Insulating Armatures.

Insulating Rosin Oil Manufacturers.

Catchpole, E., & Sons, Plough Bridge, Rotherhithe, London, S.E.

Grindley & Co., Ltd., Poplar, London, E.

Insulating Varnish.

Burns, J., Ltd., 189, Central-st., London, E.C. *See advt., page* 738.

Down, Fred. J., Harpenden, Herts.

GRIFFITHS BROS. & CO., Mack's-rd., Bermondsey, London, S.E. "Armacell" & "Ohmaline" Insulating Varnishes, "Pakyderm" & "Insulderm" for wires & coils. *See advt., page* 18.

MAJOR & CO., LTD., Sculcoates, Hull.

RUBEROID CO., LTD., 81-83, Knightrider-st., Queen Victoria-st., London, E.C. Sole makers of P. & B. Air Drying & Baking Varnishes.

Standard Varnish Works, 27, Bevis Marks, London, E.C. "Voltalac," "Baking Voltalac" & the "Standard" Insulating Varnishes for all kinds of electrical construction & repair work. *See advt.* BELOW.

TURNER, H. W., A.M.I.E.E., Sterling Varnish Co., Brougham-st., Blackfriars-rd., Manchester.

NALDER BROS. & THOMPSON, LTD. (managing director, F. H. Nalder), 34, Queen-st., Cheapside, E.C. *See advt., page* 643.

Insulation Testing Sets.

EVERSHED & VIGNOLES, LTD., Acton-lane Works, Chiswick, London, W.

Insulators (Electrical) Manufacturers.

(*See also* BATTERY JARS.)

F.—Isolatoirs élec.—Fab. d'.

G.—Isolatoren-elek.—Fabrikanten.

Armorduct Manufacturing Co., Ltd., Farringdon-ave., London, E.C.; & 44, Blackett-st., Newcastle-on-Tyne. Works: Bathurst Works, Witton, nr. Birmingham. (Telegs.: "Armorduct," London, Newcastle-on-Tyne, Birmingham. Teleph. Nos.: London, 400, Holborn (2 lines); Newcastle-on-Tyne, 2827, Central; Witton Works, 812, East.) *See advt. on top edges.*

BRITISH INSULATED & HELSBY CABLES, LTD. Head office: Prescot, Lancs. Works: Prescot, Helsby & Liverpool. For branch offices, telegraphic & telephonic addresses, *see* ALPHABETICAL ENTRY. *See advt., page* 437.

BRITISH MICA CO., LTD., Lebanon-rd. Works, Wandsworth, London, S.W. (Telegs.: "Micamini, London." Teleph. No. 405, Putney.) MERCHANTS & MANUFACTURERS of mica insulators of every description for commutators, condensers, &c. MICA Washers, Bushes, Lightning Arresters, Powder, &c. MICANITE Plates, Paper, Cloth, Tubes, Rings, &c. Contractors to H.M. Government. *See advt., page* 482.

Bullers, Ltd. London office: 6, Laurence Pountney Hill, E.C. Works: Tipton & Hanley. (Telegs.: "Bullers, London." Teleph. Nos. 4907/8, London Wall.) *See advt., page* 15.

Burns, J., Ltd., 189, Central-st., London, E.C. *See advt., page* 738.

Cliff, J., & Sons, 2 & 4, Wharf, Great Northern Goods Station, King's Cross, London, N.

De Grelle, Houdret & Co., 130, London Wall, London, E.C.

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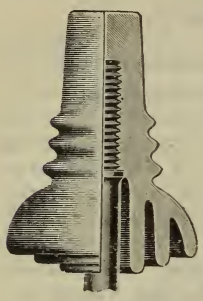

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See Insertions, pages 301, 1164, 1291, 1292, 1301 & 1314.

Insulators (Electrical) Manufacturers—
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Donovan & Co., 22, Barwick-st., Birmingham.

DOULTON & CO., LTD., Royal Doulton Potteries, Lambeth, London, S.E.; Rowley Regis, Staffs.; Burslem, Staffs.; St. Helen's, Lancs.; & Paisley, N.B. Depôts: Birmingham, Liverpool, Manchester & Glasgow. Head office: Lambeth, S.E. Stoneware & porcelain insulators for electric traction, power transmission, telegraph & telephone. *See advt., page* 439.

Insulators (Electrical) Manufacturers—
continued.

EBONESTOS MANUFACTURING CO., THE, 127, Pomeroy-st., Old Kent-rd., S.E. (Telegs.: "Ebonestos, London." Teleph. No. 887, Deptford.) *See advt., page* 620.

ELECTRIC & ORDNANCE ACCESSORIES CO., LTD., Cheston-rd., Aston, Birmingham. (Telegs.: "Stellite, Birmingham." Teleph. Nos.: Nat. 176 & 179, East; & P.O. 9 (Trunk Calls).) *See page* 134 *for full entry.*

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DRYING FRESH CONCRETE AND PLASTER AT SELFRIDGE'S STORE, OXFORD ST., W.

from inherent damp promptly and efficiently eradicated by the use of the

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Insulators (Electrical) Manufacturers—*continued.*

Espir, Fernand, 3, East India-ave., London, E.C. *See advts., pages* 662 *&* 751.

Fuller, John C., & Son, Woodland Works, Wick-lane, Old Ford-rd., Bow, London, E.

General Electric Co., Ltd. (*G. Byng, chairman*). Head office: 71, Queen Victoria-st., London, E.C. Works: London, Manchester, Birmingham & Witton. For branch offices, telegraphic addresses & telephone numbers, *see* ALPHABETICAL SECTION. *See advts., pages* 446, 707 *&* 734.

Glover, W. T., & Co., Ltd., Trafford Park, Manchester. (Telegs.: "Cables, Manchester." Tel. Central 7200 (6 lines).) London: Parliament Mansions, Orchard-st., S.W. *See* ALPHABETICAL.

INDIA RUBBER, GUTTA PERCHA & TELEGRAPH WORKS CO., LTD. Head offices: 106, Cannon-st., London, E.C. Warehouses: 100 & 102, Cannon-st., London, E.C.; & 97, boul. Sebastopol, Paris. Works: Silvertown, Essex; & Persan, France. For telegraphic addresses & branches, *see advt. outside of back cover.*

Johnson & Phillips, Ltd., Victoria Works, Charlton, S.O., Kent; & 12, Union-ct., Old Broad-st., London, E.C. *See advt. inside back cover.*

LITHOLITE, LTD., 55, Hackney Grove, London, N.E. (Telegrams: "Ferrules, London." Telephone No. 1492, North.) LITHOLITE moulded insulating material for Handles, Bushes, Nipples, &c. *See advt., page* 620.

Ostermann, F. W. (H. Schomburg & Söhne), 57/58, Leadenhall-st., London, E.C. (Teleph. No. 2492, Central.)

Price, Powell & Co., Bristol, Stoneware Insulators. (Telegs.: "Pottery, Bristol." Nat. Tel. 279.)

Siemens Bros. & Co., Ltd., Caxton House, Westminster, London, S.W. *See advt., page* 573.

Stiff, Jas., & Sons, London Pottery, Lambeth, London, S.E. Highly vitrified insulators for telegraph, telephone, electric light & electric traction work. Speciality: Cream-glazed stoneware cable bridges for conduits. (Telegrams: "Stiff, London." Telephone No. 627, Hop.) *See advt., page* 10.

TAYLOR, TUNNICLIFF & CO., LTD. (Porcelain), Eastwood, Hanley. London agent: C. M. Bradley, 23, Holborn Viaduct, E.C. (Telegs.: "Eastwood, Hanley.")

TULLY, WM., & CO., 16, Water-lane, Great Tower-st., London, E.C. (Telegrams: "Glist, London." Telephone No. 975, Central.)

Tuxford, J. G., Conway.

VULCANITE WORKS, DR. HEINR. TRAUN & SONS, LONDON AGENCY (formerly Harburg Indiarubber C. Co.) (F. Winter, manager), (Ebonite or Vulcanite), 8, Redcross-st., London, E.C. (Telegrams: "Instantly, London." Telephone No. 3186, Central.) *See advts., pages* 486 *&* 737.

Walter's Electrical Manufacturing Co., Ltd., 249 & 251, Kensal-rd., London, W. (P.O. Teleph. No. 653, Western.)

Insulators (Marble & Slate) Manufacturers.

F.—Isolatoirs (Marbre & Ardoise)—Fab.

G.—Isolatoren (Marmor & Schiefer)—Fab.

FORD & MARGRETT, Camphill Slate Works, Birmingham. (Telegs.: "Mantel, Birmingham." Teleph. No. 75, Victoria.) *See advt., page* 690.

Insurance Cos.—Fire, Employers' Liability, Engines, Boilers, &c.

F.—Compagnies d'Assurance—Contre l'incendie, responsabilité des patrons, machines à vapeur, chaudières et machines élec.

G.—Versicherungs Ges.—Feuer, Haftpflicht, Maschinen, Kesseln u. elektr. Triebwerk.

BRITISH ENGINE, BOILER & ELECTRICAL INSURANCE CO., LTD., 12, King-st., Manchester. *See advt., page* 17.

Car & General Insurance Corp., Ltd., 1, Queen Victoria-st., E.C.

County Fire Office, Ltd., 50, Regent-st., W.; & 14, Cornhill, London, E.C.

Electric & General Assurance, Ltd, 9, St. Mildred's-ct., London, E.C.

Electric Light Insurance & Maintenance Co., Ltd., 37 & 38, Mark-lane, E.C.

LAW ACCIDENT INSURANCE SOCIETY, LTD., 215, Strand, London, W.C. (Telegs.: "Lifeguard, London." Teleph. Holborn 135 & 140.) All electrical plant, also boilers & engines, insured & inspected at moderate rates.

Liverpool & London & Globe Insurance Co., 1, Cornhill, London, E.C.

Manchester Steam Users Association, 9, Mount-st., Albert-sq., Manchester.

NATIONAL BOILER & GENERAL INSURANCE CO., LTD., 22, St. Ann's-sq. Manchester (Telegs.: "National, Manchester." Teleph. City 1409, 248, 4802 & 1409 T.); & 60, Queen Victoria-st., London, E.C. (Telegs.: "Incrustation, London." Teleph. Bank 142.)

Phœnix Assurance Co., Ltd., 19 & 70, Lombard-st, E.C.; & 57, Charing Cross, S.W., London. S. G. C. Russell, electrical adviser. (Telegs.: Fire Dept., "Phœnix Fire, London;" Life Dept., "Biometry, London.") *See advt., page* 460.

Sun Insurance Office, 63, Threadneedle-st., London, E.C.

Vulcan Boiler & General Insurance Co., Ltd., 67, King-st., Manchester.

Iridium Manufacturers, Workers & Dealers.

F.—Iridium (fab. et Marchands).

G.—Iridium-Fabrikanten.

JOHNSON, MATTHEY & CO., LTD, 74 to 81, Hatton Garden, London, E.C.

Powell, F. S., The Elms, Egham, Surrey.

Iron & Steel Manufacturers & Merchants.

F.—Fer et acier—Fabr. et March. de.
G.—Eisen & Stahl. Fabr. und Händler.

Campbell, Macmaster & Co., 11 & 12, Clements-lane, London, E.C.
Clark, Hunt & Co., Ltd., 159 & 160, High-st., Shoreditch, London, E.
Colville, D., & Sons, Ltd., Motherwell, N.B.
Dorman, Long & Co., Ltd., Middlesborough; & 19, Victoria-st., London, S.W.
Eyre, Wm., & Nephew, 5, Tithebarn-st., Liverpool.
Glasgow Iron & Steel Co., Ltd., Wishaw, N.B.
Glenfield & Kennedy, Ltd., Kilmarnock.
Hadfield's Steel Foundry Co., Ltd., non-magnetic steel castings, wire & strips, East Hecla Works, Sheffield; & Norfolk House, Laurence Pountney Hill, London, E.C.
Jacks, Wm., & Co., 5, East India-ave., E.C.
Markham & Co., Broad Oak Iron Works, Chesterfield.
Motherwell Iron & Steel Co., Motherwell.
Muirhead, J., Cart Forge, Glasgow.
North Eastern Steel Co., Middlesbrough.
Reichwald, August, Finsbury Pavement House, Finsbury Pavement, London, E.C.; & at Newcastle-on-Tyne.
Ross, William, & Co. (London), Ltd., Horse-shoe Wharves, Malt-st., Old Kent-rd., London, S.E.
Samuelson & Co., Ltd., Banbury, Oxon.
Schonfield, A., & Co., Ltd., 21, Hope-st., Glasgow.
SHROPSHIRE IRON CO., LTD., Hadley, nr. Wellington, Salop. (Telegrams: "Sun, Wellington, Salop.") *See* WIRE MANUFACTURERS—TELEGRAPH.
Sutton & Ash, Snow Hill, Birmingham.
Tett, Henry S., & Co., Ltd., Faversham, Kent.
Walmsley, T., & Sons, Atlas Forge, Bolton.
Whitehouse Bros., South Quay, Worcester.
Willcox, W. H., & Co., Ltd. Office: 23, Southwark-st. Warehouse: 32, 34 & 36, Southwark-st., London, S.E. Works: Castle-st. (Telegs.: "Willcox, Southwark-st., London." Teleph. Hop 3740 & 3741.) *See advt. facing inside front cover.*

Iron & Steel Roofs & Buildings.

Boulton & Paul, Ltd., Rose-lane Works, Norwich.

Ivory & Wood Turners for Electrical Appliances.

F.—Tourneurs en bois et ivoire.
G.—Elfenbein & Holz Drechsler.

Apps, A., 433, Strand, London, W.C.
BONNELLA, D. H., & SON, LTD., 58 & 60, Mortimer-st., W. Works: Kirby-st., Hatton Garden, London, E.C. (Telegs.: "Boncinello, London." Teleph. Gerrard 1882 & 9784.) *See advt.* IN NEXT COLUMN.
Burns, J., Ltd., 189, Central-st., London, E.C. *See advt., page* 738.

Ivory & Wood Turners for Electrical Appliances—*continued.*

Cripps, E. H., 161, Kennington-rd., S.E.
Davis, Charles, 29, Charles-st., Hatton Garden, London, E.C.
EBONESTOS MANUFACTURING CO., THE, 127, Pomeroy-st., Old Kent-rd., S.E. (Telegs.: "Ebonestos, London." Teleph. No. 887, Deptford.) *See advt., page* 620.
Garty, Bone & Co., Anderston Electrical Works, 61, Bishop-st., Anderston, Glasgow. Radio patent light weight ball bearing dynamos & motors.
General Electric Co., Ltd. (*G. Byng, chairman*). Head office: 71, Queen Victoria-st., London, E.C. Works: London, Manchester, Birmingham & Witton. For branch offices, telegraphic addresses & telephone numbers, *see* ALPHABETICAL SECTION. *See advts., pages* 446, 707 *& 734.*
Hildersley, J., & Son, 33, Berwick-st., Soho, London, W.
Lawrance, W. J., 14, Farringdon-rd., London, E.C.
Lundberg, A. P., & Sons, Pioneer Electrical Works, 477–487, Liverpool-rd., London, N. (Telegs.: "Lundberg, London." Teleph. No. 1746, North.) Agents: Scotland, Messrs. Yuille & Co., 60, Brown-st., Glasgow; other districts: leading wholesale houses.

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By Royal Warrant to H.M. the King.
See advts., page 710 *& on lower outside edges.*
Norris, George, 26 & 31, Eyre-st. Hill, Hatton Garden, London, E.C.
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Telephone Nos. 1882 & 9784 GERRARD. Telegrams: "BONCINELLO, LONDON."

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F.—Etiquettes en Ivoire.
G.—Elfenbein Anhängzettel.

Barns, Wm., & Son, Globe Works, Queensland-rd., Holloway, N.

BONNELLA, D. H., & SON, LTD., 58 & 60, Mortimer-st., W. Works: Kirby-st., Hatton Garden, London, E.C. (Telegs.: "Boncinello, London." Teleph. Gerrard 1882 & 9784.) *See advt.* OPPOSITE.

ENDOLITHIC MANUFACTURING CO., LTD. (brass & other metals), Pomona-bldgs., 61½, Fore-st., London, E.C. (Telegs.: "Dendron, London." Teleph. Nos.: 3421, London Wall; & 11630, Central.)

Hibbert, G., 69, Arundel-st., Sheffield.

HUGHES LABEL CO., LTD., THE, 34, Great Titchfield-st., W. (Telegrams: "Nivose, London." Telephone No. 2732, Gerrard.)

Pope, T., & Co., Livery-st., Birmingham.

Jewel Hole Makers.

F.—Perceur de pierres précieuses.
G.—Steinlöcherdrillen.

LEE, FRED, & CO., DOVER-ST., COVENTRY.

Powell & Co., 17, Poland-st., London, W.

Woods, T. G., & Sons, 54, Spencer-st., Clerkenwell, London, E.C.

Joint Box Fittings.

Glover, W. T., & Co., Ltd., Trafford Park, Manchester. (Telegs.: "Cables, Manchester." Tel. Central 7200 (6 lines).) London Parliament Mansions, Orchard-st., S.W. *See* ALPHABETICAL.

Joint Box Makers.

Glover, W. T., & Co., Ltd., Trafford Park, Manchester. (Telegs.: "Cables, Manchester." Tel. Central 7200 (6 lines).) London: Parliament Mansions, Orchard-st., S.W. *See* ALPHABETICAL.

Jointing Material—Makers of.

F.—Matière à Jointoiement.
G.—Fügung Material.

Donovan & Co., 22, Barwick-st., Birmingham.

Down, Fred. J., Harpenden, Herts.

EDISON & SWAN UNITED ELECTRIC LIGHT CO., LTD. Head office, depôt & show-rooms: Ediswan-bldgs., Queen-st., E.C.

Hudson, John, & Co.'s Successors, 4, Victoria Warehouses, Mansell-st., London, E.

MAJOR & CO., LTD., Sculcoates, Hull.

Neville, Williams & Co., 80A, Southwark-st., S.E.

RUBEROID CO., LTD., 81–83, Knightrider-st., Queen Victoria-st., London, E.C. Junction Box & other Insulating Compounds.

Willcox, W. H., & Co., Ltd. Office: 23, Southwark-st. Warehouse: 32, 34 & 36, Southwark-st., London, S.E. Works: Castle-st. (Telegs.: "Willcox, Southwark-st., London." Teleph. Hop 3740 & 3741.) *See advt. facing inside inside front cover.*

Junction Box Makers.

SIMPLEX CONDUITS, LTD. Head office: Garrison-lane, Birmingham. Works: Maxstoke-st., Birmingham; also at 113, 115, 117, Charing Cross-rd., London, W.C.; 16, Corporation-st., Manchester; 72A, Waterloo-st., Glasgow; Newcastle; Bristol; & Liverpool. L. M. Waterhouse, A.M.I.C.E., M.I.E.E., managing director. *See advts., pages* 455 *&* 456.

Laboratories—Electrical.

F.—Laboratoires électr. *G.—Elektr. Werkstätten.*

Electrical Standards Laboratory, 8, Richmond-ter., Whitehall, S.W.

"James Watt" Laboratories, University, Glasgow.

Liverpool Research Laboratory, 131, St. Domingo-rd., Liverpool.

Muspratt Laboratory of Physical & Electro-Chemistry, The University, Liverpool.

National Physical Laboratory, Teddington.

WESTMINSTER ELECTRICAL TESTING LABORATORIES, York Mansion, York-st., Westminster, London, S.W.

Laboratories (Electrical) Furnishers.

F.—Laboratoires électr.—Fournisseurs pour.
G.—Einrichtung von elektrischen Werkstätten.

ELECTRICAL REGULATORS & ECONOMISERS, LTD., 51, North John-st., & 16, Cumberland-st., Liverpool. MARTIN REGULATORS. *See advt., page* 679.

Geipel, Wm., & Co. (late Geipel & Lange), Vulcan Works, 72A, St. Thomas-st., London, S.E. (Telegs.: "Patella, London." Teleph. No. 594, Hop. (2 lines).) *See advt., page* 19.

Kelvin & James White, Ltd., 18, Cambridge-st., Glasgow (Telegs.: "Meter, Glasgow." Teleph. Nos.: P.O. 4519, Central; Nat. 172, Douglas); & 11, Billiter-st., London, E.C. (Telegs.: "Stormglass, London." Tel. London Wall 9779.)

NALDER BROS. & CO., 7, Carteret-st., Queen Anne's Gate, Westminster, S.W. (late 16, Red Lion-st., Clerkenwell). (Telegs.: "Secohm, London." Teleph. Gerrard 779.)

Smith, J. Ciceri, Raymond House, 32, Theobald's-rd., London, W.C.

UNION ELECTRIC CO., LTD., Park-st., Southwark, London, S.E. (Telegs.: "Abeam, London." A.B.C. Code. Teleph. Hop. 2970.) *See advt., page* 563.

Lacquer & Varnish Manufacturers & Merchants.

F.—Laques et vernis. *G.—Lack & Firniss.*

Ammon, A. F., 52, Chapel-st., Blackfriars, Manchester.

Bigsby, W. T., & Sons, Morden-rd., Mitcham.

Bowley, S., & Son (specialities in oil & spirit varnishes, &c.), Wellington Works, Battersea Bridge, London, S.W. (Telegs.: "Bolyanson, London." Teleph. Battersea 1 & 2.) A.B.C. Code, 5th Edition.) Established 1744. Contractors to H.M. Government, &c., &c.

Lacquer & Varnish Manufacturers & Merchants—*continued.*

Burns, J., Ltd., 189, Central-st., London, E.C. *See advt., page* 738.

CELLULOID, LTD., 11, Ironmonger-lane, London, E.C.

Crane, Fredk., Chemical Co., Birmingham.

Dalton Lacquer Manufacturing Co., Ltd., 8, St. James's-sq., Manchester.

Damard Lacquer Co., 98, Bradford-st., Birmingham.

Down, Fred. J., Harpenden, Herts. A founder, 1883, of Laing, Wharton & Down.

Goadsby & Co., 2, 4 & 6, Albert Bridge, Manchester.

GRIFFITHS BROS. & CO., Macks-road, Bermondsey, London, S.E., cold-drying and hot-drying lacquers of all shades; "Lustre Liquid," a colourless, durable, cold-drying lacquer for large work. Shellac varnishes for all purposes. *See advt., page* 18.

Massachusetts Chemical Co., 6, 7 & 8, Crutched Friars, London, E.C. "Armalac."

Naylor Bros. (London), Ltd., 407, Oxford-st., London, W.

Neville, Williams & Co., 80A, Southwark-st., London, S.E.

Polglase & Co., Tyne Vale Chemical Works, Skinnerburn-rd., Forth Banks, Newcastle-on-Tyne.

RUBEROID CO., LTD., 81–83, Knightrider-st., Queen Victoria-st., London, E.C. Sole makers of P. & B. Air-Drying & Baking Varnishes.

Skelton, William, & Co., Hay Mills, Birmingham.

STERLING VARNISH CO., Brougham-st., Blackfriars-rd., Manchester. (Telegs.: "Reduction, Manchester." A.B.C. Code, 4th ed.)

Ladders.

F.—Échelles.
G.—Leitern.

Drew Clark & Co., patentees & makers of the "Diamond" telescopic & ordinary ladders, steps, trestles, trucks, tower wagons, &c., Diamond Ladder Works, Leyton, N.E.; & at Waterloo-rd., S.E. (Telegs.: "Drew Clark, Leyton." Teleph. Walthamstow 458.)

HEATHMAN, J. H., & CO., Parson's Green, London, S.W. (Telephone No. 150, Putney.) Branches: 37, Endell-st., W.C.; & 7, Pentonville-rd., N.

Lamp Frosters & Tinters.

Griffiths Bros. & Co., Macks-rd., Bermondsey, London, S.E. "Shaydolite" for colouring incandescent lamps. *See advt., page* 18.

Lamp Holder Makers.

F.—Portes-lampes—Fab. d'.
G.—Lampen Fassungen Fab.

Adnil Electric Co., Ltd., Adnil-bldg., Artillery-lane, London, E.C.

Lamp Holder Makers—*continued.*

Armorduct Manufacturing Co., Ltd., Farringdon-ave, London, E.C.; & 44, Blackett-st., Newcastle-on-Tyne. Works: Bathurst Works, Witton, nr. Birmingham. (Telegs.: "Armorduct," London, Newcastle-on-Tyne, Birmingham. (Teleph. Nos.: London, 400, Holborn (2 lines); Newcastle-on-Tyne, 2827, Central; Witton Works, 812, East.) *See advt. on top edges.*

Baxendale & Co., Miller-st. Works & Warehouses, Manchester; Hanover-st., Edinburgh; Capel-st., Dublin; & Hood-st., Liverpool. Makers of the "Thikflex" Patent Lampholder.

DORMAN & SMITH, Ordsal Electrical Works, Salford, Manchester. (Telegs.: "Current, Manchester." Teleph. No. 1741, Nat.) Agents—London: Sambidge & Co., 17, Victoria-st., S.W. (Telegs.: "Prefix, London." Teleph. Victoria 530.) Scottish: Andrews & Co., 198A, St. Vincent-st., Glasgow. Birmingham: S. T. Pemberton, Council-chbrs., Colmore-row. Newcastle-on-Tyne: F. T. Hanks, 1, Higham-pl. *See also page* 123 *& advt., page* 21.

EDISON & SWAN UNITED ELECTRIC LIGHT CO., LTD. Head office, depôt & show-rooms: Ediswan-bldgs., Queen-st., London, E.C.

ELECTRIC & ORDNANCE ACCESSORIES CO., LTD., Cheston-rd., Aston, Birmingham. (Telegs.: "Stellite, Birmingham." Teleph. Nos.: Nat. 176 & 179, East; & P.O. 9 (Trunk Calls).) *See page* 134 *for full entry.*

Falk, Stadelmann & Co., Ltd., 83, 85 & 87, Farringdon-rd., London, E.C.; & Glasgow.

JAEGER BROS., 47, Victoria-st., London, S.W. (Telegs.: "Lampaient, London." Teleph. No. 5026, Gerrard.) *See advt., page* 594.

LUNDBERG, A. P., & SONS, Pioneer Electrical Works, 477–487, Liverpool-rd., London, N. Inventors, patentees & manufacturers of Lundbergs' electrical accessories. (Telegs.: "Lundberg, London." Teleph. No. 1746, North.) Agents: Scotland, Messrs. Yuille & Co., 60, Brown-st., Glasgow; other districts: leading wholesale houses.

By Royal Warrant to H.M. the King.

See advts., page 710 *& on lower outside edges.*

McGeoch, William, & Co., Ltd., Warwick Works, 46, Coventry-rd., Birmingham; & 28, West Campbell-st., Glasgow. (Telegs.: "McGeoch," Glasgow, Birmingham & London. Teleph. Nos.: Nat. 2181 (4 lines); P.O. 101 & 2.)

Marsh, Son & Co., Ltd., 15, Gerrard-st., London, W. (Telegs.: "Voltmeters, London." Teleph. No. 2414, Gerrard.) *See advt., page* 402.

Lamp Holder Makers—*continued.*

Plutte, Scheele & Co., 18 & 19, Queenhithe, London, E.C. (agents).

TUCKER, J. H., & CO., King's-rd., Hay Mills, Birmingham. Branches: London, Glasgow & Belfast. For telegrams & telephone numbers, *see* ALPHABETICAL.

TELAC
REG. TRADE MARK.

Veritys, Ltd., King-st., Covent Garden, London, W.C.; & Birmingham, Manchester, Glasgow, Bristol, &c. *See* ALPHABETICAL SECTION.

Lamp Makers (for Motor Cars, Railways, &c.).

F.—Lampes pour automobiles, chemins de fer—Fab. de.

G.—Lampen Fabr. (für Motorwagen, Eisenbahnen, &c.).

Birmingham Lamp & Gasfittings Co., Ltd., Summerfield Park Works, Birmingham.

BRISTOL ELECTRIC SAFETY LAMP WORKS. Offices & works: 40, Great Smith-st., S.W. *See advt., page* 405.

BRYANT TRADING SYND., LTD., Clarendon Works, Horsell-rd., Highbury, London, N.

CRYSELCO, LTD., Kempston Works, Bedford. *See advt., page* 612.

DORMAN & SMITH, Ordsal Electrical Works, Salford, Manchester. (Telegs.: "Current, Manchester." Teleph. No. 1741, Nat.) Agents —London: Sambidge & Co., 17, Victoria-st., S.W. (Telegs.: "Prefix, London." Teleph. No. 530, Victoria.) Scottish: Andrews & Co., 198A, St. Vincent-st., Glasgow. Birmingham: S. T. Pemberton, Council-chbrs., Colmore-row. Newcastle-on-Tyne: F. T. Hanks, 1, Higham-pl. *See also page* 123 *& advt., page* 21.

EDISON & SWAN UNITED ELECTRIC LIGHT CO., LTD. Head office, depôt & show-rooms: Ediswan-bldgs., Queen-st., London, E.C.

M'Haffie & Co., 13, Margaret-st., Glasgow.

Murray, R. C., & Co., 7, Carlton-court, Glasgow.

Pope's Electric Lamp Co., Ltd., Hythe-rd., Willesden, N.W. *See advt., page* 610.

ROBERTSON ELECTRIC LAMPS, LTD., makers of low & high voltage, fancy, battery & heater lamps of every description, Brook Green Works, Hammersmith, London, W. *See advt., page* 611.

Vandervell, C. A., & Co., Warple Way, Acton Vale, London, W.

Whyte, R. A., & Co., 140, Bath-st., Glasgow.

Lamp Post Manufacturers (for Electric & Telegraphic Purposes).

F.—Poteaux pour l'élec. et la télég. (fab. de).

G.—Lampenpfosten Fabr. für elek. & teleg. Zwecke.

Allan, J., Sen., & Son, Elmbank Fdry., Glasgow.

Bray, Geo., & Co., Ltd., Bagby Works, Leicester-pl., Leeds.

Lamp Post Manufacturers (for Electric & Telegraphic Purposes)—*continued.*

Butt, J. M., & Co., Kingsholm Iron Works, Glos.

Clarke, Robert, 39, Featherstone-st., London, E.C.

Cockburn, M., & Co., Ltd., Gowan Bank, Falkirk.

Drake & Gorham, Ltd., 66, Victoria-st., Westminster, S.W. Works: 1, Felix-st., S.E. For branches, telegrams & telephone numbers, *see* ALPHABETICAL. *See advt., page* 459.

Duckering, C., Rosemary-lane, Lincoln.

FALKIRK IRON CO., Craven House, Kingsway, London, W.C. Works: Falkirk, N.B.

Hardy & Padmore, Ltd., Blockhouse, Worcester.

Law, J. & A., Rae-st., Glasgow.

McCulloch, M., & Co., 168, Gallowgate, Glasgow.

McDowall, Steven, & Co., Ltd., Glasgow.

Macfarlane, Walter, & Co., Saracen Foundry, Glasgow. (Telegrams: "Saracen, Glasgow.")

Porter & Co., Gowts Bridge, Lincoln.

Shotts Iron Co., Ltd., 130, George-st., Edinburgh.

Smith Bros., Abbey-street, Derby.

Spencer, J. E., & S., 14, Great St. Thomas Apostle, Cannon-st., London, E.C.

Lanterns & Metal Work for Electric Purposes.

Assersohn, D., 20, Commercial-st., E.

Lathes.

(*See* MACHINE TOOLS.)

Launch Designers & Builders—Electric.

F.—Bateaux électriques—Dessinateurs et Constructeurs.

G.—Boot Entwurfe & Bau—Elektrische.

Bourne End Electric Installation Co., Ltd., Bourne End, Bucks.

Brown, D., & Co., Elswick-ct., Northumberland-st., Newcastle-on-Tyne.

Burgoine, Alfred, Ltd., Kingston-on-Thames; & Riverside, Hampton Wick.

Drake & Gorham, Ltd., 66, Victoria-st., Westminster, London, S.W. Works: 1, Felix-st., S.E. For branches, telegrams & telephone numbers, *see* ALPHABETICAL. *See advt., page* 459.

Edwards & Co., Ltd., Millwall, London, E.

Salter Bros., Folly Bridge, Oxford.

Stephens, Smith & Co., Ltd., 1, Cuba-st., Millwall, E.

Tagg, Tom, & Son, above the Lock, East Molesey.

Vosper & Co., Ltd., Broad-st., Portsmouth.

WOOTTEN, A. E., & CO. (experts), Quarry Wood Boat House, Cookham Dean, Berks. (Telegs.: "Wootten, Cookham Dean." Teleph. Maidenhead 16.)

Yarrow & Co., Ltd., Glasgow.

Launches (Steel)—Paraffin or Petrol.

Boulton & Paul, Ltd., Rose-lane Works, Norwich.

Lead Covered Cable Makers.

F.—Cables couverts de plomb.
G.—Bleibedeckte Kabel—Fab. von.

BRITISH INSULATED & HELSBY CABLES, LTD. Head office: Prescot, Lancs. Works: Prescot, Helsby & Liverpool. For branch offices, telegraphic & telephonic addresses, *see* ALPHABETICAL ENTRY. *See advt., page* 437.

Callender's Cable & Construction Co., Ltd., Hamilton House, Victoria Embankment, London, E.C. *See advt., page* 441.

Connolly Bros., Ltd., Blackley Vale Mills, Blackley, Manchester. *See advt., page* 438.

Geoffroy & Delore (A. H. Hunt), 115–117, Cannon-st., London, E.C. (Telegrams: "Keyage, London." Telephone No. 8114, Bank.)

Glover, W. T., & Co., Ltd., Trafford Park, Manchester. (Telegs.: "Cables, Manchester." Tel. Central 7200 (6 lines).) London: Parliament Mansions, Orchard-st., S.W. *See* ALPHABETICAL.

HENLEY'S, W. T., TELEGRAPH WORKS CO., LTD. Offices: Blomfield-st., London, E.C. *See advt., page* 22.

INDIA RUBBER, GUTTA PERCHA & TELEGRAPH WORKS CO., LTD. Head offices: 106, Cannon-st., E.C. Warehouses: 100 & 102, Cannon-st., London, E.C.; & 97, boul. Sebastopol, Paris. Works: Silvertown, Essex; & Persan, France. For telegraphic addresses & branches, *see advt. outside of back cover.*

Johnson & Phillips, Ltd., Electric Cable Works, Charlton, S.O., Kent. Depôts: Glasgow, Newcastle, &c. *See advt. inside back cover.*

LONDON ELECTRIC WIRE COMPY. & SMITHS, LTD., THE, Playhouse-yard, Golden-lane, London, E.C. *See advt. facing inside back cover.*

Siemens Bros. & Co., Ltd., Caxton House, Westminster, London, S.W. *See advt., page* 573.

Union Cable Co., Ltd., The, Eagle Wharf-rd., London, N. (Telegs.: "Cablewell, London." Teleph. No. 975, North.) *See advt., page* 4.

WESTERN ELECTRIC CO., Norfolk House, Victoria Embankment, London, W.C. Works: North Woolwich. *See advts., pages* 439 *&* 720.

Lead for Electrical Accumulators.

PASS, C., & SON, LTD., BEDMINSTER SMELTING WORKS, BRISTOL. SELLERS OF ANTIMONIAL LEAD OF ALL GRADES; BUYERS OF LEAD ASHES, OLD ACCUMULATORS, & DROSS FROM SAME. (TELEGRAMS: "PASS, BRISTOL." TELEPHONE Nos. 3475 & 3476.)

Lead Manufacturing Machinery.

Glover, W. T., & Co., Ltd., Trafford Park, Manchester. Lead Presses for Pipe. Rolling Mills for Sheet Lead. (Telegs.: "Cables, Manchester." Teleph. Central 7200 (6 lines).) London: Parliament Mansions, Orchard-st., S.W. *See* ALPHABETICAL.

Lead Merchants.

F.—Marchands—Plomb.
G.—Blei-Händler.

Barnard, H. B., & Sons, 144, Lambeth-walk, London, S.E. (Telegs.: "Metalcibles, London." Teleph. No. 1714, Victoria.) City office: 59/60, Gracechurch-st. (Telegs.: "Soldeerpan, London." Teleph. Central 767.) Birmingham office: Guildhall-bldgs., Navigation-st., Birmingham. (Telegs.: "Metalcibles, Birmingham." Teleph. No. 732, Midland, Central.)

Cashmore & Co., Ltd., Victoria-st., Bristol.

Cookson & Co., Ltd., Newcastle-on-Tyne.

Eyton & Co., Chester Wharf, Mann Island, Liverpool.

Grey & Marten, Ltd., Southwark Bridge, London, S.E. (Telegrams: "Amalgam, London." Telephone No. 750, Hop.)

Holman, Michell & Co., Cornwall Lead Works, St. Helens.

Locke, Blackett & Co., Ltd., 47, Gallowgate, Newcastle-on-Tyne.

Metal Jointing Co., Ltd., The, Adelphi House, 71 & 72, Strand, London, W.C.

Sheldon Bush & Patent Shot Co., Cheese-lane, Bristol.

Lead Perforators.

Barns, Wm., & Son, Globe Works, Queensland-rd., Holloway, N.

Lead Refiners & Manufacturers.

PASS, C., & SON, LTD., BEDMINSTER SMELTING WORKS, BRISTOL. SELLERS OF ANTIMONIAL LEAD OF ALL GRADES; BUYERS OF LEAD ASHES, OLD ACCUMULATORS, & DROSS FROM SAME. (TELEGRAMS: "PASS, BRISTOL." TELEPHONE Nos. 3475 & 3476.)

Leadless Paper Cable Makers.

Glover, W. T., & Co., Ltd., Trafford Park, Manchester. (Telegs.: "Cables, Manchester." Tel. Central 7200 (6 lines).) London: Parliament Mansions, Orchard-st., S.W. *See* ALPHABETICAL.

Leather Braided Cable Makers.

Glover, W. T., & Co., Ltd., Trafford Park, Manchester. (Telegs.: "Cables, Manchester." Tel. Central 7200 (6 lines).) London: Parliament Mansions, Orchard-st., S.W. *See* ALPHABETICAL.

Lecturers' Apparatus—Makers of.

F.—Lecteurs—Fab. d'appareils pour.
G.—Apparate für Vorleser—Fab. von.

BRISTOL ELECTRIC SAFETY LAMP WORKS. Offices & works: 40, Great Smith-st., S.W. *See advt., page* 405.

Lettering on Ivory.

F.—Ecriture sur ivoire.
G.—Buchstaben Graveure auf Elfenbein.

ENDOLITHIC MANUFACTURING CO., LTD. (bone & metal), Pomona-bldgs., 61½, Fore-st., E.C. (Telegs.: "Dendron, London." Teleph. Nos.: 3421, London Wall; & 11630, Central.)

HUGHES LABEL CO., LTD., THE, 34, Great Titchfield-st., London, W. (Telegrams: "Nivose, London." Tel. No. 2732, Gerrard.)

Lift Controllers.

Geipel, Wm., & Co. (late Geipel & Lange), Vulcan Works, 72A, St. Thomas-st., London, S.E. (Telegs.: "Patella, London." Teleph. No. 594, Hop. (2 lines).) *See advt., page* 19.

Lifts (Electric)—Makers of.

F.—Ascenseurs électriques—Fabr. d'.
G.—Electrische Aufzüge.

Adamson, J., & Co., Hyde, Cheshire.

Adamson, Ramsbottom & Co., Ltd., Cleveland Works, Birkenhead.

Brooke, J. W., & Co., Ltd., Adrian Ironworks, Lowestoft, Suffolk.

Childs, J. G., & Co., Ltd., Hawthorn-rd., Willesden Green, N.W.

Congdon & Muir, 42, Deansgate, Manchester.

CROMPTON & CO., LTD., Salisbury House, London Wall, London, E.C. Works: Chelmsford. *See advt. inside front cover.*

Down, Fred. J., Harpenden, Herts.; & 6, 7 & 8, Crutched Friars, London, E.C. A founder, 1883, of Laing, Wharton & Down.

Easton, R., & Son, 28 & 30, Southwark Bridge-rd., S.E.

ELECTRIC & ORDNANCE ACCESSORIES CO., LTD., Cheston-rd., Aston, Birmingham. Telegs.: "Stellite, Birmingham." Teleph. Nos.: Nat. 176 & 179, East; & P.O. 9 (Trunk Calls).) *See page* 134 *for full entry.*

Etchells, J. C., & Co., Ltd., 15, Cannel-st., Ancoats, Manchester.

Lifts (Electric)—Makers of—*continued.*

GENERAL ELECTRIC CO., LTD. (*G. Byng, chairman*). Head office: 71, Queen Victoria-st., London, E.C. Works: London, Manchester, Birmingham & Witton. For branch offices, telegraphic addresses & telephone numbers, *see* ALPHABETICAL SECTION. *See advts., pages* 446, 707 *&* 734.

Grocers Engineering Co., Cole-st., Swan-st., S.E.

Hartnell, Wilson, & Co., Ltd., Volt Works, Kirkstall-rd., Leeds.

Hydro-Electrical Gear Co., Ltd., 11, Pancras-lane, E.C.

KEIGHLEY ELECTRICAL ENGINEERING CO., LTD., Vulcan Works, Keighley, Yorks.

Lidgerwood Manufacturing Co., Caxton House, Westminster, London, S.W.

Lucas, J. E., & Son, Brockley, S.E.

M'Lean, J., & Sons, Grosvenor-rd., Belfast.

McWhirter, Wm., & Son, 212, 214 & 216, Holm-st., Glasgow. (Telegs.: "Testing, Glasgow.")

MATHER & PLATT, LD., Salford Iron Works, Manchester; & Queen Anne's-chbrs., Westminster, London, S.W. (Telegrams: "Mather, Manchester;" "Sprinkler, London." Nat. Telephone Nos.: 5781, 5782 & 5783, Manchester; & 851 & 852, Westminster.)

Neville Kaye & Co., Ltd., 231 & 232, Strand, W.C.

Rawlinsons, Ltd., Hope Works, Kirkstall-rd., Leeds.

Siemens Bros. Dynamo Works, Ltd., Caxton House, Westminster, London, S.W.

Smith, B. G., Stannary-st., Halifax.

SPAGNOLETTI, LTD., Goldhawk Works, Goldhawk-rd., London, W.

STANNAH, J., Skin Market-pl., Bankside, London, S.E. *See advt.* BELOW.

Titan Lift & Electric Co., 113, Clerkenwell-rd., E.C.

VICTORIA DYNAMO & MOTOR CO., Craven House, Kingsway, London, W.C.

Wadsworth, Wm, & Sons, School Hill, Bolton.

Waygood, R., & Co., Ltd., Falmouth-rd., Great Dover-st., S.E.

Willis & Co., 2, Commercial-st., Knott Mill, Manchester.

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133, Oxford St., W.
21, Ironmonger Lane.
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Messrs. Renault Frères.
Messrs. Carwardine.
Messrs. F. Doble & Sons.
Messrs. Sharp, Perrin & Co.
Messrs. R. Clay & Sons.
Union Castle Steamship Co.
River Plate Fresh Meat Co.
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Transvaal Gold Fields Co., S.A.
Messrs. Store Bros., S.A. Johannesburg.

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ESTABLISHED 1828 **J. STANNAH, BANKSIDE, LONDON, S.E.**

Telegrams: "LIFTS, LONDON." Telephone: HOP. 1365.

For telegraphic addresses & telephone numbers, see Alphabetical Section.

Light & Power Companies—Electric.

(*See* ELECTRICITY WORKS.)

F.—Éclairage électrique—Compagnies d'.

G.—Gesellschaften für elektrische Beleuchtung.

Alderley & Wilmslow Electric Supply, Ltd.
Altrincham Electric Supply, Ltd.
Andover Lighting & Power Co.
Arbroath Electric Light & Power Co., Ltd.
Ashford & District Electric Supply Co., Ltd.
Banbury & District Electric Supply Co., Ltd.
Bankfoot Power Co., Ltd.
Barmouth & District Elec. Lighting & Power Co.
Belfast & North-East Ireland Electricity & Power Gas.
Belturbet Electric Lighting Co.
Bettws-y-coed Electric Lighting Co., Ltd.
Birkdale District Electric Supply Co., Ltd.
Bishop's Stortford & Stanstead Electric Lighting Co., Ltd.
Blockley Electric Supply Co.
Bournemouth & Poole Electricity Supply Co., Ltd.
Bovey Light & Power Co., Ltd.
Bradninch & District Electric Supply Co., Ltd.
Brentford Electric Supply Co., Ltd.
Bridgwater & District Electric Supply & Traction Co., Ltd.
British Electric Plant Co., Ltd.
Bromley (Kent) Elec. Light & Power Co., Ltd.
Brompton & Kensington Electricity Supply Co., Ltd.
Brynamman & District Electric Supply Co., Ltd.
Buckfastleigh Electric Supply Co.
Buckingham Electric Light Co.
Bude Electric Supply Co., Ltd.
Buncrana Electric Supply Co.
Burgess Hill & District Electric Supply Co., Ltd.
Caergwrle & District Electricity Supply Co., Ltd.
Camberley Electric Supply Co., Ltd.
Cambridge Electric Supply Co., Ltd.
Carmarthen Electric Light Co.
Carmarthenshire Electric Power Co.
Central Electric Supply Co., Ltd.
Central Ireland Electric Power Co.
Chagford & Devon Electric Light Co., Ltd.
Charing Cross, West End & City Electricity Supply Co., Ltd.
Charlestown Electric Light & Power Co., Ltd.
Chelsea Electricity Supply Co., Ltd.
Chepstow Electric Lighting & Power Co., Ltd.
Chesham Electric Light & Power Co., Ltd.
Chichester & District Electric Supply Co., Ltd.
Chipping Norton & District Electric Light & Power Co., Ltd.
Chislehurst Electric Supply Co., Ltd.
Chiswick Electricity Supply Corporation, Ltd.
Chorley & District Tramways, Ltd.
Church Stretton Electric Supply Co., Ltd.
City of Ely Electric Light & Power Co., Ltd.
City of London Electric Lighting Co., Ltd.
Cleveland & Durham County Electric Power, Ltd.
Cleveland Trust, Ltd., Saltburn-by-the-Sea.
Clyde Valley Electrical Power Co.
Coatbridge & Airdrie Electric Supply Co., Ltd.

Light & Power Companies—Electric—*continued.*

Cork Electric Tramways & Lighting Co., Ltd.
Cornwall Electric Power Co.
County of Durham Electric Power Supply Co.
County of Durham Electrical Power Distribution Co., Ltd.
County of London Electric Supply Co., Ltd.
County of Northampton Electric Power & Traction Co., Ltd.
Cumberland Electricity & Power Gas Co., 4, South Parade, Leeds.
Derbyshire & Nottinghamshire Elec. Power Co.
Dorchester Electric Light & Power Co., Ltd.
Dulverton Electric Lighting Co., Ltd.
Dumfries Electricity Supply Co., Ltd.
Durham Collieries Electric Power Co.
Egham Electric Lighting Synd.
Electric Supply Corporation, Ltd.
Electrical Distribution of Yorkshire, Ltd.
Farnham & District Electricity Supply Co., Ltd.
Fife Electric Power Co., Ltd.
Fladbury Electric Light & Power Co., Ltd.
Folkestone Electricity Supply Co., Ltd.
Foots Cray Electricity Supply Co., Ltd.
Foreign & Colonial Lighting, Ltd.
Formby & Freshfield Electric Light Co., Ltd.
Fort William Electric Lighting Co., Ltd.
Frinton-on-Sea & Dis. Elec. Lt. & Pr. Co., Ltd.
Galway Electric Co., Ltd.
Garonne Valley Electric Supply Co., Ltd.
Gloucestershire Electric Power Co.
Goring & Streatley Elec. Light & Power Co., Ltd.
Gorseinon Electric Light Co., Ltd.
Gosport & Alverstoke Electric Lighting Co., Ltd.
Grassington Electric Supply Co., Ltd.
Greystones Electric Light & Power Co., Ltd.
Guernsey Electric Light & Power Co., Ltd.
Guildford Electricity Supply Co., Ltd.
Halsworthy Electric Lighting Co.
Harrington Electric Light Co., Ltd.
Harrow Electric Light & Power Co., Ltd.
Harwich Electric Lighting & Tramways Co., Ltd.
Hayward's Heath Electric Supply Co., Ltd.
Hemsworth Electricity Supply Co., Ltd.
Hendon Electric Supply Co., Ltd.
Heswall District Power Co., Ltd.
Heswall Electric Light Co., Ltd.
Hexham & District Electric Supply Co., Ltd.
Hindhead & District Electric Light Co., Ltd.
Holsworthy Electric Supply Co., Ltd.
Houghton-le-Spring & District Electric Lighting Co., Ltd.
Hove Electric Lighting Co., Ltd.
Ilfracombe Electric Light & Power Co., Ltd.
Ingleton Electric Lighting & Power Co., Ltd.
Isle of Thanet Electric Tramways & Lighting Co., Ltd.
Isle of Wight Electric Light & Power Co., Ltd.
Kensington & Knightsbridge Electric Lighting Co., Ltd.
Kent Electric Power Co.
Kerry Electric Supply Co., Ltd.

Light & Power Companies—Electric— *continued.*

Keswick Electric Lighting Co., Ltd.
Keynsham Electric Light & Power Co., Ltd.
Kidderminster & District Electric Lighting & Traction Co., Ltd.
Kilmalcolm Electric Lighting Co., Ltd.
Kingswood Electric Supply Co., Ltd.
Lancashire Electric Power Co.
Larne Electric Light Works, Ltd.
Leatherhead & District Electricity Co., Ltd.
Lechlade Electric Light & Power Co., Ltd.
Leicestershire & Warwickshire Electric Power Co.
Lewes & District Electric Supply Co., Ltd.
Liverpool District Lighting Co., Ltd.
Llandrindod Wells Electric Light & Power Co., Ltd.
Llanelly & District Electric Lighting & Traction Co., Ltd.
Llangollen & District Electric Light & Power Co., Ltd., Llangollen.
Loch Leven Water & Electric Power Co.
London Electric Supply Corporation, Ltd.
Lothians Electric Power Co.
Ludlow Electric Light Co., Ltd.
Lyme Regis Electric Light & Power Co., Ltd.
Lymington Electric Light & Power Co., Ltd.
Lyndhurst, Ltd.
Lynton & Lynmouth Electric Light Co., Ltd.
Lytham Electric Light & Power Co., Ltd.
Macclesfield Electric Lighting & Power Co., Ltd.
Macroom & District Electric Lighting Syndicate, Ltd.
Mardy Electric Light Co., Ltd.
Market Drayton Electric Light & Power Co., Ltd.
Marlborough Electric Supply Co., Ltd.
Melton Mowbray Electric Light Co., Ltd.
Merthyr Electric Traction & Lighting Co., Ltd.
Metropolitan Electric Supply Co.
Mevagissey Electric Supply Co., Ltd.
Midland Electric Corp. for Power Distribution, Ltd.
Midland Electric Light & Power Co., Ltd.
Milford-on-Sea Electric Supply Co., Ltd.
Minehead Electric Supply Co., Ltd.
Missenden & District Electric Light & Power Co., Ltd.
Munster Electric Lighting Co., Ltd.
Musselburgh & District Electric Light & Traction Co., Ltd.
National Electric Supply Co., Ltd.
New Rottingdean Electricity Co., Ltd.
Newark Electric Supply Co., Ltd.
Newcastle & District Electric Lighting Co., Ltd.
Newcastle Emlyn & District Electric Supply Co., Ltd.
Newcastle-upon-Tyne Electric Supply Co., Ltd.
Newmarket Electric Light Co., Ltd.
Newquay Electric Light & Power Co., Ltd.
North British Electric Power Syndicate, Ltd.
North Metropolitan Electric Power Supply Co.
North Metropolitan Electrical Power Distribution Co., Ltd.

Light & Power Companies—Electric— *continued.*

North of Scotland Electric Light & Power Co., Ltd.
North Wales Power & Traction Co., Ltd.
North-Western Electricity & Power Gas Synd., Ltd.
Northallerton Electric Light & Power Co., Ltd.
Northampton Electric Light & Power Co., Ltd.
Northern Counties Electricity Supply Co., Ltd.
Northwich Electric Supply Co., Ltd.
Northwood Electric Light & Power Co., Ltd.
Notting Hill Electric Lighting Co., Ltd.
Ogmore Valley Electric Light & Power Supply Co., Ltd.
Oswestry Electric Lighting & Power Co., Ltd.
Oulton Broad Electricity Co., Ltd.
Oxford Electric Co., Ltd.
Paignton Electric Light & Power Co., Ltd.
Penarth Electric Lighting Co., Ltd.
Penrith Electric Supply Co., Ltd.
Penzance & District Electric Supply Co., Ltd.
Petersfield Electricity Supply Co.
Pontypool Electric Light & Power Co., Ltd.
Portpatrick Electric Supply Co., Ltd.
Railway Lighting, Ltd.
Ramsgate & District Electric Supply Co., Ltd.
Reading Electric Supply Co., Ltd.
Rhondda Tramways Electric Supply Co., Ltd.
Rhymney Valley & General Electric Supply Co.
Richmond (Surrey) Elec. Light & Power Co., Ltd.
Ross Electric Light & Power Co., Ltd.
Roundhay & District Electric Lighting Co., Ltd.
Rugby School Electric Lighting Co., Ltd.
St. Austell & District Electric Lighting & Power Co., Ltd.
St. Helen's Electric Lighting Co., Ltd.
St. James' & Pall Mall Electric Light Co., Ltd.
Salisbury Electric Light & Supply Co., Ltd.
Scarborough Electric Supply Co., Ltd.
Scottish Central Electric Power Co.
Sheerness & District Electric Power & Traction Co., Ltd.
Sheppey Water & Lighting Co., Ltd.
Shropshire & Worcestershire Electric Power Co.
Slough & Datchet Electric Supply Co., Ltd.
Smithfield Markets Electric Supply Co., Ltd.
Somerset & District Electric Power Co.
South Lancashire Electric Supply Co., Ltd.
South London Electric Supply Corporation, Ltd.
South Metropolitan Electric Light & Power Co., Ltd.
South Metropolitan Electric Tramways & Lighting Co., Ltd.
South Wales Electrical Power Distribution Co.
Stratford-on-Avon Electricity Co., Ltd.
Strathclyde Electricity Supply Co., Ltd.
Suffolk Electricity Supply Co., Ltd.
Swanage Electricity Supply Co., Ltd.
Tadcaster Electricity Co., Ltd.
Tavistock & District Electric Supply Co., Ltd.
Tayside Electric & Gas Light Co., Ltd.
Tewkesbury Electric Light Co., Ltd.

Light & Power Companies—Electric—*continued.*

Ton-yr-efail & Gilfach Goch Electric Light Co., Ltd.
Topsham Electricity Supply Co., Ltd.
Trafford Power & Light Supply (1902), Ltd.
Treforest Electrical Consumers Co., Ltd.
Twickenham & Teddington Electric Supply Co., Ltd.
Ulster Electric Power Distribution Co., Ltd.
United Electric Light & Power Supply Co., Ltd.
Urban Electric Supply Co., Ltd.
Wadebridge & District Electric Supply Co.
Wedmore Electric Light & Power Co.
West London & Provincial Electric Supply Co., Ltd.
Western Electric Distributing Corp., Ltd.
Westminster Electric Supply Corporation, Ltd.
Weston-super-Mare & District Electric Supply Co., Ltd.
Whitchurch & Pangbourne Elec. Supply Co., Ltd.
Winchester Electric Light & Power Co., Ltd.
Windermere & District Electricity Supply Co., Ltd.
Windsor Electrical Installation Co., Ltd.
Wisbech Electric Light & Power Co., Ltd.
Witney Electric Supply Co., Ltd.
Woking Electric Supply Co., Ltd.
Wycombe (Borough) Electric Light & Power Co., Ltd.
Yale Electric Power Co., Ltd.
Yarmouth (Isle of Wight) Electricity Supply Co., Ltd.
Yorkshire Electric Power Co.
Ystradgynlais Electric Light Co., Ltd.

Light Systems—Electric.

F.—Systèmes de lumière électr.
G.—Electr. Licht Systeme.

BELLISS & MORCOM LTD., Ledsam-st. Works, Birmingham. London office: 8, Victoria-st., S.W. (Telegs.: "Belliss, Birmingham." Teleph. Nos. 4480 & 4481.) *See advt., page* 533.

Boddy, G. M., & Co., 15, Gray's Inn-rd., London, W.C.; & St. Peter's-sq., Manchester. *See advt., page* 646.

British Westinghouse Electric & Manufacturing Co., Ltd., The, Westinghouse Works, Trafford Park, Manchester.

Callender's Cable & Construction Co., Ltd., Hamilton House, Victoria Embankment, London, E.C. *See advt., page* 441.

Drake & Gorham, Ltd., 66, Victoria-st., Westminster, London, S.W. Works: 1, Felix-st., S.E. For branches, telegrams & telephone numbers, *see* ALPHABETICAL. *See advt., page* 459.

Electrical Contracts & Maintenance Co., Ltd., Sanctuary House, Westminster, S.W.

Gifkins, A. V., & Co., 68, Victoria-st., Westminster, S.W.

Light Systems—Electric—*continued.*

INDIA RUBBER, GUTTA PERCHA & TELEGRAPH WORKS CO., LTD. Head offices: 106, Cannon-st., E.C. Warehouses: 100 & 102, Cannon-st., London, E.C.; & 97, boul. Sebastopol, Paris. Works: Silvertown, Essex; & Persan, France. For telegraphic addresses & branches, *see advt. on outside of back cover.*

SIMPLEX CONDUITS, LTD. Head office: Garrison-lane, Birmingham. Works: Maxstoke-st., Birmingham; also at 113, 115, 117, Charing Cross-rd., London, W.C.; 16, Corporation-st., Manchester; 72A, Waterloo-st., Glasgow; Newcastle; Bristol; & Liverpool. L. M. Waterhouse, A.M.I.C.E., M.I.E.E., managing director. *See inset advt., pages* 455 & 456.

UNION ELECTRIC CO., LTD., Park-st., Southwark, London, S.E. (Telegs.: "Abeam, London." A.B.C. Code. Teleph. Hop. 2970.) *See advt., page* 563.

Lightning Arresters—Makers of.

F.—Paratonnerres—Fab. de.
G.—Blitzschutz vorrichtung—Fabr. von.

Adnil Electric Co., Ltd., Adnil-bldg., Artillery-lane, London, E.C.

British Thomson-Houston Co., Ltd. Head office & works: Rugby. Registered office: 83, Cannon-st., London, E.C. Branch offices: 91, Wellington-st., Glasgow; 41, Church-st., Sheffield; Collingwood-bldgs., Newcastle-on-Tyne; Star Life-bldgs., 20, Cross-st., Manchester; Maritime-bldgs., Middlesbrough; 115, Colmore-row, Birmingham; & Greek-st.-chbrs., Leeds. (Telegs.: "Asteroidal." Teleph. Nos.: Head office, Rugby 54 & 55; London office, London Wall 135 (4 lines).)

British Westinghouse Electric & Manufacturing Co., Ltd., The, Westinghouse Works, Trafford Park, Manchester.

Estler Bros., 3, Cross-lane, E.C. Works: South Molton-rd., Victoria Docks, E.

Ferranti Ltd., Hollinwood, Lancs. (Telegs.: "Ferranti, Hollinwood." Teleph. Failsworth 31 & 48); & 78, King-st., Manchester.

Siemens Bros. & Co., Ltd., Caxton House, Westminster, London, S.W. *See advt., page* 573.

TURNERS & MANVILLE, LTD., 5, Lloyd's-ave., E.C. (Telegs.: "Vulbeston, London." Teleph. No. 1458, Avenue.)

Watlington & Co., Moorgate Station-chbrs., London, E.C.; & Trafford Park, Manchester.

Lightning Conductor Manufacturers & Erectors.

F.—Paratonnerres—Fab. et monteurs de.
G.—Blitzableiter-Fabrikanten.

Anderson, Richard, & Co., Leadenhall House, 101, Leadenhall-st., London, E.C.

Ball, Joseph, York-castle, Oldham, Lancs.

Lightning Conductor Manufacturers & Erectors—*continued.*

Baxendale & Co. (makers), Miller-st. Works & Warehouses, Manchester; Hanover-st., Edinburgh; Capel-st., Dublin; & Hood-st., Liverpool.

Berry, W. D., & Son, Spring-pl. Works, Springwood-st., Huddersfield.

Birt, J. A. W., Tower Works, Wapping, London, E.

Blackburn, Starling & Co., Ltd., Gresham Works, Nottingham; 72, Piccadilly, Hanley; & 197, Wardour-st., London, W.

Bramham, J., 104, Dale-street, Liverpool.

Capham, C., 114, Leytonstone-rd., Stratford, London, E.

Cox-Walkers, Ltd., Darlington. *See advt., page* 15.

CROGGON & CO., LTD., 16 & 230, Upper Thames-st., London, E.C.; Colonial-chbrs., Temple-st., Liverpool; & 7, John-st., Glasgow. *See advt., page* 494.

Cross, George, & Sons, 23, Grange-rd., Smethwick.

Dargue, Griffiths & Co., Ltd., 51, North John-st., Liverpool.

DAVIS, JOHN, & SON (DERBY), LTD., All Saints' Works, Derby. (Telegrams: "Davis, Derby." Telephone No. 240, Derby.)

Dixon & Corbitt & R. S. Newall & Co., Ltd., Rope Works, Gateshead-on-Tyne; 130, Strand, London, W.C.; & 28, West Nile-st., Glasgow.

Dutton, F., & Co., Heckmondwike, Yorks.

Electrical Contracts & Maintenance Co., Ltd., Sanctuary House, Westminster, S.W.

Ellis, E., & Co., 21, Emmett-st., Poplar, London, E.

Furse, W. J., & Co., Traffic-st., Nottingham.

Gray, J. W., & Son, 91, Leadenhall-st., E.C.

Johnson & Phillips, Ltd., Victoria Works, Charlton, S.O., Kent; & 12, Union-ct., Old Broad-st., E.C. *See advt. inside back cover.*

Lamb, Joseph P., & Co., 1, Park-lane, Liverpool.

Larkins, Wm., 18, Alfred-st., Bow, E.

LEWIS, JOSEPH, 5 & 6, GREAT WINCHESTER-ST., LONDON, E.C. Patentee of the "LEWIS LINK;" the only coupling in one piece for Lightning Conductors. Prize Medal Electrical Exhibition, London, 1892. The trade & shippers supplied with conductors & fittings ready for easy fixing, also copper & wire rope & wire cord, &c. CHIMNEY SHAFTS & steeples, &c., examined, altered & repaired; conductors fixed, & all kinds of lofty work without expense of scaffolding or stoppage of works. (Telegrams: "Weathervane, London." Telephone No. 3053, Central.)

McWhirter, Wm., & Son, 212, 214 & 216, Holm-st., Glasgow. (Telegs.: "Testing, Glasgow.")

Morris, John Stuart, Wardrobe-chambers, Queen Victoria-st., London, E.C.

Parkinson, T., Canterbury-street, Blackburn.

Princess Art Metal Works Co., 183 & 185, Princess-st., Manchester.

Short, J., & Co., 46, East Crawford-st., Glasgow.

Siemens Bros. & Co., Ltd., Caxton House, Westminster, London, S.W. *See advt., page* 573.

Lightning Conductor Manufacturers & Erectors—*continued.*

SMITH, FREDERICK, & CO., INCORPORATED IN THE LONDON ELECTRIC WIRE CO. & SMITHS, LTD., Wire Manufacturers, Anaconda Works, Salford, Manchester. Copper wire, hard-drawn H.C. long lengths copper wire, plain soft tinned, & strips for all electrical purposes. Tape & strand for lightning conductors. Silicium bronze wire, "Cog-wheel Brand." Phosphor bronze spring wire, aluminium wire & strip. (Telegs.: "Anaconda, Manchester.") *See advt., page* 747.

Stegmann & Co., Brighton Railway Approach, Clapham Junction, S.W.

Stevens, F. J., & Co., 348, St. Leonards-rd., Poplar, London, E.

Stewart, W. W., & Co., 365, Scotland-street, Glasgow.

Swinnerton, G., & Son, 108, Shirland-rd., Smethwick, Birmingham.

Universal Engineering Co., Nottingham.

Utley, C. J., & Co., Overton & Quenby-rd., Leicester.

WILKINS WIRE ROPE CO., LTD., Eastwood, Notts. (Telegrams: "Cordelero, Eastwood." Telephone No. 17, Langley Mill.)

Wragge, G., Ltd., 152, 154, 156 & 165, Chapel-st., Salford, Manchester.

Lightning Engineers.

F.—Paratonnerres—Ingénieurs pour.
G.—Blitzableiter—Ingenieure für.

Electrical Contracts & Maintenance Co., Ltd., Sanctuary House, Westminster, S.W.

Fulton, T. Crichton, A.I.E.E., 44, West George-st., Glasgow.

MIDLAND WIRE CORDAGE CO. (DAVISON'S), Orchard Works, Vincent-st., Balsall-heath, Birmingham. (Telegs.: "Orchard, Birmingham.")

Linesmen's Tool Wallets.

F.—Porte-outils pour poseurs de lignes télég.
G.—Linien-Werkzeuge-Schnappsacken.

Thewlis, Griffith & Edelsten, Ltd., Mersey-st., Warrington.

Lock Manufacturers—Electric.

F.—Serrures électr.—Fabr. de.
G.—Schlöeser—Fabr. von.

Chubb & Son's Lock & Safe Co., Ltd., 128, Queen Victoria-st., E.C.; & 68, St. James's-st., Pall Mall, S.W.

Lock Washers.

Burns, J., Ltd., 189, Central-st., London, E.C. *See advt., page* 738.

Locomotives—Electric.

Koppel, Arthur, 27, Clements-lane, London, E.C.

Lubricant Manufacturers.

F.—Huiles à lubrefier—Fab. d'.
G.—Maschinen-Oele.

Adams British Oil Co., Ltd., Plough Bridge, Deptford, S.E.
Alexander, W. P., Pringle & Co., 104, West Campbell-st., Glasgow.
Blundell, Spence & Co., Ltd., Anchor Wharf, 9, Upper Thames-st., London, E.C.; & Hull.
Bowley, S., & Son, Wellington Works, Battersea Bridge, S.W. (Telegs.: "Bolyanson, London." Teleph. Battersea 1 & 2. A.B.C. Code.)
BROWN, HEDLEY O., & CO., Victoria Oil Works, Soap House Wharf, Hull. *See advt.* BELOW.
Down, Fred J., 6, 7 & 8, Crutched Friars, London (Gear Saving Composition.) Gear Shield.
Engelbert & Co., 119–125, Finsbury Pavement, London, E.C.
Hall & Hall, 47, Leadenhall-st., E.C.
International Oil Co., 120, Fenchurch-st., London, E.C.
Kingfisher (1118), Leeds, Leeds.
Mawson, Clark & Co., Pandon-bldgs., City-rd., Newcastle.
Mica Lubricant Co., 63, King-st., South Shields.
Reliance Lubricating Oil Co., 19 & 20, Waterlane, Great Tower-st., London, E.C.
Richardson, Herbert G., & Co., Shaw-st., Walsall. Special Xterra dynamo oils.
Samuel, Wm. H., & Co., Leeds-st., Liverpool.
Snowdon, Sons & Co., Ltd., Millwall, London, E.
Wells, H., Salford, Manchester.
Willcox, W. H., & Co., Ltd. Office: 23, Southwark-st. Warehouse: 32, 34 & 36, Southwark-st., London, S.E. Works: Castle-st. (Telegs.: "Willcox, Southwark-st., London." Teleph. Hop 3740 & 3741.) *See advt. facing inside front cover.*

Lubricator Makers for Electric Machines & Engines.

F.—Lubricateurs—Fab. de.
G.—Schmier Apparate—Fab. von.

Dunham, White & Co., Ltd., Harrow Green Works, Leytonstone-rd., London, N.E.
Fisher, J. Greevz, 78, Harrogate-rd., Leeds.
Lunken Valve Co., 35, Gt. Dover-st., London, S.E.
Smith, Sydney, & Sons, Ltd., Basford Brass Works, Nottingham.

Lubricator Makers for Electric Machines & Engines—*continued.*

Summer, G., Rhodes Bank Works, Oldham.
Trier Bros., 19, Great George-st., London, S.W.
Willcox, W. H., & Co., Ltd. Office: 23, Southwark-st. Warehouse: 32, 34 & 36, Southwark-st., S.E. Works: Castle-st. (Telegs.: "Willcox, Southwark-st., London." Teleph. Hop 3740 & 3741.) *See advt. facing inside front cover.*

Machine Tool Makers.

F.—Outils pour Machines—Fab. de.
G.—Maschinen-Werkzeug—Fabr.

Alma Machine Tool & Engineering Works, Liversedge.
Archdale, J., & Co., Ledsam-st., Birmingham.
Asquith, Wm., Ltd., High-rd. Works, Halifax.
Atlas Engineering Co., Levenshulme, Manchester.
Berry, F., & Sons, Sowerby Bridge.
Beyer, Peacock & Co., Ltd., Gorton, Manchester.
BIRCH, G., & CO., Islington Tool Works, Salford, Manchester.
Birmingham Engineering Co., Ltd., Hooper-st., Springhill, Birmingham.
Booth, G., & Co., Arundel-st., Gilbert-st., Halifax.
Bradbury & Co., Ltd., Wellington Works, Oldham.
Britannia Engineering Co., Ltd., Colchester; & 699, Salisbury House, London, E.C.
Buckton, Joshua, & Co., Ltd., Meadow-rd., Leeds.
Campbells & Hunter, Ld., Dolphin Fdry., Leeds.
Chatwin, Thos., Gt. Tindal-st., Birmingham.
CHURCHILL, CHAS., & CO., LTD., 9–15, Leonard-st., London, E.C.; 2–10, Albert-st., Birmingham; 6, Oxford-st., Manchester; Albion-bldgs., St. James-st., Newcastle-on-Tyne; & 9–11, Wellington-st., Glasgow.
Cook, C. E., & Son, Ashton-in-Makerfield.
Cunliffe & Croom, Ltd., Broughton Iron Works, Manchester.
Dean, Smith & Grace, Worth Valley Tool Works, Parkside, Keighley.
Dempster, Moore & Co., Ltd., 49, Robertson-st., Glasgow.
Drummond Bros., Ltd., Rhydes Hill, nr. Guildford.
Easterbrook, Allcard & Co., Ltd., Albert Works, Sheffield.
Evans, Jos., & Son, Highfield Tool Works, Sheffield.

HIGHEST EFFICIENCY IN LUBRICATING ELECTRIC LIGHT AND POWER PLANTS

By Using Our **CYLINDER OILS for Superheated Steam and Highest Pressures.**
TURBINE OIL. DYNAMO OIL.
CRANK CHAMBER OILS for Forced Lubrication and Splash Systems.

HEDLEY O. BROWN & CO.,

Victoria Oil Works, Soap House Wharf, HULL, ENGLAND.

Telegrams: "OIL, HULL." A.B.C. Code, 5th. Corporation Telephone **No. 1684.**

Sole Proprietors and Manufacturers of ***"GEARPACO"*** (Registered).

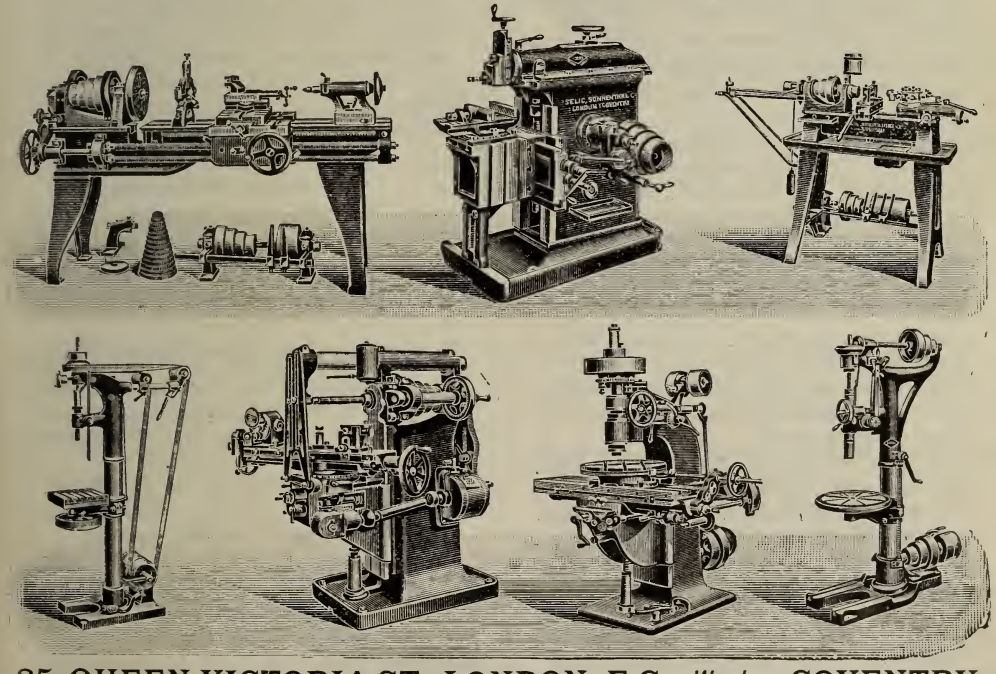
Machine Tool Makers—*continued.*

GREENWOOD & BATLEY, LTD., Albion Works, Leeds; & 16, Great George-street, Westminster, London, S.W. (Telegrams: "Greenwood, Leeds;" & "Outflank, London.") *See advt., page* 20.
Halls, Arthur, Tool Works, Great Yarmouth.
Hardy Patent Pick Co., Ltd., 22, Queen Victoria-st., E.C.
Hatch, George, Ltd., 20 & 21, Queenhithe, Upper Thames-st., London, E.C.
Heap, William, & Co., Ltd., Oldham-rd., Ashton-under-Lyne.
Helleken, G., Ltd., 133, Upper Thames-st., E.C.
Herbert, Alfred, Ltd., Butts, Coventry.
Herbert, E. G., Ltd., Rosamond-st. East, Manchester.
Holbrook & Son, 44, Martin-st., Stratford, E.
Holroyd, J., & Co., Ltd., Perseverance Works, Milnrow, nr. Rochdale.
Houchin, R., 13, Bridport-pl., New North-rd., N.
Hughes, Fawcett & Co., Hebden Bridge.
Ingham, W. P., Middlesbrough.
Jarratt, J. T., 57, Highcross-st., Leicester.
Kendal & Gent, Ltd., Gorton, Manchester.
Knox, J., & Co., 210, Upper Thames-st., E.C.
Lang, John, & Sons, Johnstone, nr. Glasgow; & 149, Bishopsgate-st. Without, London, E.C.

Machine Tool Makers—*continued.*

Lee & Hunt, Arkwright Tool Works, Crocus-street, Nottingham.
Lindley, C., & Co., Ltd., 34, Englefield-rd., N.; & Beauvoir Bolt & Nut Works, Luddenden, Yorks.
Linwood Machine Tool Co., 83, John-st., Govan, Glasgow.
Loewe, L., & Co., Ld., 30 & 32, Farringdon-rd., E.C.
Loudon Bros., Johnstone; & Glasgow.
Maud & Turner, Gibbet-st., Halifax.
Midland Manufacturing Co., Ltd., Sheffield.
Moseley & Son, 63, New Oxford-st., London, W.C.
Mosers, Ltd., 178, 180, 182 & 192, Borough High-st., & 4, Marshalsea-rd., London, S.E.
Moy, Ernest F., Ltd., Greenland-pl., Camden Town, London, N.W. (Telegrams: "Movedor, London.") *See advt., page* 709.
Muir, Wm., & Co., Ltd., Sherbourne-st., Manchester.
Neville Machine & Tool Co., Ltd., The, 7, James-st., Liverpool.
Newbold, W., & Co., Ltd., Pearl-bldgs., 107, Upper Thames-st., E.C.
Niles-Bement-Pond Co., 25, Victoria-st., S.W.
Noble & Lund, Ltd., Felling-on-Tyne.
Parkinson, J., & Son, Cromwell-rd., Shipley.
Perkin & Co., Ltd., Lord-st. Works, Whitehall-rd., Leeds.
Pfeil & Co., 145–157, St. John-st., London, E.C.

SELIG, SONNENTHAL & CO.,
MACHINE TOOL MAKERS.



85, QUEEN VICTORIA ST., LONDON, E.C. *Works:* COVENTRY.
***Large Stock** of **High-Class Modern Machine Tools** of every description.*

Machine Tool Makers—*continued.*

PHŒNIX DYNAMO MANUFACTURING CO., LTD. Head offices: Thornbury Works, Bradford. (Telegs.: "Dynamo, Bradford." Teleph. No. 952.) London office: 87, Victoria-st., S.W.

Plumpton, George, Albion Works, Warrington. (Telegs.: "Tools, Warrington." Tel. No. 572.)

Plumpton, Herbert, Ltd., Excelsior Tool Works, Warrington, Lancs.

POLLOCK & MACNAB, LTD., Britannia Machine Tool Works, Bredbury, nr. Manchester.

Proctor, J., Ltd., Hammerton-st. Iron Works, Burnley.

Rasmussen, Webb & Co., 11, Charterhouse-bldgs., London, E.C.

Richards, Geo., & Co., Ltd., Broadheath, near Manchester.

Ryder, Thos., & Son, Bolton.

Scriven & Co., Mill-st., Leeds.

SELIG, SONNENTHAL & CO., 85, Queen Victoria-st., London, E.C. (Telegs.: "Selig, London." Teleph. Nos.: 341, Bank; & 11779, Central.) Works: Coventry. *See advt., page* 637.

Shanks, Thos., & Co., Johnstone, N.B.

Smith & Coventry, Ltd., Ordsal-lane, Salford, Manchester; & 5, Laurence Pountney Hill, London, E.C.

Smith & Sons, 42, 44, 46, 47, 50 & 52, St. John's-sq., E.C.

Smith & Wilshaw, Kingston Works, Hopwood-lane, Halifax, Yorks.

Spencer, J., & Co., Chamber Iron Works, Hollinwood, Manchester; & 5, Dowgate-hill, E.C.

Strachan, Turner & Co. (agents), 37, Lime-st., London, E.C.

Syer, T. J., & Co., 45, Wilson-st., Finsbury, London, E.C.; & at Birmingham.

Taylor, Taylor & Hobson, Ltd., Stoughton-st. Works, Leicester.

Turton Bros. & Matthews, Ltd., Sheffield; & 34, Gracechurch-st., London, E.C.

Tweedales & Smalley, Ltd., Castleton, nr. Manchester.

Ward, Haggas & Smith, Eastwood Works, Keighley, Yorks.

Webster & Bennett, Ltd., Atlas Works, Coventry.

Werner, Pfleiderer & Perkins, Ltd., Westwood Works, Peterborough.

Wild, A. M., Castle-chbrs., 13, High-st., Sheffield.

Wilkinson, G., & Sons, Keighley, Yorks.

Willcox, W. H., & Co., Ltd. Office: 23, Southwark-st. Warehouse: 32, 34 & 36, Southwark-st., S.E. Works: Castle-st. (Telegs.: "Willcox, Southwark-st., London." Teleph. Hop 3740 & 3741.) *See advt. facing inside front cover.*

Wingfield, Rowbotham & Co., 1, Suffolk-rd., Sheffield.

Wynn, Timmins & Co., Ltd., Century Works, Commercial-st., Birmingham.

Machinery Merchants & Agents.

F.—Machines—March. et represent. de.
G.—Maschinen Händler & Agenten.

Beckenbach & Co., 18, Chapel-st., Bradford.

Bliss, E. W., & Co., New-rd., Wandsworth-rd., S.W.

Boilerine, Ltd., 885A & 897, Old Kent-rd., London, S.E.

Gilman, F., High Park-rd., Smethwick, Birmingham.

Johnson, H., 117, High-st., Stratford, London, E.

Jones, T. C., & Co., Lombard-rd., Battersea, London, S.W.

Kerr, R. L., & Sons, 52, Bridge-st, Manchester.

Leigh, Evan, & Son, 19, James-st., Liverpool.

Machine Tool Co., Ltd., London-rd., Nottingham.

Northern Steel & Hardware Co., Ltd., Bloom-st., Salford, Manchester.

SELIG, SONNENTHAL & CO., 85, Queen Victoria-st., London, E.C. (Telegs.: "Selig, London." Teleph. Bank 341; & Central 11779.) *See advt., page* 637.

Souper & Callaghan, 46, Grosvenor-chbrs., Deansgate, Manchester.

Stone, J. B., & Co., 135, Finsbury Pavement, London, E.C.

Takata & Co., 88, Bishopsgate-st., London, E.C.

Thomson, A. W., 5, Lloyd's-ave., Fenchurch-st., London, E.C.

Victoria Dynamo & Motor Co., Craven House, Kingsway, London, W.C.

Ward & Cuningham, Craven House, Kingsway, London, W.C.

Willcox, W. H., & Co., Ltd. Offices: 23, Southwark-st. Warehouse: 32, 34 & 36, Southwark-st., S.E. Works: Castle-st. (Telegs.: "Willcox, Southwark-st., London." Teleph. Hop 3740 & 3741.) *See advt. facing inside front cover.*

Williams, J. T., 231, Rotherhithe New-rd., S.E.

Williams & Geils, 35, King William-st., E.C.

Magnesium Merchants.

F.—Magnesium—March. de.
G.—Magnesium—Händler von.

JOHNSON, MATTHEY & CO., LTD., 74 to 81, Hatton Garden, London, E.C.

Magnet Castings (Steel) Manufacturers.

Allen, Edgar, & Co., Ltd., Imperial Steel Works, Sheffield; London, 52, Queen Victoria-st., E.C.

Estler Bros., 3, Cross-lane, E.C. Works: South Molton-rd., Victoria Docks, E.

TURNER BROS., 134, UPPER THAMES-ST., LONDON, E.C. (Telegs.: "Sheetiron, London." P.O. Teleph. No. 355, Central.)

Magnet Forgings.

F.—Aimants—Pieces forgées pour.
G.—Magnet Schmiede Stücke.

DENNIS, W. F., & CO., 49, Queen Victoria-st., London, E.C. (Telegs.: "Fredennis, London." Teleph. No. 343, Bank.)

Magnet Manufacturers.

F.—Aimants. *G.—Magnete.*

Apps, A., 433, Strand, London, W.C.

DENNIS, W. F., & CO., 49, Queen Victoria-st., London, E.C. Sole agents for Heinrich Remy G. m. b. H., Hagen, Westphalia. Manufacturers of Permanent Magnets for Meters, Telephones, Electric Measuring Instruments, Magnetos, &c.

Perry, Thomas, & Son, Herbert-rd., Birmingham.

Rhodes, J. F., maker of magnets for electrical & other trades, 161, Newhall-st., Birmingham.

Shaw, H., & Son, 45 & 47, Monmouth-st., Sheffield.

Magnet Steel Manufacturers.

F.—Acier magnétique—Fab. d'.
G.—Stahl für Magnete—Fab.

Allen, Edgar, & Co., Ltd., Imperial Steel Works, Sheffield; & 52, Queen Victoria-st., London, E.C.

DENNIS, W. F., & CO., 49, Queen Victoria-st., London, E.C. (Telegs.: "Fredennis, London." Teleph. No. 343, Bank.) Sole agents for Heinrich Remy G. m. b. H., Hagen, Westphalia.

Flockton, Tompkin & Co., Ltd., Newhall Steel Works, Sheffield.

Jonas & Colver, Ltd., Continental Wks., Sheffield.

Saville, J. J., & Co., Ltd., Triumph Steel Works, Shoreham-st., Sheffield.

Magnetic Separators.

Richardson, Herbert G., & Co., Shaw-st., Walsall.

Magneto & Electric Machine Manufacturers.

F.—Machines magnetiques et électr.—Fab. de.
G.—Magnet & Electr. Maschinen Fab.

BRISTOL ELECTRIC SAFETY LAMP WORKS. Offices & works: 40, Great Smith-st., S.W. *See advt., page* 405.

Magneto Co., Ltd., Dreadnought Works, Phillip-st., Aston.

Scientific Appliance Manufacturing Co., 15, New Oxford-st., London, W.C.

Siemens Bros. & Co., Ltd., Caxton House, Westminster, London, S.W. *See advt., page* 573.

Skidmore, Wm., & Co., Ltd., 59, Cemetery-rd., Sheffield.

Smith, H. W., & Co., Lydbrook, Glos.

Vandervell, C. A., & Co., Warple Way, Acton Vale, London, W. "C.A.V." accumulators. Motor ignition specialists.

Mahogany, Hardwood & Timber Merchants.

F.—Bois—March. *G.—Holz-Händler.*

HARRIS, J. F. & G. Offices & Mills: 58Q, Wilson-st., Finsbury, London, E.C.; 107-109, Snow's Fields, Newcomen-st., Borough; Victoria Wharf, Palmer-rd., Green-st., Bethnal Green, London, E.; & Roding Joinery Works, Ilford. *See* Wood Casings & Cleats.

Mahogany, Hardwood & Timber Merchants—*continued.*

WADE, RICHD., SONS & CO., LTD., Hull & West Hartlepool. *See advt., page* 755.

Main Switches.

ADAMS MANUFACTURING CO., LTD., 106, New Bond-st., London, W.; & Bedford. (Telegs.: "Admocar, London;" "Admocar, Bedford." Teleph. Mayfair 3962; & P.O. 2 Bedford.)

ELECTRIC & ORDNANCE ACCESSORIES CO., LTD., Cheston-rd., Aston, Birmingham. (Telegs.: "Stellite, Birmingham." Teleph. Nos.: Nat. 176 & 179, East; & P.O. 9 (Trunk Calls).) *See page* 134 *for full entry.*

Malleable Iron Castings.

F.—Fonte en fer malléable.
G.—Schmiedbarer Eisen Guss.

Armorduct Manufacturing Co., Ltd., 6, Farringdon-ave., London, E.C.; & 44, Blackett-st., Newcastle-on-Tyne. Works: Bathurst Works, Witton, nr. Birmingham. (Telegs.: "Armorduct," London, Newcastle-on-Tyne, Birmingham. Teleph. Nos.: London, 400, Holborn (2 lines); Newcastle-on-Tyne, 2827, Central; Witton Works, 812, East.) *See advt. on top edges.*

BARTON & SONS, LTD., Beehive Foundry, Birchills, Walsall.

Clarke, Robert, 39, Featherstone-st., London, E.C.

Dronfield Malleable Casting Co., Dronfield, nr. Sheffield.

Fisher, S., & Co., Pelham Works, Sylvester-gdns., Sheffield.

Gameson, Thos., & Sons, Ltd. (founders), Britannia Foundry, Walsall.

Guest, John, & Sons, Wolverhampton-rd., Walsall.

Ley's Malleable Castings Co., Ltd., Vulcan Iron Works, Derby.

Maddock, John, & Co., Ltd., Oakengates, Salop.

Harper, J., & Co., Ltd., Albion Works, Willenhall, Staffs.

Russell, S., & Co., Ltd., Northcote-st. Foundry, Walsall.

Springfield Steel Co., 777, London-rd., Glasgow.

Wycliffe Foundry Co, Ltd., 63, Queen Victoria-st., E.C.

THOMAS & STRACHAN,

HIGH-GRADE PEROXIDE

MANGANESE ORE

For Electrical Purposes. In Lumps, Nuts, Pea and Rice Sizes.

ALSO

GROUND BLACK OXIDE.

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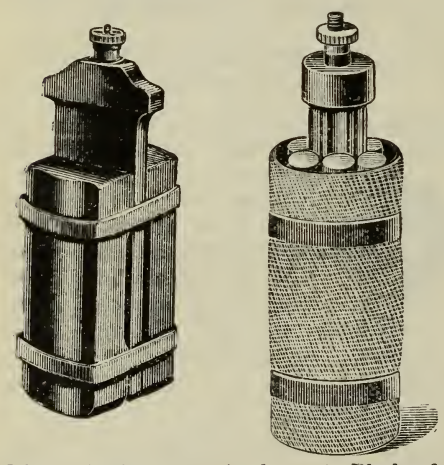
TELEGRAMS: "STRACHAN, LIVERPOOL." TELEPHONE No. 6789, CENTRAL.

Manganese Merchants.

F.—Marchands—Manganése.

G.—Braunstein-Händler.

ATLAS CARBON & BATTERY CO., LTD., 19, Ewer-st., London, S.E. (Telegrams: "Altisonant, London.")



Makers of Manganese Agglomerate Blocks, for "Agglomerate Leclanché Cells," "6-block Agglomerate Batteries," &c., &c.

Manganese Merchants—*continued.*

Bailey, S. G., & Co., Ltd., Stafford Mills, Stroud, Gloucester. London office: 9, Moorgate-ct., E.C.

Birch, J., & Co., Ltd., 3, London Wall-bldgs., E.C.

Blackwell, Geo. G., Sons & Co., Ltd. Works: Garston. Head offices: The Albany, Old Hall-st., Liverpool.

EVERITT & CO., 40, Chapel-st., Liverpool. (Telegs.: "Persistent, Liverpool." Teleph. No. 1134 (3 lines).) *See advt.* BELOW.

Flint, W. J., 79 & 81, Ethelburga-house, Bishopsgate-street-within, London, E.C.

Gilbert, W. K., & Co., 6, Dowgate Hill, E.C.

Haeberlin, F., 5, Whittington-ave., London, E.C.

Hof, Charles, & Co., 52, Leadenhall-st., E.C.

Huntley, R., Ltd., 34 & 36, Mowbray-st., Sheffield.

Jobling, J. A., St. Nicholas-chambers, Newcastle-on-Tyne.

Lyon, J. L., & Co., 75, Mark-lane; & 19 & 20, London-st., London, E.C.

Macqueen Bros., 9, Billiter-sq., London, E.C.

Morrison, R., & Co., 2, Fen-crt., Fenchurch-st., E.C.

Nightingale, G. P., 24 & 25, Great Tower-st., E.C.

Parkyn & Peters, 32, Queen Victoria-st., E.C.

Pyle & Blaina Works, Ltd., 17, Gracechurch-st., London, E.C.

MANGANESE

Specially prepared in Grain & Powder for the Electrical Trade.

Finest Air-floated Asbestos Powder, Asbestos Fibre, Silex, Silica Powder, Graphite, Plumbago, Talc, French Chalk, Mica Powder, Calcium Fluoride, Oils, Greases, Waxes, Bitumen, Stearine Pitch.

EVERITT & Co., 40, CHAPEL ST., LIVERPOOL.

Telegrams: "PERSISTENT, LIVERPOOL." *Telephone No. 1134 (3 Lines).*

Manganese Merchants—*continued.*

Thomas & Strachan, 28, Chapel-st., Liverpool. (Telegs.: "Strachan, Liverpool." Teleph. Central 6789.) *See advt.* OPPOSITE.

Manufacturers' Agents.

F.—Agents de Fabricants.
G.—Fabrik—Agenten.

Barnes, E., 15, Charterhouse-st., E.C.
Bate, Douglas C., A.M.I.C.E., 40, Brazennose-st., Manchester.
Bigland, H. H., 17, Westgate-rd., Newcastle-on-Tyne.
Burns, J., Ltd., 189, Central-st., London, E.C. *See advt., page* 738.
Dollery & Palmer, 110, Cannon-st., London, E.C.
Donovan & Co., 22, Barwick-st., Birmingham.
Down, Fred. J., Harpenden, Herts.; & 6, 7 & 8, Crutched Friars, London, E.C. A founder, 1883, of Laing, Wharton & Down.
Electrical Stores, Manchester-chbrs., 57, Parliament-st., Nottingham.
Etchells, W. G., 22, Manor Park, Redland, Bristol.
Fellheimer, J. M. & D., 26, City-rd., London, E.C.
Ferrier & Hillestrom, 119A, Exchange-bldgs., Cardiff.
France, Alfred H., 17, Eldon-sq., Newcastle-on-Tyne.
Fyfe, A. M., A.I.E.E., 145, Bath-st., Glasgow.
Greenberg & Sons, 8, Water-lane, London, E.C.
Hunt, A. H., 115–117, Cannon-st., London, E.C. (Telegs.: "Keyage, London." Tel. 8114, Bank.) *See advt., page* 442.
Kappey, Wirth & Co., Dunedin House, Basinghall-ave., E.C.
Lawler, J. E., & Muirhead, 39, Lime-st., E.C.
Lind & Co., Ltd., 37, Moorfields, Liverpool.
Moesch & Schmidt, 43, Basinghall-st., London, E.C.
Nance, H., 4, Church-st., Cardiff.
Pemberton, S. Thos., Council-chbrs., Colmore-row, Birmingham.
Smith, J. J., & Co., 46A, Holborn Viaduct, E.C.
Weiss & Biheller, 70 & 71, Chiswell-st., E.C.

Manufacturers' Representatives.

F.—Representants de Fab.
G.—Fabrikvertreter.

Alexander, David, M.I.E.E., 43, Mains-st., Waterloo-st., Glasgow.
Anderson, Frank L. City office: 1, Furnival-st., London, E.C.
Baxter & Caunter, 86, Charing Cross-rd., London, W.C. (Telegs.: "Rapidolite, London." Teleph. Nos. 3463 & 4.)
Burns, J., Ltd., 189, Central-st., London, E.C. *See advt., page* 738.
Cuningham, A. A., Ward & Cuningham, Craven House, Kingsway, London, W.C.
Down, Fred. J., Harpenden, Herts.; & 6, 7 & 8, Crutched Friars, London, E.C. A founder, 1883, of Laing, Wharton & Down.

Manufacturers' Representatives—*contd.*

Fullerton, R. & J., 116, Hope-st., Glasgow. Rhodes Motors, Ltd.
Hunt, A. H., 115–117, Cannon-st., London, E.C. (Telegs.: "Keyage, London." Tel. 8114, Bank.) *See advt., page* 442.
Loxley & Co., Ltd., Cabinet-chbrs., Basinghall-st., Leeds.
Plutte, Scheele & Co., 18 & 19, Queenhithe, London, E.C. (agents).
Soars, G. F., Veritys, Ltd., 3, Helens-ave., Swansea.
Wuthrich, G. (Maschinenfabrik Oerlikon), Oswaldestre House, Norfolk-st., Strand, W.C.

Manufacturing Companies—Electric.

F.—Compagnies Electriques—Fab.
G.—Electrische Gesellschaften—Fab.

British L. M. Ericsson Manufacturing Co., Ltd., The, Byron House, 82/85, Fleet-st., London, E.C. Works: Beeston, Notts. *See advt., page* 719.
British Thomson-Houston Co., Ltd. Head office & works: Rugby. Registered office: 83, Cannon-st., London, E.C. Branch offices: 91, Wellington-st., Glasgow; 41, Church-st., Sheffield; Collingwood-bldgs., Newcastle-on-Tyne; Star Life-bldgs., 30, Cross-st., Manchester; Maritime-bldgs., Middlesbrough; 115, Colmore-row, Birmingham; & Greek-st.-chbrs., Leeds. (Telegs.: "Asteroidal." Teleph. Nos.: Head office, Rugby 54 & 55; London office, London Wall 135 (4 lines).)
British Westinghouse Electric & Manufacturing Co., Ltd., The, Westinghouse Works, Trafford Park, Manchester.
CHLORIDE ELECTRICAL STORAGE CO., LTD., Pendlebury, Manchester; & 39, Victoria-st., Westminster. For telegraphic addresses & telephone numbers, *see* ALPHABETICAL ENTRY. *See advt., page* 404.
DICK, KERR & CO., LTD. Head offices: Abchurch-yard, Cannon-st., London, E.C. For branch offices, telegrams & telephone numbers, *see* ALPHABETICAL.
DORMAN & SMITH, Ordsal Electrical Works, Salford, Manchester. (Telegs.: "Current, Manchester." Teleph. No. 1741, Nat.) Agents—London: Sambidge & Co., 17, Victoria-st., S.W. (Telegs.: "Prefix, London." Teleph. Victoria 530.) Scottish: Andrews & Co., 198A, St. Vincent-st., Glasgow. Birmingham: S. T. Pemberton, Council-chbrs., Colmore-row. Newcastle-on-Tyne: F. T. Hanks, 1, Higham-pl. *See also page* 123 *& advt., page* 21.
Down, Fred. J., Harpenden, Herts.; & 6, 7 & 8, Crutched Friars, London, E.C. A founder, 1883, of Laing, Wharton & Down.
Ferranti Ltd., Hollinwood, Lancs. (Telegs.: "Ferranti, Hollinwood." Teleph. Failsworth 31 & 48); & 78, King-st., Manchester.

Manufacturing Companies—Electric—*continued.*

GENERAL ELECTRIC CO., LTD. (*G. Byng, chairman*). Head office: 71, Queen Victoria-st., London, E.C. Works: London, Manchester, Birmingham & Witton. For branch offices, telegraphic addresses & telephone numbers, *see* ALPHABETICAL SECTION. *See advts., pages* 446, 707 *&* 734.

Glover, W. T., & Co., Ltd., Trafford Park, Manchester. (Telegs.: "Cables, Manchester." Tel. Central 7200 (6 lines).) London: Parliament Mansions, Orchard-st., S.W. *See* ALPHABETICAL.

INDIA RUBBER, GUTTA PERCHA & TELEGRAPH WORKS CO., LTD. Head offices: 106, Cannon-st., E.C. Warehouses: 100 & 102, Cannon-st., London, E.C.; & 97, boul. Sebastopol, Paris. Works: Silvertown, Essex; & Persan, France. For telegraphic addresses & branches, *see advt. outside of back cover.*

MATHER & PLATT, LD., Salford Iron Works, Manchester; & Queen Anne's-chbrs., Westminster, London, S.W. (Telegrams: "Mather, Manchester;" "Sprinkler, London." Nat. Telephone Nos.: 5781, 5782 & 5783, Manchester; & 851 & 852, Westminster.)

Maxim Lamp Works, Ltd., The, Maxim Works, Walthamstow.

RUGBY LAMP CO., LTD., THE, 92, Lower Hillmorton-rd., Rugby. (Telegs.: "Lamps, Rugby." Teleph. No. 89, Rugby.) London office & stores: J. L. Cateaux & Co., 10, Bush-lane, E.C. *See advt., page* 646.

SUN ELECTRICAL CO., LTD., 118 & 120, Charing Cross-rd., London, W.C. (Telegs.: "Secabilis, London." Teleph. Nos. 2291 & 2292, Gerrard.) *See advt., page* 596.

Wilson-Wolf Engineering Co., Ltd., Thornton-rd., Bradford.

Marble Slab Merchants & Manufacturers.

BINGLEY, SON & FOLLIT, LTD., Millbank Slate Wharf, Westminster, S.W. (Telegs.; "Bingley, Millbank, Westminster." Teleph. Westminster 663.) *See advt., page* 691.

BRABY, E. & C. *See* Bingley, Son & Follit, Ltd.

LEE, ARTHUR, & BROS., LTD., Hayes, Middlesex. (Telegrams: "Lee, Hayes, Middlesex." P.O. Telephone No. 11.) Wharves & factories: Hayes, Middlesex; & Cumberland-rd., Bristol.

Marble—Workers & Turners of.

BINGLEY, SON & FOLLIT, LTD., Millbank Slate Wharf, Westminster, S.W. (Telegs.: "Bingley, Millbank, Westminster." Teleph. Westminster 663.) *See advt., page* 691.

BRABY, E. & C. *See* Bingley, Son & Follit, Ltd.

Marble—Workers & Turners of—*continued.*

HARE, H., & CO., Kingston Enamelled Slate & Marble Works, Park-rd., Hull. *See advt., page* 691.

SESSIONS & SONS, LTD., Slate & Marble Works, Gloucester; & at Cardiff. *See advt., page* 691.

Mathematical Instrument Makers.

F.—Instruments de mathematique (fab. d').

G.—Mathematische Instrumente—Verfertiger.

Adie, Patrick, Broadway Works, 1, Broadway, Westminster, London, S.W.

Apps, A., 433, Strand, London, W.C.

DAVIS, JOHN, & SON (DERBY), LTD., All Saints' Works, Derby. (Telegrams: "Davis, Derby." Telephone No. 240, Derby.)

Frost & Reed, 47, Queen's-road, Clifton.

Harling, W. H., 47, Finsbury Pavement, E.C.

Holtzapffel & Co., 53, Haymarket, S.W.

Hughes, H., & Son, Ltd., 59, Fenchurch-st., E.C.

Norton & Gregory, Ltd., Castle-lane, Buckingham Gate, Westminster, S.W.; & 34, Robertson-st., Glasgow.

Rowney, G., & Co., 10 & 11, Percy-st., W.; & 9, 10 & 11, Diana-pl., Euston-rd., London, N.W.

Stanley, W. F., & Co., Ltd., 5, Great Turnstile, Holborn, W.C.

Measuring Instrument Manufacturers—Electric.

F.—Instruments électriques de mésure.

G.—Elektrische Mess-Instrumente.

Apps, A., 433, Strand, London, W.C.

BRISTOL ELECTRIC SAFETY LAMP WORKS. Offices & works: 40, Great Smith-st., S.W. *See advt., page* 405.

British L. M. Ericsson Manufacturing Co., Ltd., The, Byron House, 82/85, Fleet-st., London, E.C. Works: Beeston, Notts. *See advt., page* 719.

Cox-Walkers, Ltd., Darlington. *See advt., page* 15.

CROMPTON & CO., LTD., Salisbury House, London Wall, London, E.C. Works: Chelmsford. Patent current & potential indicators, potentiometers, &c. *See advt. inside front cover.*

DRAKE & GORHAM, LTD., 66, Victoria-st., Westminster, London, S.W. Works: 1, Felix-st., S.E. For branches, telegrams & telephone numbers, *see* ALPHABETICAL. *See advt., page* 459.

EDISON & SWAN UNITED ELECTRIC LIGHT CO., LTD. Head office, depôt & show-rooms: Ediswan-bldgs., Queen-st., London. E.C.

Measuring Instrument Manufacturers—Electric—*continued.*

EVERETT, EDGCUMBE & CO., LTD., 117, Victoria-st., London, S.W. (Telegs.: "Everectus, London." Teleph. No. 3020, Victoria); & COLLINDALE WORKS, HENDON, N.W. (Telegs.: "Evergendos, London." Teleph. No. 175 & 176, P.O., Finchley.)

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EVERSHED & VIGNOLES, LTD., Acton-lane Works, Chiswick, London, W.

FERRANTI LTD., Hollinwood, Lancs. (Telegs.: "Ferranti, Hollinwood." Teleph. Failsworth 31 & 48); & 78, King-st., Manchester.

Measuring Instrument Manufacturers—Electric—*continued.*

Geipel, Wm., & Co. (late Geipel & Lange), Vulcan Works, 72A, St. Thomas-st., London, S.E. (Telegs.: "Patella, London." Teleph. No. 594, Hop. (2 lines).) *See advt., page* 19.

GENERAL ELECTRIC CO., LTD. (*G. Byng, chairman*). Head office: 71, Queen Victoria-st., London, E.C. Works: London, Manchester, Birmingham & Witton. For branch offices, telegraphic addresses & telephone numbers, *see* ALPHABETICAL SECTION. *See advts., pages* 446, 707 & 734.

HODGES, CECIL, & CO., Balfour House, Finsbury Pavement, London, E.C.

INDIA RUBBER, GUTTA PERCHA & TELEGRAPH WORKS CO., LTD. Head offices: 106, Cannon-st., E.C. Warehouses: 100 & 102, Cannon-st., London, E.C.; & 97, boul. Sebastopol, Paris. Works: Silvertown, Essex; & Persan, France. For telegraphic addresses & branches, *see advt. outside of back cover.*

Jackson Bros., Ltd., Bankfield Mills, Armley, Leeds.

Johnson & Phillips, Ltd., Victoria Works, Charlton, S.O., Kent; & 12, Union-ct., Old Broad-st., E.C. *See advt. inside back cover.*

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Telegrams: "OCCLUDE, LONDON." Telephone Nos. 123 & 124, Bank.

Measuring Instrument Manufacturers—Electric—*continued.*

Kelvin & James White, Ltd., 18, Cambridge-st., Glasgow (Telegs.: "Meter, Glasgow." Teleph. Nos.: P.O. 4519, Central; Nat. 172, Douglas); & 11, Billiter-st., London, E.C. (Telegs.: "Stormglass, London." Teleph. London Wall 9779.)

McWhirter, Wm., & Son, 212, 214 & 216, Holm-st., Glasgow. (Telegs.: "Testing, Glasgow.")

Muirhead & Co., Ltd., Elmers End, Kent. (Telegrams: "Muirheads, Elmers-End;" "Muirheads, London." Telephone No. 50, Bromley.) *See advt., page* 619.

NALDER BROS. & THOMPSON, LTD. (man. director, F. H. Nalder), 34, Queen-st., Cheapside, E.C. *See advt., page* 643.

PAUL, ROBT. W., Newton-ave. Works, New Southgate, London, N. Show-rooms: 33, Leicester-sq., London, W.C. *See* ALPHABETICAL. *See advt., page* 617.

PITKIN, JAMES, & CO., 56, Red Lion-st., Clerkenwell, London, E.C. (Telegs.: "Barograph, London." Teleph. No. 11273, Central.)

Plutte, Scheele & Co., 18 & 19, Queenhithe, London, E.C. (agents).

SIEMENS BROS. & CO., LTD., Caxton House, Westminster, London, S.W. *See advt., page* 573.

SPAGNOLETTI, LTD., Goldhawk Works, Goldhawk-rd., London, W.

UNION ELECTRIC CO., LTD., Park-st., Southwark, London, S.E. (Telegs.: "Abeam, London." A.B.C. Code. Teleph. Hop. 2970.) *See advt., page* 563.

Walsall Electrical Co., Ltd., 57, Bridge-st., Walsall. For branches, telegrams & telephone numbers, *see* ALPHABETICAL.

WESTON ELECTRICAL INSTRUMENT CO., Audrey House, Ely-pl., London, E.C. *See inset advt., pages* 615 *&* 616.

Metal Manufacturers & Founders—General.

F.—Métal—Fab. & Fonte (en général).
G.—Metall Fab. & Giesser (im Allgemeinen).

Dugard Bros., Vulcan Mills, Birmingham.

Elmore's German & Austro-Hungarian Metal Co., Ltd., Finsbury House, Blomfield-st., London, E.C.

Espir, Fernand, 3, East India-ave., London, E.C. Agent for Tréfileries & Laminoirs du Hâvre (Anciens Établissements Lazare Weiller et Sté. Cooperative de Rugles réunis). *See advts., pages* 662 *&* 751.

Gardner, W., 104, South Lambeth-rd., S.E.

Gilbertson, W., & Co., Ltd., Pontardawe.

Grey & Marten, Ltd., Southwark Bridge, London, S.E. (Telegrams: "Amalgam, London." Telephone No. 750, Hop.)

Heckford, Arthur E., Birmingham Metal Works, Birmingham. German Silver, Pure Nickel, Cupro-Nickel, Sheets, Rods, Wires, &c. *See advt., page* 680.

Metal Manufacturers & Founders—General—*continued.*

HUGHES, JOHN & JOSEPH, Albion Metal Works, Woodcock-st., Birmingham. (Telegrams: "Bronze, Birmingham." Telephone No. 118.) Ingots, rods, sheets, wire & castings in all metals of every description & weight.

Keeling, A. D., Warstone Metal Works, Birmingham.

Kenyon, John, & Co., Millsands, Sheffield.

Lucas, Edward, & Son, Dronfield Foundry, near Sheffield.

Morrison, Kekewich & Co., 70, Gracechurch-st., London, E.C.

Muntz Metal Co., 23, Rood-lane, E.C.

Neale, G. W., 83, Upper Thames-st., E.C.

Pursell, D., & Co., Dalkeith, Midlothian, N.B.

Smith & Sons, 42, 44, 46, 47, 50 & 52, St. John's-sq., London, E.C.

SPRATT BROS. (branch of Houghtons, Ltd.), Ensign Works, Clifford-rd., Wood-st., Walthamstow, Essex.

Steel, Peech & Tozer, Ltd., Sheffield; & 15, Victoria-st., Westminster, London, S.W.

Wallace Bros., 284–290, Crownpoint-rd., Glasgow.

Widnes Foundry Co., Widnes, Lancashire.

Metal Merchants.

F.—Marchands—Metaux.
G.—Metall-Händler.

Back & Manson, 36, New Broad-st., London, E.C.

Barnard, H. B., & Sons, 144, Lambeth-walk, London, S.E. (Telegs.: "Metalcibles, London." Teleph. Victoria 1714.) City office: 59/60, Gracechurch-st., E.C. (Telegs.: "Soldeerpan, London." Teleph. Central 767.) Birmingham office: Guildhall-bldgs., Navigation-st. (Telegs.: "Metalcibles, Birmingham." Teleph. Midland 732.) Buyers of old metals.

Baxendale & Co., Miller-st. Works & Warehouses, Manchester; Hanover-st., Edinburgh; Capel-st., Dublin; & Hood-st., Liverpool.

BENNETT, WALTER, 60, Gracechurch-st., London, E.C. (Telegrams: "Benefit, London." P.O. Telephone No. 770, Central.)

Bibby, J., Sons & Co. (Garston), Ltd., Garston, Liverpool.

Elwell, J., Sherborne-st., Birmingham.

EVERITT & CO., 40, Chapel-st., Liverpool. (Telegs.: "Persistent, Liverpool." Teleph. No. 1134 (3 lines).) *See advt., page* 640.

Grey & Marten, Ltd., Southwark Bridge, London, E.C. (Telegrams: "Amalgam, London." Telephone No. 750, Hop.)

Harris, F. W., 132, Hurst-st., Birmingham.

HECKFORD, ARTHUR E., Birmingham Metal Works, Birmingham. *See advt., page* 680.

Hickie, Borman & Woods, Ltd., 36, Lime-st., E.C.

HUGHES, JOHN & JOSEPH, Albion Metal Works, Woodcock-st., Birmingham. (Telegrams: "Bronze, Birmingham." Telephone No. 118.) Ingots, rods, tubes, sheets & wire. Scrap metals & borings purchased.

Metal Merchants—*continued.*

Le Bas, E., & Co., Dock House, Billiter-st., E.C.

Merton, Henry R., & Co., 2, Metal Exchange-bldgs., Whittington-ave., London, E.C.

Simpson, C., & Sons, 15, Park-row, Leeds.

Smith & Sons, 42, 44, 46, 47, 50 & 52, St. John's-sq., London, E.C.

Willcox, W. H., & Co., Ltd. Office: 23, Southwark-st. Warehouse: 32, 34 & 36, Southwark-st., London, S.E. Works: Castle-st. (Telegs.: "Willcox, Southwark-st., London." Tel. Hop 3740 & 3741.) *See advt. facing inside front cover.*

Metal Spinners.

F.—Metal Fileurs. *G.—Metal Spinnereien.*

Ackland, Snow H., 164, High-st., Borough, S.E.

Assersohn, D., 20, Commercial-st., E.

BURMAN, R. H., Windmill-st., Horse Fair, Birmingham. (Telegs.: "Reflection, Birmingham." Teleph. Midland 1655.)

Clark, W. T., & Co., 5, Green-ter., Rosebery-ave., London, E.C.

Kensington Stamping Co., Ltd., Kensington-st., Aston, Birmingham. (Telegs.: "Supports, Birmingham." Teleph. Northern 83.)

Still, W. M., & Sons, Ltd., 24, Charles-st., Hatton Garden, London, E.C.

WARDLE ENGINEERING CO., LTD., THE, 196, Deansgate, Manchester. Makers of the Patent "Streetlite" Lantern.

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Adnil Electric Co., Ltd., Adnil-bldg., Artillery-lane, London, E.C.

Armorduct Manufacturing Co., Ltd., Farringdon-ave., London, E.C.; & 44, Blackett-st., Newcastle-on-Tyne. Works: Bathurst Works, Witton, nr. Birmingham. (Telegs.: "Armorduct," London, Newcastle-on-Tyne, Birmingham. Teleph. Nos.: London, 400, Holborn (2 lines); Newcastle-on-Tyne, 2827, Central; Witton Works, 812, East.) *See advt. on top edges.*

Barlow, H. C., & Co., 52, Chapel-st., Salford, Manchester.

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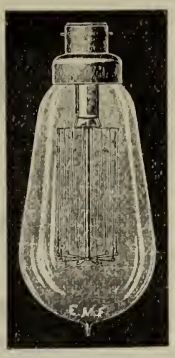

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BODDY, G. M., & CO., 15, Gray's Inn-rd., London, W.C.; & St. Peter's-sq., Manchester. *See advt., page* 646.

British Central Electrical Co., 17, Hatton Garden, London, E.C.

DAVIS ELECTRICAL CO., LTD., THE, 17, Moor-st., Cambridge Circus, W. (Telegs.: "Unmatchable, London." Teleph. No. 7253, Central.) *See advt.* BELOW.

Drake & Gorham, Ltd., 66, Victoria-st., Westminster, S.W. Works: 1, Felix-st., S.E. Tantalum, Osram, &c. Wholesale factors to the Trade. *See advt., page* 459.

E.M.F., LTD., 10, Ironmonger-lane, E.C. Stores: 172-176, King's Cross-rd. Works: Victoria Works, Walsall; & 205A, Pentonville-rd. *See advt.* ABOVE.

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London Office and Stores: J. L. CATEAUX & CO., 10, Bush Lane, E.C.

Telegrams: "Cleodora, London." Telephone No. 2895, London Wall.

Metallic Filament Lamps—*continued.*

International Filaments, Ltd., 9 & 10, Pancras-lane, Queen-st., London, E.C.

RUGBY LAMP CO., LTD., THE, 92, Lower Hillmorton-rd., Rugby. (Telegs.: "Lamps, Rugby." Teleph. No. 89, Rugby.) London office & stores: J. L. Cateaux & Co., 10, Bush-lane, E.C. *See advt.* ABOVE.

SIEMENS BROS. DYNAMO WORKS, LTD. Caxton House, Westminster, London, S.W. "Tantalum" Lamps & Fittings. London show-rooms & stores: 39, Upper Thames-st., E.C. (Telegs.: "Siemotor, London." Teleph. Wall 6520.)

SUN ELECTRICAL CO., LTD., 118 & 120, Charing Cross-rd., London, W.C. *See advt., page* 596.

Thorium (Metal Filament) Lamp Works, Ltd., Broad-st. House, New Broad-st., E.C.

Wolfram (Tungsten) Metal Filament Lamps, Ltd., Brook Green, Hammersmith, W.

Metallurgists—Electro.

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G.—Electro-Erzkundige.

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Bonney, S. R., & Co., Elswick-rd., Lewisham, S.E.

Buck, C., & Co., 18–20, St. John's-lane, London, E.C.

Cowper-Coles, Sherard, M.I.E.E., Grosvenor Mansions, Victoria-st., London, S.W.

Cowper Coles Galvanizing Syndicate, Ltd., Grosvenor-mansions, Victoria-st., Westminster, S.W.

Elmore, F. E. & A. S., 4, Broad-st.-pl., London, E.C.

Gibbings, W., M.I.E.E., Woodside, Halebank, Widnes.

Spiers, F. S., B.SC., A.M.I.E.E., 44 & 46, Eagle-st., Holborn, W.C.

Sturtevant & Co., Ltd., 105–111, Euston-rd., N.W. *See advt., page* 15

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BAKER & STARTIN, 19, St. Dunstan's Hill, London, E.C. Brokers & specialists. (Telegs.: "Startin, London." Teleph. No. 4424, Avenue. Lieber's, A.B.C. & A1 Codes used.)

Baxter, R. & S. Office: 31, Murraygate. Works: Commercial-ct., Dundee.

Brandt, Henrich A., 28, Minories, London, E.C.

BRITISH MICA CO., LTD., Lebanon-rd. Works, Wandsworth, London, S.W. (Telegs.: "Micamini, London." Teleph. No. 405, Putney.) MERCHANTS & MANUFACTURERS of mica insulators of every description for commutators, condensers, &c. MICA Washers, Bushes, Lightning Arresters, Powder, &c. MICANITE Plates, Paper, Cloth, Tubes, Rings, &c. Contractors to H.M. Government. *See advt., page* 482.

BURNS, J., LTD., 189, Central-st., London, E.C. *See advt., page* 738.

Davis, E., & Co., 3, Fen-ct., Fenchurch-st., E.C.

Gerhardt, C. F., 34, Seething-lane, London, E.C.

Jaroslaw, D., 5, George-st., Tower Hill, E.C.

Lehmann, L., 68, Basinghall-st., E.C.

Mica Merchants—*continued.*

Meirowsky & Co., 10, Bush-lane, Cannon-st., London, E.C.

MICANITE & INSULATORS CO., LTD., Empire Works, Blackhorse-lane, Walthamstow, London, E. (Telegs.: "Mytilite, London." Teleph. No. 38, Walthamstow.) *See advt.* BELOW.

ROGERS BROS., 221, Bradford-street, Birmingham. MICA, FOR STOVES, CORONETS, ELECTRICAL, & ALL PURPOSES.

TANNAHILL, A., & CO., 245, High-st., Stratford, London, E. (Telegs.: "Tannahill, London." Teleph. No. 470, Stratford.) *See advt.* ABOVE.

Tulloch & Co., 4, Fenchurch-ave., London, E.C.

TULLY, WM., & CO., 16, WATER-LANE, GREAT TOWER-ST., LONDON, E.C. (Telegrams: "Glist, London." Telephone No. 975, Central.)

Turing & Findlay, 41, Gracechurch-st., London, E.C.

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F.—Micrometres et instr. de mesure—Fab. de.
G.—Mikrometer & Mess Instrumente—Fab. von.

ELLIOTT BROS., Century Works, Lewisham, London, S.E. (Telegs.: "Ohm, London." Teleph. Deptford 218 & 237.)
NALDER BROS. & CO., 7, Carteret-st., Queen Anne's Gate, Westminster, S.W. (late 16, Red Lion-st., Clerkenwell). (Telegs.: "Secohm, London." Teleph. Gerrard 779.)
Smith, J. Ciceri, Raymond House, 32, Theobald's-rd., London, W.C.

Microphone Makers.

F.—Microphones—Fab. de.
G.—Microphon-Fabrikanten.

Adnil Electric Co., Ltd., Adnil-bldg., Artillery-lane, London, E.C.
ANTWERP TELEPHONE & ELECTRICAL WORKS, LTD., Antwerp, Belgium. (Telegrams: "Electrical, Anvers.") Sole agents for the United Kingdom: Messrs. W. F. Dennis & Co., Albert-bldgs., 49, Queen Victoria-st., London, E.C.
Apps, A., 433, Strand, London, W.C.
British L. M. Ericsson Manufacturing Co., Ltd., The, Byron House, 82/85, Fleet-st., London, E.C. Works: Beeston, Notts. *See advt., page* 719.
Nussbaum, G. A., C.E., 29, Ludgate Hill, E.C.

Milling Machines.

F.—Fraiseuses.
G.—Ranetelmaschinen.

CHURCHILL, CHAS., & CO., LTD., 9–15, Leonard-st., London, E.C.; 2–10, Albert-st., Birmingham; 6, Oxford-st., Manchester; Albion-bldgs., St. James-st., Newcastle-on-Tyne; & 9–11, Wellington-st., Glasgow.
GREENWOOD & BATLEY, LTD., Albion Works, Leeds; & 16, Great George-st., Westminster, London, S.W. (Telegrams: "Greenwood, Leeds;" & "Outflank, London.") *See advt., page* 20.
SELIG, SONNENTHAL & CO., 85, Queen Victoria-st., London, E.C. (Telegs.: "Selig, London." Teleph. Nos.: 341, Bank; & 11779, Central.) Works: Coventry. *See advt., page* 637.

Mine Telegraphs.

SIEMENS BROS. & CO., LTD., Caxton House, Westminster, London, S.W. *See advt., page* 573.

Miners' Batteries.

BRISTOL ELECTRIC SAFETY LAMP WORKS. Offices & works: 40, Great Smith-st., S.W. *See advt., page* 405.

Miners' Safety Lamps—Electric.

F.—Lampes de sûreté pour mines.
G.—Electr. Gruben Lampen—Fabr. von.

Ackroyd & Best, Ltd., Morley, Yorks.
Armstrong & Co., Twickenham, London, S.W.
Benford, J., 38, Kimberley-rd., Nunhead, S.E.
BRISTOL ELECTRIC SAFETY LAMP WORKS. Offices & works: 40, Great Smith-st., S.W. *See advt., page* 405.
BRYANT TRADING SYND., LTD., Clarendon Works, Horsell-rd., Highbury, London, N.
PETO & RADFORD, LTD., 100, Hatton Garden, London, E.C.
PITKIN, JAMES, & CO., 56, Red Lion-st., Clerkenwell, London, E.C. (Telegs.: "Barograph, London." Teleph. No. 11273, Central.)
Pope's Electric Lamp Co., Ltd., Hythe-rd., Willesden, N.W. *See advt., page* 610.
ROBERTSON ELECTRIC LAMPS, LTD., makers of low & high voltage, fancy, battery & heater lamps of every description, Brook Green Works, Hammersmith, London, W. *See advt., page* 611.

Mining Cable Makers.

Glover, W. T., & Co., Ltd., Trafford Park, Manchester. (Telegs.: "Cables, Manchester." Tel. Central 7200 (6 lines).) London: Parliament Mansions, Orchard-st., S.W. *See* ALPHABETICAL.

Mining Machinery (Electric)—Makers of.

F.—Machines électr. de Mines—Fab. de.
G.—Electr. Gruben Maschinen—Fab. de.

Allis-Chalmers Co., 533, Salisbury House, Finsbury Circus, London, E.C.
Anderson, Boyes & Co., Ltd., Flemington Electrical Works, Motherwell, N.B.
Andrews, W. Osborne, 27, New Bailey-st., Salford; & 17, Denstone-rd., Irlams o' th' Height, Manchester.
Bailie, J. D., Messrs. C. A. Parsons & Co., Prudential-bldgs., Park-row, Leeds. (Telegs.: "Turbo, Leeds." Teleph. No. 1194.)
British Thomson-Houston Co., Ltd. Head office & works: Rugby. Registered office: 83, Cannon-st., London, E.C. Branch offices: 91, Wellington-st., Glasgow; 41, Church-st., Sheffield; Collingwood-bldgs., Newcastle-on-Tyne; Star Life-bldgs., 30, Cross-st., Manchester; Maritime-bldgs., Middlesbrough; 115, Colmore-row, Birmingham; & Greek-st.-chbrs., Leeds. (Telegs.: "Asteroidal." Teleph. Nos.: Head office, Rugby 54 & 55; London office, London Wall 135 (4 lines).)
BRUSH ELECTRICAL ENGINEERING CO., LTD., THE. London office: Electrical Federation Offices, Kingsway, W.C. Works: Loughborough, Leicestershire. *See* ALPHABETICAL.
Corlett Electrical Engineering Co., Ltd., Wilcock-st., Wigan.
DAVIS, JOHN, & SON (DERBY), LTD., All Saints' Works, Derby. (Telegrams: "Davis, Derby." Telephone No. 240, Derby.)

Mining Machinery (Electric)—Makers of —*continued.*

Electric Construction Co., Ltd., Wolverhampton. Head office: Dashwood House, 9, New Broad-st., E.C.

Hall, J. P., & Co., Ltd., Blackriding Iron Works, Werneth, Oldham. (Telegrams: "Dynamo, Oldham." Telephone No. 300.)

HOLMES, J. H., & CO., Portland-rd., Newcastle-on-Tyne; 17, Soho-sq., London, W.; Examiner-bldgs., Strutt-st., Manchester; & 19, Waterloo-st., Glasgow.

Johnson & Phillips, Ltd., Victoria Works, Charlton, S.O., Kent; & 12, Union-ct., Old Broad-st., E.C. *See advt. inside back cover.*

LAHMEYER ELECTRICAL CO., LTD., 109–111, New Oxford-st., London, W.C. (Telegs.: "Drehstrom, London." Teleph. Nos. 133 & 134, Gerrard.)

MATHER & PLATT, LD., Salford Iron Works, Manchester; & Queen Anne's-chbrs., Westminster, London, S.W. (Telegrams: "Mather, Manchester;" "Sprinkler, London." Nat. Telephone Nos.: 5781, 5782 & 5783, Manchester; & 851 & 852, Westminster.)

PHŒNIX DYNAMO MANUFACTURING CO., LTD. Head offices: Thornbury Works, Bradford (Telegs.: "Dynamo, Bradford." Teleph. No. 952); & 17, Victoria-st., S.W.

Sandycroft Foundry Co., Ltd., The, Chester (Telegrams: "Sandycroft, Hawarden"); & 6, Queen-st.-pl., London, E.C.

Siemens Bros. Dynamo Works, Ltd., Caxton House, Westminster, London, S.W.

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NALDER BROS. & CO., 7, Carteret-st., Queen Anne's Gate, Westminster, S.W. (late 16, Red Lion-st., Clerkenwell). (Telegs.: "Secohm, London." Teleph. Gerrard 779.)

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G.—Spiegel & divergierende Linsen für Scheinwerfer.

CLARKE, CHAPMAN & CO., LTD., Victoria Works, Gateshead-on-Tyne. (Telegrams: "Cyclops, Gateshead.")

Estler Bros., 3, Cross-lane, E.C. Works: South Molton-rd., Victoria Docks, E.

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F.—Modèles—fab. de.
G.—Modelle—Fabr.

Apps, A., 433, Strand, London, W.C.

Braun & Co., 236 & 238, Pentonville-rd., & 1, Northdown-st., King's Cross, London, N.

Brooks, W. J., & Co., Letchworth, Herts.

Chipperfield & Co., 151, Pentonville-rd., N.

Goodwin, H. G., & Son, 16, Charles-st., E.C.

Parr, E. B., & Co., 224, Bermondsey-st., S.E.

Sharman Bros., 6, Free School-lane, Leicester.

Welsh & Co., 67, McAlpine-st., Glasgow.

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ATLAS CARBON & BATTERY CO., LTD., 19, Ewer-st., London, S.E. (Telegrams: "Altisonant, London.")

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F.—Fournitures pour automobiles—élec.
G.—Motorwagen-Zubehöre—Elek.

Benford, J., 38, Kimberley-rd., Nunhead, S.E.

Bonnella, D. H., & Son, Ltd., 58 & 60, Mortimer-st., W. Works: Kirby-st., Hatton Garden, London, E.C. (Telegs.: "Boncinello, London." Teleph. Gerrard 1882 & 9784.) *See advt., page* 626.

Electrical Contracts & Maintenance Co., Ltd., Sanctuary House, Westminster, S.W.

ELECTRICAL REGULATORS & ECONOMISERS, LTD., 51, North John-st., & 16, Cumberland-st., Liverpool. MARTIN REGULATORS. *See advt., page* 679.

Everett, Edgcumbe & Co., Ltd., 117, Victoria-st., London, S.W.; & Collindale Works, Hendon, Middlesex. *See advt., page* 643.

Hunt, A. H., 115–117, Cannon-st., E.C. (Telegs.: "Keyage, London." Teleph. Bank 8114.) *See advt., page* 442.

Plutte, Scheele & Co., 18 & 19, Queenhithe, E.C.

SIEMENS BROS. & CO., LTD., Caxton House, Westminster, London, S.W. *See advt., page* 573.

Vandervell, C. A., & Co., Warple Way, Acton Vale, London, W.

WARDLE ENGINEERING CO., LTD., THE, 196, Deansgate, Manchester. Makers of the "Carlite" side & tail lamps.

Motor Carriages.

F.—Voitures Motrices. *G.—Motor Wagen.*

Acme Motor & Traction Co., 72, Finsbury Pavement, London, E.C. Works: The Ham, Brentford

Albion Motor Car Co., Ltd., Scotstoun, Glasgow.

British Electromobile Co., Ltd. (Carl Oppermann, manager), 5 & 6, Halkin-st., Hyde Park Corner, S.W. *See advt., page* 651.

Dunkley's, Ltd., Market-st., Smithfield, Birmingham.

Motor Carriages—*continued.*

Electrocars, Ltd., Alderman's House, Alderman's Walk, Bishopsgate-st., London, E.C. (Telegs.: "Ignotum, London." Teleph. No. 9696, London Wall.)

FULLER ELECTRICAL & MANUFACTURING CO., Norfolk House, Laurence Pountney Hill, E.C. (Motors for). (Telegs.: "Fullmage, London." Teleph. No. 3186, London Wall.) *See advt., page* 481.

Holland & Holland, 479 & 483, Oxford-st., W.

James & Browne, Hammersmith, London, W.

Phœnix Motor Co., Oakfield-rd., Altrincham, Cheshire.

Rolls-Royce, Ltd., Osmaston-rd., Derby.

Swinburne, O'Gorman & Baillie (experts on), 82, Victoria-st., Westminster, S.W.

Motor Controllers.

Geipel, Wm., & Co. (late Geipel & Lange), Vulcan Works, 72A, St. Thomas-st., London, S.E. (Telegs.: "Patella, London." Teleph. No. 594, Hop (2 lines).) *See advt., page* 19.

Motor Flexibles.

KALKER, E., & CO., Much Park-st., Coventry.

Motor Manufacturers—Electric.

F.—Moteurs élec.—Fab. d'.
G.—Elektrische Motoren.—Fabr.

Acme Motor & Traction Co. (Immisch Type), 72, Finsbury-pavement, E.C. Works: The Ham, Brentford.

ANGLO-SWISS (H. CUÉNOD) CONSTRUCTION CO., Thury Automatic Regulators & Electric Motors, 49, Newgate-st., London, E.C. (Telegs.: "Cecampart, London." Teleph. No. 3497, Central.)

Apps, A., 433, Strand, London, W.C.

Baily, Grundy & Barrett, Ltd., 2, St. Mary's Passage, Cambridge.

BAXTER & CAUNTER, 86, Charing Cross-rd., London, W.C. (Telegs.: "Rapidolite, London." Teleph. Gerrard 3463 & 4.)

Bayley & Sons, Poole Hill, Bournemouth.

Boudreaux, L. (Foliated metal brushes for). Agents: Le Carbone, 17, Water-lane, London, E.C. *See advt., page* 478.

British Electromobile Co., Ltd. (Carl Oppermann, manager), 5 & 6, Halkin-st., Hyde Park Corner, S.W. (Teleph. No. 3238, Victoria.) *See advt.* OPPOSITE.

British Westinghouse Electric & Manufacturing Co., Ltd., The, Westinghouse Works, Trafford Park, Manchester.

Brooks, H. B., Granville Works, Tennant-st., Birmingham.

BRUSH ELECTRICAL ENGINEERING CO., LTD., THE. London office: Electrical Federation Offices, Kingsway, W.C. Works: Loughborough, Leicestershire. *See* ALPHABETICAL.

BULL MOTORS. The East Anglian Engineering Co., Ltd., Stowmarket, Suffolk.

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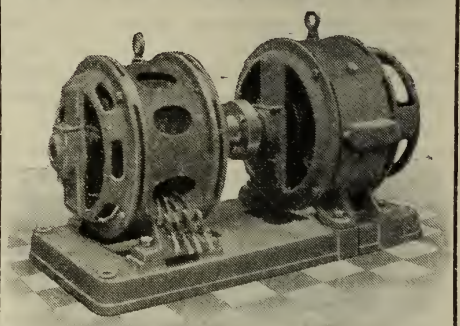

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Motor Manufacturers—Electric—*continued.*

BURNAND, W. E., & CO., Chippinghouse Works, Lowfields, Sheffield. (Tel. Sharrow 16.)

Charlesworth, S., & Co., Oldham, Lancs. (Telegrams: "Charlesworth, engineers, Oldham." Telephone No. 63.)

CHURTON, T. HARDING, & CO., Atlas Works, Water-lane, Leeds.

CLARKE, CHAPMAN & CO., LTD., Victoria Works, Gateshead-on-Tyne. (Telegrams: "Cyclops, Gateshead.")

CROMPTON & CO., LTD., Salisbury House, London Wall, London, E.C. Works: Chelmsford. Electro motors made to any specification. *See advt. inside front cover.*

Crypto Electrical Co., 155, 157 & 159, Bermondsey-st., London, S.E. (Telegs.: "Commutator, London." Teleph. Central 12830 & 12831.)

Darton, F., & Co., 142, St. John-st., Clerkenwell, E.C. Works: 52, Clerkenwell-rd.; & Woodford.

DICK, KERR & CO., LTD. Head office: Abchurch-yard, Cannon-st., London, E.C. For branch offices, telegrams & telephone numbers, *see* ALPHABETICAL.

Electric Construction Co., Ltd., Wolverhampton. Head office: Dashwood House, 9, New Broad-st., E.C.

Motor Manufacturers—Electric—*continued.*

ELECTRIC & ORDNANCE ACCESSORIES CO., LTD., Cheston-rd., Aston, Birmingham. (Telegs.: "Stellite, Birmingham." Teleph. Nos.: Nat. 176 & 179, East; & P.O. 9 (Trunk Calls).) *See page* 134 *for full entry.*

Electrical & Engineering Supplies Co., Ltd., 36 & 37, Upper Thames-st., E.C. *See advt., page* 652.

ELECTRICAL POWER ENGINEERING CO., Stechford, nr. Birmingham. (Telegs.: "Torque, Stechford." Teleph. Stechford 21.)

ELECTROMOTORS, LTD., Openshaw, Manchester. London office: 35, Queen Victoria-st., E.C.

FULLER ELECTRICAL & MANUFACTURING CO., Norfolk House, Laurence Pountney Hill, E.C. (Telegs.: "Fullmage, London." Teleph. No. 3186, London Wall.) *See advt., page* 481.

Garty, Bone & Co., Anderston Electrical Works, 61, Bishop-st., Anderston, Glasgow. Radio patent light weight ball bearing motors.

Geipel, Wm., & Co. (late Geipel & Lange), Vulcan Works, 72A, St. Thomas-st., London, S.E. (Telegs.: "Patella, London." Teleph. No. 594, Hop. (2 lines).) *See advt., page* 19.

General Electric Co., Ltd. (*G. Byng, chairman*). Head office: 71, Queen Victoria-st., London, E.C. Works: London, Manchester, Birmingham & Witton. For branch offices, telegraphic addresses & telephone numbers, *see* ALPHABETICAL SECTION. *See advts., pages* 446, 707 & 734.

Motor Manufacturers—Electric—*continued.*

GREENWOOD & BATLEY, LTD., Albion Works, Leeds; & 16, Great George-st., Westminster, S.W. (Telegrams: "Greenwood, Leeds;" & "Outflank, London.") *See advt., page* 20.

Groombridge & South, 40, New Bond-st., W.

Hall, J. P., & Co., Ltd., Blackriding Iron Works, Werneth, Oldham. (Telegs.: "Dynamo, Oldham." Teleph. No. 300.)

Hartnell, Wilson, & Co., Ltd., Volt Works, Kirkstall-rd., Leeds.

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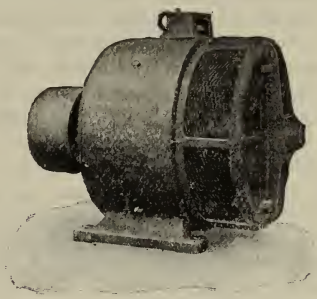

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Motor Manufacturers—Electric—*continued.*

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INDIA RUBBER, GUTTA PERCHA & TELEGRAPH WORKS CO., LTD. Head offices: 106, Cannon-st., E.C. Warehouses: 100 & 102, Cannon-st., London, E.C.; & 97, boul. Sebastopol, Paris. Works: Silvertown, Essex; & Persan, France. For telegraphic addresses & branches, *see advt. outside of back cover.*

Johnson & Phillips, Ltd., Victoria Works, Charlton, S.O., Kent; & 12, Union-ct., Old Broad-st., E.C. *See advt. inside back cover.*

Keighley Electrical Engineering Co., Ltd., Vulcan Works, Keighley, Yorks.

LAHMEYER ELECTRICAL CO., LTD., 109–111, New Oxford-st., London, W.C. (Telegs.: "Drehstrom, London." Teleph. Nos. 133 & 134, Gerrard.)

LAIDLER, RITCHIE & CO., LTD., Nutsford Vale Works, Longsight, Manchester.

LANGDON-DAVIES MOTOR CO., LTD., single-phase, polyphase & continuous current motors (F. B. O. Hawes, managing director). Southwark Works, Deverell-st., London, S.E. (Telegs.: "Damophon, London." Teleph. Hop 4277 (2 lines).)

Motor Manufacturers—Electric—*continued.*

LAURENCE, SCOTT & CO., LTD., Gothic Works, Norwich. (Telegrams: "Gothic, Norwich." Nat. Telephone No. 246.)

Le Carbone (formerly Lacombe & Co.), (CARBON BRUSHES FOR). Works: Levallois-Perret, Paris; 17, Water-lane, E.C. (Telegs.: "Lacombe, London." P.O. Teleph. No. 14671, Central.) *See advts., pages* 478 & 480.

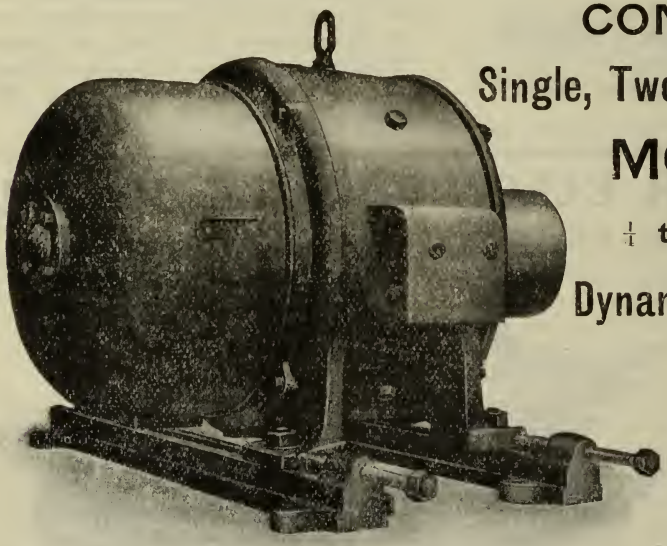
Linotype & Machinery, Ltd., 188 & 189, Fleet-st., E.C.

McClure & Whitfield, Mersey Dynamo Works, Adswood, Stockport. (Telegrams: "Motors, Stockport." Telephone No. 180.)

MACKIE, W., & CO., 47½, Old-st., London, E.C. (P.O. Tel. Central 2704.) *See advt., page* 483.

MATHER & PLATT, LD., Salford Iron Works, Manchester; & Queen Anne's-chbrs., Westminster, London, S.W. (Telegrams: "Mather, Manchester;" "Sprinkler, London." Nat. Telephone Nos.: 5781, 5782 & 5783, Manchester; & 851 & 852, Westminster.)

MAWDSLEY'S LTD., manufacturing electrical engineers. Makers of the "Mawdsley" patent "Zone" dynamos & motors. Zone Works, Dursley, Glos. (Telegs.: "Zone, Dursley." Teleph. No. 6, Dursley.)



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Telegrams: "ELECLOYD, LONDON."

Motor Manufacturers—Electric—*continued.*

Mercedes Electric Manufacturing Co., Ltd., 11A, Regent-st., S.W.

Moore, Haigh & Co., Star Works, Kirkstall-rd., Leeds.

MORLEY ELECTRICAL ENGINEERING CO., LTD., Troy Works, Stanningley, near Leeds.

"Motors," Ltd., 12, Camomile-st., London, E.C.

NEWTON BROS. Offices: Market-pl., Derby. Works address: Alfreton-rd., Derby. (Telegs.: "Dynamo, Derby." Teleph. Nos.: 413, Offices; 207, Works.)

NEWTONS LTD., Taunton. (Telegrams: "Arc, Taunton." Telephone No. 9.)

Omnium Wholesale Supply Co., Pinner, Middlesex.

PHŒNIX DYNAMO MANUFACTURING CO., LTD. Head offices: Thornbury Works, Bradford. (Telegs.: "Dynamo, Bradford." Teleph. No. 952.) Speciality: enclosed motors for work in the open air, damp & dusty places, &c. London office: 17, Victoria-st., S.W.

Potter, F. W., & Co., Phipp-st., Great Eastern-st., London, E.C. (Telegrams: "Wirework, London." Telephone No. 1169, London Wall.)

REES ROTURBO MANUFACTURING CO., LTD., Wednesfield-rd., Wolverhampton.

Rhodes Motors, Ltd., Riverside Works, Doncaster; & 90, Charing Cross-rd., London, W.C.

Robinson, A. E. & H., & Co., Church-st., Beswick, Manchester. (Hot Air.)

Sandycroft Foundry Co., Ltd., The, Chester (Telegrams: "Sandycroft, Hawarden"); & 6, Queen-st.-pl., London, E.C.

Shill, P. Richardson, & Co., Bassishaw House, 70A, Basinghall-st., London, E.C.

SIEMENS BROS. DYNAMO WORKS, LTD., Caxton House, Westminster, London, S.W.

Smith, H., & Co., 10, South-st., Finsbury, E.C.

Spence, J. H., & Son, 93, Elcho-st., Glasgow.

Standard Electric Co., Ltd., 47, Victoria-st., London, S.W. Works: 123, Colvend-st., Rutherglen Bridge, Glasgow.

SUN ELECTRICAL CO., LTD., 118 & 120, Charing Cross-rd., London, W.C. (Telegs.: "Secabilis, London." Teleph. Nos. 2291 & 2292, Gerrard.) *See advt., page* 596.

UNION ELECTRIC CO., LTD., Park-st., Southwark, London, E.C. (Telegs.: "Abeam, London." A.B.C. Code. Teleph. Hop. 2970.) *See advt., page* 563.

VERITYS, LTD., King-st., Covent Garden, London, W.C.; & Birmingham, Manchester, Glasgow, Bristol, &c. *See* ALPHABETICAL SECTION. "Aston" Type Motors.

VICKERS SONS & MAXIM, LTD., 28–32, Victoria-st., London, S.W.; & River Don Works, Sheffield.

VICTORIA DYNAMO & MOTOR CO., Craven House, Kingsway, London, W.C.

Walsall Electrical Co., Ltd., 57, Bridge-st., Walsall. For branches, telegrams & telephone numbers, *see* ALPHABETICAL.

Motor Manufacturers—Electric—*continued.*

Westminster Engineering Co., Ltd., Victoria-rd., Willesden Junction, London, N.W.

Wilson-Wolf Engineering Co., Ltd., Thornton-rd., Bradford.

Woolnough, F., St. Stephen's Works, Norwich.

WRIGHT & WOOD, LTD., Century Works, Halifax, Yorks. (Telegs.: "Motor, Halifax." Teleph. No. 499.) *See advt., page* 650.

Motor Manufacturers—Petrol.

F.—Moteurs—Pétrole.
G.—Motoren—Petroleum.

Cremorne Motors, Ltd., Lots-rd., Chelsea, S.W.

De Dion Bouton (1907), Ltd., 10, Great Marlborough-st., Regent-st., London, W.

Headingley Motor & Engineering Co., Ltd., 18, St. Michael's-lane, Headingley, Leeds.

Lewis Motor Co., Ltd., 4, South Parade, Leeds.

"Scout" Motors, Ltd., Salisbury.

Motor Starters & Regulators.

THOMAS, BERTRAM. Works: Worsley-st., Hulme, Manchester. (Telegrams: "Breaker, Manchester." Telephone No. 215.) Gibbing's Automatic step-by-step motor starters, regulators, &c.

Motor Starting Switches.

F.—Commutateurs de départ pour Moteurs.
G.—Motoren—Anlasser.

ADAMS MANUFACTURING CO., LTD., 106, New Bond-st., London, W.; & Bedford. (Telegs.: "Admocar, London;" "Admocar, Bedford." Teleph. Mayfair 3962; & P.O. 2, Bedford.)

Adnil Electric Co., Ltd., Adnil-bldg., Artillery-lane, London, E.C.

DONOVAN & CO., 22, Barwick-st., Birmingham.

ELECTRIC & ORDNANCE ACCESSORIES CO., LTD., Cheston-rd., Aston, Birmingham. (Telegs.: "Stellite, Birmingham." Teleph. Nos.: Nat. 176 & 179, East; & P.O. 9 (Trunk Calls).) *See page* 134 *for full entry.*

ELECTRICAL POWER ENGINEERING CO., Stechford, nr. Birmingham. (Telegs.: "Torque, Stechford." Teleph. Stechford 21.)

ELECTRICAL REGULATORS & ECONOMISERS, LTD., 51, North John-st., & 16, Cumberland-st., Liverpool. MARTIN REGULATORS. *See advt., page* 679.

Geipel, Wm., & Co. (late Geipel & Lange), Vulcan Works, 72A, St. Thomas-st., London, S.E. (Telegs.: "Patella, London." Teleph. No. 594, Hop. (2 lines).) *See advt., page* 19.

Keighley Electrical Engineering Co., Ltd., Vulcan Works, Keighley, Yorks.

LAHMEYER ELECTRICAL CO., LTD., 109–111, New Oxford-st., London, W.C. (Telegs.: "Drehstrom, London." Teleph. Nos. 133 & 134, Gerrard.)

Motor Starting Switches—*continued.*

NALDER BROS. & THOMPSON, LTD. (managing director, F. H. Nalder), 34, Queen-st., Cheapside, London, E.C. *See advt., page* 643.

REYROLLE, A., & CO., LTD., Hebburn-on-Tyne; 8, Howland Mews W., Fitzroy-sq., London, W.

Sandycroft Foundry Co., Ltd., The, Chester (Telegs.: "Sandycroft, Hawarden"); & 6, Queen-st.-pl., London, E.C.

Siemens Bros. Dynamo Works, Ltd., Caxton House, Westminster, London, S.W.

Standard Electrical Co., Lowbridge Iron Works, Keighley, Yorks.

UNION ELECTRIC CO., LTD., Park-st., Southwark, London, E.C. (Telegs.: "Abeam, London. A.B.C. Code. Teleph. Hop. 2970.) *See advt., page* 563.

VERITYS, LTD., King-st., Covent Garden, London, W.C.; & Birmingham, Manchester, Glasgow, Bristol, &c. *See* ALPHABETICAL SECTION. Makers of the Aston patent porcelain grid starters & regulators.

Walsall Electrical Co., Ltd., 57, Bridge-st., Walsall. For branches, telegrams & telephone numbers, *see* ALPHABETICAL.

Wellman, Seaver & Head, Ltd., 47, Victoria-st., London, S.W.

Name Plates.

Barns, W., & Son, Globe Works, Queensland-rd., Holloway, N.

Birmingham Lamp & Gasfittings Co., 257, Dudley-rd., Birmingham.

ENDOLITHIC MANUFACTURING CO., LTD., Pomona-bldgs., 61½, Fore-st., London, E.C. (Telegs.: "Dendron, London." Teleph. London Wall 3421; & Central 11630.)

Globe Name Plate Co., Ltd., 20, High Holborn, London, W.C. (Telegs.: "Glonaplat, London." Teleph. Holborn 5721.) Smart labels, instruction plates, meter dials, &c.

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National Telephone Co.'s Officials—*contd.*

hall-st., Birmingham. Southern Province: superintendent, C. J. Phillips; assistant superintendent, A. E. Cotterell, 36, Whitefriars-st., E.C. Western Province: superintendent, R. A. Dalzell, Telephone-bldgs., Telephone-ave., Baldwin-st., Bristol. Ireland: superintendent, F. Cowley, Telephone-bldgs., Crown Alley, Dublin.

Nickel Manufacturers, Merchants & Refiners.

F.—Nickel—Raffineurs, Marchands et fab. de.

G.—Nickel—Fab., Läuterer und Händler.

CANNING, W., & CO., electro-platers' & polishers' machinery, appliances & materials; dynamos; complete gold, silver & nickel, brass, copper, tin & electrotypers' plant; electric motor manufacturers. Head office & works: 133–137, Great Hampton-st., Birmingham; & at 18–20, St. John's-sq., Clerkenwell, London, E.C.

JOHNSON, MATTHEY & CO., LTD., 74 to 81, Hatton Garden, London, E.C.

Smith & Sons, 42, 44, 46, 47, 50 & 52, St. John's-sq., London, E.C.

Wiggin, H., & Co., Ltd., 55, George-st., Parade, Birmingham.

Nickel Platers.

F.—Nickeleur.

G.—Vernickeler.

Sturtevant & Co., Ltd., 105–111, Euston-st., N.W. *See advt., page* 15.

Nickel-Plating Salts & Anodes.

F.—Anodes et sels de Nickel pour Galvanoplastie.

G.—Salze u. Anoden zum Vernickeln.

CANNING, W., & CO., electro-platers' & polishers' machinery, appliances & materials; dynamos; complete gold, silver & nickel, brass, copper, tin & electrotypers' plant; electric motor manufacturers. Head office & works: 133–137, Great Hampton-st., Birmingham; & at 18–20, St. John's-sq., Clerkenwell, London, E.C.

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Rolled Hard Leather for Polishing, &c.
Buff Leather in Hides, Butts & Strips.
Hard Raw Hide Mallets specially made for workers in Brass, Silver, Copper, &c., &c.
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All kinds of Leathers for Mining, Engineering & Metal Polishing Trades.
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GEIPEL, WM., & CO. (late Geipel & Lange), Vulcan Works, 72A, St. Thomas-st., London, S.E. (Telegs.: "Patella, London." Teleph. No. 594, Hop (2 lines).) *See advt., page* 19.

Nitric & Nitrous Acid Manufacturers.

F.—Acide nitrique et nitreux—Fab. de.
G.—Salpetersäure—Fabr.

BERK, F. W., & CO., LTD., 1, Fenchurch-ave., E.C.; & Abbey Mills Chemical Works, Stratford, E. (Telegrams: "Berk, London." A.B.C. Code. Telephone No. 4013, Avenue.) Electrical requirements a speciality. *See advt., page* 403.

Morris, H. N., & Co., Gorton Brook Chemical Works, Manchester, S.E. (Telegs.: "Glauber, Manchester." Teleph. No. 75, Openshaw.)

Novelties—Electrical.

Rose Bros., 38 & 39, Beach-st., Barbican, London, E.C. Sole agents for Schmidt & Co., Berlin. (Telegs.: "Cryselco, London." Teleph. Central 7043.)

Ohmmeters & Generators.

NALDER BROS. & THOMPSON, LTD. (managing director, F. H. Nalder), 34, Queen-st., Cheapside, E.C. *See advt., page* 643.

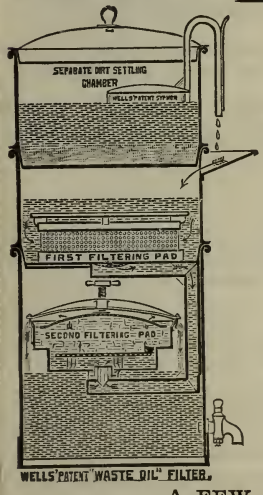
Oil Filter Makers.

F.—Filtres pour huile.
G.—Oelfilter.

Shelby Manufacturing Co., Rye Works, Hanover-st., Peckham, London, S.E.
Wallach Bros., Ltd., Royal London House, Finsbury-sq., London, E.C.

WELLS' PATENT "WASTE OIL" FILTERS.

WITH SIGHT-FEED SYPHONS.

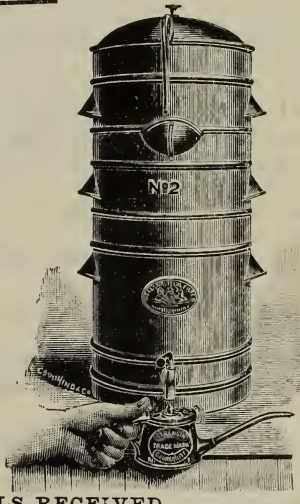


Invaluable to Electric Light Installations and All Users of Machinery.

Over 15,000 sold.

Small Money Savers. Dirtied Oil which has hitherto been thrown away can be Filtered and used again and again.

Write for Descriptive Price Lists and Samples of work done by the Filter.



A FEW OUT OF MANY TESTIMONIALS RECEIVED.

"We are very well pleased with your Waste Oil Filter. Our engineer says that he obtains more than half a gallon (nearly three-quarters) of good oil from every gallon of dirty oil put into the Filter, and, as this dirty oil was always thrown away before we had your Filter, you can judge of the saving."

"Your Filter is working wonders. The used oil comes out perfectly cleaned. We do not use a big quantity of oil, but we are quite sure it will save its cost in a very short time. Any firm possessing a Gas Engine would find it very economical."

"We have pleasure in stating we are pleased with the Oil Filters, which are well finished and perform their work satisfactorily. Nearly all the Gas Engines and Dynamo Plants we have put down have your Filters, and use the same oil time after time."

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No. 6.—Very powerful Filter, fitted with 2 Steam Coils, for dealing with large quantities of oil, 54in. by 30in. **336s.**
Larger Sizes made to Order.

A. C. WELLS & CO., 101B, MIDLAND RD., ST. PANCRAS, **LONDON.** WORKS: Carnarvon St., MANCHESTER.

Oil Filter Makers—*continued.*

WELLS, A. C., & CO., 102, 103 & 104, Midland-rd., St. Pancras, London. Works: Manchester. (Telegrams: "Unbreakable, London;" "Unbreakable, Manchester." Telephone No. 341, North.) *See advt., page* 655.

Willcox, W. H., & Co., Ltd. Office: 23, Southwark-st. Warehouse: 32, 34 & 36, Southwark-st., London, S.E. Works: Castle-st. (Telegs.: "Willcox, Southwark-st., London." Teleph. Hop 3740 & 3741.) *See advt. facing inside front cover.*

Oil Manufacturers, Refiners & Merchants.

F.—Huiles—Fab. Raffineurs et Marchands d'.
G.—Oel—Fab., Läutere & Händler.

Bentley, I., & Co., Ltd., Vinoleo Oil Works, Trafford Park, Manchester.

Bowley, S., & Son, Wellington Works, Battersea Bridge, London, S.W. (Telegs.: "Bolyanson, London." Teleph. Battersea 1 & 2. A.B.C., 5th edit., Lieber's & Marconi's Codes.)

Bremner, J. A., & Co., Albert-st., Manchester.

BROWN, HEDLEY O., & CO., Victoria Oil Works, Soap House Wharf, Hull. *See advt., page* 636.

Colledge, Roy & Co., Brown-st., Red-bank, Manchester.

Dee Oil Co., Ltd., The. Works: Saltney, Chester; 49, Lime-st., London, E.C.; & Colonial House, Water-st., Liverpool.

Ditton Oil Mills (1904), Ltd., Brown's-bldgs., Exchange, Liverpool.

Duncan, Watson & Co., Dashwood House, New Broad-st., London, E.C.

Dussek Bros. & Co., Verney-rd., Old Kent-rd., S.E.

Fleming, A. B., & Co., Ltd., 15, Whitefriars-st., London, E.C.

Grindley & Co., Ltd., Poplar, London, E.

Hinshelwood, Thos., & Co., Ltd., Glenpark-st., Glasgow.

Hopps, Alfred, & Sons, Ltd., African-chbrs., 19, Old Hall-st., Liverpool.

Massé, Francis, & Co., 53, Union-rd., Rotherhithe, London, S.E.

Parsons, Fletcher & Co., Ltd., Gravel-lane, S.E.

Price, C., & Co., Castle Baynard, 12 & 13, Upper Thames-st., E.C.; Regent's Wharf, West Ferry-rd., Poplar, E. Works: Belvedere, Kent.

Price's Patent Candle Co., Ltd., Battersea, London, S.W.; & Liverpool.

Ragosine & Co., Ltd., Albion Wharf, Bow, London, E.

Rose, Sir W. A., & Co., 66, Upper Thames-st., London, E.C.; & Rose's Wharf, Millwall, E.

Stern Sonneborn Oil Co., Ltd., Royal London House, Finsbury-sq., London, E.C.

Storer, David, & Sons, Storer's Wharf, Cubitt Town, London, E.

Oil Manufacturers, Refiners & Merchants—*continued.*

Wells, M., & Co., Hardman-street Oil Works, Manchester.

Wilkinson, Heywood & Clark, Ltd., Caledonian Works, Bootle, Liverpool.

Willcox, W. H., & Co., Ltd. Office: 23, Southwark-st. Warehouse: 32, 34 & 36, Southwark-st., London, S.E. Works: Castle-st. (Telegs.: "Willcox, Southwark-st., London." Teleph. Hop. 3740 & 3741.) *See advt. facing inside front cover.*

Windschuegl, C., & Co., 1, Leadenhall-st., London, E.C.

Oilless Bearings & Trolley Wheels.

FLEMING, BIRKBY & GOODALL, LTD., West Grove Mill, Halifax; & 39, Lime-st., London, E.C. Sole makers of Entwistle's patent carbonated bearings & trolley bushes & wheels. Used by largest companies & corporations in United Kingdom. No oil required. Perfect lubrication ensured.

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G.—Electr. Omnibusse, Droschken & Packwagen

BRISTOL ELECTRIC SAFETY LAMP WORKS. Offices & works: 40, Great Smith-st., S.W. *See advt., page* 405.

Overhead Equipment for Electric Tramways.

F.—Equipement aérien pour tramways élec.
G.—Luftleitungen Materialen für elek. Strassenbahnen.

BLACKWELL, ROBERT W., & CO., LTD., 14, Great Smith-st., S.W. (Telegs.: "Kurkee, London." Tel. Nos. 766 & 767, Westminster.)

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Koppel, Arthur, 27, Clements-lane, London, E.C.

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Spencer, J. E. & S., 14, Great St. Thomas Apostle, Cannon-st., London, E.C.

Overhead Equipment for Electric Tramways—*continued.*

TURNERS & MANVILLE, LTD., 5, Lloyd's-ave., E.C. (Telegs.: "Vulbeston, London." Teleph. No. 1458, Avenue.)

VULCANITE WORKS, DR. HEINR. TRAUN & SONS, LONDON AGENCY (formerly Harburg Indiarubber C. Co.) (F. Winter, manager), (ebonite & vulcanite), 8, Redcross-st., London, E.C. (Telegrams: "Instantly, London." Telephone No. 3186, Central.) *See* EBONITE & VULCANITE.

Watlington & Co., Moorgate Station-chbrs., London, E.C.; & Trafford Park, Manchester.

Ozokerit Manufacturers.

F.—Ozokerite—Fab. d'.

G.—Ozokerit—Fabr. von.

Campbell, Donald, & Co., 10, St. Mary Axe, London, E.C.

Field, J. C. & J., Ltd., Upper Marsh, Lambeth, London, S.E.

Grunbaum, L. N., & Son, 84, Leadenhall-st., London, E.C.

POTH, HILLE & CO., LTD., 6, Lloyd's-ave., London, E.C. (Telegs.: "Pothaska, London." Teleph. Avenue 5856.) Cable waxes for impregnating & finishing.

Windschuegl, C., & Co., 1, Leadenhall-st., London, E.C.

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F.—Appareils d'Ozone.

G.—Ozon-Apparate—Fabr. von.

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Paints—Makers of.

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G.—Malerfarben—Fab. von.

Asbestos & General Paint Co., Ltd., 34, Deansgate, Manchester. Works: Clement-st., Birmingham.

Cyanite Paint Co., Portland-pl., Clapham-rd., S.W.

Fenner, N. J., & H. B. Alder & Co., Ltd., 120, Fenchurch-st., London, E.C.

GRIFFITHS BROS. & CO., Macks-road, Bermondsey, London, S.E., special non-metallic coloured paints for electrical plant; acid resisting, fire resisting & all classes of paints, colours, insulating varnishes, &c. *See advt., page* 18.

Griffiths, Knight & Co., 114, Ford-st., Vauxhall-rd., Liverpool.

Paints—Makers of—*continued.*

Macpherson, Donald, & Co., Ltd., Knott Mill, Manchester.

Massachusetts Chemical Co., 6, 7 & 8, Crutched Friars, London, E.C. "Armalac."

Minton, R. R., & Co., 39–71, Cheapside, Liverpool.

RUBEROID CO., LTD., 81–83, Knightrider-st., Queen Victoria-st., London, E.C. P. & B. Compounds & Paints.

Szerelmey, N. C., & Co., Szerelmey Works, Rotherhithe New-rd., London, S.E.

Zocus Paint Co., 17, Gracechurch-st., London, E.C.

Paper Making Machinery.

ESCHER, WYSS & CO., 109, Victoria-st., Westminster, S.W. *See advt., page* 732.

Paraffin Wax Manufacturers.

F.—Bougies de Paraffine—Fab. de.

G.—Paraffin Wachs—Fab. von.

Broxburn Oil Co., Ltd., 28, Royal Exchange-sq., Glasgow.

Johnson, George, & Son, 1, Devonshire-sq., Bishopsgate, London, E.C.

Lorenz, H. (agent), 7–8, Idol-lane, London, E.C.

POTH, HILLE & CO., LTD., 6, Lloyd's-ave., London, E.C. (Telegs.: "Pothaska, London." Teleph. Avenue 5856.)

Wilkins, Campbell & Co., 24–25, Gt. Tower-st., E.C.; & Abbey Works, Dockhead, London, S.E.

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Patent Experts.

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G.—Kunstverständige für Patente.

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Patent & Trade Marks Registration Agents.

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Alexander, E. P., & Son, 306, High Holborn, London, W.C.

Allison Bros., 52, Chancery-lane, London, W.C.

Barker, George, F.I.P.A., 77, Colmore-row, Birmingham.

Barker, R. W., Vulcan House, 56, Ludgate Hill, London, E.C.

Barron, C. A., & Lewin, 32, John William-st., Huddersfield.

Bauer & Imrie, 72, Cannon-st., London, E.C.

Patent & Trade Marks Registration Agents—*continued.*

Beck, W. H., & Co., F.C.I.P.A., 115, Cannon-st., London, E.C. (Teleph. No. 1519, Central.)
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Boughton, H. F., Patent Offices, 114A, Chancery-lane, London, W.C.
Boult, Wade & Tennant, 111 & 112, Hatton Garden, London, E.C.
Brewer & Son, 33, Chancery-lane, London, W.C.
Bromhead & Co. (British & Foreign), 33, Cannon-st., London, E.C.
Browne, N., & Co., 73, Cheapside, E.C.
Carpmael & Co., 24, Southampton-buildings, Chancery-lane, London, W.C.
Chartered Institute of Patent Agents, Staple Inn-bldgs., London, W.C.
Cheesbrough, F. J., & Royston, 15, Water-st., Liverpool.
Cheetham, Howard, 18, St. Ann's-st., Manchester.
Clark, A. M. & Wm., F.I.P.A., 53, Chancery-lane, London, W.C.
Clegg, B. W., & Sons, Belinda-st., Hunslet, Leeds.
Cruikshank & Fairweather, Ltd., 62, St. Vincent-st., Glasgow.
Davies, G., & Son, 4, St. Anne's-sq., Manchester.
Day, Davies & Hunt, 321, High Holborn, London, W.C.
De Pass, E., 78, Fleet-st., London, E.C.
Douglas, G. C., & Co., 41, Reform-st., Dundee.
Dukes, Bernhard, 1, Great James-st., Bedford-row, London, W.C.
Elt & Co. (A. S. Bowden), 14, Bedford-row, London, W.C.
Feeny, V. F., 60, Queen Victoria-st., E.C.
Fitzpatrick, H. D., 100, Wellington-st., Glasgow.
Gardner, H., & Son, 173, 174 & 175, Fleet-st., E.C.
Gedge & Feeny, 60, Queen Victoria-st., E.C.
Gunyon, S. E., 115, Cannon-st., E.C.
Haddan, Herbert & Co., 31 & 32, Bedford-st., W.C.
Halford, Thomas Ernest, 82, Mark-lane, E.C.
Harris & Mills, 23, Southampton-bldgs., W.C.
Harrison, Geo. (D. Young & Co.), 11 & 12, Southampton-bldgs., London, W.C.
Haseltine, Lake & Co., 7 & 8, Southampton-bldgs., London, W.C.

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Hunt, Edmund, & Co., 121, West George-st., Glasgow.
Jensen & Son, 77, Chancery-lane, London, W.C.
Johnsons & Willcox, 47, Lincoln's Inn-fields, W.C.
Justice, P. M., 55 & 56, Chancery-lane, London, W.C.
King, John T., 4, Clayton-square-west, Liverpool.
Kings Patent Agency, Ltd., 165, Queen Victoria-st., E.C.
Liddle, John, 154, St. Vincent-st., Glasgow.
Llewellin, W. M., C.E., 15, King-square, Bristol.
Lloyd Wise & Co., 46, Lincoln's Inn Fields, W.C.
London & Provincial Patent Agency, 15, St. James'-row, Sheffield.
Lorrain, J. G., M.I.E.E., M.I.MECH.E., &C., Norfolk House, Norfolk-st., Strand, London, W.C. (Telegrams: "Lorrain, London." Telephone No. 2511, Gerrard.) Consulting electrical engineer & chartered patent agent.
Maxfield, W. B., Parkstone-ave., Parkstone, Dorset.
Mewburn, Ellis & Pryor, 70, Chancery-lane, London, W.C.
Morgan-Brown, W. (Wm. Brookes & Son), 55 & 56, Chancery-lane, London, W.C.
Newton & Son, 6, Bream's-buildings, Chancery-lane, London, E.C.
O'Brien, J. Owden, M.I.M.E. (late W. P. Thompson & Co. of Manchester), 6, Bank-st., Manchester.
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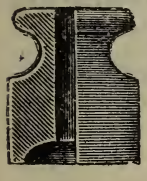

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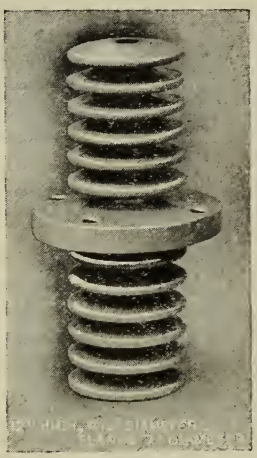

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Publications—Electrical & Scientific.

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Australasian Hardware & Machinery (monthly; ann. sub., 5*s.*), 42, Cannon-st., E.C. Head office: Melbourne.
Australian Mining Standard & Electrical Record (weekly; ann. sub., 30*s.*, post free), 2, Nicholas Passage, Lombard-st., E.C. *See advt., page* 846.
Autocar (weekly, price 3*d.*), 20, Tudor-st., London, E.C.; & 19, Hertford-st., Coventry.
Automobile Owner & Steam & Electric Car Review (monthly, 3*d.*; ann. sub., 4*s.* 6*d.*), 67–69, Chancery-lane, E.C.
Biggs & Sons Contractors Record & Municipal Engineering (weekly), 139 & 140, Salisbury-ct., E.C.
Birmingham University Engineering Journal (bi-monthly), The University, Birmingham. (E. J. Kipps, editor.)
British Australasian, 1, Broad-st.-pl., London, E.C.
British Chamber of Commerce of Turkey (Quarterly Trade Journal), 31-37, Cursitor-st., Chancery-lane, W.C.
British Export Gazette (monthly, 6*d.*; ann. sub., 8*s.*), 33 & 35, Eastcheap, E.C.

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Chemical Trade Journal & Chemical Engineer (weekly, 4*d.*; ann. sub., 12*s.* 6*d.*, post free), 32, Blackfriars-st., Manchester.
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Engineering & Mining Journal of New York, 6, Bouverie-st., Fleet-st., London, E.C.

Engineering Record (of New York) (weekly), Hastings House, Norfolk-st., Strand, W.C.

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English Mechanic (weekly, 2*d.*), Clements House, Clements Inn Passage, Strand, London, W.C.

Faraday House Journal (twice a year, gratis), Faraday House,Southampton-row,London,W.C.

Faraday Society's Transactions (quarterly), 82, Victoria-st., S.W.

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Motor Car Journal (weekly, 1*d.*), Cordingley & Co., 27–33, Charing Cross-rd., W.C.

Municipal Journal (weekly, price 2*d.*), 80–81, Fleet-st., & 12, Salisbury-ct., Fleet-st., E.C.

National Telephone Journal (monthly, 3*d.*; ann. sub., 4*s.*), Telephone House, London, E.C.

Nature (weekly, price 6*d.*), St. Martin's-st., E.C.

New South African Engineer (monthly, 6*d.*; ann. sub., 7*s.* 6*d.*), 44, Fleet-st., E.C.

Optician (weekly, 2*d.*), 123–125, Fleet-st., E.C.

Page's Weekly (weekly, 6*d.*; ann. sub., U.K., 20*s.*; foreign, 25*s.*), Lennox House, Norfolk-st., Strand, London, W.C.

Phillips' Monthly Machinery Register & Electrical Machinery, Motor Car & Steam Wagon Supplement (price 6*d.*; ann. sub., 6*s.*). Published by C. D. Phillips, Emlyn Ironworks, Newport, Mon.

Philosophical Magazine (monthly, price 2*s.* 6*d.*), Taylor & Francis, Red Lion-court, Fleet-street, London, E.C.

Physical Review (ann. sub., $5), Macmillan & Co., London; & 66, 5th-ave., New York, U.S.A.

Power House (*Canadian*) (monthly, 6*d.*; ann. sub., 4*s.* 6*d.*), 88, Fleet-st., E.C.

Practical Electrician's Pocket Book & Diary. Published annually about Oct.–Nov. Established 1898. Net price, cloth, 1*s.*; leather, 1*s.* 6*d.* Publishers: S. Rentell & Co., Ltd., 36, Maiden-lane, W.C.

Practical Engineer (weekly, price 2*d.*; ann. sub., 10*s.*, post free; foreign, 12*s.* 6*d.*), 55 & 56, Chancery-lane, London, W.C.; & Manchester.

Publications—Electrical & Scientific—*continued.*

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Railway Gazette (weekly; ann. sub., 21*s.*; foreign, 32*s.*), Queen Anne's-chbrs., Westminster.

Railway Times, The, 12, Norfolk-st., London, W.C. (ann. sub., 25*s.*).

RAILWAY WORLD (see *Tramway & Railway World*).

Revue de l'Ingenieur et Index Technique (monthly; ann. sub., 10*s.* 6*d.*; card-indexing edition, 16*s.*), 51, rue de l'Aurore, Brussels; & 88, Chancery-lane, London, W.C.

Royal Society of Arts Journal (price 6*d.*), 18 & 19, John-st., Adelphi, London, W.C.

Science Abstracts (price 30*s.* per ann., post free), Victoria Embankment, London, W.C.

Science Siftings, The Inventor's Mart (weekly, 1*d.*), 123, 124 & 125, Fleet-st., London, E.C.

South African Engineering (monthly, 6*d.*; ann. sub., 6*s.*), 392, Strand, W.C.

Steamship, The (monthly, price 6*d.*). Offices: 2, Custom House-chbrs., Leith.

Surveying & Civil Engineer, Newton-st., High Holborn, W.C.

Trade Marks Journal (weekly). Patent Office Sale Branch, 25, Southampton-bldgs., Chancery-lane, London, W.C. (Annual subscription, 35*s.*; single copies, 6*d.*; post free, 8*d.*)

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Unit, The (quarterly), Electrical Press, Ltd., 37 & 38, Strand, W.C.

UNIVERSAL ELECTRICAL DIRECTORY (*J. A. Berly's*). Published January of each year. The Classified Section is a reliable buyer's guide, while the Geographical Section is invaluable to every traveller in electrical goods. Price, British, Colonial & Geographical Sections, 10*s.*, or with Continental & American Sections, 14*s.* Special rate to subscribers in advance of publication. Sole Proprietors, H. Alabaster, Gatehouse & Co., 4, Ludgate Hill, London, E.C.

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PULSOMETER ENGINEERING CO., LTD., Nine Elms Iron Works, Reading, Berks. London offices: 61 & 63, Queen Victoria-st., E.C. Makers of vacuum pumps & electrically driven centrifugal pumps. *See advt., page* 735.

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Worthington Pump Co., Ltd., 153, Queen Victoria-st., London, E.C.

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See advt., page 710 *& on lower outside edges.*

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Hurst, Nelson & Co., Ltd., The Glasgow Rolling Stock & Plant Works, Motherwell. London office: 14, Leadenhall-st., E.C. Manchester office: Northern Assurance-bldgs., Albert-sq.; Chatsworth Wagon Works; nr. Chesterfield; & at Bridgend Wagon Works, Bridgend, Glamorganshire.

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Tudor Accumulator Co., Ltd., 119, Victoria-st., London, S.W. (Telegrams: "Subconical, London.") Works at Dukinfield, nr. Manchester. *See advt., page* 407.

Vickers, T., C.E., 20, Cecil-rd., Erdington, Birmingham. (Consulting.)

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British Columbia Electric Railway Co., Ltd., 34, Nicholas-lane, London, E.C.

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BRUSH ELECTRICAL ENGINEERING CO., LTD., THE. London office: Electrical Federation Offices, Kingsway, W.C. Works: Loughborough, Leicestershire. *See* ALPHABETICAL.

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CROMPTON & CO., LTD., Salisbury House, London Wall, London, E.C. Works: Chelmsford. *See advt. inside front cover.*

Electric Construction Co., Ltd., Wolverhampton. Head office: Dashwood House, 9, New Broad-st., E.C.

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Foote & Milne, Ltd., 66, Victoria-st., London, S.W. (Telegrams: "Pedetentim, London." Telephone No. 352, Westminster.)

Koppel, Arthur, 27, Clements-lane, London, E.C.

LAHMEYER ELECTRICAL CO., LTD., 109–111, New Oxford-st., London, W.C. (Telegs.: "Drehstrom, London." Teleph. Nos. 133 & 134, Gerrard.)

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MATHER & PLATT, LD., Salford Iron Works, Manchester; & Queen Anne's-chbrs., Westminster, London, S.W. (Telegrams: "Mather, Manchester;" "Sprinkler, London." Nat. Telephone Nos.: 5781, 5782 & 5783, Manchester; & 851 & 852, Westminster.)

National Electric Construction Co., Ltd., Queen Anne's-chbrs., Westminster, S.W.

REID BROTHERS, 12, Wharf-rd., London, N. (Telegrams: "Supra, London." Telephone No. 12249, Central.) *See advt., page* 571.

Saunders, J. B., & Co., White Mansion, 91, York-st., Westminster, S.W.; & at Cardiff, Brecon, Welshpool, Swindon, Builth, Portmadoc, Barrow-in-Furness, Barnstaple & Isle of Wight.

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Tudor Accumulator Co., Ltd., 119, Victoria-st., London, S.W. (Telegrams: "Subconical, London.") Works at Dukinfield, nr. Manchester. *See advt., page* 407.

United Electric Car Co., Ltd., Strand-rd., Preston.

Vaux, W., 23, Bank-st.-chbrs., Bradford.

WHITE, J. G., & CO., LTD., 9, Cloak-lane, Cannon-st., London, E.C. New York correspondents: J. G. White & Co., 43–49, Exchange-pl.

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Drew, Clark & Co., makers of electric tramway maintenance & construction waggons, &c., Diamond Ladder Works, Lea Bridge-rd., & 9, Waterloo-rd., London, S.E. (Telegs.: "Drew Clark, Leyton." Teleph. Walthamstow 458.)

Estler Bros., 3, Cross-lane, London, E.C. Works: South Molton-rd., Victoria Docks, E.

Geipel, Wm., & Co. (late Geipel & Lange), Vulcan Works, 72A, St. Thomas-st., London, S.E. (Telegs.: "Patella, London." Teleph. No. 594, Hop. (2 lines).) *See advt., page* 19.

General Electric Co., Ltd. (*G. Byng, chairman*). Head office: 71, Queen Victoria-st., London, E.C. Works: London, Manchester, Birmingham & Witton. For branch offices, telegraphic addresses & telephone numbers, *see* ALPHABETICAL SECTION. *See advts., pages* 446, 707 *& 734.*

General Seating Co., Ltd., Northampton Park, Canonbury, London, N.

Glasgow Railway Engineering Co., Govan, Glasgow.

Hadfield's Steel Foundry Co., Ltd., East Hecla Works, Sheffield; & Norfolk House, Laurence Pountney Hill, London, E.C.

Hudson & Bowring, Ltd., Temple-chbrs., 33, Brazennose-st., Manchester.

Ingram, A., & Co., Queen Anne's-chbrs., Westminster, S.W.

Lloyd, F. H., & Co., Ltd., James Bridge, Wednesbury.

McGeoch, William, & Co., Ltd., Warwick Works, 46, Coventry-rd., Birmingham; & 28, West Campbell-st., Glasgow. (Telegs.: "McGeoch," Glasgow, Birmingham & London. Teleph. Nos.: Nat. 2181 (4 lines); P.O. 101 & 2.)

Railway Supplies Co., Ltd., Palace-chbrs., 9, Bridge-st., Westminster, S.W.

RANKINE PATENT FEED-WATER FILTER CO., LTD., 14, Water-st., Liverpool. (Telegrams: "Percolate, Liverpool." Telephone No. 1933.) London office: Aldermary House, 60, Watling-st., E.C. (Telegrams: "Ricto, London." Telephone No. 497, Bank.)

SMITH, FREDERICK, & CO., INCORPORATED IN THE LONDON ELECTRIC WIRE CO. & SMITHS, LTD., Wire Manufacturers, Anaconda Works, Salford, Manchester. Copper wire, hard-drawn H.C. long lengths copper wire, plain soft tinned, & strips for all electrical purposes. Tape & strand for lightning conductors. Silicium bronze wire, "Cog-wheel Brand." Phosphor bronze spring wire, aluminium wire & strip. (Telegs.: "Anaconda, Manchester.") *See advt., page* 747.

Railways, Tramways, &c.—Mfrs. of Requisites & Appliances for—*continued.*

SPAGNOLETTI, LTD., Goldhawk Works, Goldhawk-rd., London, W.

TEMPERED SPRING CO., LTD., THE, BURTON WEIR WORKS, SHEFFIELD.

Tramways Supplies, Ltd., 31, Swinegate, Leeds.

Tudor Accumulator Co., Ltd., 119, Victoria-st., London, S.W. (Telegrams: "Subconical, London.") Works at Dukinfield, nr. Manchester. *See advt., page* 407.

VULCANITE WORKS, DR. HEINR. TRAUN & SONS, LONDON AGENCY (formerly Harburg Indiarubber C. Co.) (F. Winter, manager), (ebonite & vulcanite), 8, Redcross-st., E.C. (Telegrams: "Instantly, London." Telephone No. 3186, Central.) *See* EBONITE & VULCANITE.

Watlington & Co., Moorgate Station-chbrs., London, E.C.; & Trafford Park, Manchester.

Williams, Henry, Ltd., Cathcart, Glasgow.

YUILLE, WM. C., & CO., 60, Brown-st., Glasgow.

Railways & Tramways—Electric.

F.—Chemins de fer et Tramways—Electriques.
G.—Electr. Eisenbahnen & Strassenwagen.

(*For particulars, see* ELECTRICITY WORKS.)

Aberavon, Glam. *T. scheme under consideration.*

Aberdare, Glam. *T. scheme approved.*

Aberdeen Corporation Tramways.

Accrington Corporation Tramways.

Ackworth Light Railway. *Not yet constructed.*

Airdrie & Coatbridge Tramways.

Aldershot-Farnborough Railway. *Ten miles awaiting confirmation.* Engr., Robt. A. Smith, Palace-chbrs., W.

Altrincham U.D.C. Tramways. *Leased to Manchester Corp.*

Ardrossan, Saltcoats & District Tramways. *Not yet constructed.*

Ashton-under-Lyne Corporation Tramways.

Aston Manor (Warwick) Tramways.

Audenshaw Tramways.

Ayr Corporation Tramways.

Bacup Corporation Tramways. *Worked by Rawtenstall.*

Baker-St. & Waterloo Railway.

Barking U.D.C. Tramways.

Barnsley & District Tramways.

Barrow-in-Furness Tramways.

Barton & Immingham Light Railway. *Not yet constructed.*

Barton-upon-Irwell Light Railways.

Bath & Lansdown Light Railway. *Not yet constructed.*

Bath Tramways.

Batley Corporation Tramways.

Beckenham U.D.C.

Beeston, Notts. *Not yet constructed.*

Belfast Corporation Tramways.

Bessbrook & Newry Tramway.

Railways & Tramways—Electric—*contd.*

Bexley Urban District Council Tramways.

Bideford, Clovelly & Hartland Light Railway *Order confirmed.*

Birkdale & Southport Tramways.

Birkenhead Corporation Tramways.

Birmingham (City of) Tramways Co., Ltd.

Birmingham Corporation Tramways.

Birmingham & Midland Tramways.

Blackburn Corporation Tramways.

Blackburn, Whalley & Padiham Light Railway. *Not yet constructed.*

Blackpool Corporation Tramways.

Blackpool & Fleetwood Electric Tramroad Co.

Blackpool & Fylde Light Railway.

Blackpool, St. Anne's & Lytham Tramways.

Bolton Corporation Tramways.

Bonnybridge Tramways.

Bootle Corporation Tramways.

Bournemouth Corporation Tramways.

Bradford Corporation Tramways.

Bray & Enniskerry Railway Co., 52, Westland-row, Dublin. *Under construction.*

Bredbury & Romiley Tramways. *Leased to & worked by Stockport Corporation.*

Brighton Corporation Tramways.

Brighton & Rottingdean Seashore E. Tram. Co.

Brighton & Shoreham Tramways. *To be converted to electric.*

Bristol Tramways & Carriage Co., Ltd.

British Electric Traction Co., Ltd.

Bromsgrove Light Railway. *Not yet constructed.*

Burnley Corporation Tramways.

Burton & Ashby Light Railways.

Burton-on-Trent Corporation Tramways.

Bury Corporation Tramways.

Camborne, Redruth & Illogan Electric Tramways.

Cambridge Street Tramways Co. *Lines will probably be converted to electric.*

Cambuslang, Hamilton, Motherwell, Larkhall & Wishaw (Lanarkshire Tramways Co.).

Canterbury & Herne Bay Light Railway. *Not yet constructed.* Engr., R. Green, M.I.C.E.

Cardiff Corporation Tramways.

Carlisle, City of, Tramways.

Cavehill & Whitewell Tramways.

Central London Railway.

Charing Cross, Euston & Hampstead Railway.

Chatham & District Light Railways.

Cheadle & Gatley Tramways. *Leased to Stockport.*

Cheltenham & District Tramways.

Cheriton U.D.C. *Not yet constructed.*

Chester Corporation Tramways.

Chesterfield Corporation Tramways.

City & South London Railway.

Clacton-on-Sea Light Railway. *Not yet constructed.*

Clontarf & Hill of Howth Tramroad.

Colchester Corporation Tramways.

Colne & Trawden Light Railway.

Cork, Blackrock & Passage Railway Co. *Not yet electrified.*

Cork Electric Tramways & Lighting Co., Ltd.

County of Hertford Light Railways. (Metropolitan Electric Tramways, Ltd., lessees.)

Railways & Tramways—Electric—*contd.*

Coventry Tramways.
Croydon Corporation Tramways.
Darlington Corporation Tramways.
Dartford U.D.C. Tramways.
Darwen Corporation Tramways.
Denton U.D.C. Tramways. *Worked by Manchester Corp. & Denton U.D.C.*
Derby & Ashbourne Light Railway. *Under construction.*
Derby Corporation Tramways.
Devon South Hams Light Railway. *Order granted.*
Devonport & District Tramway.
Dewsbury Corporation Tramways.
Doncaster Corporation Light Railway.
Douglas-Ramsey (Manx Electric Railway Co.).
Douglas Southern Tramways.
Dover Corporation Tramways.
Dover, St. Margaret's & Martin Mill Light Railway. *Not yet constructed.*
Droylsden Tramways. *Worked by Manchester Corp. & Droylsden Council.*
Dublin & Lucan Electric Railway Co.
Dublin United Tramways.
Dudley Corporation Tramways.
Dudley, Stourbridge & District Electric Traction Co., Ltd.
Dumbarton Burgh & County Tramways Co., Ltd.
Dundee, Broughty Ferry & District Tramways.
Dundee Corporation Tramways.
Dunfermline & District.
Ealing. *Municipal Tramways under consideration.*
East Ham Corporation Tramways.
East Lothian. *T. to be constructed.*
Eccles Corporation Tramways. *Leased to Salford Corp.*
Edgware & Hampstead Railway. *Not yet constructed.*
Elland Tramways. *About to be constructed by the National Electric Construction Co.*
Erdington Tramways. *Leased to the City of Birmingham Tramways Co., Ltd.*
Erith U.D.C. Tramways.
Euston-Watford Railway. *Under construction.*
Exeter Corporation Tramways.
Falkirk & District Tramways.
Farnworth District Council Tramways.
Felixstowe Pier Railway.
Folkestone, Sandgate & Hythe Tramways. *Not yet constructed.*
Gateshead & District Tramways.
Giants' Causeway & Portrush Electric Tramway.
Glamorgan County Council Light Railway. *Not yet constructed.*
Glasgow Corporation Tramways.
Glossop Tramways.
Gloucester Corporation Light Railways.
Gorton U.D.C. Tramways. *Not yet constructed.*
Gosport & Fareham Tramways.
Gourock Tramways. *Leased to Greenock & Port Glasgow Tramways Co.*
Gravesend & Northfleet Tramways.

Railways & Tramways—Electric—*contd.*

Great Crosby-with-Seaforth Tramways. *Leased to the Liverpool Overhead Railway Co.* 500 *v.*, 160 *K.W.* Engr., E. J. Neachell, M.I.MECH.E., M.I.E.E.
Great Grimsby Tramways.
Great Northern & City Railway.
Great Northern, Piccadilly & Brompton Railway.
Great Western & Hammersmith & City Railways.
Greenock & Port Glasgow Tramways.
Grimsby & District Light Railways.
Guernsey Railway.
Guildford Tramways.
Halesowen Light Railway. *Scheme under consideration.*
Halifax Corporation Tramways.
Hamilton, Motherwell & Wishaw Tramways.
Handsworth U.D.C. Tramways.
Hartlepool Tramways.
Haslingden Corporation Tramways.
Hastings Tramways.
Hebburn. *Tramways under consideration.*
Heckmondwike U.D.C. Tramways.
Herne Bay Pier Electric Railway.
Heysham, Morecambe & Lancaster Railway. (Midland Railway Co.)
Heywood Corporation Tramways.
Hill of Howth Tramroad. (Great Northern Railway Co. (Ireland).)
Hindhead Tramways.
Holywood Tramways Co. *Not yet commenced.* Consulting engineer, C. H. Merz.
Horsforth U.D.C. *Leased to Leeds Corp.*
Houghton-le-Spring & District Tramways.
Hove & Worthing Tramways. *Not yet constructed.*
Huddersfield Corporation Tramways.
Hull Corporation Tramways.
Hurst, Lancashire, U.D.C. Tramways. *Leased to Ashton-under-Lyne.*
Hyde Tramways. (Stalybridge, Hyde, Mossley & Dukinfield Tramways & Electricity Board.)
Hythe Electric Tramways. *To be constructed by the National Electric Construction Co.*
Ilford Corporation Tramways.
Ilkeston Tramways.
Ipswich Corporation Tramways.
Isle of Thanet Electric Tramways.
Jarrow & South Shields Light Railways.
Kearney High-Speed Railway Co., Ltd., 100, Victoria-st., Westminster, S.W.
Kearsley Tramways. *Leased to South Lancashire Tramways Co.*
Keighley Corporation Tramways.
Kidderminster & Stourport Electric Tramway.
Kilmarnock Corporation Tramways.
Kinver Light Railway.
Kirkcaldy Corporation Tramways.
Lanarkshire Tramways Co.
Lancashire Light Railways.
Lancashire & Yorkshire Railway (Liverpool-Southport).

Railways & Tramways—Electric—*contd.*

Lancaster Corporation Tramways.
Largs. *T. under consideration.*
Leamington & Warwick Tramways.
Leeds Corporation Tramways.
Leicester Corporation Tramways.
Leith Corporation Tramways.
Leyton D.C. Tramways.
Limerick Electric Tramways. *Not yet constructed.*
Lincoln Corporation Tramways.
Linthwaite Electric Tramways.
Liverpool Corporation Tramways.
Liverpool Overhead Railway.
Llandudno & Colwyn Bay Railway.
Llanelly & Dis. Light Railway. *Not constructed.*
London, Brighton & South Coast Railway.
London County Council Tramways.
London & South-Western Railway.
London Underground Electric Railways, St. James' Park Station, S.W.
London United Tramways, Ltd.
Londonderry-Moville Electric Railway. *Not yet constructed.*
Loughborough & District Light Railway. *Not yet under construction.*
Lowestoft Corporation Tramways.
Lucan & Leixlip Electric Railway.
Luton Corporation Tramways.
Maidstone Corporation Light Railway.
Manchester Corporation Tramways.
Mansfield & District Tramways.
Manx Electric Railway.
Matlock Electric Tramways. *Not yet constructed.*
Mersey Railway.
Merthyr Electric Traction & Lighting Co., Ltd.
Metropolitan District Railway.
Metropolitan Electric Tramways, Ltd.
Metropolitan Railway.
Mexborough & Swinton Tramways.
Middlesbro', Stockton & Thornaby Tramways.
Middleton & District Tramways.
Midland Railway Co. (Heysham, Morecambe & Lancaster.)
Musselburgh Tramways.
Neath Tramways. *Leased to Provincial Gas Traction Co., Ltd.*
Nelson Corporation Tramways.
New St. Helen's & District Tramways Co., Ltd. *St. Helen's Corporation Tramways leased to & worked by Co.*
Newark & District Light Railway. *Order confirmed.*
Newcastle-on-Tyne Corporation Tramways.
Newport (Mon.) Corporation Tramways.
North East London Railway. *Not yet constructed.*
North Eastern Railway. *Tynemouth & Ponteland electric portion.*
North Metropolitan Trwys. *Transferred to L.C.C.*
North & South Shields Electric Railway. *Not yet constructed.*
North Staffordshire Tramways Co., Ltd.
North Wales & District Light Railway. *Not yet constructed.*

Railways & Tramways—Electric—*contd.*

North-West London Railway. *Not yet constructed.*
Northampton Corporation Tramways.
Norwich Electric Tramways.
Nottingham Corporation Tramways.
Oldham, Ashton-under-Lyne & Hyde Tramways.
Oldham Corporation Tramways.
Ossett Corporation Tramways. *Not yet constructed.*
Oxford Tramways. *To be reconstructed by the National Electric Construction Co.* Consulting engineers, Geo. Hopkins & Son.
Padstow, Bedruthan & Mawgan Light Railway. *Not yet constructed.*
Paisley District Tramways.
Penmachno, Corwen & Bettws-y-Coed Light Railway Co. *Not yet constructed.*
Perth Corporation Tramways.
Peterborough Tramways.
Plymouth Corporation Tramways.
Plymouth, Stonehouse & Devonport Tramways.
Pontypridd Urban District Tramways.
Poole & District Light Railway.
Portmadoc, Beddgelert & Snowdon Railway. *Not yet completed.*
Portsdown & Horndean Light Railway.
Portsmouth Corporation Tramways.
Portsmouth & Hayling Light Railway. *Not yet constructed.* Electrical adviser, A. G. Hansard.
Potteries Electric Tramways.
Prescot Electric Tramways.
Preston Corporation Tramways.
Prestwich D.C. Tramways. *Leased to Salford Corp.*
Pudsey Tramways. *Transferred to Leeds Corp.*
Quarry Bank, Brierley Hill & Rowley Regis Light Railway. *Negotiations proceeding.*
Queensbury Tramways. *Worked by Bradford & Halifax Corps.*
Radcliffe Tramways. *Leased to Bury Corp.*
Rawtenstall Corporation Tramways.
Reading Corporation Tramways.
Rhondda Tramways.
Rochdale Corporation Tramways.
Rochester Tramways. *Worked by the Chatham & District Light Railways Co., Ltd.*
Rossendale Valley Tramways. *To be electrified.*
Rotherham Corporation Tramways.
Rothesay Tramways.
Royton U.D.C. Tramways. *Worked by Oldham Corp.*
Rugby & District Light Railway. *Not yet constructed.* Engineer, Robert Green, M.I.C.E.
Ryde Pier Railway.
Ryhope, Seaham, Murton & South Hetton Light Railways. *Not yet constructed.*
St. Helens Corporation Tramways.
Salford Corporation Tramways.
Scarborough Tramways.
Sheerness Tramways.
Sheffield Corporation Tramways.
Shipley Urban District Council Tramways.
Smethwick Tramways.
Snaefell Mountain Railway.
Soothill Nether U.D.C. Tramways. *Not yet constructed.*

Railways & Tramways—Electric—*contd.*

South Lancashire Tramways Co.
South London Elevated Electric.
South Metropolitan Electric Tramways & Lighting Co.
South Shields Corporation Tramways.
South Staffordshire Tramway (Lessee) Co., Ltd.
South-Western & Isle of Wight Junction Railway, 6, Bedford-row, London, W.C. *Not yet constructed.*
Southampton Corporation Tramways.
Southend Corporation Pier Electric Railway.
Southend-on-Sea Corporation Light Railway.
Southport & Birkdale Tramways.
Southport Corporation Tramways.
Southport Pier Electric Railway.
Spen Valley & Morley Tramways.
Stalybridge, Hyde, Mossley & Dukinfield Tramways.
Stockport Corporation Tramways.
Stretford Light Railway. *Order confirmed.*
Stretford Tramways. *Leased to Manchester Corporation.*
Stroud & District Tramways. *Not yet constructed.*
Sunderland Corporation Tramways.
Sunderland District Tramways.
Sutton & Howth Electric Tramway.
Swansea Tramways.
Swindon Corporation Tramways.
Taff Vale Railway. *Not yet constructed.*
Taunton Tramways.
Torquay Tramways.
Tottenham & Walthamstow Light Railway. *To be worked as part of the Metropolitan Electric Tramways Co.'s system. Not yet constructed.*
Trafford Park Estates, Ltd., Tramways.
Tynemouth & Whitley Tramways.
Tyneside Tramways.
Underground Electric Railways of London.
Volk's Electric Railway.
Wakefield & District Light Railway.
Wallasey Urban District Council Tramways.
Walsall Corporation Tramways.
Walthamstow District Council Tramways.
Walton-on-the-Naze Pier Electric Railway.
Warrington Corporation Tramways.
Waterloo & City Railway. *Absorbed by London & S.W. Ry., q.v.*
Watford & Edgware Railway. *Not yet constructed.*
Wednesbury & West Bromwich Tramways.
Wellingborough Tramways (British Electric Traction Co., Ltd.). *Not yet constructed.*
Wemyss & District Tramways.
West Bromwich Corporation Tramways.
West Cumberland Tramways. *Not yet constructed.*
West Ham Corporation Tramways.
West Hartlepool Tramways.
Weston-super-Mare Tramways.
Whitechapel & Bow Railway.
Wigan Corporation Tramways.
Wimbledon Borough Council Tramways.
Wolverhampton & Cannock Chase Light Railway. *Extension of time applied for.*
Wolverhampton Corporation Tramways.

Railways & Tramways—Electric—*contd.*

Wolverhampton District Electric Tramways.
Worcester Tramways.
Worthing Corporation Tramways.
Wrexham Tramways.
Yarmouth Corporation Tramways.
Yarmouth & Gorleston Tramways.
York. *Tramways about to be electrified.*
Yorkshire (Woollen District) Tramways.

Recording Instruments—Makers of.

F.—Instruments enregistreurs—Fab. d'.

G.—Registrirende Instrumente—Fab. von.

Bailey, W. H., & Co., Ltd., Albion Works, Salford, Manchester.
Bristol Recording Instruments. *See* J. W. & C. J. Phillips.
CAMBRIDGE SCIENTIFIC INSTRUMENT CO., LTD., Chesterton-rd., Cambridge.
Crosby Steam Gage & Valve Co., 147, Queen Victoria-st., London, E.C.
Drake & Gorham, Ltd., 66, Victoria-st., Westminster, London, S.W. Works: 1, Felix-st., S.E. For branches, telegrams & telephone numbers, *see* ALPHABETICAL. *See advt., page* 459.
ELLIOTT BROS., Century Works, Lewisham, London. (Telegs.: "Ohm, London." Teleph. Nos. 218 & 237, Deptford.)
Everett, Edgcumbe & Co., Ltd., 117, Victoria-st., London, S.W.; & Collindale Works, Hendon, London, N.W. Inkless Recorders—entirely new principle. *See advt., page* 643.
EVERSHED & VIGNOLES, LTD., Acton-lane Works, Chiswick, London, W.
Geipel, Wm., & Co. (late Geipel & Lange), Vulcan Works, 72A, St. Thomas-st., London, S.E. (Telegs.: "Patella, London." Teleph. No. 594, Hop. (2 lines).) *See advt., page* 19.
INDIA RUBBER, GUTTA PERCHA & TELEGRAPH WORKS CO., LTD. Head offices: 106, Cannon-st., E.C. Warehouses: 100 & 102, Cannon-st., London, E.C.; & 97, boul. Sebastopol, Paris. Works: Silvertown, Essex; & Persan, France. For telegraphic addresses & branches, *see advt. outside of back cover.*
KELVIN & JAMES WHITE, LTD., 18, Cambridge-st., Glasgow (Telegs.: "Meter, Glasgow." Teleph. Nos.: P.O., Central 4519; Nat., Douglas 172); & 11, Billiter-st., London, E.C. (Telegs.: "Stormglass, London." Teleph. London Wall 9779.)
Lea Recorder Co., 28, Deansgate, Manchester.
NALDER BROS. & THOMPSON, LTD. (managing director, F. H. Nalder), 34, Queen-st., Cheapside, London, E.C. *See advt., page* 643.
Phillips, J. W. & C. J., 23, College Hill, London, E.C. Bristol's recording instruments for pressure, temperature & electricity.
PITKIN, JAMES, & CO., 56, Red Lion-st., Clerkenwell, London, E.C. (Telegs.: "Barograph, London." Teleph. No. 11273, Central.

Recording Instruments—Makers of—*continued.*

Siemens Bros. & Co., Ltd., Caxton House, Westminster, London, S.W. *See advt., page* 573.

UNION ELECTRIC CO., LTD., Park-st., Southwark, London, S.E. (Telegs.: "Abeam, London." A.B.C. Code. Teleph. Hop. 2970.) *See advt., page* 563.

Rectifiers.

Millwall Electric Co., West Ferry-rd., Millwall, London, E.

Reflector & Shade Manufacturers—Glass, Metal & Silk.

F.—Reflecteurs et abatjours—en verre et en métal et en soie.

G.—Reflectoren & Schirme—Glas, Metall u. Seide.

Assersohn, D., 20, Commercial-st., E.

Baird, John, Ltd. (glass), 99, Milton-st., Port Dundas, Glasgow.

Baxendale & Co. (metal) (makers), Miller-st. Works & Warehouses, Manchester; Hanover-st., Edinburgh; Capel-st., Dublin; & Hood-st., Liverpool.

BURMAN, R. H. (metal), Windmill-st., Horse Fair, Birmingham. (Telegs.: "Reflection, Birmingham." Teleph. Midland 1655.)

Burtles, Tate & Co. (glass), Poland-st. Glass Works, Oldham-rd., Manchester.

Cardiff Tin Stamping & Enamel Co., Ltd. (metal), Rosebery-bldgs., 83, John Bright-st., Birmingham.

Clark, T. & C., & Co., Ltd. (*enamelled metal*), Shakespeare Foundry, Wolverhampton.

Cohen, A. & E. (glass), 2, Bury-st., St. Mary Axe, London, E.C.

Dernier, Louis, & Co. (silk), 23, Newman-st., W.

Diamond Reflector Syndicate (metal), Dock House, Billiter-st., E.C.

DORMAN & SMITH, Ordsal Electrical Works, Salford, Manchester. (Telegs.: "Current, Manchester." Teleph. No. 1741, Nat.) Agents—London: Sambidge & Co., 17, Victoria-st., S.W. (Telegs.: "Prefix, London." Teleph. Victoria 530.) Scottish: Andrews & Co., 198A, St. Vincent-st., Glasgow. Birmingham: S. T. Pemberton, Council-chbrs., Colmore-row. Newcastle-on-Tyne: F. T. Hanks, 1, Higham-pl. *See also page* 123 *& advt., page* 21.

Ellis, Simpson & Saunders (metal), 3 & 4, St. Martin's-ct., Ludgate Hill, E.C.

Fecher, M. J. (porcelain), 1, Mallow-st., Old-st., London, E.C.

Garnier & Co. (enamelled iron), 86, Farringdon-st., Ludgate Circus, London, E.C.

Geipel, Wm., & Co. (late Geipel & Lange), Vulcan Works, 72A, St. Thomas-st., London, S.E. (Telegs.: "Patella, London." Teleph. No. 594, Hop. (2 lines).) *See advt., page* 19.

Reflector & Shade Manufacturers—Glass, Metal & Silk—*continued.*

Goodyers, 174, Regent-st., London, W.

Griffiths & Browett, Ltd., Bradford-st., Birmingham.

Imperial Enamel Co., Ltd. (metal), Watery-lane, Birmingham.

Iron & Copper Enamelling Co., 61, Farringdon-rd., E.C.

Jones Bros. & Co. (Wolverhampton), Ltd. (metal), Ablow-st., Wolverhampton.

Kensington Stamping Co., Ltd. (metal), Kensington-st., Aston, Birmingham. (Telegs.: "Supports, Birmingham." Tel. Northern 83.)

Mange & Co., 49, Newgate-st., London, E.C.

Orme, Evans & Co., Ltd. (metal), Elgin Works, Wolverhampton.

Parks, F. (silk), 26, Nassau-st., Mortimer-st., London, W.

Prismatic Shade Co., West Bridge, Leicester.

Reed, W. H., & Son (silk), 180, Wardour-st., W.

Richardson, H. G., & Sons (glass), Wordsley, nr. Stourbridge.

Robinson, Wm., & Co., Ltd. (metal), Stafford-st., Wolverhampton.

Selinger, M. (glass), 8, Nicholas-st., London, E.

SUN ELECTRICAL CO., LTD. (metal), 118 & 120, Charing Cross-rd., London, W.C. (Telegrams: "Secabilis, London." Telephone Nos. 2291 & 2292, Gerrard.) *See advt., page* 596.

Taylor & Co. (silk & mica), 40, Hatton Garden, E.C.

Thomas, R. Morris, & Co. (glass), 7, Ely-pl., Holborn Circus, London, E.C.

Tiffin, F. J., "Everbrite" silvered glass reflectors, 3, Great Winchester-st., London, E.C. (Telephone No. 1993, Central.)

West, G. (silk), 4, Soho-st., Oxford-st., London, W.

Refrigerating Machinery Manufacturers.

ESCHER, WYSS & CO. (ice-making), 109, Victoria-st., Westminster, S.W. *See advt., page* 732.

Pulsometer Engineering Co., Ltd., The, Nine Elms Ironworks, Reading, Berks; & 61 & 63, Queen Victoria-st., E.C. Makers of ice-making machinery & refrigerating plant. *See advt., page* 735.

Regulators—Makers of.

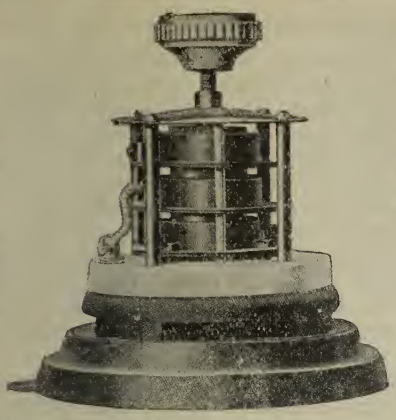
F.—Régulateurs—Fab. de.

G.—Regulatoren—Fab. von.

Adnil Electric Co., Ltd., Adnil-bldg., Artillery-lane, London, E.C.

ANGLO-SWISS (H. CUÉNOD) CONSTRUCTION CO., Thury automatic field regulators & electric motors, 49, Newgate-st., London, E.C. (Telegs.: "Cecampart, London." Teleph. No. 3497, Central.)

DONOVAN & CO., 22, Barwick-st., Birmingham.



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Ferranti Ltd., Hollinwood, Lancs. (Telegs.: "Ferranti, Hollinwood." Teleph. Failsworth 31 & 48); & 78, King-st., Manchester.

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Moy, Ernest F., Ltd., Greenland-pl., Camden Town, London, N.W. (Telegrams: "Movedor, London.") *See advt., page* 709.

Tudor Accumulator Co., Ltd., 119, Victoria-st., London, S.W. (Telegrams: "Subconical, London.") Works at Dukinfield, nr. Manchester. *See advt., page* 407.

UNION ELECTRIC CO., LTD., Park-st., Southwark, London, S.E. (Telegs.: "Abeam, London." A.B.C. Code. Teleph. Hop. 2970.) *See advt., page* 563.

Veritys, Ltd., King-st., Covent Garden, London, W.C.; & Birmingham, Manchester, Glasgow, Bristol, &c. *See* ALPHABETICAL SECTION.

Wellman, Seaver & Head, Ltd., 47, Victoria-st., London, S.W.

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ROCHE, J. J., & CO., 83, Queen Victoria-st., London, E.C. (Teleph. No. 8007, Bank.)

WALKER, W. G, & CO., Emery Hill-st., Victoria-st., Westminster, S.W. (Telegs.: "Walker, Emery Hill Street, London." Teleph. No. 1622, Victoria.) *See advts., pages* 485 *&* 590.

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G.— Wiederstands Spulen und Gestelle—Fab. von.

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ARC LAMPS, LTD. (Davy Arc Lamps). Works Sphere Engineering Works, St. Albans, Herts. (Telegs.: "Voltarcon, St. Albans." Tel. No. 258, St. Albans.) *See advts., pages* 417 *&* 418.

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DONOVAN & CO., 22, Barwick-st., Birmingham.

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ELECTRICAL REGULATORS & ECONOMISERS, LTD., 51, North John-st., & 16, Cumberland - st., Liverpool. MARTIN REGULATORS. *See advt.* IN PREVIOUS COLUMN.

Geipel, Wm., & Co. (late Geipel & Lange), Vulcan Works, 72A, St. Thomas-st., London, S.E. (Telegs.: "Patella, London." Teleph. No. 594, Hop. (2 lines).) *See advt., page* 19.

Hands, Albert C., Snow Hill, London, E.C (Telegrams: "Thraldom, London." Telephone No. 1033, Holborn.)

HODGES, CECIL, & CO., Balfour House, Finsbury Pavement, London, E.C.

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Moy, Ernest F., Ltd., Greenland-pl., Camden Town, London, N.W. (Telegrams: "Movedor, London.") *See advt., page* 709.

NALDER BROS. & THOMPSON, LTD. (managing director, F. H. Nalder), 34, Queen-st., Cheapside, London, E.C. *See advt., page* 643.

Offord & Co., 97 & 98, Woodcock-st., Birmingham. (Telegs.: "Offord, Woodcock-st., Birmingham." Nat. Teleph. No. 2229.)

PAUL, ROBT. W., Newton-ave. Works, New Southgate, London, N. Show-rooms: 33, Leicester-sq., London, W.C. *See* ALPHABETICAL. *See advt., page* 617.

Sanders, W., & Co., Falcon Electrical Works, Wednesbury.

TETLEY & CO., Falcon Works, Bedford-st., Greengate, Salford.

Veritys, Ltd., King-st., Covent Garden, London, W.C.; & Birmingham, Manchester, Glasgow, Bristol, &c. *See* ALPHABETICAL SECTION.

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Specific Resistance 48 microhms per centimetre cube.
Temperature co-efficient 0·00014° C.
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Glover, W. T., & Co., Ltd., Trafford Park, Manchester. (Telegs.: "Cables, Manchester." Tel. Central 7200 (6 lines).) London: Parliament Mansions, Orchard-st., S.W. *See* ALPHABETICAL.
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F.—Rhéostats.
G.—Rheostate.

ADAMS MANUFACTURING CO., LTD., 106, New Bond-st., London, W.; & Bedford. (Telegs.: "Admocar, London;" "Admocar, Bedford." Teleph. Nos.: Mayfair 3962; & P.O. 2, Bedford.)
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Bray, Markham & Reiss, Ltd., Blackhorse-lane, Walthamstow, London, E.
British Westinghouse Electric & Manufacturing Co., Ltd., The, Westinghouse Works, Trafford Park, Manchester.
DONOVAN & CO., 22, Barwick-st., Birmingham.
ELECTRIC & ORDNANCE ACCESSORIES CO., LTD., Cheston-rd., Aston, Birmingham. (Telegs.: "Stellite, Birmingham." Teleph. Nos.: Nat. 176 & 179, East; & P.O. 9 (Trunk Calls).) *See page* 134 *for full entry.*

Rheostats—*continued.*

ELECTRICAL REGULATORS & ECONOMISERS, LTD., 51, North John-st., & 16, Cumberland-st., Liverpool. MARTIN REGULATORS. *See advt., page* 679.
Ferranti Ltd., Hollinwood, Lancs. (Telegs.: "Ferranti, Hollinwood." Teleph. Failsworth 31 & 48); & 78, King-st., Manchester.
GEIPEL, WM., & CO. (late Geipel & Lange), Vulcan Works, 72A, St. Thomas-st., London, S.E. (Telegs.: "Patella, London." Teleph. No. 594, Hop. (2 lines).) EUROPEAN AGENTS FOR WARD LEONARD RHEOSTATS. *See advt., page* 19.
Moy, Ernest F., Ltd., Greenland-pl., Camden Town, London, N.W. (Telegs.: "Movedor, London.") *See advt., page* 709.
PAUL, ROBT. W., Newton-ave. Works, New Southgate, London, N. Show-rooms: 33, Leicester-sq, London, W.C. *See* ALPHABETICAL. Carbon & wire-woven rheostats. *See advt., page* 617.
Potter, F. W., & Co., Phipp-st., London, E.C. (Telegs.: "Wirework, London." Teleph. No. 1169, Wall.)
Siemens Bros. Dynamo Works, Ltd., Caxton House, Westminster, London, S.W.
UNION ELECTRIC CO., LTD., Park-st., Southwark, London, S.E. (Telegs.: "Abeam, London." A.B.C. Code. Teleph. Hop. 2970.) *See advt., page* 563.
Wellman, Seaver & Head, Ltd., 47, Victoria-st., London, S.W.

Rock Drill Manufacturers—Electric.

Sandycroft Foundry Co., Ltd., The, Chester (Telegrams: "Sandycroft, Hawarden"); & 6, Queen-st.-pl., London, E.C.

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Breyer, M. H., & Co., Ltd., 178, King's Cross-rd., W.C.
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Miller, Leslie, A.M.I.E.E., 66, Hatton Garden, E.C.
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Newton & Co., 3, Fleet-st., E.C.; & Newton Works, 471, Hornsey-rd., London, N.
Peto & Radford, Ltd., 100, Hatton Garden, E.C.
ROBERTSON ELECTRIC LAMPS, LTD., makers of low & high voltage, fancy, battery & heater lamps of every description, Brook Green Works, Hammersmith, London, W. *See advt., page* 611.
Sanitas Electrical Co., Ltd., 61, New Cavendish-st., W.
Scientific Appliance Manufacturing Co., 15, New Oxford-st., London, W.C.
SIEMENS BROS. & CO., LTD., Caxton House, Westminster, London, S.W. *See advt., page* 573.

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G.—Eiserne Dächer—Fab. von.

Braby, Frederick, & Co., Ltd., Fitzroy Works, 352–364, Euston-rd., London, N.W. For branches, telegraphic addresses & telephone numbers, *see* ALPHABETICAL ENTRY.
Gibbons Bros., Ltd., Dibdale Works, Dudley, Worcs. *See advt., page* 528.
Glasgow Steel Roofing Co., 52, St. Enoch-sq., Glasgow.

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F.—Cordage (Manilla et Chanvre)—Fab. de.
G.—Tau (Manilla und Hanf)—Fab. von.

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Salammoniac.
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Bayley, F. S., Clanahan & Co, 79, Mosley-st., Manchester.
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Altrincham Technical School, Altrincham, Cheshire. Electricity & magnetism, R. R. Rothwell.
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Atherton Technical School. Electricity & magnetism & chemistry, P. Gillman, B.SC.
Bablake School of Science, Coventry. Electrical engineering & physics, D. H. Patrick, F.C.S., A.I.E.E.
Barrow-in-Furness Technical School. Electrical engineering & telephony, E. Thornton, A.M.I.E.E.
Bath Technical School, Bath. Electrical engineering, C. E. Kemp, B.SC., & C. Vickery; telegraphy & telephony, T. O'Connor Parnell.
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Belfast Municipal Technical Institute, Belfast. Professor of physics & electrical engineering, R. Stanley, B.A., A.M.I.E.E.
Birkbeck College, Breams-bldgs., Chancery-lane, London, E.C. Experimental physics, A. Griffiths, D.SC.
Birkdale Technical School, Birkdale. Electricity & magnetism, H. Bentham, M.I.E.E.
Birkenhead School of Art. Principal & lecturer on magnetism & electricity, J. E. Lloyd Barnes, M.I.M.E.
Birmingham Municipal Technical School. Principal & head of electrical engineering, W. E. Sumpner, D.SC., M.I.E.E.
Blackburn Municipal Technical School. Physics: R. H. Pickard, D.SC., principal.
Bolton Municipal Technical Schools. Lecturer in electrical engineering, T. A. Locke, A.M.I.E.E.
Bootle Municipal Technical School, Bootle, Lancs. Teacher of electricity, Laurence Small, B.SC.

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Bournemouth Science, Art & Technical School, Poole Hill, Bournemouth.

Bradford, City of, Technical College, Bradford. Professor of engineering, G. F. Charnock, A.M.I.C.E., M.I.M.E.; lecturer in electrical engineering, W..H. N. James.

Brighton Municipal Technical College, Brighton. W. Beckit Burnie, D.SC., principal; H. H. Broughton, electrical engineering.

British School of Telegraphy, 179, Clapham-rd., S.W. Props., A. W. Ward & A. W. Sharman.

Bury Municipal Technical School, Bury, Lancs.

Camborne School of Mines, Camborne. Electrical engineering, H. C. Jenkins, WH.SC., A.R.S.M., A.M.I.C.E.

Carlisle Municipal Technical Institute, Carlisle. Electricity & physics, J. Hodgkinson, B.SC.

Cass, Sir John, Technical Institute, Jewry-st., Aldgate, E.C. Principal, C. A. Keane, D.SC., PH.D., F.I.C. Head of Department of Physics & Mathematics: R. Smith Willows, D.SC. (Lond.), M.A. (Cantab.).

Chester School of Science & Art, Chester. Physics, John A. McMichael, B.A., B.SC.; electrical engineering, Geo. E. Swift.

City & Guilds Central Technical College, Exhibition-rd., London, S.W. Professor of physics & electrical engineering, T. Mather, WH.SC., F.R.S.

City & Guilds of London Institute (Sir J. Watney, Hon. Sec.; A. L. Soper, Asst. Sec.). Head office: Gresham College, London, E.C.

City & Guilds of London Technical College, Leonard-st., Finsbury, London, E.C. Professor of applied physics & electrical engineering, Silvanus P. Thompson, D.SC., F.R.S. (*principal*); senior demonstrator, H. H. Simmons, A.M.I.E.E.

City of London College, White-st. & Ropemaker-st., Moorfields, E.C. Electricity & magnetism, I. S. Scarf, F.I.C., F.C.S.; C. A. West, B.SC., A.R.C.S., F.I.C.; & T. Scott, M.A.

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Cockburn High School, Leeds. Electricity & magnetism, Wm. Wallace, M.A., F.R.S.E., A.I.E.E.; & A. Mackenzie, M.A., B.SC., A.R.C.S.

Coventry Municipal Technical Institute, Earl-st., Coventry.

Crawford Municipal Technical Institute, Cork. E. A. O'Keeffe, B.E., M.I.E.E., F.R.S. (London), science.

Croydon Polytechnic. Dept. of Elec. Engineering: lecturer, A. Blok, B.SC.

Crystal Palace Company's School of Practical Engineering, &c., Crystal Palace, S.E. Principal, J. W. Wilson, M.I.C.E., M.I.MECH.E.

Darlington Technical College. Principal, J. Scholes Hague, M.SC.

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Devonport Municipal Science. Art & Technical School. Principal, W. M. Varley, M.A., D.SC., PH.D.

Dover School of Science, Art & Technology. Electricity & magnetism, physics & chemistry, G. D. Thomas, B.SC.

Dublin Municipal Technical School. Principal, L. E. O'Carroll, B.A.

Dundee Technical College, Dundee. R. D. Archibald, B.SC., A.M.I.C.E., A.M.I.E.E., lecturer on electrical & mechanical engineering.

East London College, People's Palace, Bow & Bromley Branch, Railway Station, Bow-rd., London, E.C.

East London (University of London) College, Mile End-rd., London, E. Professor of electrical engineering, J. T. Morris, M.I.E.E.; professor of physics, C. H. Lees, D.SC., F.R.S.

Electrical Engineer Institute of Correspondence Instruction, 13, Southampton-st., High Holborn, London, W.C.

Engineering Society Municipal Technical Schools, Brunswick-rd., Gloucester.

Gamble Institute Municipal Technical School, St. Helen's, Lancs. Electrical engineering, J. W. Warr, A.M.I.E.E.

Glasgow & West of Scotland Technical College. Electrical engineering, Prof. Magnus Maclean, M.A., D.SC.; chemistry, Prof. G. G. Henderson, M.A., D.SC.; technical chemistry, Prof. T. Gray, D.SC., PH.D.; motive power engineering, Prof. A. L. Mellanby, D.SC.; engineering drawing J. H. A. McIntyre, M.I.MECH.E.

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Hackney Technical Institute, Dalston-lane, N.E. W. H. F. Murdoch, B.SC., M.I.E.E., physics & electrical engineering.

Halifax Municipal Technical College, Halifax. Electrical engineering, W. T. Maccall.

Harris Institute & Victoria Technical School, Preston. Teachers of electricity, G. E. Gittins, A.I.E.E., A. W. Holden, INT.B.SC., & A. Smith, INT.B.SC.

Harrogate Technical School, Harrogate. Electricity & magnetism, physics & chemistry, E. Morris, A.R.C.S., A.R.S.M., & W. Wallis, INTER-B.SC., L.C.P.

Hartley University College, Southampton. Department of Physics & Electrical Engineering: Spencer Wm. Richardson, D.SC., B.A., principal.

Heriot-Watt College, Edinburgh. Applied physics & electrical engineering, Prof. F. G. Baily, M.A., F.R.S.E.

Holt School of Science, Birkenhead.

Schools of Electrical Engineering, Telegraphy, &c.—*continued.*

Huddersfield Technical College, Huddersfield. Physics & electrical engineering, W. R. Bower, A.R.C.S., & S. Rudd, B.SC., A.C.G.I.

Hull Municipal Technical School, Hull. Lecturer in electrical engineering, G. A. Pearson, A.M.I.E.E.

Hyde Technical School, Hyde. (Nat. Teleph. No. 5.) Electricity & magnetism, J. F. Heald, B.SC.

Imperial College of Science & Technology, South Kensington, S.W.

Johnston Technical School, Durham. Electricity & magnetism, S. Whalley, B.SC., A.R.C.S.

King's College, 160, Strand, London, W.C. Professors: physics, C. G. Barkla, D.SC.; sen. lecturer, H. S. Allen, M.A., B.SC.; chemistry, J. M. Thomson, F.R.S., F.I.C., H. Jackson, F.I.C.; electrical engineering, E. Wilson, M.I.E.E.

Kingston Municipal Science & Art School & Technical Institute, Kingston Hall-rd., & Polytechnic, Fife-rd., Kingston-upon-Thames. Electricity, J. Coxon, A.I.E.E.

Leeds Technical School, Cookridge-st., Leeds. Headmaster, R. E. Barnett, B.SC., A.R.C.S.; Dept. of electrical engineering, J. E. Tindall, B.A., B.SC.

Leicester Municipal Technical School. Electrical engineering, E. E. Brooks, B.SC.

Leigh Technical School. Electricity & magnetism, W. Daniels; physics & chemistry, J. W. Saville.

Leyton Technical Institute, Leyton, London, E. Electrical engineering, E. Smith, B.SC., A.R.C.S.

Limerick Municipal Technical Schools. Electricity, magnetism & physics, Jas. Comerton, R.A.

Liverpool Central Municipal Technical School, Liverpool. Electrical engineering, J. E. Lloyd Barnes, M.I.M.E.; electrical wiring, G. P. Dennis; electricity & magnetism, S. S. Richardson, B.SC.

London Telegraph Training College, Ltd., Morse House, Earl's Court, S.W.

Londonderry Municipal Technical School. Electricity, O. S. Spokes, WH.EX., A.I.E.E.

Lurgan Technical School. Physics & electrical engineering, W. J. Lark, principal.

Manchester Municipal School of Technology (Department of Physics & Electrical Engineering: Prof. A. Schwartz, A.K.C., A.M.I.C.E., M.I.E.E., M.SC.TECH., Prof. W. W. Haldane Gee, B.SC. (Lond.), F.C.S., A.M.I.E.E., M.SC.TECH., C. F. Smith, WH.SC., A.M.I.C.E., M.I.E.E., & A. Adamson, A.R.C.S.), Sackville-st., Manchester.

Merchant Venturers' Technical College, Bristol. Professor in electrical engineering & applied physics, D. Robertson, B.SC., A.I.E.E.

Newport Borough Technical Institute, Newport, Mon. Electricity, J. J. Stewart, M.A., B.SC., G. R. Bennett, B.SC., & W. L. Thain.

Schools of Electrical Engineering, Telegraphy, &c.—*continued.*

Newry Municipal Technical School. Electrotechnology, electricity & magnetism, & engineering & physics, E. Holden, C.E., & J. F. Chapman, M.SC.

Northampton & County Modern & Technical School, Northampton. Electricity, G. L. Bradley, R.A.

Northampton Polytechnic Institute, Clerkenwell, London, E.C. Electrical engineering & applied physics department, R. Mullineux Walmsley, D.SC., F.R.S.E., principal; associate head of department, C. V. Drysdale, D.SC.

Northern Polytechnic Institute, Holloway-rd., London, N. Head of physics & electrical engineering department, J. Nicol, M.A., B.SC.; lecturers in physics, A. Giles, J. Charlesworth, B.SC., & O. W. Griffiths, B.SC.

Norwich Municipal Technical Institute. Electrical engineering, W. S. Brooks, M.SC.

Paisley Technical College. Electricity & physics, Angus McLean, B.SC.

Peterborough (Soke of) County Technical School. Electricity & magnetism, mathematics, physics & chemistry, Wm. Barbour.

Plymouth Municipal Technical School. Magnetism & electricity, F. R. Talbot, B.SC.; electrical & mechanical engineering, T. N. Riley, A.M.I.E.E.

Polytechnic, The (teacher of electricity, W. Hibbert, F.I.C., A.M.I.E.E.), 309 & 311, Regent-st., W.

Portsmouth Municipal Technical School. Electric light & power, telegraphy & telephony, H. Davies, B.SC.

Postal Telegraph Schools (L. D. Barclay, asst. supt. in charge), G.P.O. West, London, E.C.

Queen's College, Belfast. Professor of natural philosophy, W. B. Morton, M.A.; demonstrator, John Wylie, B.A.

Queen's College, Galway. Demonstrator in electrical engineering, W. G. Griffith, B.SC., A.M.I.E.E.

Rawtenstall Technical School. Electricity & magnetism, Geo. Moores.

Redruth School of Mines & Art. Electrical engineering, H. C. Jenkins, WH.SC., A.R.S.M., A.M.I.C.E.

Robert Gordon's College, Schoolhill, Aberdeen.

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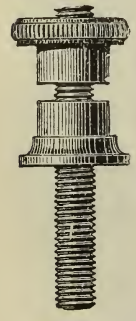

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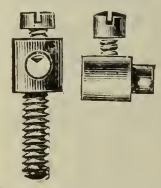

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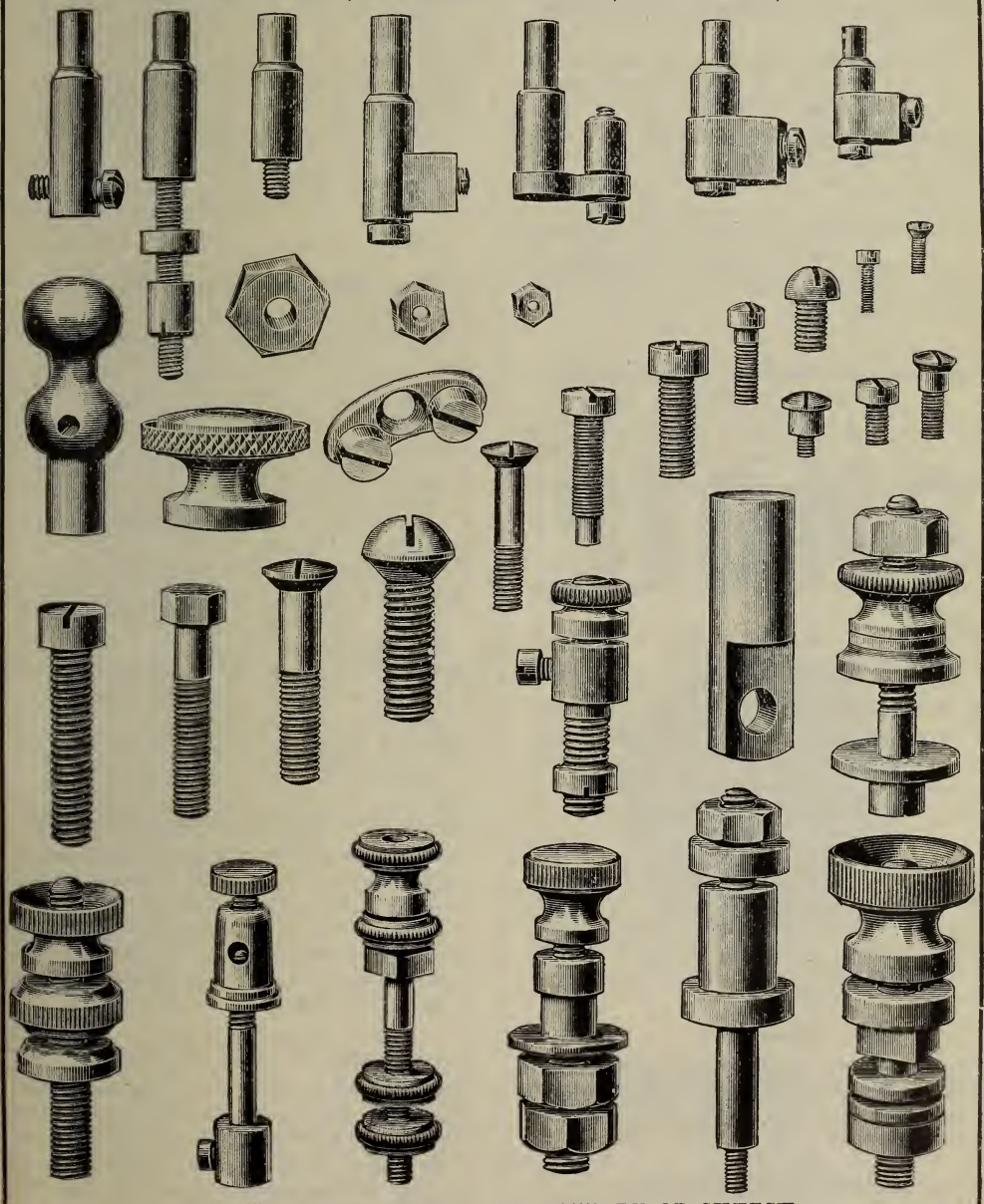

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F.—Signes électriques—Fabricants.
G.—Elektrische beleuchtete Firmenschilder—Fabrikanten von.

British Illuminated Sign Co., 4, Park-rd., Wellingborough.

Burnham & Co., St. Paul's Works, Deptford; & 10, Charles-st., Hatton Garden, London, E.C.

Chinnery Signs (1909), Ltd., 23, Old-st., London, E.C.

Electrical Contracts & Maintenance Co., Ltd., Sanctuary House, Westminster, London, S.W.

Electrical & Engineering Supplies Co., Ltd., 36 & 37, Upper Thames-st., London, E.C. *See advt., page* 652.

HARPER ELECTRIC CO., THE, 25, Southwark Bridge-rd., London, S.E.

HAWKES, O. C., LTD., 69 & 70, Aldersgate-st., London, E.C.; & Globe Works, Bromsgrove-st., Birmingham. Manufacturers of all kinds of signs, makers of the map & other signs for the Underground Railways of London.

SIGNS

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VENNER & CO.,
6, OLD QUEEN ST.,
LONDON.

Sign Makers—Electric—*continued.*

National Electric Signs Co., Ltd., 112, Bath-st., Glasgow.
Neville, Williams & Co., 80A, Southwark-st., London, S.E.
Sesal Co., 232, Shaftesbury-ave., London, W.C.
SUN ELECTRICAL CO., LTD., 118 & 120, Charing Cross-rd., London, W.C. (Telegs.: "Secabilis, London." Teleph. Nos. 2291 & 2292, Gerrard.) *See advt., page* 596.
VENNER & CO., 6, Old Queen-st., Westminster, S.W. (Telegs.: "Trydan, London." Teleph. Westminster 5595 (2 lines).) *See advt., page* 689.

Silicate Cotton & Slag Wool.

F.—Feutre silicat et laine minerale.
G.—Silicat Filz & Schlackenwolle.

Jones, Fred., & Co., Perren-st., London, N.W.
Lonsdale Bros. Ltd., Pump-st., Blackburn.
McNeill, F., & Co., Bunhill-row, London, E.C.; Glasgow; & Liverpool.

Slate Enamellers.

F.—Emailleurs d'ardoise.
G.—Schiefer Schmelzarbeiter.

BINGLEY, SON & FOLLIT, LTD., Millbank Slate Wharf, Westminster, S.W. (Telegs.: "Bingley, Millbank, Westminster." Teleph. Westminster 663.) *See advt.* OPPOSITE.
BRABY, E. & C. *See* Bingley, Son & Follit, Ltd.
Bryant, Edward, & Co., 54, St. Paul-st., Islington, London, N.
Dickson, Robert Alexander, 2 & 4, Parfitt-rd., South Bermondsey, London, S.E.
Fletcher, John, Ltd., Enamelled Slate Works, Carnarvon.
FORD & MARGRETT, Camphill Slate Works, Birmingham. (Telegs.: "Mantel, Birmingham." Teleph. No. 75, Victoria.) *See advt.* IN NEXT COLUMN.
HARE, H., & CO., Kingston Enamelled Slate & Marble Works, Park-rd., Hull. *See advt.* OPPOSITE.
LEE, ARTHUR, & BROS., LTD., Hayes, Middlesex. (Telegs.: "Lee, Hayes, Middlesex." P.O. Teleph. No. 11.) Wharves & factories: Hayes, Middlesex; & Cumberland-rd., Bristol.
Perrin, Walter, 27A, Smith-st., Kennington, London, S.E.
ROBERTS, ADLARD & CO., 25 & 26, Bermondsey Wall, S.E.; & Queen-st., Cheapside, London, E.C.
SESSIONS & SONS, LTD., Slate & Marble Works, Gloucester; & at Cardiff. *See advt.* OPPOSITE.
Webb, George, 12, Fowell-st., Notting Hill, London, W.
Wilmer & Sons, 11, 12, 13, Berry-st., St. Mary Axe, London, E.C.; & 10, Bevis Marks, London, E.C.

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F.—Ardoise et plaques d'ardoise—Marchands et Fabricants.
G.—Schiefer u. Schieferplatte—Händler und Fabrikanten.

BINGLEY, SON & FOLLIT, LTD., Millbank Slate Wharf, Westminster, S.W. (Telegs.: "Bingley, Millbank, Westminster." Teleph. Westminster 663.) *See advt.* OPPOSITE.
BRABY, E. & C. *See* Bingley, Son & Follit, Ltd.
Davies Bros. (Newport), Ltd., London Wharf, Newport, Mon.
FORD & MARGRETT, Camphill Slate Works, Birmingham. (Telegs.: "Mantel, Birmingham." Teleph. Victoria 75.) *See advt.* ABOVE.
Grove Slate Co., Grove Works, Bury New-rd., Manchester.
HARE, H., & CO., Kingston Enamelled Slate & Marble Works, Park-rd., Hull. *See advt.* OPPOSITE.
Jones, Inigo, & Co., Tudor Slate Works, Groeslon, R.S.O., N. Wales.
Mathews, Ernest, & Co., 61, St. Mary Axe, London, E.C.
Newport Enamelled Slate Co., Ltd., Carngethin Wharf, Newport, Mon.
ROBERTS, ADLARD & CO., 25 & 26, Bermondsey Wall, London, S.E.; & Queen-st., Cheapside, London, E.C.
SESSIONS & SONS, LTD., Slate & Marble Works, Gloucester; & at Cardiff. *See advt.* OPPOSITE.
Williams, John, & Co., Rotherhithe-st., S.E.

Slate Turners for Electrical Purposes.

F.—Ardoise—Tourneurs d'—pour l'électricité.
G.—Schiefer Drechsler für Electr. Zwecke.

BINGLEY, SON & FOLLIT, LTD., Millbank Slate Wharf, Westminster, S.W. (Telegs.: "Bingley, Millbank, Westminster." Teleph. Westminster 663.) *See advt.* OPPOSITE.

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Telephone
663 WESTMINSTER.

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Slate Turners for Electrical Purposes—
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BRABY, E. & C. *See* Bingley, Son & Follit, Ltd.

Clunas & Co., 15, Annandale-st., Leith, Edinburgh.

FORD & MARGRETT, Camphill Slate Works, Birmingham. (Telegs.: "Mantel, Birmingham." Teleph. No. 75, Victoria.) *See advt.* OPPOSITE.

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BASES, &C.,
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SLATE & MARBLE.
DRILLED & GROOVED COMPLETE.

H. HARE & CO.,

ENAMELLED SLATE & MARBLE WORKS,
PARK ROAD, HULL.
Established 1865.
Telegrams: "HARE, PARK ROAD, HULL."
Nat. Telephone No. 79x.

Slate Turners for Electrical Purposes—
continued.

HARE, H., & CO., Kingston Enamelled Slate & Marble Works, Park-rd., Hull. *See advt.* IN PREVIOUS COLUMN.

Portmadoc Slate Co., The, Portmadoc, N. Wales.

Richardson, A. & W. T., Brunswick-wharf, Vauxhall, S.W.

Roberts, Adlard & Co., 25 & 26, Bermondsey Wall, S.E.; & Queen-st., Cheapside, E.C.

BASES, SWITCHBOARDS,

IN PLAIN & ENAMELLED &c.,
SLATE & MARBLE.

SESSIONS & SONS,

LTD.,
GLOUCESTER (& at Cardiff).

Slate Turners for Electrical Purposes—*continued.*

SESSIONS & SONS, LTD., Slate & Marble Works, Gloucester; & at Cardiff. *See advt., page* 691.

Smelters & Refiners.

F.—Chargeurs et Raffineurs.
G.—Schmelzereien & Läuterer.

Cowper-Coles Engineering Co., Ltd., Grosvenor Mansions, 82, Victoria-st., S.W.

Glamorgan Spelter Co., Ltd., Llansamlet, R.S.O.

Sheffield Smelting Co., Ltd., 1, Berry-st., Clerkenwell-rd., London, E.C.; & at Sheffield & Birmingham.

Williams, Foster & Co., & Pascoe Grenfell & Sons, Ltd., Morfa & Middle Bank Copper Works, & Upper Bank Spelter Works, Swansea. Warehouse: 5, Creechurch-lane, Leadenhall-st., London, E.C. Office: Leadenhall-bldgs., E.C.

Societies—Learned, Scientific & Technical.

F.—Sociétés savantes, scientifiques, et tech.
G.—Vereine—Gelehrte Wissenschaft. u. Tech.

Association of Technical Institutions. Hon. sec., R. S. Clay, principal Northern Polytechnic, Holloway, London, N.

Board of Education, Whitehall, London, S.W.

British Association for the Advancement of Science, Burlington House, London, W.

Chartered Institute of Patent Agents (H. Howgrave Graham, sec. & reg.), Staple Inn-bldgs., London, W.C.

Chemical Society, Burlington House, Piccadilly, W.

Civil & Mechanical Engineers' Society, 25, Victoria-st., London, S.W.

Electrical Fittings Manufacturers' Association, 112, Edmund-st., Birmingham.

Electrical Standardizing Testing & Training Institution, Faraday House, 62-70, Southampton-row, W.C.

Engineering & Scientific Association of Ireland, Dublin.

Faraday Society. Mr. Jas. Swinburne, F.R.S., president; F. S. Spiers, secretary, 82, Victoria-st., London, S.W.

Gloucestershire Engineering Society. E. W. A. Carter, secretary, 3, Palace-yard, Gloucester.

Illuminating Engineering Society. President, Prof. S. P. Thompson, D.SC., F.R.S.; hon. sec., L. Gaster, 32, Victoria-st., S.W.

Institute of Chemical Technology & Analytical Laboratory, Hackin's Hey, Dale-st., Liverpool.

Institution of Civil Engineers, The, Great George-st., Westminster, London, S.W.

Institution of Civil Engineers of Ireland, 35, Dawson-st., Dublin.

INSTITUTION OF ELECTRICAL ENGINEERS (LATE THE "SOCIETY OF TELEGRAPH ENGINEERS & ELECTRICIANS"), 92, VICTORIA-ST., LONDON, S.W.

Societies—Learned, Scientific & Technical—*continued.*

Institution of Engineers & Shipbuilders in Scotland, Elmbank-cres., Glasgow.

Institution of Heating & Ventilating Engineers, 99, Fonthill-rd., Finsbury Park, London, N.

Institution of Mechanical Engineers, Storey's Gate, St. James' Park, Westminster, S.W.

Institution of Mining Electrical Engineers. Offices: Bank-chbrs., London-rd., Derby. President, Wm. Maurice, F.G.S., M.I.E.E.; general secretaries, Messrs. Saunders.

Institution of Mining Engineers, 39, Victoria-st., Westminster, S.W.

Institution of Mining & Metallurgy, Salisbury House, London, E.C.

Institution of Municipal Engineers, 39, Victoria-st, S.W.

Iron & Steel Institute, 28, Victoria-st., London, S.W.

JUNIOR INSTITUTION OF ENGINEERS, INCORPORATED (Founded 1884), 39, Victoria-st., London, S.W. (Telephone No. 912, Victoria.)

Liverpool Engineering Society, Royal Institution, Colquitt-st., Liverpool.

Liverpool University Engineering Society, The University, Liverpool.

Liverpool University Physical Society, Liverpool.

Manchester Association of Engineers, Manchester.

Manchester Section of the Institution of Electrical Engineers. Hon. secretary, H. W. Wilson, 19, Brazennose-st., Manchester.

Midland Counties Institution of Engineers. Secretary, G. A. Lewis, M.A., Albert-st., Derby.

Municipal Tramways Association, Sheffield Corporation Tramways, Division-st., Sheffield.

North of England Institute of Mining & Mechanical Engineers (T. E. Forster, president), Newcastle-upon-Tyne.

Northampton Institute Engineering Society, Northampton Institute, St. John-st., Clerkenwell, E.C.

Nottingham Guild of Mechanical & Electrical Engineers. President, Ald. C. Bennett, J.P.; secretary, F. A. W. Taylor, 2, Ashforth-st., Nottingham.

Physical Society of Glasgow University. *See* ALPHABETICAL SECTION.

Physical Society of London, Royal College of Science, South Kensington, London, S.W.

Röntgen Society, C. E. S. Phillips, F.R.S. (Edin.), president; F. H. Low, hon. secretary, 2, Henrietta-st., Cavendish-sq., London, W.

Royal Astronomical Society, Burlington House, Piccadilly, London, W.

Royal Engineers Institute, Chatham.

Royal Geographical Society, 1, Savile-row, Burlington-gardens, London, W.

Royal Institution of Great Britain, 21, Albemarle-street, London, W.

Royal Meteorological Society, 70, Victoria-st., Westminster, London, S.W.

Royal Microscopical Society, 20, Hanover-square, London, W.C.

Societies—Learned, Scientific & Technical—*continued.*

Royal Physical Society, India-bldgs., Edinburgh.
Royal Society, Burlington House, Piccadilly, W.
Royal Society of Arts, 18 & 19, John-st., Adelphi, London, W.C.
Royal Statistical Society, 9, Adelphi-terrace, Strand, London, W.C.
Society of Chemical Industry, Palace-chbrs., 9, Bridge-st., Westminster, London, S.W.
Society of Engineers, 17, Victoria-st., S.W.
Society of Model Engineers, 37, Minard-rd., Hither Green, S.E.
WHOLESALE TRADERS' ASSOCIATION, THE, for (the protection & promotion of) the HARDWARE, FURNISHING & METAL INDUSTRIES, LTD. (Electrical Trades Section), 26, Corporation-st., Birmingham; 3, Barbican, E.C.; & 3, East Parade, Sheffield.

Societies & Associations—Commercial & Social.

Arc Works Engineering Society, Arc Works, Chelmsford. Lieut.-Colonel R. E. B. Crompton, C.B., pres.; E. S. Shoults & H. MacCallum, hon. secs.
Association of Engineers-in-charge, St. Bride's Institute, Bride-lane, E.C. Hon. sec., Hy. Capsey, 112, Melbourne-grove, East Dulwich, S.E.
Belfast Engineering Employers' Association. Sec., J. Hind, jun., 8, Ulster-chbrs., Belfast.
Birmingham Association of Mechanical Engineers. Sec., L. O'Brien, 37, Great Hampton-st., Birmingham.
British Electrical Friendly Society, Electrical Federation Offices, Kingsway, London, W.C.
British Electrical Superannuation Fund, Electrical Federation Offices, Kingsway, W.C.
Central Technical College Old Students' Association. Hon. sec., Dr. E. Frankland Armstrong, 55, Granville Park, Lewisham, S.E.
Dick-Kerr Engineering Society, Electric Works, Strand-rd., Preston, Lancs. (R. N. Norris, hon. sec.).
Electrical Contractors' Association, Incorp. Head office: 20, Bucklersbury, London, E.C. Hon. sec., L. G. Tate.
Elecl. Trades Union, 26, Cannon-st., Manchester.
Faraday House Old Student's Association, Faraday House, Southampton-row, W.C.
Finsbury Technical College, Old Students' Association. Electrical secretary, E. W. Moss, 20, Huddleston-rd., Tufnell Park, N.
Incorporated Association of Municipal & County Engineers, 11, Victoria-st., S.W.
Incorporated Municipal Electrical Association. Secretary, C. McArthur Butler, Staple Inn-bldgs. (South), Holborn, London, W.C.
Machinery Users Association (Incorp.), 22 & 23, Laurence Pountney-lane, Cannon-st., E.C.
National Electrical Manufacturers' Association (Incorp.), 2, Queen Anne's Gate, Westminster, London, S.W. Secretary, W. Davenport.

Societies & Associations—Commercial & Social—*continued.*

North-East Coast Institution of Engineers & Shipbuilders, Bolbec Hall, Westgate-rd., Newcastle-on-Tyne.
P. & O. Batti-Wallahs' Society, 113, 115 & 117, Charing Cross-rd., W.C.
Society of Power Company Officials. Hon. sec., W. B. Woodhouse, Electric Power Station, Thornhill, nr. Dewsbury.
South-Eastern Union of Scientific Societies (Rev. R. Ashington Bullen, Woking, secretary).
Wholesale Electric Traders, 2, Queen Anne's Gate, Westminster, London, S.W.

Solder Manufacturers & Merchants.

F.—Soudure—Fab. et Marchands de.
G.—Löth-blei—Fab. & Händler von.

Barnard, H. B., & Sons, 144, Lambeth-walk, London, S.E. (Telegs.: "Metalcibles, London." Teleph. Victoria 1714.) City office: 59/60, Gracechurch-st. (Telegs.: "Soldeerpan, London." Teleph. Central 767.) Birmingham office: Guildhall-bldgs., Navigation-st. (Telegs.: "Metalcibles, Birmingham." Teleph. Midland 732.)
Bolton, Thomas, & Sons, Ltd. (manufacturers), Mersey Copper Works, Widnes; Oakamoor, North Staffs.; Broad-st. Metal Works, Birmingham; & 88, Bishopsgate-st. Within, London, E.C.
Braby, Frederick, & Co., Ltd., Fitzroy Works, 352–364, Euston-rd., London, N.W. For branches, telegraphic addresses & telephone numbers, *see* ALPHABETICAL ENTRY.
British Electric Calibrated Fuse Co., The, Harpenden, Herts.
Donovan & Co., 22, Barwick-st., Birmingham.
Grey & Marten, Ltd., Southwark Bridge, London, S.E. (Telegrams: "Amalgam, London." Telephone No. 750, Hop.)
Hughes, John & Joseph, Albion Metal Works, Woodcock-st., Birmingham. (Telegrams: "Bronze, Birmingham." Telephone No. 118.)
LAIDLER, RITCHIE & CO., LTD., Nutsford Vale Works, Longsight, Manchester.
Neville, Williams & Co., 80A, Southwark-st., London, S.E. Sole agents for "Tinol" Patent Solder.
Ratcliff, J., & Sons, Pritchett-st., Birmingham.

Soldering Fluid & Paste.

BURNETT, SIR WM., & CO., LTD., Nelson Wharf, Millwall, E.

Soldering Lamps & Irons—Makers of.

F.—Lampes à Souder.
G.—Löth Lampen.

Crowden & Garrod, Ltd., Falcon House, Southwark-st.; Clenham-st.; & Southwark Bridge-rd., London, S.E.
Moeller & Condrup, Ltd., 78, Fore-st., E.C.

Solenoid Motor Starters.

Geipel, Wm., & Co. (late Geipel & Lange), Vulcan Works, 72A, St. Thomas-st., London, S.E. (Telegs.: "Patella, London." Teleph. No. 594, Hop. (2 lines).) *See advt., page* 19.

Solenoid Starters.

GEIPEL, WM., & CO. (late Geipel & Lange). Vulcan Works, 72A, St. Thomas-st., London, S.E. (Telegs.: "Patella, London." Teleph. No. 594, Hop. (2 lines).) *See advt., page* 19.

Specialities—Electric, & Trade Marks.

F.—Specialités électriques et Marques de Fabriques. G.—Elektrische Specialitäten u. Handelsmarken.

A.A.A. Dry Cells. Atlas Carbon & Battery Co., Ltd., 19, Ewer-st., London, S.E.

A1, AA Accumulator Acid. Spencer Chapman & Messel, Ltd., 36, Mark-lane, London, E.C.

Abbey Flame Arc Lamps. ABBEY ELECTRIC CO., 17, Victoria-st., London, S.W. (Telegs.: "Regolofel, London." Teleph. No. 3077, Victoria.) *See advt., page* 415.

Acme Meters & Incandescent Lamps. N. Gunz, 46, Queen Victoria-st., London, E.C.

Adjusto Patent Window Fittings. Sun Electrical Co., Ltd., 118 & 120, Charing Cross-rd., London, W.C. *See advt., page* 596.

"Advance" Wall Connections. A. P. Lundberg & Sons, Pioneer Electrical Works, 477–487, Liverpool-rd., London, N. *See advt., page* 710, *& on lower outside edges.*

Ajax Switches. Parmiter, Hope & Sugden, Hulme Electrical Works, Manchester.

Alpha Patent Cable Connector. Haslam & Schontheil, sole selling agents, Western Mailchbrs., Cardiff.

"Amazon" Tape. St. Helen's Cable & Rubber Co., Ltd., Warrington.

Amberite. Swiss Mica Insulating Works, Ltd. Agent, A. Campbell, 27, Chancery-lane, W.C.

Angold Shuntless Arc Lamps. General Electric Co., Ltd., 71, Queen Victoria-st., London, E.C. *See advts., pages* 446, 707 *&* 734.

Anti-Sulphuric Enamel. Griffiths Bros. & Co., Mack's-rd., Bermondsey, S.E. *See advt., page* 18.

"Apollo Lathes." Pollock & Macnab, Ltd., Britannia Machine Tool Works, Bredbury, Manchester.

Ark Enclosed Arc Lamps. Johnson & Phillips Ltd., Victoria Works, Charlton, S.O., Kent. *See advt. inside back cover.*

Armacell Insulating Varnish. Griffiths Bros. & Co., Mack's-rd., Bermondsey, S.E. *See advt., page* 18.

"Armalac." Massachusetts Chemical Co., 6, 7, 8, Crutched Friars, London, E.C. (Telegs.: "Windsail, London." Teleph. Central 1370.)

Armour Fire-Proof Paint. Griffiths Bros. & Co., Mack's-rd., Bermondsey, S.E. *See advt., page* 18.

Arctic Ventilating Fans. Wilson-Wolf Engineering Co., Ltd., Thornton-rd., Bradford.

Aston Starters. Veritys, Ltd., 31, King-st., Covent Garden, London, W.C.

Specialities—Electric & Trade Marks—*continued.*

"Atlas" Leclanché Cells. Atlas Carbon & Battery Co., Ltd., 19, Ewer-st., London, S.E.

Aurica Lamps. The British Westinghouse Electric & Manufacturing Co., Ltd., Westinghouse Works, Trafford Park, Manchester.

"Autograd" Self Motor Starters. Elec. & Ordnance Accessories Co., Ltd., Aston, Birmingham.

Automat Lampholder. The Metallic Seamless Tube Co., Ltd., Wiggin-st., Birmingham.

BAA Accumulator Acid. F. W. Berk & Co., Ltd., 1, Fenchurch-ave., E.C. *See advt., page* 403.

"BR" Cheap Dry Cells. Atlas Carbon & Battery Co., Ltd., 19, Ewer-st., London, S.E.

Battersea Carbon Brushes. Morgan Crucible Co., Ltd., Battersea Works, S.W.

Berry Transformer. British Electric Transformer Co., Ltd., Hayes, Middlesex.

"Biflex" Ceiling Roses. A. P. Lundberg & Sons, Pioneer Electrical Works, 477–487, Liverpool-rd., London, N. *See advt., page* 710.

Bon-Accord High Speed Engines. Drysdale & Co., Ltd., Bon-Accord Works, Glasgow.

"Boudreaux" Foliated Metal Dynamo & Motor Brushes. Le Carbone, 17, Water-lane, Great Tower-st., London, E.C. *See advt., page* 478.

"Bowspring" & "Improved Bowspring" Pendant Switches. A. P. Lundberg & Sons, Pioneer Electrical Works, 477–487, Liverpool-rd., N.

Brassoline. The Fredk. Crane Chemical Co., 22 & 23, Newhall Hill, Birmingham.

Breezee Fans. G. Straus & Co., Ltd., 211, Upper Thames-st., London, E.C.

Brush Holders. Globe Electric Co., Ltd., 11, Farringdon-ave., London, E.C. Works: Holloway, N. (Telegs.: "Santochimo, London." Teleph. Central 4774.)

Bruston Patent Transformer Switch. Morris & Lister, Ltd., Carlton Works, Coventry, Licencees & Manufacturers.

Buffalo Injector. Green & Boulding, Ltd., 28, New Bridge-st., London, E.C.

"Carbi" & "Lacombe" Cells. Le Carbone, 17, Water-lane, Great Tower-st., London, E.C.

"Cee Bee" Circuit Breakers. The Electric & Ordnance Accessories Co., Ltd.

Climax Boiler Fluid. Sutcliffe Bros., Grosvenor Works, Godley, Manchester.

Climax Boilers. B. R. Rowland & Co., Ltd., Climax Boiler Works, Reddish, nr. Manchester; & 47, Victoria-st., S.W.

"Clincher" Connections. A. P. Lundberg & Sons, Pioneer Electrical Works, 477–487, Liverpool-rd., London, N. *See advt., page* 710.

Columbia Dry Cells. Heap & Iohnson, 28, Hatton Garden, E.C. *See advt., page* 444.

"Comoil" Commutator Lubricant. Warner Engineering Co., Ltd., 5, Carteret-st., Queen Anne's Gate, S.W.

Controllers. Wellman, Seaver & Head, Ltd., 47, Victoria-st., London, S.W.

Coy Electric Vacuum Cleaners. E. E. Coy, 77, St. John's-rd., Bootle, Liverpool.

Specialities—Electric & Trade Marks— *continued.*

Coy Heating & Cooking Apparatus. E. E. Coy, 77, St. John's-rd., Bootle, Liverpool.

Coy Motors & Generators. E. E. Coy, 77, St. John's-rd., Bootle, Liverpool.

"Cranco" Aluminium Paint. The Fredk. Crane Chemical Co., 22 & 23, Newhall Hill, Birmingham.

Crown Coverings for Boilers (patent). Sutcliffe

Bros., Grosvenor Works, Godley, nr. Manchester.

Cummins Water Tube Boiler. Pulsometer Engineering Co., Ltd., Nine Elms Ironworks, Reading, Berks.

Cyclone Electric Fans & Blowers. Matthews & Yates, Ltd., Swinton, Manchester.

D R Gears. The Power Plant Co., Ltd., 28, Fleet-st., London, E.C. Works: West Drayton.

D.W.F. Patent Ball Bearings. Ludw. Loewe & Co., Ltd. (sole agents), Farringdon-rd. (opposite 109), Clerkenwell, London, E.C.

Davy Arc Lamps. Arc Lamps, Ltd., Sphere Engineering Works, St. Albans, Herts. *See inset advt., pages* 417 *&* 418.

Delaware Vulcanized Fibre & Mica. J. Burns, Ltd., 189, Central-st., E.C. *See advt., page* 738.

Dialite Cables. St. Helen's Cable & Rubber Co., Ltd., Warrington.

Diamond H Switches. The Hart Manufacturing Co., 72, Victoria-st., London, S.W.

Dixtrudo Rods. Delta Metal Co., Ltd., East Greenwich, S.E.

"Dot" Wall Connections. A. P. Lundberg & Sons, Pioneer Electrical Works, 477–487, Liverpool-rd., London, N. *See advt., page* 710 *& on lower outside edges.*

Driorol. Griffiths Bros. & Co., Mack's-rd., Bermondsey, S.E. *See advt., page* 18.

"Duplex" Switches (Two Way & "Off"). A. P. Lundberg & Sons, Pioneer Electrical Works, 477–487, Liverpool-rd., London, N. *See advt., page* 710 *& on lower outside edges.*

Dura Cell. Siemens Bros. & Co., Ltd, Caxton House, Westminster, S.W. *See advt., page* 573.

E.M.F. Lamps. E.M.F., LTD., 10, Ironmonger-lane, E.C. Stores: 172–176, King's Cross-rd. Works: 205A, Pentonville-rd.; & Victoria Works, Walsall. *See advt., page* 645.

Economic enclosed arc lamp. Jopling, A., & Co., 10, Westmorland-bldgs., Aldersgate-st., London, E.C. *See advt., page* 415.

"EOA" Motors. The Electric & Ordnance Accessories Co., Ltd., Aston, Birmingham.

The Electric & Ordnance Accessories Co., Ltd., Cheston-rd., Aston, Birmingham. Incandescent Lamps.

The Electric & Ordnance Accessories Co., Ltd., Cheston-rd., Aston, Birmingham.

Specialities—Electric & Trade Marks— *continued.*

"ES," "A1," "UBC," "SRM," & "OT" Dry Cells. Associated Battery Co., Ltd., Mid-Kent Works, Penge, S.E.

Eburin. A. & E. Cohen, 2, Bury-st., St. Mary Axe, London, E.C.

"Eclipse" Electric Heaters & Cooking Apparatus. Electric & Ordnance Accessories Co., Ltd., Aston, Birmingham.

Economic Boiler. Davey, Paxman & Co., Ltd., Colchester.

Efesca Metal Filament Lamps. Falk, Stadelmann & Co., Ltd., 83, 85 & 87, Farringdon-rd., London, E.C.

Electric Impulse Clocks. GENT & CO., LTD., Faraday Works, Leicester; 3A, Upper Thames-st., London, E.C.; & 67, High Bridge, Newcastle. *See advts., pages* 451 *&* 721.

Electrical Novelties. E. E. Coy, 77, St. John's-rd., Bootle, Liverpool.

Electroyl Radiators. Purcell & Nobbs, patentees & mfrs., 87–89, Cleveland-st., Fitzroy-sq., W.

Elektra System Electric Heating & Cooking. Isenthal & Co., 85, Mortimer-st., London, W.

Empire Auto-Starters. Electric Control, Ltd., Reid-st., Bridgeton, Glasgow.

Empire Cloth. Micanite & Insulators Co., Ltd., Empire Works, Walthamstow, E.

Empress Turbine. H. Kennedy & Son, Coleraine.

Enameloid. The Fredk. Crane Chemical Co., 22 & 23, Newhall Hill, Birmingham.

Entz Booster. The Chloride Electrical Storage Co., Ltd., Pendlebury, Manchester. *See advt., page* 404.

Epstein Batteries. W. O. Rooper & Co., Victoria Works, Stafford.

Everbrite Reflectors. F. J. Tiffin, 3, Gt. Winchester-st., E.C.

Excello Arc Lamps. Union Electric Co., Ltd., Park-st., Southwark, S.E. *See advt., page* 563.

Exide Accumulator for Ignition Purposes. THE CHLORIDE ELECTRICAL STORAGE CO., LTD., Pendlebury, Manchester. *See advt., page* 404.

Export "W.O" (Water only) Dry Cells. Atlas Carbon & Battery Co., Ltd., 19, Ewer-st., London, S.E.

Ferranti Meters. Ferranti Ltd., Hollinwood, Lancs. (Telegs.: "Ferranti, Hollinwood." Teleph. Nos. 31 & 48, Failsworth, Manchester.)

Ferrodor Filler. Griffiths Bros & Co., Macks-rd., Bermondsey, S.E. *See advt., page* 18.

Fire-Resisting Cables. Johnson & Phillips, Ltd., Victoria Works, Charlton, S.O., Kent. *See advt. inside back cover.*

Fluxite Soldering Paste. Auto-Controller & Switch Co., Simplex Works, Vienna-rd., Bermondsey, S.E.

Fortiter Motor Starters. Union Electric Co., Ltd., Park-st., Southwark, London, S.E. *See advt., page* 563.

Fuse Switches. British Electric Calibrated Fuse Co., The, Harpenden, Herts.

Specialities—Electric & Trade Marks— *continued.*

"Gear Shield" Lubricant. Down, Fred. J., 6, 7 & 8, Crutched Friars, London, E.C.

"Geekoduct" Papristeel Insulated Conduit. General Electric Co., Ltd., 71, Queen Victoria-st., E.C. *See advts., pages* 446, 707 *&* 734.

Gearpaco. HEDLEY O. BROWN & CO., Victoria Oil Works, Soap House Wharf, Hull. *See advt., page* 636.

Globe Electric Co., Ltd., 11, Farringdon-ave., London, E.C. Works: Holloway, N. (Telegs.: "Santochimo, London." Teleph. Central 4774.)

TRADE MARK

"Globe-Santoni" Arc Lamps. Globe Electric Co., Ltd., 11, Farringdon-ave., London, E.C. Works: Holloway, N. (Telegs.: "Santochimo, London." Teleph. Central 4774.)

Griffin Insulation. Dr. Heinr. Traun & Sons. F. Winter, manager, 8, Redcross-st., E.C. *See advts., pages* 486 *&* 737.

Gutta Gentzsch Wires & Cables. New Gutta Percha Co., Ltd., Dashwood House, New Broad-st., London, E.C. *See advt., page* 400.

Hatfield Pump. Merryweather & Sons, 63, Long Acre, W.C.

Hecnum. HECKFORD, ARTHUR E., Birmingham Metal Works, Birmingham. Hecnum non-corrosive wire, 30 times resistance of copper. *See advt., page* 680.

Hellesen Dry Cell. Siemens Bros. & Co., Ltd., Caxton House, Westminster, London, S.W.

Henrion Carbons. Geipel, Wm., & Co., Vulcan Works, St. Thomas-st., S.E. *See advt., page* 19.

Highfield Booster. The Chloride Electrical Storage Co., Ltd., Pendlebury, Manchester. *See advt., page* 404.

I.T.E. Circuit Breakers. The I.T.E. Electric Co. (1907), Ltd., 72, Finsbury Pavement, E.C.

Ideal Engines. Hardy & Padmore, Ltd., Worcester Foundry, Worcester.

"Igranic" Field Regulators. Adams Manufacturing Co., Ltd., 106, New Bond-st., W.

"Improved Pioneer Combination" Switch & Wall Connections. A. P. Lundberg & Sons, Pioneer Electrical Works, 477–487, Liverpool-rd., London, N. *See advt., page* 710 *& on lower outside edges.*

"Impulse" Two-Way Switches. A. P. Lundberg & Sons, Pioneer Electrical Works, 477–487, Liverpool-rd., London, N. *See advt., page* 710 *& on lower outside edges.*

Ivoride. D. H. Bonnella & Son, Ltd., 58 & 60, Mortimer-st., London, W. *See advt., page* 626.

Kalkos Tinned Tube Wiring System. Sun Electrical Co., Ltd., 118 & 120, Charing Cross-rd., London, W.C. *See advt., page* 596.

Karoome Feed Pump. Pulsometer Engineering Co., Ltd., Nine Elms Ironworks, Reading, Berks. *See advt., page* 735.

Specialities—Electric & Trade Marks— *continued.*

Kohinoor Arc Lamps. Union Electric Co., Ltd., Park-st., Southwark, S.E. *See advt., page* 563.

Leach Patent Ship Fans. Adnil Electric Co., Ltd., Adnil-bldg., Artillery-lane, London, E.C.

Leatheroid. The Micanite & Insulators Co., Ltd., Empire Works, Walthamstow, London, E. *See advt., page* 647.

Leclanché Cells. Atlas Carbon & Battery Co., Ltd., 19, Ewer-st., London, S.E.

Leitner Accumulator Cells for all purposes. Accumulator Industries, Ltd., 4, White-st., Moorfields, E.C.

"Leopold" Luminous Electric Radiators. Electrical Fittings Co., Ltd., 38, Conduit-st., W.

Little Giant Turbines & Flume Wheels. S. Howes Co., 64, Mark-lane, London, E.C.

Little Hustler Electric Tools. The Armorduct Manufacturing Co., Ltd., Farringdon-rd., E.C. *See advt. on top edges.*

Lloyd Fans. Flitton Engineering Co., 4, New Cross-rd., S.E.

Lundberg, A. P., & Sons, Pioneer Electrical Works, 477–487, Liverpool-rd., London, N. (Telegs.: "Lundberg, London." Teleph. No. 1746, North.) Agents: Scotland, Messrs. Yuille & Co., 60, Brown-st., Glasgow; other districts: leading wholesale houses.

REGD LEKTRIK TRADE MARK

By Royal Warrant to H.M. the King.

See advt., page 710 *& on lower outside edges.*

Luxectric Sign. Harper Electric Co., The, 25, Southwark Bridge-rd., London, S.E. (Telegs.: "Luxectric, London." Teleph. No. 2255, Hop.)

"Luxrae" Flame Lamps. Globe Electric Co., Ltd., 11, Farringdon-ave., London, E.C. Works: Holloway, N. (Telegs.: "Santochimo, London." Teleph. Central 4774.)

"M. I. P." Ceiling Roses. A. P. Lundberg & Sons, Pioneer Electrical Works, 477–487, Liverpool-rd., London, N. *See advt., page* 710 *& on lower outside edges.*

"Magnum" Wall Connections. A. P. Lundberg & Sons, Pioneer Electrical Works, 477–487, Liverpool-rd., London, N. *See advt., page* 710 *& on lower outside edges.*

Majolica Fittings. Krupka & Jacoby, 11, Queen Victoria-st, E.C.

Marples Regulators for OrganBlowing. Adnil Electric Co., Ltd., Adnil-bldg., Artillery-lane, E.C.

"Marvel" Switches. A. P. Lundberg & Sons, Pioneer Electrical Works, 477–487, Liverpool-rd., London, N. *See advt., page* 710 *& on lower outside edges.*

Matchless Self-Lubricating Dynamo Brushes. Patterson, Wm., Walker Gate, Newcastle-on Tyne. *See advt., page* 479.

Megger. Evershed & Vignoles, Ltd., Acton-lane Works, Chiswick, W.

Specialities—Electric & Trade Marks— *continued.*

"Mersey" Tape. St. Helen's Cable & Rubber Co., Ltd., Warrington.

Meta Metallic Filament Lamps. Sloan Electrical Co., Ltd., 15, Fore-st.-ave., London, E.C.

Metalik Filament Lamp. G. M. Boddy & Co., 15, Gray's Inn-rd., London, W.C.; & St. Peter's-sq., Manchester. *See advt., page* 646.

Metalite Electric Lamp. Bryant Trading Synd., Ltd., Horsell-rd., Highbury, N.

"Mica-Press" (insulating material). Electric & Ordnance Accessories Co., Ltd., Aston, Birmingham.

Mirella Cooking & Heating Apparatus. G. Braulik, 8, Lambeth Hill, London, E.C.

Morganite Brushes. Morgan Crucible Co., Ltd., Battersea Works, S.W.

"Multiflex" Ceiling Roses. A. P. Lundberg & Sons, Pioneer Electrical Works, 477–487, Liverpool-rd., London, N. *See advt., page* 710 *& on lower outside edges.*

"N" Tape. St. Helen's Cable & Rubber Co., Ltd., Warrington.

Neotherm Cell. Siemens Bros. & Co., Ltd., Caxton House, Westminster, London, S.W.

Niphan Couplings. Simmonds Bros., Ltd., 4, 6, 8, Newton-st., W.C. *See advt., page* 739.

Obach Dry Cell. Siemens Bros. & Co., Ltd., Caxton House, Westminster, London, S.W.

"Oblong Combination" Switch, Bell Push & Wall Connection. A. P. Lundberg & Sons, Pioneer Electrical Works, 477–487, Liverpool-rd., London, N. *See advt., page* 710 *& on lower outside edges.*

Ohmaline Insulating Varnish. Griffiths Bros. & Co., Macks-rd., Bermondsey, S.E. *See advt., page* 18.

Ohmer Testing Set. Nalder Bros. & Thompson, Ltd., 34, Queen-st., Cheapside, E.C. *See advt., page* 643.

"Ordnance," Centrifugal & Propeller Fans. Electric & Ordnance Accessories Co., Ltd., Aston, Birmingham.

Oriflamme Lamps. The Oliver Arc Lamp, Ltd., Cambridge-pl., Burrage-rd., Woolwich, S.E.

Partridge Carbon Brushes. Heap & Johnson, 28, Hatton Garden, E.C. *See advt., page* 444.

Peerless Leatheroid Insulation. Attwater & Sons, Hopwood-st. Mill, Preston. The Greatest Insulating Paper Made.

"Perfect" Combined Wall & Lamp Plug. Jones & Meakin, Ltd., 28, Birkbeck Bankchbrs., Holborn, W.C.

"Perl" Arc Lamps. Globe Electric Co., Ltd., 11, Farringdon-ave., London, E.C. Works: Holloway, N. (Telegs.: "Santochimo, London." Teleph. Central 4774.)

Pernax Wires & Cables. New Gutta Percha Co., Ltd., Dashwood House, New Broad-st., E.C. *See advt., page* 400.

Phlatta Switch. Edison & Swan United Electric Light Co., Ltd., 36 & 37, Queen-st., London, E.C.

Specialities—Electric & Trade Marks— *continued.*

"Pioneer" & "Improved Pioneer" Switches. A. P. Lundberg & Sons, Pioneer Electrical Works, 477–487, Liverpool-rd., London, N. *See advt., page* 710 *& on lower outside edges.*

"Pivot Combination" Switch & Wall Connections. A. P. Lundberg & Sons, Pioneer Electrical Works, 477–487, Liverpool-rd., N. *See advt., page* 710 *& on lower outside edges.*

"Pivot Intermediate" Switches. A. P. Lundberg & Sons, Pioneer Electrical Works, 477–487, Liverpool-rd., London, N. *See advt., page* 710 *& on lower outside edges*

"Pivot" Switches. A. P. Lundberg & Sons, Pioneer Electrical Works, 477–487, Liverpool-rd., London, N. *See advt., page* 710 *& on lower outside edges.*

"Pixy" Bell Pushes. A. P. Lundberg & Sons, Pioneer Electrical Works, 477–487, Liverpool-rd., London, N. *See advt., page* 710 *& on lower outside edges.*

Premier Starters, Regulators & Controllers. Premier Electric Control, Ltd., 11, Red Lion-st., Clerkenwell-rd., E.C.

"Presto" Switches. A. P. Lundberg & Sons, Pioneer Electrical Works, 477–487, Liverpool-rd., London, N. *See advt., page* 710 *& on lower outside edges.*

"Quadruflex" Ceiling Roses. A. P. Lundberg & Sons, Pioneer Electrical Works, 477–487, Liverpool-rd., London, N. *See advt., page* 710 *& on lower outside edges.*

Red Cross Lubricant. Shoolbred & Connell, 231, Strand, London, W.C.

Reliance Circuit Breakers & Switch Fuses. Whipp & Bourne, Castleton, nr. Manchester.

"Reverse" Door Contacts. A. P. Lundberg & Sons, Pioneer Electrical Works, 477–487, Liverpool-rd, London, N. *See advt., page* 710 *& on lower outside edges.*

Roburine. The Roburine Co., 15, Victoria-st., London, S.W.

"Royal Ediswan Metfil" Incandescent Lamps, Edison & Swan U.E.L. Co., Ltd., Ediswan-bldgs., 36 & 37, Queen-st., London, E.C.

Rugby Lamp. THE RUGBY LAMP CO., LTD., 92, Lower Hillmorton-rd., Rugby. (Telegs.: "Lamps, Rugby" Teleph. No. 89, Rugby.) London office & stores: J. L. Cateaux & Co., 10, Bush-lane, E.C. *See advt., page* 646.

"S.D." Telephones. Electric & Ordnance Accessories Co., Ltd., Aston, Birmingham.

"St. Helens" Tyres & Matting. St. Helen's Cable & Rubber Co., Ltd., Warrington.

Sanco Petrol-Electric Sets. Wilson-Wolf Engineering Co., Ltd., Thornton-rd., Bradford.

"Santoni" Arc Lamps. Globe Electric Co., Ltd., 11, Farringdon-ave., London, E.C. Works: Holloway, N. (Telegs.: "Santochimo, London." Teleph. Central 4774.)

Savetime Electric Lamp Cleaner. Garty, Bone & Co., Anderston Electrical Works, 61, Bishop-st., Anderston, Glasgow.

Specialities—Electric & Trade Marks— *continued.*

Secret Telephones. GENT & CO., LTD., Faraday Works, Leicester; 3A, Upper Thames-st., London, E.C.; & 67, High Bridge, Newcastle. *See advts., pages* 451 *&* 721.

"See-Saw" Pendant Switches. A. P. Lundberg & Sons, Pioneer Electrical Works, 477–487, Liverpool-rd., London, N. *See advt., page* 710 *& on lower outside edges.*

Self Aligning Fuse. Wellman, Seaver & Head, Ltd., 47, Victoria-st., London, S.W.

Serchlite Signs & Letters. London Advertising Letter Co., 10, Charles-st., Hatton Garden, E.C.

Sergeant Economiser. Warner Engineering Co., Ltd., 5, Carteret-st., Queen Anne's Gate, S.W.

Shadoless Candle Fitting. D. H. Bonnella & Son, Ltd., 58 & 60, Mortimer-st., London, W. *See advt., page* 626.

Shawmut Fuses. The I.T.E. Electric Co. (1907), Ltd., 72, Finsbury Pavement, London, E.C.

Shaydolite. Griffiths Bros. & Co., Macks-rd., Bermondsey, S.E. *See advt., page* 18.

Shipcarbons. Ship Carbons, Ltd., 67, Aldersgate-st., London, E.C.

Silvertown Cables, Instruments, Motors. The India Rubber, Gutta Percha & Telegraph Works Co., Ltd., 106, Cannon-st., London, E.C. *See advt. on outside back cover.*

"Simplex" Door Contacts. A. P. Lundberg & Sons, Pioneer Electrical Works, 477–487, Liverpool-rd., London, N. *See advt., page* 710 *& on lower outside edges.*

Stalloy. Joseph Sankey & Sons, Ltd. (Robt. Jenkins, agent), 88, Bishopsgate-st. Within, London, E.C. *See advt., page* 701.

Stearn Lamps. Stearn Electric Lamp Co., Ltd., 47, Victoria-st., S.W. *See advt., page* 611.

Sunlite Reflectors. Sun Electrical Co., Ltd., 118 & 120, Charing Cross-rd., London, W.C. *See advt., page* 596.

Sunny Flame Arc Lamp. Jopling, A., & Co., 10, Westmorland-bldgs., Aldersgate-st., London, E.C. *See advt., page* 415.

Surprise Pendants. Best & Lloyd, Ltd., Cambray Works, Handsworth, Birmingham.

"T.P." (Trolley Pole) Tape. St. Helen's Cable & Rubber Co., Ltd., Warrington.

Telac Pear Switches. J. H. Tucker & Co., King's-rd., Hay Mills, Birmingham.

Tell-Tale Clocks. GENT & CO., LTD., Faraday Works, Leicester; 3A, Upper Thames-st., London, E.C.; & 67, High Bridge, Newcastle. *See advts., pages* 451 *&* 721.

Teon Belting. Fleming, Birkby & Goodall, Ltd., West Grove Mill, Halifax.

Thermoblink Flashers. Sun Electrical Co., Ltd., 118 & 120, Charing Cross-rd., London, W.C. *See advt., page* 596.

"Thikflex" Patent Holder. Baxendale & Co., Miller-st., Manchester.

Tieciton Dynamo Brush. James Dickson, 48, Gray's Inn-rd., W.C.

Specialities—Electric & Trade Marks— *continued.*

"Timken" Roller Bearings. The Electric & Ordnance Accessories Co., Ltd., Aston, Birmingham.

"Tinol" Patent Solder. Neville, Williams & Co., 80A, Southwark-st., London, S.E. Sole agents for the U.K.

Transport Cell. Siemens Bros. & Co., Ltd., Caxton House, Westminster, S.W.

"Triflex" Ceiling Roses. A. P. Lundberg & Sons, Pioneer Electrical Works, 477–487, Liverpool-rd., London, N. *See advt., page* 710 *& on lower outside edges.*

"Tripin Combination" Switch & Wall Connections. A. P. Lundberg & Sons, Pioneer Electrical Works, 477–487, Liverpool-rd., N. *See advt., page* 710 *& on lower outside edges.*

"Tripin" Wall Connections. A. P. Lundberg & Sons, Pioneer Electrical Works, 477–487, Liverpool-rd., London, N. *See advt., page* 710 *& on lower outside edges.*

Triumph Cable Drum Carriage. John Ruscoe & Co., Ltd., Albion Works, Hyde, England.

Triumph Dry Batteries. Archibald J. Wright, Ltd., Leyton Green-rd., London, N.E.

Tubolite. Linolite Co., 25, Victoria-st., S.W.

TUCKER, J. H., & CO., King's-rd., Hay Mills, Birmingham. Branches: London, Glasgow & Belfast. For telegrams & telephone numbers, *see* ALPHABETICAL.

TELAC
REG. TRADE MARK.

"Turret" Multiple Distributors. A. P. Lundberg & Sons, Pioneer Electrical Works, 477–487, Liverpool-rd., London, N. *See advt., page* 710 *& on lower outside edges.*

"Twinob" Switches (Either or Both & "Off"). A. P. Lundberg & Sons, Pioneer Electrical Works, 477–487, Liverpool-rd., London, N. *See advt., page* 710 *& on lower outside edges.*

Unica Gears. J. B. Hamilton & Co., Unica Works, South Tottenham, London, N.

"Universal" Wall Connections. A. P. Lundberg & Sons, Pioneer Electrical Works, 477–487, Liverpool-rd., London, N. *See advt., page* 710 *& on lower outside edges.*

Veritys, Ltd., King-st., Covent Garden, London, W.C.; & Birmingham, Manchester, Glasgow, Bristol, &c. *See* ALPHABETICAL SECTION.

ASTON

"Victor" Arc Lamps (Standard Enclosed, Miniature Enclosed & Flame). Electric & Ordnance Accessories Co., Ltd., Aston, Birmingham.

Vitros. Griffiths Bros. & Co., Macks-rd., Bermondsey, S.E. *See advt., page* 18.

"Warner" Cutmeter & Autometer. The Electric & Ordnance Accessories Co., Ltd.

Warwick Fittings & Accessories. Wm. McGeoch & Co., Ltd., 28, West Campbell-st., Glasgow.

Water-Level Recorders & Indicators. GENT & CO., LTD., Faraday Works, Leicester; 3A, Upper Thames-st., London, E.C.; & 67, High Bridge, Newcastle. *See advts., pages* 451 *&* 721.

Specialities—Electric & Trade Marks— *continued.*

Watkin Switch & Electric Current Controller. Adams & Co. (patentees & manufacturers), 109, Victoria-st., London, S.W.

Watkin Switches. (Agents), Drake & Gorham, Ltd., 66, Victoria-st., London, S.W. *See advt., page* 459.

"Watson" Slot Meters. The Rochdale Electric Co., Ltd., Shawclough, Rochdale.

Weir-Uniflex Condenser. G. & J. Weir, Ltd., Cathcart, Glasgow.

Whipall Electric Tyre Pump. E. E. Coy, 77, St. John's-rd., Bootle, Liverpool.

"Whitehall" Speed Reducing Gears, Worm Gears & Cut Gearing. Strachan & Henshaw, Ltd., Whitehall Iron Works, Whitehall, Bristol.

Wing Disc Fan. F. W. Potter & Co., Phipp-st., E.C.

Witton Carbons. General Electric Co., Ltd., 71, Queen Victoria-st., E.C. *See advts., pages* 446, 707 *&* 734.

Witton Carbons Electrical Plant. General Electric Co., Ltd., 71, Queen Victoria-st., E.C. *See advts., pages* 446, 707 *&* 734.

"Y R" Metal Filament Lamps. Pope's Electric Lamp Co., Ltd. *See advt., page* 610.

Zapon Enamel. The Fredk. Crane Chemical Co., 22 & 23, Newhall Hill, Birmingham.

Zoelly Turbines. Mather & Platt, Ltd., Salford Iron Works, Manchester.

Zone Dynamos & Motors. Mawdsley's Ltd., Zone Works, Dursley, Glos.

Speed Indicator Makers.

F.—Indicateurs de Vitesse—Fab. de.
G.—Tachometer Fabr.

Anderson, Frank L. City office: 1, Furnival-st., London, E.C.

Apps, A., 433, Strand, London, W.C.

Carlaw, David, & Sons, 11, Finnieston-st., Glasgow.

Cowey Engineering Co., Ltd., Kew Gardens Rly. Station, S.W.

DAVIS, JOHN, & SON (DERBY), LTD., All Saints' Works, Derby. (Telegrams: "Davis, Derby." Telephone No. 240, Derby.)

Dobbie, McInnes, Ltd., 57, Bothwell-st., Glasgow; & 113, Fenchurch-st., London, E.C.

ELECTRIC & ORDNANCE ACCESSORIES CO., LTD., Cheston-rd., Aston, Birmingham. (Telegs.: "Stellite, Birmingham." Teleph. Nos.: Nat. 176 & 179, East; & P.O. 9 (Trunk Calls).) *See page* 134 *for full entry.*

Everett, Edgcumbe & Co., Ltd., 117, Victoria-st., London, S.W.; & Collindale Works, Hendon, Middlesex. *See advt., page* 643.

Geipel, Wm., & Co. (late Geipel & Lange, Vulcan Works, 72A, St. Thomas-st., London, S.E. (Telegs.: "Patella, London." Teleph. No. 594, Hop. (2 lines).) *See advt., page* 19.

Harding, Richardson, Rhodes & Co., Ltd., Tower Works, Leeds.

Speed Indicator Makers—*continued.*

Hendry Bros., 28–32, Robertson-st., Glasgow.

King, Arthur, Pinxton, Alfreton.

Lunken Valve Co., 35, Gt. Dover-st., London, E.C.

Schäffer & Budenberg, Ltd., 31, Whitworth-st., Manchester.

Willcox, W. H., & Co., Ltd. Office: 23, Southwark-st. Warehouse: 32, 34 & 36, Southwark-st., London, S.E. Works: Castle-st. (Telegs.: "Willcox, Southwark-st., London." Teleph. Hop 3740 & 3741.) *See advt. facing inside front cover.*

Speed Reducing Gear.

DEWHURST, ED., Mount-st. Electrical Works, Preston. (Telegs.: "Electric, Preston." Teleph. No. 81.) Sole maker of the Pilkington-Gibbs patent speed reducing gear; 20 to 1 reduction between motor & line shaft.

Spelter Manufacturers.

F.—Zinc—Fab. de.
G.—Zink—Fab. von.

Barnard, H. B., & Sons, 144, Lambeth-walk, London, S.E. (Telegs.: "Metalcibles, London." Teleph. Victoria 1714.) City office: 59/60, Gracechurch-st. (Telegs.: "Soldeerpan, London." Teleph. Central 767.) Birmingham office: Guildhall-bldgs., Navigation-st. (Telegs.: "Metalcibles, Birmingham." Teleph. Midland 732.)

BENNETT, WALTER, 60, Gracechurch-street, London, E.C. (Telegrams: "Benefit, London." P.O. Telephone No. 770, Central.)

Braby, Frederick, & Co., Ltd., Fitzroy Works, 352 to 364, Euston-rd., London, N.W. For branches, telegraphic addresses & telephone numbers, *see* ALPHABETICAL ENTRY.

Grey & Marten, Ltd., Southwark Bridge, London, S.E. (Telegrams: "Amalgam, London." Telephone No. 750, Hop.)

Splicing Compound for Jointing.

Down, Fred. J., Harpenden, Herts. A founder, 1883, of Laing, Wharton & Down.

Spring Makers for Pushes.

F.—Ressorts pour boutons de sonneries—Fab. de.
G.—Federn für Druckknöpfe—Fab. von.

Harris, A. E., & Co., 95, Camden-st., Birmingham. *See advt., page* 700.

Mole, M., & Son, 52, Charlotte-st., Birmingham.

Sterne, L., & Co., Ltd., Crown Iron Works, Glasgow.

Springs—General.

F.—Ressorts—en général.
G.—Federn im allgemeinen.

TEMPERED SPRING CO., LTD., THE, BURTON WEIR WORKS, SHEFFIELD.

Stage Lighting Accessories.

Offord & Co., 97 & 98, Woodcock-st., Birmingham. (Telegs. : "Offord, Woodcock-st., Birmingham." Nat. Teleph. No. 2229.)

Stampers & Piercers.

F.—Étampes.
G.—Stampfer.

BRISCOE, W. H., & CO., 32 & 33, Cox-st., St. Paul's-sq., Birmingham. Manufacturers of small pressed & turned parts for the cycle, chandelier, electrical & motor trades.

British Electric Calibrated Fuse Co., The, Harpenden, Herts.

Burns, J., Ltd., 189, Central-st., London, E.C. *See advt., page* 738.

CROSIER, STEPHENS & CO., 2, Collingwood-st., Newcastle-on-Tyne. (Telegrams : "Cromil, Newcastle-on-Tyne." Nat. Telephone No. 1461.) Stamped eyebolts, double eyes, levers, spanners, box spanners, &c.

Fellows, S. J. & E., Ltd., Vulcan Works, Wolverhampton.

Fisher & Ludlow, Ltd., 83–87, Rea-st., Birmingham.

Harris, A. E., & Co., die sinkers, press tool makers, stampings from copper, brass, zinc, G.S. & aluminium, to sketch or sample, for patentees & electricians, 95, Camden-st., Birmingham. *See advt.* BELOW.

Jenks, A. E., & Cattell, Heath Town, Wolverhampton.

Kensington Stamping Co., Ltd., Kensington-st., Aston, Birmingham. (Telegs. : "Supports, Birmingham." Teleph. Northern 83.)

Kirlew Bros., Ltd., 198, Blackstock-rd., London, N.

Mole, M., & Son, 52, Charlotte-st., Birmingham. Stamped & pressed work for electrical & motor trades, switch parts, fuse clips & other accessories.

RIPPINGILLE MANUFACTURING CO., LTD., Plume-st., Aston, Birmingham. *See inset advt., pages* 597 *&* 598.

Vaughton Bros., Livery-st., Birmingham.

Stampings for Armatures, Transformers, &c.

F.—Tôles découpées pour armatures, transformateurs, &c.
G.—Stanzen für Armaturen, Transformatoren, &c.

Brookes, Ward & Co., Ltd., 5 & 6, Hampton-st., Birmingham.

Evans, J. W., & Son, 54 & 55, Albion-st., Birmingham.

JENKS, A. E., & CATTELL, Heath Town, Wolverhampton. (Telegrams : "Washers, Wolverhampton." Telephone No. 104.) Discs, Tips, Pole-pieces & Washers a speciality.

Melling, J., 9, New Broad-st., London, E.C.

Roy, A. W., 151, Shields-rd., Heaton, Newcastle-on-Tyne.

SANKEY, JOSEPH, & SONS, LTD., of Bilston (R. Jenkins, agent), 88, Bishopsgate-st. Within, London, E.C. (Telegs. : "Permeable, London." Teleph. No. 8205, Central.) Brands for direct, alternating & transformer work. Sole Manufacturers of the Special low loss Brand "STALLOY." *See advt.* OPPOSITE.

Turner Bros., 134, Upper Thames-st., London, E.C. (Telegrams : "Sheetiron, London." P.O. Telephone No. 355, Central.)

Valor Co., Ltd., Rocky-lane, Aston, Birmingham.

Steam Engine & Boiler Fittings Manufacturers.

(*See* BOILER & STEAM ENGINE FITTINGS MFRS.)

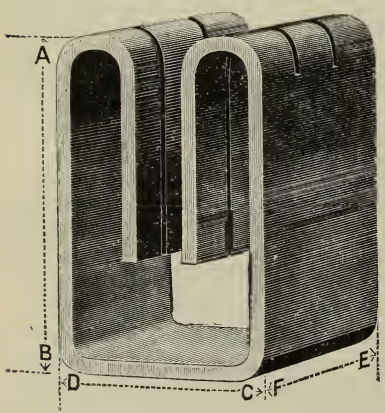
Steam Gauge Makers.

F.—Manomètres—Fab. de.
G.—Manometer—Fabr.

Dobbie, McInnes, Ltd., 57, Bothwell-st., Glasgow. (Telegrams : "Compass, Glasgow." Nat. Telephone No. 1545, Argyle.) London office : 113, Fenchurch-st., E.C.

Everett, Edgcumbe & Co., Ltd., 117, Victoria-st., London, S.W. ; & Collindale Works, Hendon, Middlesex. *See advt., page* 643.

Salter, G., & Co., 101, Leadenhall-st., London, E.C. Works : West Bromwich.



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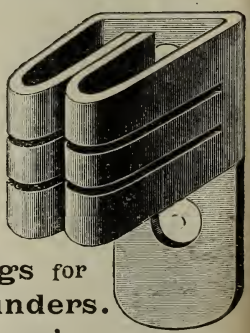

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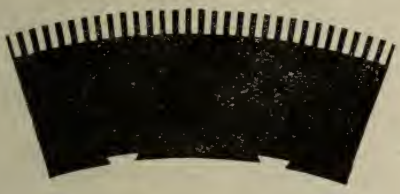
ALBERT ST. WORKS, BILSTON, STAFFS.

Telegrams: "SANKEY, BILSTON." Code: LIEBER'S. Telephone: 5, BILSTON.

Representative:—ROBERT JENKINS, 88, Bishopsgate Street Within, LONDON, E.C.

Telegrams: "PERMEABLE, LONDON." Telephone: 8205, CENTRAL.



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For telegraphic addresses & telephone numbers, see Alphabetical Section.

Steam Gauge Makers—*continued.*

Smith, Sydney, & Sons, Ltd., Basford Brass Works, Nottingham.

Stewart, C. & A., 14, Victoria-st., Glasgow.

Willcox, W. H., & Co., Ltd. Offices: 23, Southwark-st. Warehouse: 32, 34 & 36, Southwark-st., London, S.E. Works: Castle-st. (Telegs.: "Willcox, Southwark-st., London." Teleph. Hop 3740 & 3741.) *See advt. facing inside front cover.*

Steam Packing Manufacturers.

F.—Garnitures de joints de machines à vapeur—fab. de.

G.—Liederungsdeckel-Fabrikanten.

Brown, G. R., & Co., 15, Edmund-pl., Aldersgate-st., E.C.

Burns, J., Ltd., 189, Central-st., London, E.C. *See advt., page 738.*

Clark, Sons & Co., Failsworth, Manchester.

Combination Metallic Packing Co., Ltd., Hillgate, Gateshead-on-Tyne.

Cort, Arthur, & Co., 303½, Camberwell-rd., London, S.E. Factory: Bullace Works, Camberwell.

Haines & Co., 33, Minories, London, E.C.

Haughton's Patent Metallic Packing Co., Ltd., 6, Lombard-ct., London, E.C.

INDIA RUBBER, GUTTA PERCHA & TELEGRAPH WORKS CO., LTD. Head offices: 106, Cannon-st., E.C. Warehouses: 100 & 102, Cannon-st., London, E.C.; & 97, boul. Sebastopol, Paris. Works: Silvertown, Essex; & Persan, France. For telegraphic addresses & branches, *see advt. outside of back cover.*

Murray, McVinnie & Co., Ltd., Mavisbank Quay, South Side, Glasgow.

Small & Parkes, Ltd., Hendham Vale Works, Harpurhey, Manchester.

Sutcliffe Bros., Grosvenor Works, Godley, Manchester. (Telegs.: "Sutcliffe Bros., Hyde." Teleph. No. 70, Hyde.)

United States Metallic Packing Co., Ltd., Soho Works, Thornton-road, Bradford.

VULCANITE WORKS, DR. HEINR. TRAUN & SONS, LONDON AGENCY (formerly Harburg Indiarubber C. Co.), (F. Winter, manager), 8, Redcross-st., London, E.C. (Telegrams: "Instantly, London." Telephone No. 3186, Central.) *See* EBONITE & VULCANITE.

Wheeler, E. H., & Co., 8 & 9, South Parade, Deansgate, Manchester; & Lloyd's-ave. House, London, E.C.

Willcox, W. H., & Co., Ltd. Office: 23, Southwark-st. Warehouse: 32, 34 & 36, Southwark-st., London, S.E. Works: Castle-st. (Telegs.: "Willcox, Southwark-st., London." Teleph. Hop 3740 & 3741.) *See advt. facing inside front cover.*

Steam Separators.

HEAP & JOHNSON, 28, Hatton Garden, E.C. *See advt., page 441.*

Steel Armoured Cables.

F.—Cables armés d'acier.

G.—Stahl gepanzerte Kabel.

BRITISH INSULATED & HELSBY CABLES, LTD. Head office: Prescot, Lancs. Works: Prescot, Helsby & Liverpool. For branch offices, telegraphic & telephonic addresses, *see* ALPHABETICAL ENTRY. *See advt., page 437.*

Callender's Cable & Construction Co., Ltd., Hamilton House, Victoria Embankment, London, E.C. *See advt., page 441.*

Felten & Guilleaume Lahmeyerwerke Actien Gesellschaft, Mülheim am Rhein (Lahmeyer Electrical Co., Ltd., agents, Bank-bldgs., 109-111, New Oxford-st., London, W.C.).

Geoffroy & Delore (A. H. Hunt), 115-117, Cannon-st., London, E.C. (Telegrams: "Keyage, London." Telephone No. 8114, Bank.)

Glover, W. T., & Co., Ltd., Trafford Park, Manchester. (Telegs.: "Cables, Manchester." Tel. Central 7200 (6 lines).) London: Parliament Mansions, Orchard-st., S.W. *See* ALPHABETICAL.

INDIA RUBBER, GUTTA PERCHA & TELEGRAPH WORKS COMPANY, LTD. Head offices: 106, Cannon-st., E.C. Warehouses: 100 & 102, Cannon-st., London, E.C.; & 97, boul. Sebastopol, Paris. Works: Silvertown, Essex; & Persan, France. For telegraphic addresses & branches, *see advt. outside of back cover.*

Johnson & Phillips, Ltd., Victoria Works, Charlton, S.O., Kent; & 12, Union-ct., Old Broad-st., E.C. *See advt. inside back cover.*

Union Cable Co., Ltd., The, Eagle Wharf-rd., London, N. *See advt., page 4.*

Steel Castings—Makers of.

Clarke, Robert, 39, Featherstone-st., London, E.C. Special castings in steel, malleable iron & soft cast iron (large or small).

Jessop, Wm., & Sons, Ltd., Brightside Works, Sheffield; & 3, Victoria-st., London, S.W.

Malleable Steel Castings Co. (1909), Ltd., Scotia Works, Lonsdale-st., Pendleton, Manchester.

Oakley Steel Foundry Co., Ltd., Trafford Park, Manchester.

Steel Chimneys.

Piggott, T., & Co., Ltd., 63, Queen Victoria-st., London, E.C.

Steel Forged Shafts & Shaftings.

F.—Arbres de Transmissions en acier forgé.

G.—Stahl Wellen—geschmiedete.

Clark, Hunt & Co., Ltd., 159, 160, High-st., Shoreditch, London, E.

Steel for Magnets.

F.—Acier pour Aimants.

G.—Stahl für Magnete.

Allen, Edgar, & Co., Ltd., Imperial Steel Works, Sheffield; 52, Queen Victoria-st., London, E.C.

Steel for Magnets—*continued.*

DENNIS, W. F., & CO., 49, Queen Victoria-st., E.C. (Telegs.: "Fredennis, London." Teleph. No. 343, Bank.) Sole agents for Heinrich Remy G. m. b. H., Hagen, Westphalia.
Estler Bros., 3, Cross-lane, E.C. Works: South Molton-rd., Victoria Docks, E.
Hickman, Alfred, Ltd. (R. Jenkins, agent), 88, Bishopsgate-st. Within, London, E.C. (Telegrams: "Permeable, London." Telephone No. 8205, Central.)
Smith & Sons, 42, 44, 46, 47, 50 & 52, St. John's-sq., E.C.

Steel Manufacturers, Converters & Refiners.

F.—Fab., Convertisseurs et Raffineurs (Acier).
G.—Stahl—Umförmer, Fab. u. Läuterer.

Allen, Edgar, & Co., Ltd., Imperial Steel Works, Sheffield; London, 52, Queen Victoria-st., E.C.
Beesley, W. T., & Co., Ltd., Attercliffe-rd., & Effingham-st., Sheffield.
Eadon, Moses, & Sons, Ltd., President Works, Sheffield.
Ibbotson Brothers & Co., Ltd., 7, Victoria-st., S.W.; & Globe Steel Works, Sheffield.
Lanarkshire Steel Co., Ltd., Motherwell, N.B.
Lee, Arthur, & Son, Bessemer-rd., Sheffield.
Meadows, C., & Co., Ltd., Sheffield.

Steel Surfacers.

F.—Acier—polisseurs d'.
G.—Stahlpolirer.

Cattell, S. A., & Son, 1, Dorset-bldgs., Salisbury-sq., London, E.C.

Steeplejacks.

Tosh, D., & Son, 77, Queen-st., Glasgow. Works: 12, Houston-st., Greenock. (Telegs.: "David Tosh, Greenock." Teleph. No. 256.)

Stoker Makers—Mechanical.

F.—Tiseurs mécaniques—Fab. de.
G.—Mechanische Schürer—Fabr. von.

Auto Stoker Co., Ryecroft-st., Ashton-under-Lyne.
Bennis, Edward, & Co., Ltd., Little Halton, Bolton.
Henderson, Thos., & Co., 8, Trueman-st., Liverpool.
Hodgkinson, James (Salford), Ltd., Ford-lane Works, Pendleton, Manchester.
Triumph Stoker, Ltd., 85, Kirkstall-rd., Leeds.
Underfeed Stoker Co., Ltd., Coventry House, South-pl., E.C.
Vicars, T. & T., Earlestown, Lancs.; & 20, Bucklersbury, London, E.C.
Whitfeild, A. G., A.M.I.E.E., Queen Anne's-chbrs., Westminster, S.W.

Street Lighting Fittings.

OLIVER ARC LAMP, LTD., Cambridge-pl., Burrage-rd., Woolwich, S.E.

Street Lighting Fittings—*continued.*

WARDLE ENGINEERING CO., LTD., THE, 196, Deansgate, Manchester. Makers of the Patent "Streetlite" Lantern.

Submarine Cables—Makers of.

F.—Cables sousmarins. G.—Ueberseeische Kabel.

BRITISH INSULATED & HELSBY CABLES, LTD. Head office: Prescot, Lancs. Works: Prescot, Helsby & Liverpool. For branch offices, telegraphic & telephonic addresses, *see* ALPHABETICAL ENTRY. *See advt., page* 437.
Callender's Cable & Construction Co., Ltd., Hamilton House, Victoria Embankment, E.C. *See advt., page* 441.
Connolly Bros., Ltd., Blackley Vale Mills, Blackley, Manchester. *See advt., page* 438.
Felten & Guilleaume Lahmeyerwerke Actien Gesellschaft, Mülheim am Rhein (Lahmeyer Electrical Co., Ltd., agents, Bank-bldgs., 109–111, New Oxford-st., London, W.C.).
Glover, W. T., & Co., Ltd., Trafford Park, Manchester. (Telegs.: "Cables, Manchester." Tel. Central 7200 (6 lines).) London: Parliament Mansions, Orchard-st., S.W. *See* ALPHABETICAL.
INDIA RUBBER, GUTTA PERCHA & TELEGRAPH WORKS COMPANY, LTD. Head offices: 106, Cannon-st., E.C. Warehouses: 100 & 102, Cannon-st., E.C.; & 97, boul. Sebastopol, Paris. Works: Silvertown, Essex; & Persan, France. For telegraphic addresses & branches, *see advt. outside of back cover.*
Johnson & Phillips, Ltd., Electric Cable Works, Charlton, S.O., Kent. Depôts: Glasgow, Newcastle, &c. *See advt. inside back cover.*
Pirelli, Ltd., 45, Basinghall-st., London, E.C.
Siemens Bros. & Co., Ltd., Caxton House, Westminster, London, S.W. *See advt., page* 573.
Western Electric Co., Norfolk House, Victoria Embankment, London, W.C. Works: North Woolwich. *See advts., pages* 439 *&* 720.

Suction Gas Engines & Plants.

Campbell Gas Engine Co., Ltd., 114, Tooley-st., London, S.E.
Fielding & Platt, Ltd., Atlas Iron Works, Gloucester (Telegs.: "Atlas, Gloucester." Teleph. No. 58); & 118, Queen Victoria-st., London, E.C. (Telegs.: "Ironbound, London." Teleph. No. 8148, Bank.)

Sulphate of Alumina Manufacturers.

F.—Sulfate d'Alumine. G.—Schwefelsaure Thonerde.
Bruce, W. T., & Co., 3, Lombard-ct., London, E.C.
Pochin, H. D., & Co., Ltd., Willington-quay, Newcastle.

Sulphate of Copper Manufacturers.

F.—Sulfate de Cuivre. G.—Kupfervitriol.

Chapman Spencer, & Messel, Ltd., 36, Mark-lane, E.C.; Silvertown, E.; & Bow, E.
Dennis, James H., & Co., Ltd., Widnes, Lancs.
Liverpool Silver & Copper Co., Widnes; & Liverpool.
McKechnie Bros., Widnes.

Sulphuric & Sulphurous Acid Manufacturers.

F.—Acide sulfurique—Fab. d'.
G.—Schwefelsäure.

BERK, F. W., & CO., LTD., 1, Fenchurch-ave., E.C.; & Abbey Mills Chemical Works, Stratford, E. (Telegs.: "Berk, London." A.B.C. Code. Teleph. No. 4013, Avenue.) Sole manufacturers of BAA., especially prepared Acid for Accumulators & Batteries. *See advt., page* 403.

Boake, A., Roberts & Co., Ltd., Stratford, London, E.

Bruce, W. T., & Co., 3, Lombard-ct., London, E.C.

Chapman Spencer, & Messel, Ltd., 36, Marklane, E.C.; Silvertown, London, E.; & Bow, E.

GRIFFITHS BROS. & CO., Bermondsey, London, S.E. Sole manufacturers of "Anti-Sulphuric" Enamel, for lining batteries & coating any material subject to the action of acid fumes, spray, &c. *See advt., page* 18.

Morris, H. N., & Co., Gorton Brook Chemical Works, Manchester, S.E. (Telegs.: "Glauber, Manchester." Teleph. No. 75, Openshaw.)

Nicholson, J., & Sons, Ltd., Hunslet, Leeds.

West Ham Chemical Works (W. C. Bacon & Co.), 14, Mincing-lane, E.C.

Sundriesmen—Electrical.

F.—Appareils divers électr.—Fab. de.
G.—Sortiments Geschäfte—Electr.

Apps, A., 433, Strand, London, W.C.

Baxendale & Co., Miller-st. Works & Warehouses, Manchester; Hanover-st., Edinburgh; Capel-st., Dublin; & Hood-st., Liverpool.

Braulik, G., 8, Lambeth Hill, London, E.C.

Burns, J., Ltd., 189, Central-st., London, E.C. *See advt., page* 738.

Caplatzi, T. D., 18, Radipole-rd., Fulham, S.W.

Croager Bros., 17, Sutton-pl. & Link-st. Works, Homerton, London, N.E.

Donovan & Co., 22, Barwick-st., Birmingham.

DORMAN & SMITH, Ordsal Electrical Works, Salford, Manchester. (Telegs.: "Current, Manchester." Teleph. No. 1741, Nat.) Agents—London: Sambidge & Co., 17, Victoria-st., S.W. (Telegs.: "Prefix, London." Teleph. Victoria 530.) Scottish: Andrews & Co., 198A, St. Vincent-st., Glasgow. Birmingham: S. T. Pemberton, Council-chbrs., Colmore-row. Newcastle-on-Tyne: F. T. Hanks, 1, Higham-pl. *See also page* 123 & *advt., page* 21.

Down, Fred. J., Harpenden, Herts.; & 6, 7 & 8, Crutched Friars, London, E.C. A founder, 1883, of Laing, Wharton & Down.

Electrical Sundries Manufacturing Co., The, 84, Ashton Old-rd., Manchester.

Evans, Ed. A., Willows-rd., Birmingham.

GENERAL ELECTRIC CO., LTD. (*G. Byng, chairman*). Head office: 71, Queen Victoria-st., London, E.C. Works: London, Manchester, Birmingham & Witton. For branch offices, telegraphic addresses & telephone numbers, *see* ALPHABETICAL SECTION. *See advts., pages* 446, 707 & 734.

Headworth, H. H., 79, Upper North-st., London, E.

Huddleston, P., & Co., 72, Finsbury Pavement, E.C.; & Electric Auction Sale Rooms, Dallingrd., Hammersmith.

Lundberg, A. P., & Sons, Pioneer Electrical Works, 477-487, Liverpool-rd., London, N. (Telegs.: "Lundberg, London." Teleph. No. 1746, North.) Agents: Scotland, Messrs. Yuille & Co., 60 Brown-st., Glasgow; other districts: leading wholesale houses.

REGD LEKTRIK TRADE MARK

By Royal Warrant to H.M. the King.

See advt., page 710 *& on lower outside edges.*

Nolan & Rowell, 503, Cambridge-rd., Hackney, London, E.

Reynolds & Wadsworth, Market Hill, Barnsley.

ROBERTSON ELECTRIC LAMPS LTD., makers of low & high voltage, fancy, battery & heater lamps of every description, Brook Green Works, Hammersmith, London, W. *See advt., page* 611.

Ruston, F. T., & Son, St. Ives, Hunts.

Smith, W. A. C., 236, Argyle-st., Glasgow.

Symes & Co., Ltd., 14, Hardmann-st., Liverpool.

Universal Electric Supply Co., 60, Brook-st., C.-on-M., Manchester.

Veritys, Ltd., King-st., Covent Garden, London, W.C.; & Birmingham, Manchester, Glasgow, Bristol, &c. *See* ALPHABETICAL SECTION.

VULCANITE WORKS, DR. HEINR. TRAUN & SONS, LONDON AGENCY (formerly Harburg Indiarubber C. Co.) (F. Winter, manager), 8, Redcross-st., London, E.C. (Specialities in Ebonite or Vulcanite.) (Telegrams: "Instantly, London." Telephone No. 3186, Central.) *See advts., pages* 486 & 737.

Whitney, E., 117, City-rd., London, E.C.

Willcox, W. H., & Co., Ltd. Offices: 23, Southwark-st. Warehouse: 32, 34 & 36, Southwark-st., London, S.E. Works: Castle-st. (Telegs.: "Willcox, Southwark-st., London." Teleph. Hop 3740 & 3741.) *See advt. facing inside front cover.*

Superheaters—Makers of.

Bolton, A., & Co., 49, Deansgate, Manchester.

Burnet, Lindsay, & Co., Moore Park Boiler Works & Burnet's Siding (goods), Govan, Glasgow.

DAVEY, PAXMAN & CO., LTD., Standard Iron Works, Colchester; & 78, Queen Victoria-st., London, E.C. (Telegrams: "Paxman, Colchester;" "Paxman, London." Telephone No. 52, Colchester.) *See advt., page* 531.

Lindsay Burnet & Co. (steam), Moore Park Boiler Works, Govan, Glasgow.

Supplies (Electrical)—Dealers in.

F.—Fournitures électr.—March. de.
G.—Bedarfsartikel Elektr.

Anderson, Wm., & Son, 52, Windmillhill-st., Motherwell, N.B.
Andrews, W. Osborne, 27, New Bailey-st., Salford; & 17, Denstone-rd., Irlams o' th' Height, Manchester.
Barlow, H. C., & Co, Ammon-bldgs., 52, Chapel-st., Salford, Manchester.
Barnes, E., 15, Charterhouse-st., Holborn Circus, E.C.
Bartlett, E. A., 19, New Walk, Leicester.
Baxendale Bros., 96, Whitechapel, Liverpool.
Beckett, H. R., 3, Quarry Hill-rd., Tonbridge.
Bell Bros. & Co. (London), Ltd., 63, Bishopsgate-st. Within, London, E.C.
Bell, John T., & Co., 22 & 24, East-st., Middlesbrough.
British Electrical & Manufacturing Co., 1, St. Nicholas-bldgs., Newcastle-on-Tyne.
Buffalo Specialty Co., 249, Kingsland-rd., N.E.
Burns, J., Ltd., 189, Central-st., London, E.C. *See advt., page* 738.
Byrt, A., jun., 47, High-st., Shepton Mallet, Somerset.
Cars, B., 124–130, Tabernacle-st., Finsbury, E.C.
Casperson Bros., 11 & 25, Upper Mill Hill, Boarlane, Leeds.
Central Electric Co., 26 & 28, Queen-st., Albert-sq., Manchester.
City Importing Co., 53, Curtain-rd., London, E.C.
Civil Service Supply Association, Ltd., 138, Queen Victoria-st., E.C.; & Bedford & Chandos-sts., Strand, W.C.
Clark, Hunt & Co., Ltd., 159, 160, High-st., Shoreditch, London, E.
Cleave, W. H. R., 6, Bristol Bridge, Bristol.
Coy, E. E., 77, St. John's-rd, Bootle, Lancs.
Cross, H., 93, London-rd., S.E.
Darby, G. G., 16, West-st., Fareham, Hants.
DAVIES, KENT & STEWART, LTD., 17, Berners-st., Oxford-st., W. (Telegs.: "Polarizing, London." Teleph. No. 6150, Gerrard.)
Donovan & Co., 22, Barwick-st., Birmingham.
Down, Fred J., Harpenden, Herts.; & 6, 7 & 8, Crutched Friars, London, E.C. A founder, 1883, of Laing, Wharton & Down.
Dublin Electrical Stores, 41, Fleet-st., Dublin.
Electric Supply Stores, 77, Fore-st., London, E.C.
Electrical Contracts & Maintenance Co., Ltd., Sanctuary House, Westminster, S.W.
Empire Electrical Co., Muscovy House, Trinity-sq., London, E.C.
Fletcher & Phillipson, 10, Lr. Baggot-st., Dublin.
Fullerton, J., Main-st., Larne, co. Antrim.
George, T. J., 119, Falcon-rd., London, S.W.
Gillespie & Beales, Amberley House, Norfolk-st., Strand, London, W.C.
GLOVER, F. A., & CO., LTD., Vine-st.; Clerkenwell-rd., E.C.
Goldston, E., late Lea & Warren, 28, Marefair, Northampton.

Supplies (Electrical)—Dealers in—*contd.*

Hargreaves, J. N., & Co., 56, Royal Exchange-chbrs., Leeds.
Hawkins, Alex., & Sons, 125–128, London-rd., London, S.E.
Hodkinson, R., 19, South John-st., Liverpool.
Horton & Ritchie, 102, Brandon-st., Motherwell, N.B.
Huddleston, P., & Co., 72, Finsbury Pavement, E.C.; & at Electric Auction Sale Rooms, Dalling-rd., Hammersmith.
Johnston, G., & Co., 110, Cannon-st., London, E.C.
JOPLING, A., & CO., 10, Westmorland-bldgs., Aldersgate-st., E.C. *See advt., page* 415.
Kay, H., 13, Chapel-st., Salford, Manchester.
Kuhner, Henderson & Co., Salisbury House London Wall, E.C.
Littauer, James, 72, Finsbury Pavement, London, E.C.
Lloyd & Son, Ltd., 105, Wellington-st., Woolwich.
London Import Co., Ltd., 45, Tabernacle-st., Finsbury, E.C.
Lowe, Egerton & Co., South View-cres., Sheffield.
Lundberg, A. P., & Sons, Pioneer Electrical Works, 477–487, Liverpool-rd., London, N. (Telegs.: "Lundberg, London." Teleph. No. 1746, North.) Agents: Scotland, Messrs. Yuille & Co., 60, Brown-st., Glasgow; other districts: leading wholesale houses.

REG^{D} EKTRIK TRADE MARK

By Royal Warrant to H.M. the King.
See advt., page 710 *& on lower outside edges.*

MARSH, SON & CO., LTD., 15, Gerrard-st., London, W. (Telegs.: "Voltmeters, London." Teleph. No. 2414, Gerrard.) *See advt., page* 402.
Nicholls, T., & Son, 258, Kingsland-rd., London, N.E.
Parkinson, J., & Co., St. Nicholas-st., Newcastle-on-Tyne.
Pattman, C., & Co., 18, Barking-rd., East Ham, London, E.
Paxton, A., & Co., High-st. Arcade, Cardiff.
POPE'S ELECTRIC LAMP CO., LTD. Works: Hythe-rd., Willesden, N.W. (Teleph. Harlesden 70); 5, Arthur-st., Oxford-st., W. (Teleph. Gerrard 3000); & at Liverpool. *See advt., page* 610.
Putz, Curphey & Co., 19 & 20, Strand-st., Liverpool.
Ray Electric Co., 339, High-st. North, East Ham, E.
Read, John, & Sons, Railway-st., Malton.
ROBERTS, ERNEST, 3, Holborn-pl., London, W.C. (Telegrams: "Roborant, London." Telephone No. 1642, Holborn.)
Roy, A. W., 151, Shields-rd., Heaton, Newcastle-on-Tyne.
Smith, A. F., 58–68, Duncan-rd., Gillingham, Kent.
Speirs, Morton & Murray, 16, Bucknall-st., New Oxford-st., W.

Supplies (Electrical)—Dealers in—*contd.*

Spir, A., 416, Ecclesall-rd., Sheffield.
Stegmann & Co., Brighton Railway Approach, Clapham Junction, London, S.W.
Stone, T. J., & Co., 20, High-st., Marylebone, London, W.
Suter, T. W., 107, The Parade, Bruce Grove, Tottenham, N.
Till & Whitehead, Ltd., 88, Chester-rd., Manchester.
Underwood (Manchester), Ltd., 34, Pall Mall, Manchester.
Vaughan & Marriott, 32 & 34, St. George's-rd., Southwark, S.E.
Verey, A., & Co., Dover.
WARD & GOLDSTONE, Sampson Works, Salford, Manchester. (Telegs.: "Multum, Manchester." Teleph. Nos. 7084 & 7085, & Trunk line.) *See advt., page* 756.
Wildman & Co., Market-st., Colne, Lancs.
Wilson & Briggs, 3, Town Hall-bldgs., Brighouse, Yorks.
Yuille, Wm. C., & Co., 60, Brown-st., Glasgow.

Supplies (Electrical)—Makers of.

F.—Fournitures électriques—Fab. de.
G.—Bedarfsartikel—Electrische—Fabr.

Andrews, W. Osborne, 27, New Bailey-st., Salford; & 17, Denstone-rd., Irlams o' th' Height, Manchester.
Armorduct Manufacturing Co., Ltd., Farringdon-ave., London, E.C.; & 44, Blackett-st., Newcastle-on-Tyne. Works: Bathurst Works, Witton, nr. Birmingham. (Telegs.: "Armorduct," London, Newcastle-on-Tyne, Birmingham. Teleph. Nos.: London, 400, Holborn (2 lines); Newcastle-on-Tyne, 2827, Central; Witton Works, 812, East.) *See advt. on top edges.*
Armstrong & Co., Twickenham, London, S.W.
Baxendale & Co. (& merchants), Miller-st. Works & Warehouses, Manchester; Hanover-st., Edinburgh; Capel-st., Dublin; & Hood-st., Liverpool.
British Thomson-Houston Co., Ltd. Head office & works: Rugby. Registered office: 83, Cannon-st., London, E.C. Branch offices: 91, Wellington-st., Glasgow; 41, Church-st., Sheffield; Collingwood-bldgs., Newcastle-on-Tyne; Star Life-bldgs., 30, Cross-st., Manchester; Maritime-bldgs., Middlesbrough; 115, Colmore-row, Birmingham; & Greek-st.-chbrs., Leeds. (Telegs.: "Asteroidal." Teleph. Nos.: Head office, Rugby 54 & 55; London office, London Wall 135 (4 lines).)
Burns, J., Ltd., 189, Central-st., London, E.C. *See advt., page* 738.
CROGGON & CO., LTD. (makers), 16 & 230, Upper Thames-st., London, E.C.; Colonial-chbrs., Temple-st., Liverpool; & 7, John-st., Glasgow. *See advt., page* 494.
Donovan & Co., 22, Barwick-st., Birmingham.

Supplies (Electrical)—Makers of—*contd.*

DORMAN & SMITH, Ordsal Electrical Works, Salford, Manchester. (Telegs.: "Current, Manchester." Teleph. No. 1741, Nat.) Agents—London: Sambidge & Co., 17, Victoria-st., S.W. (Telegs.: "Prefix, London." Teleph. Victoria 530.) Scottish: Andrews & Co., 198A, St. Vincent-st., Glasgow. Birmingham: S. T. Pemberton, Council-chbrs., Colmore-row. Newcastle-on-Tyne: F. T. Hanks, 1, Higham-pl. *See also page* 123 *& advt., page* 21.
E.M.F., Ltd., 10, Ironmonger-lane, London, E.C. *See advt., page* 645.
EDISON & SWAN UNITED ELECTRIC LIGHT CO., LTD. Head office, depôt & show-rooms: Ediswan-bldgs., Queen-st., London, E.C.
ELECTRIC & ORDNANCE ACCESSORIES CO., LTD., Cheston-rd., Aston, Birmingham. (Telegs.: "Stellite, Birmingham." Teleph. Nos.: Nat. 176 & 179, East; & P.O. 9 (Trunk Calls).) *See page* 134 *for full entry.*
Geipel, Wm., & Co. (late Geipel & Lange), Vulcan Works, 72A, St. Thomas-st., London, S.E. (Telegs.: "Patella, London." Teleph. No. 594, Hop. (2 lines).) *See advt., page* 19.
General Electric Co., Ltd. (*G. Byng, chairman*). Head office: 71, Queen Victoria-st., London, E.C. Works: London, Manchester, Birmingham & Witton. For branch offices, telegraphic addresses & telephone numbers, *see* ALPHABETICAL SECTION. *See advts., pages* 446, 734 *&* OPPOSITE.
Glover, W. T., & Co., Ltd., Trafford Park, Manchester. (Telegs.: "Cables, Manchester." Tel. Central 7200 (6 lines).) London: Parliament Mansions, Orchard-st., S.W. *See* ALPHABETICAL.
Hands, Albert C., Snow Hill, London, E.C. (Telegs: "Thraldom, London." Teleph. No. 1033, Holborn.)
Hogan & Wardrop, Gloucester Mansions, Cambridge Circus, Charing Cross-rd., London, W.C.
LUNDBERG, A. P., & SONS, Pioneer Electrical Works, 477–487, Liverpool-rd., London, N. Inventors, patentees & manufacturers of Lundbergs' electrical accessories. (Telegs.: "Lundberg, London." Teleph. No. 1746, North.) Agents: Scotland, Messrs. Yuille & Co., 60, Brown-st., Glasgow; other districts: leading wholesale houses.

By Royal Warrant to H.M. the King.

See advt., page 710 *& on lower outside edges.*
Marbro, Ltd., 22, Belsham-st., Morning-lane, Hackney, N.
MARSH, SON & CO., LTD., 15, Gerrard-st., London, W. (Telegs.: "Voltmeters, London." Teleph. No. 2414, Gerrard.) *See advt., page* 402.
Morrison, W. G., & Co., 58, W. Regent-st., Glasgow.

EVERYTHING ELECTRICAL

MADE IN ENGLAND.

Arc Lamps
Bells
Carbons
Conduits
Dynamos
Fittings
Generators
Heating Apparatus
Indicators
Measuring Instruments
Motors
Osram Lamps
Robertson Lamps
Radiators
Switchboards
Telephones
Voltmeters
Wires and Cables

etc., etc.

Full Particulars and prompt attention from

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Head Office: 71, Queen Victoria St., E.C.

BRANCHES:
Victoria Bridge, Manchester.
71, Waterloo Street, Glasgow.
42, High Street, Birmingham.
30, Gallowgate, Newcastle-on-Tyne.
16, St. Andrews Street, Dublin.
Womanby Street, Cardiff.
13, Queen Street, Belfast.

Works: Witton, Manchester, Birmingham, London.

Foreign and Colonial Agencies.

General Electric de France, Ltd.	**Paris,** 10/12, Rue Rodier.
General Electric de Espana, S.A.	**Madrid,** Fuencarral 134.
Van den Berg & Co.	**Amsterdam,** 163, Prinz Hendrik Kade.
Sidney Nowill & Co.	**Constantinople.**
The British General Electric Co., Ltd. ...	**Johannesburg,** Corner of Loveday & Anderson Streets, P.O. Box 2406. **Cape Town,** Corner of Waterkant and Chiappini Streets, P.O. Box 1327.
Lawrence & Hanson	**Sydney** (N.S.W.), 33, York Street, Wynyard Square. **Melbourne** (Victoria), 161, Queen Street. **Wellington** (New Zealand), 45/47, Cuba Street.
General Electric Eng. Co.	**Perth** (Western Australia), 203 to 207, Murray Street, and **Kalgoorlie.**
Octavius Steel & Co.	**Calcutta** (India), 14, Old Court House Street.
Bulloch Bros. & Co.	**Rangoon** (Burmah).
The Bangkok Dock Co.	**Bangkok** (Siam).
J. Travers & Sons...	**Singapore,** 7, D'Almeide Street.
W. C. Jack & Co.	**Hong Kong** (China), 14, Des Voeux Road Central.
Hankow Engineering Development Syndicate	**Tientsin** (China). **Hankow** ,,
Samuel, Samuel & Co.	**Tokyo** (Japan).
Huth & Co.	**Valparaiso** (Chili). **Santiago** ,, **Concepcion** ,,
Colson, Brookhouse & Pyne	**Buenos Ayres** (Argentina), Calle Cangallo, 370-376.

For telegraphic addresses & telephone numbers, see Alphabetical Section.

Supplies (Electrical)—Makers of—*contd.*

Peschek, J., 44, Wellington-rd., Old Charlton, S.O.; & Armstrong Works, Woolwich-rd., Charlton, S.O., Kent.

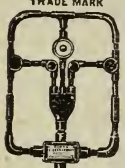
RIPPINGILLE MANUFACTURING CO., LTD., Plume-st., Aston, Birmingham. *See advts., pages* 597 *&* 598.

Rumney & Rumney, 125, Strand, London, W.C.

Siemens Bros. Dynamo Works, Ltd., Caxton House, Westminster, London, S.W.; & 39, Upper Thames-st., E.C.

SIMPLEX CONDUITS, LTD., THE. Head office: 8, Garrison-lane, Birmingham. Works: Maxstoke-st., Birmingham; & 113, 115, 117, Charing Cross-rd., London, W.C.; 16, Corporation-st., Manchester; 72A, Waterloo-st., Glasgow; Newcastle; Bristol; & Liverpool. *See advts., pages* 455 & 456.

TRADE MARK



SIMPLEX

Slater, W. H., & Co., Eagle Works, 52, Blackstock-rd., London, N.

Starkey, T. H., Rosebery-bldgs., 83, John Bright-st., Birmingham.

Stegmann & Co., Brighton Railway Approach, Clapham Junction, S.W.

TETLEY & CO., Falcon Works, Bedford-st., Greengate, Salford.

THOMAS, BERTRAM, Cornbrook Telegraph Works, Worsley-st., Manchester. (Telegrams: "Breaker, Manchester." Telephone No. 215.) All sizes main & other switchboards.

TUCKER, J. H., & CO., King's-rd., Hay Mills, Birmingham. Branches: London, Glasgow & Belfast. For telegrams & telephone numbers, *see* ALPHABETICAL.

TELAC
REG. TRADE MARK.

Union Cable Co., Ltd., The, Eagle Wharf-rd., London, N. *See advt., page* 4.

Veritys, Ltd., King-st., Covent Garden, London, W.C.; & Birmingham, Manchester, Glasgow, Bristol, &c. *See* ALPHABETICAL SECTION.

Ward & Goldstone, Sampson Works, Salford, Manchester. (Telegs.: "Multum, Manchester." Teleph. Nos. 7084 & 7085, & Trunk line.) *See advt., page* 756.

Watson, A., & Co., Edward-st. Parade, Birmingham.

William, H., & Co., Pembroke Works, Pembroke-sq., W.

Wilson, G., & Co., Ltd., Victoria-st., Holbeck, Leeds.

Supplies for Cable Ships & Stations.

F.—Bateaux pour mise de câbles et stations—Fournitures pour.

G.—Schiffe zum Kabellegen—Materialien für.

"Surprise" Pendants for Electric Light.

Best & Lloyd, Ltd., Cambray Works, Handsworth, Birmingham. Show-rooms: London, 11, Bartlett's-bldgs., Holborn Circus, E.C.; Paris, 23, rue d'Hauteville.

Swedish Charcoal Iron.

Turner Bros., 134, Upper Thames-st., London, E.C. All sizes, flats, rounds & squares in stock.

Switch Board Handles & Bushes.

EBONESTOS MFG. CO., THE, 127, Pomeroy-st., Old Kent-rd., S.E. (Telegs.: "Ebonestos, London." Teleph. No. 887, Deptford.) *See advt., page* 620.

LITHOLITE, LTD., manufacturers of Litholite, 55, Hackney Grove, London, N.E. (Telegs.: "Ferrules, London." Teleph. No. 1492, North.) *See advt., page* 620.

Switch Manufacturers—Electric.

(*See also* CUT-OUTS.)

F.—Commutateurs élec.—Fab. de.

G.—Schalter—Fabr.—Elektrische.

Adams & Co., 109, Victoria-st., S.W.

ADAMS MANUFACTURING CO., LTD., 106, New Bond-st., London, W.; & Bedford. (Telegs.: "Admocar, London;" "Admocar, Bedford." Teleph. Mayfair 3962; & P.O., Bedford 2.)

Adnil Electric Co., Ltd., Adnil-bldg., Artillery-lane, London, E.C.

Apps, A., 433, Strand, London, W.C.

Braulik, G., 8, Lambeth Hill, London, E.C.

Bray, Markham & Reiss, Ltd., Blackhorse-lane, Walthamstow, London, E.

BRITISH INSULATED & HELSBY CABLES, LTD. Head office: Prescot, Lancs. Works: Prescot, Helsby & Liverpool. For branch offices, telegraphic & telephonic addresses, *see* ALPHABETICAL ENTRY. *See advt., page* 437.

Bullers, Ltd. (porcelain). London office: 6, Laurence Pountney Hill, E.C. Works: Tipton & Hanley. (Telegs.: "Bullers, London." Teleph. Nos. 4907/8, London Wall.) *See advt., page* 15.

CALDERBANK, H. W., 78, King-st., Manchester. (Telephone No. 08610.)

"Cantie" Switch Manufacturing Co., 67-69, Mount-st., Nottingham.

Donovan & Co., 22, Barwick-st., Birmingham.

DORMAN & SMITH, Ordsal Electrical Works, Salford, Manchester. (Telegs.: "Current, Manchester." Teleph. No. 1741, Nat.) PATENT PORCELAIN SWITCHES, FUSES, LAMP-HOLDERS, &c. Agents—London: Sambidge & Co., 17, Victoria-st., S.W. (Telegs.: "Prefix, London." Teleph. Victoria 530.) Scottish: Andrews & Co., 198A, St. Vincent-st., Glasgow. Birmingham: S. T. Pemberton, Council-chbrs., Colmore-row. Newcastle-on-Tyne: F. T. Hanks, 1, Higham-pl. *See also page* 123 *& advt., page* 21.

DRAKE & GORHAM, LTD., 66, Victoria-st., Westminster, S.W. Works: 1, Felix-st., S.E. For branches, telegrams & telephone numbers, *see* ALPHABETICAL. *See advt., page* 459.

Switch Manufacturers—Electric—*contd.*

EDISON & SWAN UNITED ELECTRIC LIGHT CO., LTD. Head office, depôt & show-rooms: Ediswan-bldgs., Queen-st., E.C.

ELECTRIC & ORDNANCE ACCESSORIES CO., LTD., Cheston-rd., Aston, Birmingham. (Telegs.: "Stellite, Birmingham." Teleph. Nos.: Nat. 176 & 179, East; & P.O. 9 (Trunk Calls).) *See page* 134 *for full entry.*

Electrical & Engineering Supplies Co., Ltd., 36 & 37, Upper Thames-st., London, E.C. *See advt., page* 652.

Farrell, H. O., & Co., Sewerby Street Electric Works, Moss Side, Manchester.

Ferranti Ltd., Hollinwood, Lancs. (Telegs.: "Ferranti, Hollinwood." Teleph. Failsworth, 31 & 48): & 78, King-st., Manchester.

Frampton & Paine, 29, Old Queen-st., Westminster, S.W.

FULLER ELECTRICAL & MANUFACTURING CO., Norfolk House, Laurence Pountney Hill, E.C. (Telegs.: "Fullmage, London." Teleph. No. 3186, London Wall.) Starting, regulating, reversing. *See advt., page* 481.

GALSWORTHY LTD., formerly The London Electrical Fittings Co., Ltd., Roberts Works, Hampstead-rd., N.W. (Telegs.: "Filosofone, London." Teleph. No. 441, North.) Showroom: 15 & 16, Newman-st., Oxford-st., London, W. (Teleph. No. 6621, Gerrard.) *See advts., pages* 593 *&* 604.

GENERAL ELECTRIC CO., LTD. (*G. Byng, chairman*). Head office: 71, Queen Victoria-st., London, E.C. Works: London, Manchester, Birmingham & Witton. For branch offices, telegraphic addresses & telephone numbers, *see* ALPHABETICAL SECTION. *See advts., pages* 446, 707 *&* 734.

Hands, Albert C., Snow Hill, London, E.C. (Telegs.: "Thraldom, London." Teleph. No. 1033, Holborn.)

Hare, H., & Co. (panel), Kingston Enamelled Slate & Marble Works, Park-rd., Hull. *See advt., page* 691.

Switch Manufacturers—Electric—*contd.*

HART MANUFACTURING CO., THE, Belgravia-chbrs., 72, Victoria-st., London, S.W.

HODGES, CECIL, & CO., Balfour House, Finsbury Pavement, London, E.C.

HOLMES, J. H., & CO., Portland-rd., Newcastle-on-Tyne; also at 17, Soho-sq., London, W.; Examiner-bldgs., Strutt-st., Manchester; & 19, Waterloo-st., Glasgow.

JAEGER BROS., 47, Victoria-st., London, S.W. (Telegs.: "Lampaient, London." Teleph. No. 5026, Gerrard.) *See advt., page* 594.

Johnson & Phillips, Ltd., Victoria Works, Charlton, S.O., Kent; & 12, Union-ct., Old Broad-st., London, E.C. *See advt. inside back cover.*

JOPLING, A., & CO., 10, Westmorland-bldgs., Aldersgate-st., London, E.C. *See advt., page* 415.

London Electrical Fittings Co., Ltd. *See* Galsworthy Ltd.

LUNDBERG, A. P., & SONS, Pioneer Electrical Works, 477–487, Liverpool-rd., London, N. Inventors, patentees & manufacturers of Lundbergs' electric light switches. Latest specialities: The "Marvel," "Pivot" & "Twinob." *See also* COMBINED SWITCH & WALL SOCKET MAKERS. (Telegs.: "Lundberg, London." Teleph. No. 1746, North.) Agents: Scotland, Messrs. Yuille & Co., 60, Brown-st., Glasgow; other districts: leading wholesale houses.

By Royal Warrant to H.M. the King.

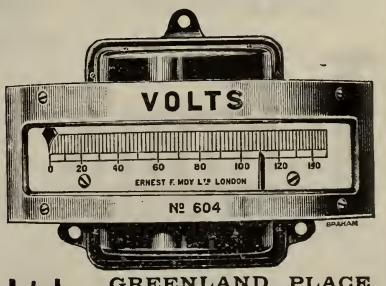
See advts., page 710 *& on lower outside edges.*

McCARTNEY, GEO., & CO., BURNSIDE WORKS, CUMNOCK, N.B. Sole makers of the "Orb" Electrical Switchgear, &c., &c.

Marsh, Son & Co., Ltd., 15, Gerrard-st., London, W. (Telegs.: "Voltmeters, London." Teleph. No. 2414, Gerrard.) *See advt., page* 402.

Morris & Lister, Ltd., Carlton Works, Lockhurst lane, Coventry.

IRONCLAD SWITCHES & FUSEBOXES. SWITCHBOARDS.
AUTOMATIC CIRCUIT BREAKERS.
MORDEY PATENT FUSES.
MOVING COIL MEASURING INSTRUMENTS.
RHEOSTATS. MOTOR STARTERS.
RESISTANCES.
SCREWS, NUTS, BOLTS & TURNED PARTS.
STAMPINGS & PRESS TOOLS.



ERNEST F. MOY, Ltd., GREENLAND PLACE CAMDEN TOWN, LONDON, N.W.

Switch Manufacturers—Electric—*contd.*

Moy, Ernest F., Ltd., Greenland-pl., Camden Town, London, N.W. (Telegrams: "Movedor, London.") *See advt., page* 709.

NALDER BROS. & THOMPSON, LTD. (managing director, F. H. Nalder), 34, Queen-st., Cheapside, London, E.C. *See advt., page* 643.

Reyrolle, A., & Co., Ltd., Hebburn-on-Tyne; 8, Howland-mews W., Fitzroy-sq., London, W.

Richardson, Herbert G., & Co., Shaw-st., Walsall.

SANDERS, W., & CO., Falcon Electrical Works, Wednesbury.

SEAGE, A., & CO., Cambridge Works, Cambridge-rd., Hammersmith, London, W.

Siemens Bros. Dynamo Works, Ltd., Caxton House, Westminster, London, S.W.

SIMPLEX CONDUITS., LTD. Head office: Garrison-lane, Birmingham. Works: Maxstoke-st., Birmingham; also 113, 115, 117, Charing Cross-rd., London, W.C.; 16, Corporation-st., Manchester; 72A, Waterloo-st., Glasgow; Newcastle; Bristol; & Liverpool. L. M. Waterhouse, A.M.I.C.E., M.I.E.E., managing director. *See inset advt., pages* 455 & 456.

Switch Manufacturers—Electric—*contd.*

SPAGNOLETTI, LTD., Goldhawk Works, Goldhawk-rd., London, W.

SUN ELECTRICAL CO., LTD., 118 & 120, Charing Cross-rd., London, W.C. (Telegs.: "Secabilis, London." Teleph. Nos. 2291 & 2292, Gerrard.) *See advt., page* 596.

SWITCHGEAR CO., LTD., Wilfred-st., Sherborne-st., Manchester.

TETLEY & CO., Falcon Works, Bedford-st., Greengate, Salford.

TUCKER, J. H., & CO., King's-rd., Hay Mills, Birmingham. Branches: London, Glasgow & Belfast. For telegrams & telephone numbers, *see* ALPHABETICAL.

TELAC
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LUNDBERGS'

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Over 30 years' experience in design and manufacture. **SIX MEDALS AWARDED.**

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BRANCH SWITCHES AND OTHER FITTINGS FOR HIGH VOLTAGE CIRCUITS. WATERTIGHT & WORKSHOP SWITCHES & CONNECTIONS.

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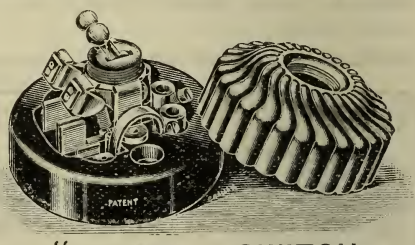


"TWINOB" SWITCH
(EITHER or BOTH and "OFF").

TWO SWITCHES IN ONE. Capacity 3 Amps. per way. NEAT AND ECONOMICAL.

SURFACE & FLUSH TYPES.

A. P. LUNDBERG & SONS,

Telegrams: "LUNDBERG, LONDON."
Telephone No. 1746, NORTH.

NATIONAL ELECTRICAL MANUFACTURERS ASSOCIATION

PIONEER ELECTRICAL WORKS,
477 TO 487, LIVERPOOL ROAD, LONDON, N.

Switch Manufacturers—Electric—*contd.*

UNION ELECTRIC CO., LTD., Park-st., Southwark, London, S.E. (Telegs.: "Abeam, London." A.B.C. Code. Teleph. Hop. 2970.) *See advt., page* 563.

Victoria Electrical Works (F. E. Emerson & Sons), 7, Broken Wharf, Upper Thames-st., E.C.

Walsall Electrical Co., Ltd., 57, Bridge-st., Walsall. For branches, telegrams & telephone numbers, *see* ALPHABETICAL.

Ward & Goldstone, Sampson Works, Salford, Manchester. (Telegs.: "Multum, Manchester." Teleph. Nos. 7084 & 7085, & Trunk line.) *See advt., page* 756.

WHIPP & BOURNE, makers of "RELIANCE" circuit breakers, starting & regulating rheostats, & all kinds of switchboards, Castleton, nr. Manchester. (Teleph. No. 563.)

Switch Coverplates—Artistic.

Waltham & Hill, 3, Duke-st., Adelphi, W.C.

Switch—Fuses.

British Electric Calibrated Fuse Co., The, Harpenden, Herts.

Switchboards—Makers of.

F.—Tableaux—Fabr. de.
G.—Schalttafeln—Fabr.

Adnil Electric Co., Ltd., Adnil-bldg., Artillery-lane, London, E.C.

Apps, A., 433, Strand, London, W.C.

Armorduct Manufacturing Co., Ltd., Farringdon-ave., London, E.C.; & 44, Blackett-st., Newcastle-on-Tyne. Works: Bathurst Works, Witton, nr. Birmingham. (Telegs.: "Armorduct," London, Newcastle-on-Tyne, Birmingham. Teleph. Nos.: London, 400, Holborn (2 lines); Newcastle-on-Tyne, 2827, Central; Witton Works, 812, East.) *See advt. on top edges.*

Baily, Grundy & Barrett, Ltd., 2, St. Mary's Passage, Cambridge.

Baxendale & Co., Miller-st. Works & Warehouses, Manchester; Hanover-st., Edinburgh; Capel-st., Dublin; & Hood-st., Liverpool.

BAXTER & CAUNTER, 86, Charing Cross-rd., W.C. (Telegs.: "Rapidolite, London." Teleph. Gerrard 3463 & 4.)

Berry Bros., Birch-lane, Longsight, Manchester.

BINGLEY, SON & FOLLIT, LTD., Millbank Slate Wharf, Westminster, S.W. (Telegs.: "Bingley, Millbank, Westminster." Teleph. Westminster 663.) *See advt., page* 691.

Switchboards—Makers of—*continued.*

BRABY, E. & C. *See* Bingley, Son & Follit, Ltd.

Braulik, G., 8, Lambeth Hill, London, E.C.

BRITISH INSULATED & HELSBY CABLES, LTD. Head office: Prescot, Lancs. Works: Prescot, Helsby & Liverpool. For branch offices, telegraphic & telephonic addresses, *see* ALPHABETICAL ENTRY. *See advt., page* 437.

British Thomson-Houston Co., Ltd. Head office & works: Rugby. Registered office: 83, Cannon-st., London, E.C. Branch offices: 91, Wellington-st., Glasgow; 41, Church-st., Sheffield; Collingwood-bldgs., Newcastle-on-Tyne; Star Life-bldgs., 30, Cross-st., Manchester; Maritime-bldgs., Middlesbrough; 115, Colmore-row, Birmingham; & Greek-st.-chbrs., Leeds. (Telegs.: "Asteroidal." Teleph. Nos.: Head office, Rugby 54 & 55; London office, London Wall 135 (4 lines).)

British Westinghouse Electric & Manufacturing Co., Ltd., The, Westinghouse Works, Trafford Park, Manchester.

Brook, Hirst & Co., Ltd., Northgate Electrical Works, Newry Park, Chester.

BRUSH ELECTRICAL ENGINEERING CO., LTD., THE. London office: Electrical Federation Offices, Kingsway, W.C. Works: Loughborough, Leicestershire. *See* ALPHABETICAL.

CROMPTON & CO., LTD., Salisbury House, London Wall, London, E.C. Works: Chelmsford. *See advt. inside front cover.*

DONOVAN & CO., 22, Barwick-st., Birmingham.

DORMAN & SMITH, Ordsal Electrical Works, Salford, Manchester. (Telegs.: "Current, Manchester." Teleph. No. 1741, Nat.) MAIN & BRANCH SWITCH & DISTRIBUTION BOARDS. Agents—London: Sambidge & Co., 17, Victoria-st., S.W. (Telegs.: "Prefix, London." Teleph. Victoria 530.) Scottish: Andrews & Co., 198A, St. Vincent-st., Glasgow. Birmingham: S. T. Pemberton, Council-chbrs., Colmore-row. Newcastle-on-Tyne: F. T. Hanks, 1, Higham-pl. *See also page* 123 *& advt., page* 21.

E.M.F., LTD., 10, Ironmonger-lane, E.C. Stores: 172-176, King's Cross-rd. Works: Victoria Works, Walsall; & 205A, Pentonville-rd., London. *See advt., page* 645.

EDISON & SWAN UNITED ELECTRIC LIGHT CO., LTD. Head office, depôt & show-rooms: Ediswan-bldgs., Queen-st., London, E.C.

Electric Construction Co., Ltd., Wolverhampton. Head office: Dashwood House, 9, New Broad-st., E.C.

ELECTRIC & ORDNANCE ACCESSORIES CO., LTD., Cheston-rd., Aston, Birmingham. (Telegs.: "Stellite, Birmingham." Teleph. Nos.: Nat. 176 & 179, East; & P.O. 9 (Trunk Calls).) *See page* 134 *for full entry.*

Switchboards—Makers of—*continued.*

Electrical & Engineering Supplies Co., Ltd., 36 & 37, Upper Thames-st., London, E.C. *See advt., page* 652.

Ferabin Lamp & Electrical Accessories Co., 118, Queen Victoria-st., London, E.C.

Ferguson, Jas., M.I.E.E., 61, Pollok-st., Pollokshaws, Glasgow.

FERRANTI LTD., Hollinwood, Lancs. (Telegs.: "Ferranti, Hollinwood." Teleph. Failsworth 31 & 48); & 78, King-st., Manchester.

Frampton & Paine, 29, Old Queen-st., Westminster, S.W.

Geipel, Wm., & Co. (late Geipel & Lange), Vulcan Works, 72A, St. Thomas-st., London, S.E. (Telegs.: "Patella, London." Teleph. No. 594, Hop. (2 lines).) *See advt., page* 19.

GENERAL ELECTRIC CO., LTD. (*G. Byng, chairman*). Head office: 71, Queen Victoria-st., London, E.C. Works: London, Manchester, Birmingham & Witton. For branch offices, telegraphic addresses & telephone numbers, *see* ALPHABETICAL SECTION. *See advts., pages* 446, 707 *&* 734.

Gifkins, A. V., & Co., 68, Victoria-st., Westminster, S.W.

HANDS, ALBERT C., Snow Hill, London, E.C. (Telegs.: "Thraldom, London." Teleph. No. 1033, Holborn.)

HARRIS, J. F. & G. (wood blocks & boards). Offices & mills: 58Q, Wilson-st., Finsbury, London, E.C.; 107–109, Snow's Fields, Newcomen-st., Borough, S.E.; Victoria Wharf, Palmer's-rd., Green-st., Bethnal Green, London, E.; & Roding Joinery Works, Ilford. *See* WOOD CASINGS & CLEATS.

Hartnell, Wilson, & Co., Ltd., Volt Works, Kirkstall-rd., Leeds.

HODGES, CECIL, & CO., Balfour House, Finsbury Pavement, London, E.C.

INDIA RUBBER, GUTTA PERCHA & TELEGRAPH WORKS CO., LTD. Head offices: 106, Cannon-st., E.C. Warehouses: 100 & 102, Cannon-st., London, E.C.; & 97, boul. Sebastopol, Paris. Works: Silvertown, Essex; & Persan, France. For telegraphic addresses & branches, *see advt. outside of back cover.*

Isherwood, W. H., & Co., Carlton Mills, Leeds.

Johnson & Phillips, Ltd., Victoria Works, Charlton, S.O., Kent; & 12, Union-ct., Old Broad-st., E.C. *See advt. inside back cover.*

Jones Bros., Bangor Slate Works, Semley-pl., Buckingham Palace-rd., London, S.W.

KELVIN & JAMES WHITE, LTD., 18, Cambridge-st., Glasgow (Telegs.: "Meter, Glasgow." Teleph. P.O., Central 4519; Nat., Douglas 172); & 11, Billiter-st., London, E.C. (Telegs.: "Stormglass, London." Teleph. London Wall 9779.)

LAHMEYER ELECTRICAL CO., LTD., 109–111, New Oxford-st., London, W.C. (Telegs.: "Drehstrom, London." Teleph. Nos. 133 & 134, Gerrard.)

Switchboards—Makers of—*continued.*

Lundberg, A. P., & Sons, Pioneer Electrical Works, 477–487, Liverpool-rd., London, N. Switches & fittings in ivory. (Telegs.: "Lundberg, London." Teleph. No. 1746, North.) Agents: Scotland, Messrs. Yuille & Co., 60, Brown-st., Glasgow; other districts: leading wholesale houses.

REGD LEKTRIK TRADE MARK

By Royal Warrant to H.M. the King.

See advt., page 710 *& on lower outside edges.*

McCARTNEY, GEO., & CO., BURNSIDE WORKS, CUMNOCK, N.B. Sole makers of the "Orb" Electrical Switchgear, &c., &c.

McGeoch, William, & Co., Ltd., Warwick Works, 46, Coventry-rd., Birmingham; 28, West Campbell-st., Glasgow. (Telegs.: "McGeoch," Glasgow, Birmingham & London. Teleph. Nos.: Nat. 2181 (4 lines); P.O. 101 & 2.)

MARSH, SON & CO., LTD., 15, Gerrard-st., London, W. (Telegrams: "Voltmeters, London." Telephone No. 2414, Gerrard.) *See advt., page* 402.

MATHER & PLATT, LD., Salford Iron Works, Manchester; & Queen Anne's-chbrs., Westminster, London, S.W. (Telegrams: "Mather, Manchester;" "Sprinkler, London." Nat. Telephone Nos.: 5781, 5782 & 5783, Manchester; & 851 & 852, Westminster.)

Morris & Lister, Ltd., Carlton Works, Lockhurst-lane, Coventry.

Moy, Ernest F., Ltd., Greenland-pl., Camden Town, N.W. (Telegrams: "Movedor, London.") *See advt., page* 709.

NALDER BROS. & THOMPSON, LTD. (managing director, F. H. Nalder), 34, Queen-st., Cheapside, E.C. *See advt., page* 643.

REYROLLE, A., & CO., LTD., Hebburn-on-Tyne; & 8, Howland-mews W., Fitzroy-sq., W.

RICHARDSON, HERBERT G., & CO., Shaw-st., Walsall.

ROBERTS, ADLARD & CO. (slate), 25 & 26, Bermondsey Wall, S.E.; & Queen-st., Cheapside, London, E.C.

SANDERS, W., & CO., Falcon Electrical Works, Wednesbury.

SEAGE, A., & CO., Cambridge Works, Cambridge-rd., Hammersmith, W.

SIEMENS BROS. DYNAMO WORKS, LTD., Caxton House, Westminster, London, S.W.

SIMPLEX CONDUITS, LTD. Head office: Garrison-lane, Birmingham. Works: Maxstoke-st., Birmingham; & 113, 115, 117, Charing Cross-rd., London, W.C.; 16, Corporation-st., Manchester; 72A, Waterloo-st., Glasgow; Newcastle; Bristol; & Liverpool. *See advts., pages* 455 & 456.

SPAGNOLETTI, LTD., Goldhawk Works, Goldhawk-rd., London, W.

Switchboards—Makers of—*continued.*

SUN ELECTRICAL CO. LTD., 118 & 120, Charing Cross-rd., London, W.C. (Telegrams: "Secabilis, London." Teleph. Nos. 2291 & 2292, Gerrard.) *See advt., page* 596.

SWITCHGEAR CO., LTD., Wilfred-st., Sherborne-st., Manchester.

Taylor, T. H., 181, Queen Victoria-st., London, E.C.; & Dodworth, Yorkshire.

TETLEY & CO., Falcon Works, Bedford-st., Greengate, Salford.

THOMAS, BERTRAM. Works: Worsley-st., Hulme, Manchester. (Telegrams: "Breaker, Manchester." Telephone No. 215.) Switchboards, Switches & Circuit-breakers.

TUCKER, J. H., & CO., King's-rd., Hay Mills, Birmingham. Branches: London, Glasgow & Belfast. For telegrams & telephone numbers, *see* ALPHABETICAL.

TELAC
REG. TRADE MARK.

Universal Electrical Mfg. Co., 14, Station Parade, Queen's-rd., Peckham, S.E.

Veritys, Ltd., King-st., Covent Garden, London, W.C.; & Birmingham, Manchester, Glasgow, Bristol, &c. *See* ALPHABETICAL SECTION.

Walsall Electrical Co., Ltd., 57, Bridge-st., Walsall. For branches, telegrams & telephone numbers, *see* ALPHABETICAL.

Wellman, Seaver & Head, Ltd., 47, Victoria-st., London, S.W.

WHIPP & BOURNE, makers of "RELIANCE" circuit breakers, starting & regulating rheostats, & all kinds of switchboards, Castleton, nr. Manchester. (Teleph. No. 563.)

WRIGHT & WOOD, LTD., Century Works, Halifax, Yorks. (Telegs.: "Motor, Halifax." Teleph No. 499.) *See advt., page* 650.

Switchboards, Bases & Covers Manufacturers.

F.—Tableaux, bases et plateaux—Fabr. de.
G.—Schalttafeln, Brette u. Deckel—Fabr.

Adnil Electric Co., Ltd., Adnil-bldg., Artillery-lane, London, E.C.

Bonnella, D. H., & Son, Ltd., 58 & 60, Mortimer-st., W. Works: Kirby-st., Hatton Garden, E.C. (Telegs.: "Boncinello, London." Teleph. Gerrard 1882 & 9784.) *See advt., page* 626.

FORD & MARGRETT, Camphill Slate Works, Birmingham. (Telegs.: "Mantel, Birmingham." Teleph. Victoria 75.) *See advt., page* 690.

HARE, H., & CO., Kingston Enamelled Slate & Marble Works, Park-rd., Hull. *See advt., page* 691.

HARRIS, J. F. & G. (wood blocks & boards). Office & mills: 58Q, Wilson-st., Finsbury London, E.C.; 107–109, Snow's Fields, Newcomen-st., Borough, S.E.; Victoria Wharf, Palmer's-rd., Green-st., Bethnal Green, London, E.; & Roding Joinery Works, Ilford. *See* WOOD CASINGS & CLEATS.

Switchboards, Bases & Covers Manufacturers—*continued.*

Lambert, R., Mansfield-rd. Cabinet Works, Oaklane, Bradford.

Lant, G., & Sons, Stanley-st., Wicker, Sheffield.

Le Carbone (formerly Lacombe & Co.). Carbon contact pieces in X & A42 qualities. Works: Levallois-Perret, Paris; 17, Water-lane, E.C. (Telegrams: "Lacombe, London." P.O. Telephone No. 14671, Central.) *See advts., pages* 478 & 480.

Macintyre, J., & Co., Ltd., Washington China Works, Burslem. (Telegs.: "Macintyre, Burslem." Teleph. No. 338, Burslem.) *See advt., page* 662.

Moore, M. & R., 64, Pentonville-rd., London, W.

NALDER BROS. & THOMPSON, LTD. (managing director, F. H. Nalder), 34, Queen-st., Cheapside, London, E.C. *See advt., page* 643.

SESSIONS & SONS, LTD., Slate & Marble Works, Gloucester; & at Cardiff. *See advt., page* 691.

Staley, W., & Sons, 83, Headford-st., Sheffield.

TAYLOR, TUNNICLIFF & CO., LTD. (porcelain), Eastwood, Hanley. London agent: C. M. Bradley, 23, Holborn Viaduct, E.C. (Telegrams: "Eastwood, Hanley.")

Walsall Electrical Co., Ltd., 57, Bridge-st., Walsall. For branches, telegrams & telephone numbers, *see* ALPHABETICAL.

Switchplates & Covers.

LONDON DECORATIVE METAL WORKS, LTD., THE, 44–46, Eagle-st., London, W.C. (Teleph. Holborn 1247.) Specialists in all kinds of high-class plain & ornamental flush switch- & bell-push plates, covers for surface bell pushes, tumbler switches & plugs; also door-furniture en suite. Illustrated price list on application.

Synchronisers.

NALDER BROS. & THOMPSON, LTD. (managing director, F. H. Nalder), 34, Queen-st., London, E.C. *See advt., page* 643.

Table Sockets & Plugs—Makers of.

Lundberg, A. P., & Sons, Pioneer Electrical Works, 477–487, Liverpool-rd., London, N. (Telegs.: "Lundberg, London." Teleph. No. 1746, North.) Agents: Scotland, Messrs. Yuille & Co., 60, Brown-st., Glasgow; other districts: leading wholesale houses.

REGD
LEKTRIK
TRADE MARK

By Royal Warrant to H.M. the King.
See advt., page 710 *& on lower outside edges.*

Tachometers & Tachographs.

F.—Tachomètres.
G.—Tachometer.

BÖVING, JENS ORTEN, & CO., 9½, Union-ct., Old Broad-st., London, E.C.

DAVIS, JOHN, & SON (DERBY), LTD., All Saints' Works, Derby. (Telegrams: "Davis, Derby." Telephone No. 240, Derby.)

Everett, Edgcumbe & Co., Ltd., 117, Victoria-st., London, S.W.; & Collindale Works, Hendon, Middlesex. *See advt., page* 643.

Lunken Valve Co., 35, Gt. Dover-st., London, S.E.

Searle, W., & Co., 27, Noel-st., Oxford-st., W.

Thomas, Geo., & Co., Parsonage-lane, Deansgate, Manchester.

Tallow Merchants.

F.—Suif—Marchands de.
G.—Talg-Händler.

Bowley, S., & Son, Wellington Works, Battersea Bridge, London, S.W. (Telegs.: "Bolyanson, London." Teleph. Battersea 1 & 2. A.B.C. Code.)

Willcox, W. H., & Co., Ltd. Office: 23, Southwark-st. Warehouse: 32, 34 & 36, Southwark-st., London, S.E. Works: Castle-st. (Telegs.: "Willcox, Southwark-st., London." Teleph. Hop 3740 & 3741.) *See advt. facing inside front cover.*

Tank & Cistern Makers. Iron & Slate.

F.—Reservoirs en fer et ardoise—Fab. de.
G.—Behälter u. Cisternenfab—Eisen u. Schiefer.

Braby, Frederick, & Co., Ltd., Fitzroy Works, 352–364, Euston-rd., London, N.W. For branches, telegraphic addresses & telephone numbers, *see* ALPHABETICAL ENTRY.

BRITISH PROMETHEUS CO., LTD., Salop Street Works, Highgate, Birmingham. London show-rooms: 27, Ely-pl., E.C. Electrically Heated Tanks in all metals.

FALKIRK IRON CO., Craven House, Kingsway, London, W.C. Works: Falkirk, N.B.

HARE, H., & CO., Kingston Enamelled Slate & Marble Works, Park-rd., Hull. *See advt., page* 691.

MATHER & PLATT, LD., Salford Iron Works, Manchester; & Queen Anne's-chbrs., Westminster, London, S.W. (Telegs.: "Mather, Manchester;" & "Sprinkler, London." Nat. Teleph. Nos.: 5781, 5782 & 5783, Manchester; & 851 & 852, Westminster.)

ROBERTS, ADLARD & CO. (slate), 25 & 26, Bermondsey Wall, S.E.; & Queen-st., Cheapside, London, E.C.

Tantalum Lamps.

SIEMENS BROS. DYNAMO WORKS, LTD., Caxton House, Westminster, London, S.W. Tantalum Lamps & Fittings. London show-rooms & stores: 39, Upper Thames-st., E.C. (Telegs.: "Siemotor, London." Teleph. Wall 6520.)

Tapes—Fire-resisting.

Glover, W. T., & Co., Ltd., Trafford Park, Manchester. (Telegs.: "Cables, Manchester." Tel. Central 7200 (6 lines).) London: Parliament Mansions, Orchard-st., S.W. *See* ALPHABETICAL.

Tapes—Insulating.

BURNS, J., LTD., 189, Central-st., London, E.C. *See advt., page* 738.

Down, Fred. J., Harpenden, Herts. A founder, 1883, of Laing, Wharton & Down.

RUBEROID CO., LTD., 81–83, Knightrider-st., Queen Victoria-st., London, E.C. Sole makers of P. & B. Insulating Tape.

Taping Machine Manufacturers.

F.—Machines à envelopper le fil par des rubans—Fab. de.
G.—Ueberspinnung Maschinen—Fabr. von.

Johnson & Phillips, Ltd., Victoria Works, Charlton, S.O., Kent; & 12, Union-ct., Old Broad-st., E.C. *See advt. inside back cover.*

Washington & Co., Ltd., Sowerby-bridge, Yorks. (Telegrams: "Washington, Sowerby-bridge.")

Tar & Pitch Manufacturers.

Catchpole, E., & Son, Plough Bridge, Rotherhithe, London, S.E.

Telegraph Agents.

F.—Agents de télégraphie.
G.—Telegraphen-Agenten.

Comtelburo, Ltd., 11, Tokenhouse-yard, London, E.C.

Howell, W. W., representative in England of the Compagnie Française des Câbles Télégraphiques, 24, Royal Exchange, 2, Mincing-lane, London, E.C.; 24, Hop Exchange, London, S.E.; & 36, Victoria-st., S.W.

Nielsen, F. C. C., Great Northern Telegraph Co., Ltd., of Denmark, 15 & 15A, St. Helen's-pl., Bishopsgate-st. Within, London, E.C.

Press Association, Ltd., 14, New Bridge-st., E.C.

Telegraph Apparatus Makers.

F.—Télégraphes—Fab. d'appareils de.
G.—Telegr. Apparate—Fab.

Adnil Electric Co., Ltd., Adnil-bldg., Artillery-lane, London, E.C.

AUTOMATIC STANDARD SCREW CO., HALIFAX. (TELEGS.: "STANDARD." TELEPH. NO. 992.)

British L. M. Ericsson Manufacturing Co., Ltd., The, Byron House, 82/85, Fleet-st., London, E.C. Works: Beeston, Notts. *See advt., page* 719.

Bullers, Ltd. London office: 6, Laurence Pountney Hill, E.C. Works: Tipton & Hauley. (Telegs.: "Bullers, London." Teleph. Nos. 4907/8, London Wall.) *See advt., page* 15.

Telegraph Apparatus Makers—*continued.*

INDIA RUBBER, GUTTA PERCHA & TELEGRAPH WORKS CO., LTD. Head offices: 106, Cannon-st., E.C. Warehouses: 100 & 102, Cannon-st., London, E.C.; & 97, boul. Sebastopol, Paris. Works: Silvertown, Essex; & Persan, France. For telegraphic addresses & branches, *see advt., outside of back cover.*

Le Carbone (formerly Lacombe & Co.) (CARBONS & BATTERIES FOR). Works: Levallois-Perret, Paris; 17, Water-lane, E.C. (Telegs.: "Lacombe, London." P.O. Teleph. No. 14671, Central.) *See advts., pages* 478 & 480.

Muirhead & Co., Ltd., Elmers-End, Kent. (Telegrams: "Muirheads, Elmers-End;" & "Muirheads, London." Telephone No. 50, Bromley.) *See advt., page* 619.

Phœnix Bolt & Nut Co., Handsworth, Birmingham.

Reid Bros., 12, Wharf-rd., N. (Telegs.: "Supra, London." Teleph. No. 12249, Central.) *See advt., page* 571.

Siemens Bros. & Co., Ltd., Caxton House, Westminster, London, S.W. *See advt., page* 573.

Telegraph & Cable Companies.

F.—Télégraphes et Cables—Compagnies de.
G.—Telegr. u. Kabel-Gesellschaften.

African Direct Telegraph Co., Ltd., Electra House, Finsbury Pavement, London, E.C. Secretary, H. E. Plank; managing director, the Hon. A. G. Brodrick.

African Trans-Continental Telegraph Co., Ltd., 2, London Wall-bldgs., London, E.C. Acting secretary, D. E. Brodie.

Amazon Telegraph Co., Ltd., 42, Old Broad-st., London, E.C. Secretary, Edmund Petley, F.C.I.S.; general manager & engineer, F. E. Nosworthy.

Anglo-American Telegraph Co., Ltd. General office: 26, Old Broad-st., London, E.C. Secretary, T. H. Wells; manager, J. H. Carson.

Black Sea Telegraph Co., Ltd., Electra House, Finsbury Pavement, London, E.C. Managing director, Sir J. Denison-Pender, K.C.M.G.; secretary, A. R. Hardie.

Commercial Cable Co. General offices: 55 & 56, Bishopsgate-st. Within, London, E.C. Secretary, Albert Beck; electrician, Chas. Priest, New York; consulting electrician, John Gott, London; manager in England, Fred Ward. For other addresses, *see* ALPHABETICAL ENTRY.

Compagnie Française des Câbles Télégraphiques, 24, Royal Exchange, London, E.C.

Cuba Submarine Telegraph Co., Ltd., 58, Old Broad-st., London, E.C. Secretary, Jas. Scott.

Direct Spanish Telegraph Co., Ltd., 66, Electra House, Finsbury Pavement, London, E.C. Secretary, F. T. Preddle; electrician, Walter Judd.

Direct United States Cable Co., Ltd. General offices: 50, Old Broad-st., London, E.C. General manager & secretary, T. Finnis; consulting electricians, Clarke, Forde & Taylor.

Telegraph & Cable Companies—*continued.*

Direct West India Cable Co., Ltd., 33, Old Broad-st., London, E.C. Secretary, O. Rochs; general manager, J. Rippon.

Eastern Extension Australasia & China Telegraph Co., Ltd., Electra House, Finsbury-pave., London, E.C. Secretary & manager, F. E. Hesse.

Eastern & South African Telegraph Co., Ltd., Electra House, Finsbury Pavement, London, E.C. Managing director, Sir J. Denison-Pender, K.C.M.G.

Eastern Telegraph Co., Ltd., Electra House, Finsbury Pavement, London, E.C. Managing director, Sir J. Denison-Pender, K.C.M.G.

Europe & Azores Telegraph Co., Ltd., Electra House, Finsbury Pavement, London, E.C. Secretary, Geo. R. Neilson; electrician-in-chief, Walter Judd.

Exchange Telegraph Co., Ltd., 17 & 18, Cornhill, London, E.C. Managing director, Wilfred King; electrical engineer, Fredk. Higgins; secretary, Geo. F. Hamilton.

Globe Telegraph & Trust Co., Ltd., Electra House, Finsbury Pavement, E.C. Secretary, Sidney Collett.

Great Northern Telegraph Co., Ltd., The, of Denmark, 15 & 15A, St. Helen's-pl., Bishopsgate, E.C. Chairman, Commodore E. Suenson, D.R.N.; London representative, F. C. C. Nielsen.

Halifax & Bermudas Cable Co., Ltd., 33, Old Broad-st., London, E.C. Secretary, O. Rochs; general manager, J. Rippon.

Indo-European Telegraph Co., Ltd., 18, Old Broad-st.; 6 & 8, Lime-st.-sq.; & 10 & 11, Mincing-lane, London, E.C. Secretary, John I. Bethell; managing director, T. W. Stratford Andrews.

London Platino-Brazilian Telegraph Co., Ltd., Electra House, Finsbury Pavement, E.C. Secretary, E. Steer Hodson.

Marconi International Marine Communication Co., Ltd., Watergate House, York-bldgs., Adelphi, London, W.C. Secretary, H. W. Allen, F.C.I.S.

Marconi's Wireless Telegraph Co., Ltd., Watergate House, York-bldgs., Adelphi, London, W.C. Secretary, H. W. Allen, F.C.I.S.

P. Q. Cable Co., 24, Royal Exchange; 2, Mincing-lane; 5, New Bridge-st.; The Baltic & Shipping Exchange; 24, Hop Exchange, E.C.; & 36, Victoria-st., S.W.

Pacific & European Telegraph Co., Ltd., Electra House, Finsbury Pavement, London, E.C. Secretary, F. L. Robinson.

Reuter's Telegram Co., Ltd., 24, Old Jewry, London, E.C. Secretary, W. F. Bradshaw.

River Plate Telegraph Co., Ltd., Electra House, Finsbury Pavement, London, E.C.; & 142, St. Vincent-st., Glasgow. Secretary, E. Steer Hodson.

South American Cable Co., Ltd. Offices: 106, Cannon-st., London, E.C. Secretary, J. Jeffery.

Spanish National Submarine Telegraph Co., Ltd., 98, Cannon-st., London, E.C. Secretary, E. March Webb.

Telegraph & Cable Companies—*continued.*

Submarine Cables Trust, Electra House, Finsbury Pavement, E.C. Secretary, Sidney Collett.

West African Telegraph Co., Ltd., Electra House, Finsbury Pavement, London, E.C. Secretary, Jno. Cambrook; managing director, Sir J. Denison-Pender, Bart., K.C.M.G.

West Coast of America Telegraph Co., Ltd., Electra House, Finsbury Pavement, London, E.C. Secretary, F. L. Robinson.

West India & Panama Telegraph Co., Ltd., Dashwood House, 9, New Broad-st., London, E.C. Secretary & manager, R. T. Brown.

Western Telegraph Co., Ltd., Electra House, Finsbury Pavement, London, E.C. Secretary, E. Steer Hodson.

Western Union Telegraph Co., 21, Royal Exchange, London, E.C. (Telegrams: "Western Union, London;" & "Unpack." Telephone No. 3761, Wall); & Bristol; Bradford; Dundee; Edinburgh; Glasgow; Leith; Liverpool; Manchester; & Newcastle-on-Tyne. Secretary, J. C. Willever.

Telegraph Cable Making Machine Manufacturers.

F.—Machines à fabriquer les Câbles télégraphiques.
G.—Maschinen für Telegraphen-Kabel—Fab.

Johnson & Phillips, Ltd., Victoria Works, Charlton, S.O., Kent; & 12, Union-ct., Old Broad-st., E.C. *See advt. inside back cover.*

LARMUTH, T., & CO., LTD., Salford, Manchester.

Maschinenbauanstalt für Kabelfabrikation, Conrad Felsing, jun., Coepenick, nr. Berlin. *See advt., page* 14.

Vulcan Foundry, Ltd., Newton-le-Willows.

Washington & Co., Ltd., Sowerby Bridge, Yorks. (Telegrams: "Washington, Sowerby Bridge.")

Telegraph Cables—Makers of.

F.—Câbles télégraphiques—Fab.
G.—Telegr. Kabel—Fab.

Armorduct Manufacturing Co., Ltd., Farringdon-ave., London, E.C.; & 44, Blackett-st., Newcastle-on-Tyne. Works: Bathurst Works, Witton, nr. Birmingham. (Telegs.: "Armorduct," London, Newcastle-on-Tyne, Birmingham. Teleph. Nos.: London, 400, Holborn (2 lines); Newcastle-on-Tyne, 2827, Central; Witton Works, 812, East.) *See advt. on top edges.*

BRITISH INSULATED & HELSBY CABLES, LTD. Head office: Prescot, Lancs. Works: Prescot, Helsby & Liverpool. For branch offices, telegraphic & telephonic addresses, *see* ALPHABETICAL ENTRY. *See advt., page* 437.

Telegraph Cables—Makers of—*continued.*

Callender's Cable & Construction Co., Ltd., Hamilton House, Victoria Embankment, London, E.C. *See advt., page* 441.

CONNOLLY BROS., LTD., Blackley Vale Mills, Blackley, Manchester. *See advt., page* 438.

Felten & Guilleaume Lahmeyerwerke Actien Gesellschaft, Mülheim am Rhein. (Lahmeyer Electrical Co., Ltd., agents, Bank-bldgs., 109–111, New Oxford-st., London, W.C.)

Glover, W. T., & Co., Ltd., Trafford Park, Manchester. (Telegs.: "Cables, Manchester." Tel. Central 7200 (6 lines).) London: Parliament Mansions, Orchard-st., S.W. *See* ALPHABETICAL.

HENLEY'S, W. T., TELEGRAPH WORKS CO., LTD. Offices: Blomfield-st., London, E.C. *See advt., page* 22.

INDIA RUBBER, GUTTA PERCHA & TELEGRAPH WORKS COMPANY, LTD. Head offices: 106, Cannon-st, E.C. Warehouses: 100 & 102, Cannon-st., London, E.C.; & 97, boul. Sebastopol, Paris. Works: Silvertown, Essex; & Persan, France. For telegraphic addresses & branches, *see advt. outside of back cover.*

LONDON ELECTRIC WIRE COMPY. & SMITHS, LTD., THE, Playhouse-yard, Golden-lane, London, E.C. *See advt. facing inside back cover.*

NEW GUTTA PERCHA CO., LTD., Dashwood House, New Broad-st., London, E.C. *See advt., page* 400.

Newall, R. S., & Son, Ltd., Hawthorn-rd., Bootle, Liverpool.

Rickard, William, Ltd., Ashbourne-rd. Mills, Derby. (Telegrams: "Rickard, Derby." Telephone No. 18.) *See advt. facing title page.*

SIEMENS BROS. & CO., LTD., Caxton House, Westminster, London, S.W. *See advt., page* 573.

SMITH, FREDERICK, & CO., INCORPORATED IN THE LONDON ELECTRIC WIRE CO. & SMITHS, LTD., Wire Manufacturers, Anaconda Works, Salford, Manchester. Copper wire, hard-drawn H.C. long lengths copper wire, plain soft tinned, & strips for all electrical purposes. Tape & strand for lightning conductors. Silicium bronze wire, "Cog-wheel Brand." Phosphor bronze spring wire, aluminium wire & strip. (Telegs.: "Anaconda, Manchester.") *See advt., page* 747.

Union Cable Co., Ltd., The, Eagle Wharf-rd., London, N. *See advt., page* 4.

Western Electric Co., Norfolk House, Victoria Embankment, London, W.C. Works: North Woolwich. *See advts., pages* 439 *&* 720.

Telegraph Constructors.

F.—Télégraphes—Constructeurs.
G.—Telegr.—Constructeure.

Dixon & Corbitt, & R. S. Newall & Co., Ltd., Rope Works, Gateshead-on-Tyne; & 130, Strand, London, W.C.

Electrical Contracts & Maintenance Co., Ltd., Sanctuary House, Westminster, S.W.

Telegraph Constructors—*continued.*

INDIA RUBBER, GUTTA PERCHA & TELEGRAPH WORKS CO., LTD. Head offices: 106, Cannon-st., E.C. Warehouses: 100 & 102, Cannon-st., London, E.C.; & 97, boul. Sebastopol, Paris. Works: Silvertown, Essex; & Persan, France. For telegraphic addresses & branches, *see advt. outside of back cover.*

REID BROTHERS, 12, Wharf-rd., London, N. (Telegrams: "Supra, London." Telephone No. 12249, Central.) *See advt., page* 571.

Saunders, J. B., & Co., White Mansion, 91, York-st., Westminster, S.W.; & at Cardiff, Brecon, Welshpool, Swindon, Builth, Portmadoc, Barrow-in-Furness, Barnstaple & Isle of Wight.

Siemens Bros. & Co., Ltd., Caxton House, Westminster, London, S.W. *See advt., page* 573.

Telegraph Engineers of Railway Companies (Official).

F.—Télégraphes (Ingenieurs de chemins de fer).
G.—Telegraphenbau Ingenieure für Eisenbahnen.

Andrew, John R., Telegraph Department, London & N.W. Railway Co., Chester.

Burnham, R. H., S. E. & C. Railway, Tonbridge, Kent.

Clement, A. F., N. British Railway, Edinburgh.

Ellison, C. H., M.I.E.E., N. Eastern Rly., York.

Houghton, E. J., M.I.E.E., 23, Woodstock-rd., Croydon.

Ireland, T., Gt. Northern Rly. Co., Retford.

Jackson, H., M.I.E.E., telegraph superintendent, L. & Y. Railway, Glenthorn, Horwich.

Johnson, A. H., London & South-Western Railway, Wimbledon Station, S.W.

Leonard, William, South Eastern & C. Railway Co., Tonbridge, Kent.

Munro, J., Highland Railway, Inverness.

Neale, Geo. A., M.I.E.E., Hull & Barnsley Railway Co., Alexandra Dock, Hull.

Pryce, H. J., North London Railway Co., Bow-road Works, London, E.

Russell, G., Glasgow & S. W. Rly. Co., St. Enoch Station, Glasgow.

Saunders, J. B., & Co., White Mansion, 91, York-st., Westminster, S.W.; & at Cardiff, Brecon, Welshpool, Swindon, Builth, Portmadoc, Barrow-in-Furness, Barnstaple & Isle of Wight.

Sayers, J., M.I.E.E., Midland Railway, Derby.

Stevenson, W., M.I.E.E., Caledonian Railway, Glasgow.

Telegraph Instrument Ink Makers.

F.—Télégraphes—Fab. d'Encre pour instr. de.
G.—Telegr. Instrumenten Tinte—Fab. von.

Walter's Electrical Manufacturing Co., Ltd., 249 & 251, Kensal-rd., W. (P.O. Teleph. No. 653, Western.)

Winstone, B., & Sons, Ltd., 100, Shoe-lane, E.C.

Telegraph Instrument Manufacturers.

F.—Instrumentes télégraphiques—Fab. de.
G.—Telegraphische Instrumente—Fab.

Adnil Electric Co., Ltd., Adnil-bldg., Artillery-lane, London, E.C.

Apps, A., 433, Strand, London, W.C.

BRITISH INSULATED & HELSBY CABLES, LTD. Head office: Prescot, Lancs. Works: Prescot, Helsby & Liverpool. For branch offices, telegraphic & telephonic addresses, *see* ALPHABETICAL ENTRY. *See advt., page* 437.

British L. M. Ericsson Manufacturing Co., Ltd., The, Byron House, 82/85, Fleet-st., London, E.C. Works: Beeston, Notts. *See advt., page* 719.

Bruce, J., & Son, 60, South Castle-st., Liverpool.

Chadburn's (Ship) Telegraph Co., Ltd., Cyprus-rd., Bootle.

Creed & Co., 156, St. Vincent-st., Glasgow.

ELLIOTT BROS., Century Works, Lewisham, London, S.E. (Telegs.: "Ohm, London." Teleph. Nos. 218 & 237, Deptford.)

INDIA RUBBER, GUTTA PERCHA & TELEGRAPH WORKS CO., LTD. Head offices: 106, Cannon-st., E.C. Warehouses: 100 & 102, Cannon-st., London, E.C.; & 97, boul. Sebastopol, Paris. Works: Silvertown, Essex; & Persan, France. For telegraphic addresses & branches, *see advt. outside of back cover.*

Johnson & Phillips, Ltd., Victoria Works, Charlton, S.O., Kent; & 12, Union-ct., Old Broad-st., E.C. *See advt. inside back cover.*

Muirhead & Co., Ltd., Elmers End, Kent. (Telegrams: "Muirheads, Elmers-End;" & "Muirheads, London." Telephone No. 50, Bromley.) *See advt., page* 619.

REID BROTHERS, 12, Wharf-rd., London, N. (Telegrams: "Supra, London." Telephone No. 12249, Central.) *See advt., page* 571.

Richardson & Co., Nelson-st., Stretford-rd., Manchester. (Telegs.: "Fuses, Manchester." Teleph. City 6468, Manchester.)

SIEMENS BROS. & CO., LTD., Caxton House, Westminster, London, S.W. *See advt., page* 573.

SPAGNOLETTI, LTD., Goldhawk Works, Goldhawk-rd., London, W.

Stiff, James, & Sons, Lambeth, London, S.E. (Telegrams: "Stiff, London." Telephone No. 627, Hop.) Stoneware, porcelain & porous ware only. *See advt., page* 10.

Telegraph & Telephone Instruments, Ltd., 25, Victoria-st., S.W.

TYER & CO., LTD., 16, Ashwin-st., Dalston Junction, London, N.E.; & Metcalfe-st., Carlisle.

Walter's Electrical Manufacturing Co., Ltd., 249 & 251, Kensal-rd., London, W. (P.O. Teleph. No. 653, Western.)

Telegraph Iron & Steel Buoy Makers.

F.—Bouées en fer et acier pour la télégraphie.
G.—Bojen für telegraphische Kabel.

Jukes, Coulson, Stokes & Co., 11-12, Clement's-lane, London, E.C.

Telegraph Paper Makers.

F.—Papier télégraphique—Fab. de.

G.—Papier für Telegraphie.

Colley's Patents, Ltd., 3-12, Marine-st., Bermondsey, London, S.E.

Paper Cutting & Toilet Requisite Co., Ltd., 26, Grove Park, Camberwell, London, S.E.

Steen, J., & Co., Ltd., Wolverhampton.

Walter's Electrical Manufacturing Co., Ltd., 249 & 251, Kensal-rd., London, W. (P.O. Teleph. No. 653, Western.)

Waterlow & Sons, Ltd., 27, Great Winchester-street, London, E.C.

Telegraph & Telephone Cable Manufacturers.

(*See* CABLE MANUFACTURERS.)

Telegraph & Telephone Instrument Case Manufacturers.

(*See* CASE MAKERS.)

Telegraph & Telephone Pole Manufacturers (Iron).

F.—Poteaux télég. et téléph. en fer.

G.—Eiserne Telegraph u. Telephon-Pfosten.

Bayliss, Jones & Bayliss, Ltd., Cannon-st.-bldgs., 139, Cannon-st., London, E.C.

BRITISH INSULATED & HELSBY CABLES, LTD. Head office: Prescot, Lancs. Works: Prescot, Helsby & Liverpool. For branch offices, telegraphic & telephonic addresses, *see* ALPHABETICAL ENTRY. *See advt., page* 437.

British L. M. Ericsson Manufacturing Co., Ltd., The, Byron House, 82/85, Fleet-st., London, E.C. Works: Beeston, Notts. *See advt.* OPPOSITE.

Bruce, Alex., & Co., 53, Bothwell-st., Glasgow.

Bullers, Ltd. London office: 6, Laurence Pountney Hill, E.C. Works: Tipton & Hanley. (Telegs.: "Bullers, London." Teleph. Nos. 4907/8, London Wall.) *See advt., page* 15.

FALKIRK IRON CO., Craven House, Kingsway, London, W.C. Works: Falkirk, N.B.

Johnson & Phillips, Ltd., Victoria Works, Charlton, S.O., Kent; & 12, Union-ct., Old Broad-st., E.C. *See advt. inside back cover.*

Millars, Karri & Jarrah Co. (1902), Ltd., 72, Bishopsgate-st. Within, London, E.C.

Moreton & Foster, St. Leonard's Iron Works, Bromley-by-Bow, London, E.

Reid Brothers, 12, Wharf-rd., London, N. (Telegrams: "Supra, London." Telephone No. 12249, Central.) *See advt., page* 571.

Russell, J., & Sons, Ltd., Crown Tube Works, Wednesbury.

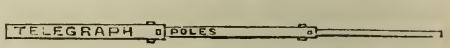
Siemens Bros. & Co., Ltd., Caxton House, Westminster, London, S.W. *See advt., page* 573.

Smith, E., Brunswick Tube Works, Globe-street, Wednesbury.

Telegraph & Telephone Pole Manufacturers (Iron)—*continued.*

Spencer, J. E. & S., 14, Gt. St. Thomas Apostle, E.C.

SPENCER, JOHN, LTD., Globe Tube Works, Wednesbury. (Telegrams: "Tubes, Wednesbury;" "Tubes, London.") Makers of iron & steel telegraph poles of all kinds.



Thomson, D. F., & Co., 20, Victoria-st., Westminster, S.W.

Walter's Electrical Manufacturing Co., Ltd., 249 & 251, Kensal-rd., London, W. (P.O. Teleph. No. 653, Western.)

Telegraph & Telephone Supplies.

F.—Téléphones et Télégraphes—Fournitures pour.

G.—Teleph. & Telegr. Materialen.

Adnil Electric Co., Ltd., Adnil-b'dg., Artillery-lane, London, E.C.

Bullers, Ltd. London office: 6, Laurence Pountney Hill, E.C. Works: Tipton & Hanley. (Telegs.: "Bullers, London." Teleph. Nos. 4907/8, London Wall.) *See advt., page* 15.

Burns, J., Ltd., 189, Central-st., London, E.C. *See advt., page* 738.

Electrical Contracts & Maintenance Co., Ltd., Sanctuary House, Westminster, S.W.

General Electric Co., Ltd. (*G. Byng, chairman*). Head office: 71, Queen Victoria-st., London, E.C. Works: London, Manchester, Birmingham & Witton. For branch offices, telegraphic addresses & telephone numbers, *see* ALPHABETICAL SECTION. *See advts., pages* 446, 707 *& 734.*

GLOVER, F. A., & CO., LTD., Vine-st., Clerkenwell-rd., E.C.

Glover, W. T., & Co., Ltd., Trafford Park, Manchester. (Telegs.: "Cables, Manchester." Tel. Central 7200 (6 lines).) London: Parliament Mansions, Orchard-st., S.W. *See* ALPHABETICAL.

Saunders, J. B., & Co, White Mansion, 91, York-st., Westminster, S.W.; & at Cardiff, Brecon, Welshpool, Swindon, Builth, Portmadoc, Barrow-in-Furness, Barnstaple & Isle of Wight.

Siemens Bros. & Co., Ltd., Caxton House, Westminster, London, S.W. *See advt., page* 573.

SMITH, FREDERICK, & CO., INCORPORATED IN THE LONDON ELECTRIC WIRE CO. & SMITHS, LTD., Wire Manufacturers, Anaconda Works, Salford, Manchester. Copper wire, hard-drawn H.C. long lengths copper wire, plain soft tinned, & strips for all electrical purposes. Tape & strand for lightning conductors. Silicium bronze wire, "Cog-wheel Brand." Phosphor bronze spring wire, aluminium wire & strip. (Telegs.: "Anaconda, Manchester.") *See advt., page* 747.

Telegraph & Telephone Supplies—*contd.*

VULCANITE WORKS, DR. HEINR. TRAUN & SONS, LONDON AGENCY (formerly Harburg Indiarubber C. Co.) (F. Winter, manager), 8, Redcross-st., London, E.C. (Telegrams: "Instantly, London." Telephone No. 3186, Central.) *See* EBONITE & VULCANITE.

Walsall Electrical Co., Ltd., 57, Bridge-st., Walsall. For branches, telegrams & telephone numbers, *see* ALPHABETICAL.

WESTERN ELECTRIC CO., Norfolk House, Victoria Embankment, London, W.C. Works: North Woolwich. *See advts., pages* 439 *&* 720.

Telegraph Works & Stores.

F.—Usines télégraphiques.
G.—Telegraphen-Fabrik u. Laden.

Callender's Cable & Construction Co., Ltd., Hamilton House, Victoria Embankment, E.C. *See advt., page* 441.

FELTEN & GUILLEAUME LAHMEYER-WERKE ACT. GES., MÜLHEIM AM RHEIN. (Lahmeyer Electrical Co., Ltd., agents, Bank-bldgs., 109–111, New Oxford-st., London, W.C.)

INDIA RUBBER, GUTTA PERCHA & TELEGRAPH WORKS CO., LTD. Head offices: 106, Cannon-st., E.C. Warehouses: 100 & 102, Cannon-st., London, E.C.; & 97, boul. Sebastopol, Paris. Works: Silvertown, Essex; & Persan, France. For telegraphic addresses & branches, *see advt. outside of back cover.*

Telegraph Works & Stores—*continued.*

JOHNSON & PHILLIPS, LTD., Victoria Works, Charlton, S.O., Kent; & 12, Union-ct., Old Broad-st., E.C. *See advt. inside back cover.*

Postal Telegraph Factory, Mount Pleasant, Clerkenwell, London, E.C.

Telegraph Construction & Maintenance Co., Ltd., 38, Old Broad-street, London, E.C.

TYER & CO., LTD., 16, Ashwin-st., Dalston Junction, London, N.E.; & Metcalfe-st., Carlisle.

Telegraphy & Electrical Engineering—Courses in.

(*See* SCHOOLS.)

Telephone Apparatus Makers.

F.—Appareils téléphoniques—Fabricants d'.
G.—Telephon-Apparate—Fabrikanten von.

Adnil Electric Co., Ltd., Adnil-bldg., Artillery-lane, London, E.C.

ANTWERP TELEPHONE & ELECTRICAL WORKS, LTD., Antwerp, Belgium. (Telegrams: "Electrical, Anvers.") Sole agents for the United Kingdom, Messrs. W. F. Dennis & Co., Albert-bldgs., 49, Queen Victoria-st., E.C.

AUTOMATIC STANDARD SCREW CO., HALIFAX. (TELEGS.: "STANDARD." TELEPH. NO. 992.)

THE BRITISH L. M. ERICSSON MANUFACTURING CO., Ltd.

Head Office:
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London, E.C.

Works:
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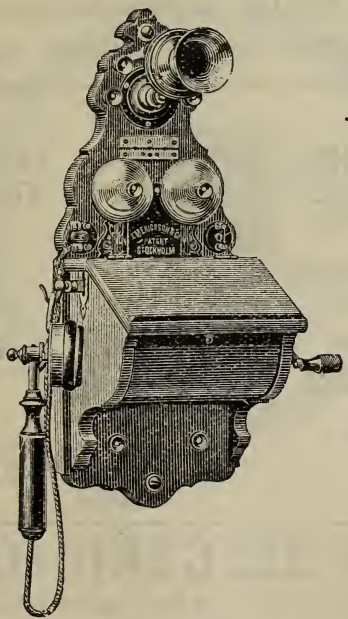

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&c.

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INSTRUMENTS.

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Codes: Western Union,
A.B.C., 5th Edition.

Telephone Apparatus Makers—*continued.*

Braulik, G., 8, Lambeth Hill, London, E.C.

BRITISH INSULATED & HELSBY CABLES, LTD. Head office: Prescot, Lancs. Works: Prescot, Helsby & Liverpool. For branch offices, telegraphic & telephonic addresses, *see* ALPHABETICAL ENTRY. *See advt., page* 437.

British L. M. Ericsson Manufacturing Co., Ltd., The, Byron House, 82/85, Fleet-st., London, E.C. Works: Beeston, Notts. *See advt., page* 719.

Brittan, Thomas, 21, Hermes-st., & 34, Risinghill-st., Pentonville-rd., London, N.

Callender's Cable & Construction Co., Ltd., Hamilton House, Victoria Embankment, London, E.C. *See advt., page* 441.

Cox-Walkers, Ltd., Darlington. *See advt., page* 15.

CROGGON & CO., LTD., 16 & 230, Upper Thames-st., London, E.C.; Colonial-chbrs., Temple-st., Liverpool; & 7, John-st., Glasgow. *See advt., page* 494.

ELECTRIC & ORDNANCE ACCESSORIES CO., LTD., Cheston-rd., Aston, Birmingham. (Telegs.: "Stellite, Birmingham." Teleph. Nos.: Nat. 176 & 179, East; & P.O. 9 (Trunk Calls).) *See page* 134 *for full entry.*

General Electric Co., Ltd. (*G. Byng, chairman*). Head office: 71, Queen Victoria-st., London, E.C. Works: London, Manchester, Birmingham & Witton. For branch offices, telegraphic addresses & telephone numbers, *see* ALPHABETICAL SECTION. *See advts., pages* 446, 707 *& 734.*

GENT & CO., LTD. (Speciality: Secret Telephones), Faraday Works, Leicester; 3A, Upper Thames-st., London; & 67, High Bridge, Newcastle-on-Tyne. (Telegs.: "Lodestone, Leicester;" "Knifeedge, London;" & "Gents, Newcastle." Teleph. Leicester 151; Bank, London 8135; & Newcastle 1135.) *See advts.* OPPOSITE *& page* 451.

INDIA RUBBER, GUTTA PERCHA & TELEGRAPH WORKS CO., LTD. Head offices: 106, Cannon-st., E.C. Warehouses: 100 & 102, Cannon-st., London, E.C.; & 97, boul. Sebastopol, Paris. Works: Silvertown, Essex; & Persan, France. For telegraphic addresses & branches, *see advt. outside of back cover.*

INTERNATIONAL ELECTRIC CO., 111-115, Salusbury-rd., Kilburn, London, N.W. Manufacturers of all kinds of telephones, multiple switchboards & telephone exchange equipment. *See advt., page* 19.

Le Carbone (formerly Lacombe & Co.), MICROPHONE CARBONS & BATTERIES FOR. Works: Levallois-Perret, Paris; 17, Waterlane, E.C. (Telegs.: "Lacombe, London." P.O Teleph. No. 14671, Central.) *See advts., pages* 478 *& 480.*

WESTERN ELECTRIC COMPANY,

Norfolk House, Victoria Embankment, LONDON, W.C.

Works: NORTH WOOLWICH, LONDON, E.

TELEPHONE INSTALLATIONS OF THE **Largest or Smallest Capacity.**

SWITCHBOARDS, BELLS, DRY CELLS.

TELEPHONES for Tramways, Mines, Hotels, etc., etc.

BELL WIRES and ALL ACCESSORIES.

WESTERN ELECTRIC COMPANY.

Telegrams: "RELAY, LONDON." Telephone Nos.: Gerrard, 5349; 2389, Central; & East, 1400.

And at SYDNEY, N.S.W.—163, Pitt Street; and JOHANNESBURG—P.O. Box 1571.

Telephone Apparatus Makers—*continued.*

McMillan, Jas., & Co., Clun House, Surrey-st., Strand, London, W.C.

Marples, Leach & Co. *See* Adnil Electric Co., Ltd.

MUIRHEAD & CO., LTD., Elmers End, Kent. (Telegrams: "Muirheads, Elmers-End;" & "Muirheads, London." Telephone No. 50, Bromley.) *See advt., page* 619.

Paul, Robt. W., Newton-ave. Works, New Southgate, London, N. Show-rooms: 33, Leicester-sq., London, W.C. Apparatus for telephonic measurements. *See* ALPHABETICAL. *See advt., page* 617.

SIEMENS BROS. & CO., LTD., Caxton House, Westminster, London, S.W. *See advt., page* 573.

STERLING TELEPHONE & ELECTRIC CO., LTD., THE, 200, Upper Thames-st., London, E.C. (Telegs.: "Cucumis, London." Teleph. Bank 6089; & Central 12716.) Works: Dagenham, Essex.

SUN ELECTRICAL CO., LTD., 118 & 120, Charing Cross-rd., London, W.C. (Telegs.: "Secabilis, London." Teleph. Nos. 2291 & 2292, Gerrard.) *See advt., page* 596.

Veritys, Ltd., King-st., Covent Garden, London, W.C.; & Birmingham, Manchester, Glasgow, Bristol, &c. *See* ALPHABETICAL SECTION.

Telephone Apparatus Makers—*continued.*

VULCANITE WORKS, DR. HEINR. TRAUN & SONS, LONDON AGENCY (formerly Harburg Indiarubber C. Co.) (F. Winter, manager), 8, Redcross-st., London, E.C. (Telegrams: "Instantly, London." Telephone No. 3186, Central.) All kinds of fittings, in ebonite or vulcanite. *See advts., pages* 486 & 737.

WESTERN ELECTRIC CO., Norfolk House, Victoria Embankment, London, W.C. Works; North Woolwich. *See advts.* OPPOSITE & *page* 439.

Telephone Cables—Makers of.

F.—Cables Téléphoniques—Fab.
G.—Telephon Kabel—Fabr.

Adnil Electric Co., Ltd., Adnil-bldg., Artillery-lane, London, E.C.

Armorduct Manufacturing Co., Ltd., Farringdon-ave., London, E.C.; & 44, Blackett-st., Newcastle-on-Tyne. Works: Bathurst Works, Witton, nr. Birmingham. (Telegs.: "Armorduct," London, Newcastle-on-Tyne, Birmingham. Teleph. Nos.: London, 400, Holborn (2 lines); Newcastle-on-Tyne, 2827, Central; Witton Works, 812, East.) *See advt. on top edges.*

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GENT & Co., LTD., FARADAY WORKS, **LEICESTER.**

3a, Upper Thames St., *London, E.C.* **67, High Bridge, *Newcastle-on-Tyne.***

Telephone Cables—Makers of—*continued.*

BRITISH INSULATED & HELSBY CABLES, LTD. Head office: Prescot, Lancs. Works: Prescot, Helsby & Liverpool. For branch offices, telegraphic & telephonic addresses, *see* ALPHABETICAL ENTRY. *See advt., page* 437.

CONNOLLY BROS., LTD., Blackley Vale Mills, Blackley, Manchester. *See advt., page* 438.

Donovan & Co., 22, Barwick-st., Birmingham.

Felten & Guilleaume Lahmeyerwerke Actien Gesellschaft, Mülheim am Rhein.

Geoffroy & Delore (London manager, A. H. Hunt), 115–117, Cannon-st., London, E.C. (Telegs.: "Keyage, London." Teleph. No. 8114, Bank.)

Glover, W. T., & Co., Ltd., Trafford Park, Manchester. (Telegs.: "Cables, Manchester." Tel. Central 7200 (6 lines).) London: Parliament Mansions, Orchard-st., S.W. *See* ALPHABETICAL.

HAWKINS BROS. & CO., LTD., Hatfield-st. & Basterfield-st., Golden-lane, London, E.C. *See advt., page* 440.

HENLEY'S, W. T., TELEGRAPH WORKS CO., LTD. Offices: Blomfield-st., London, E.C. *See advt., page* 22.

INDIA RUBBER, GUTTA PERCHA & TELEGRAPH WORKS CO., LTD. Head offices: 106, Cannon-st., E.C. Warehouses: 100 & 102, Cannon-st., London, E.C.; & 97, boul. Sebastopol, Paris. Works: Silvertown, Essex; & Persan, France. For telegraphic addresses & branches, *see advt. outside of back cover.*

Johnson & Phillips, Ltd., Electric Cable Works, Charlton, S.O., Kent. Depôts: Glasgow, Newcastle, &c. *See advt. inside back cover.*

LONDON ELECTRIC WIRE COMPY. & SMITHS, LTD., THE, Playhouse-yard, Golden-lane, London, E.C. *See advt. facing inside back cover*

NEW GUTTA PERCHA CO., LTD., Dashwood House, New Broad-st., London, E.C. *See advt., page* 400.

NORTHERN ELECTRIC WIRE CO., SEDBURGH MILLS, HALIFAX. (TELEGRAMS: "CABLES, HALIFAX." TELEPHONE NO. 127.) *See advt., page* 744.

Nussbaum, G. A., St. Martin's House, 29, Ludgate Hill, London, E.C.

O'Gorman & Cozens-Hardy (experts to), 82, Victoria-st., Westminster, S.W.

Pirelli, Ltd., 45, Basinghall-st., London, E.C.

Siemens Bros. & Co., Ltd., Caxton House, Westminster, London S.W. *See advt., page* 573.

Union Cable Co., Ltd., The, Eagle Wharf-rd., London, N. *See advt., page* 4.

WARD & GOLDSTONE, Sampson Works, Salford, Manchester. (Telegs.: "Multum, Manchester." Teleph. Nos. 7084 & 7085, & Trunk line.) *See advt., page* 756.

WESTERN ELECTRIC CO., Norfolk House, Victoria Embankment, London, W.C. Works: North Woolwich. *See advts., pages* 439 *&* 720.

Telephone Companies.

F.—Compagnies de Téléphones.
G.—Telephon-Gesellschaften.

Anglo-Portuguese Telephone Co., Ltd., 31, Budge-row, London, E.C. (Secretary, Fredk. A. Bagnall, F.C.I.S.)

Chili Telephone Co., Ltd. (Edmund Petley, F.C.I.S., secretary), 42, Old Broad-st., London, E.C.

China & Japan Telephone & Electric Co., Ltd., Alderman's House, Alderman's Walk, Bishopsgate, E.C. Secretary, H. A. Hentsch.

Ecuador Telephone Co., Ltd. (Edmund Petley, sec.), 42, Old Broad-street, London, E.C. (Telegrams: "Chiliadal, London." Telephone No. 9343, London Wall.)

Lancashire & Yorkshire Private Telephone Co., Ltd., Branch-ave., Batley; & Trevelyan-bldgs., Manchester.

Monte Video Telephone Co., Ltd., 325, Dashwood House, New Broad-st., London, E.C.

National Telephone Co., Ltd. (Albert Anns secretary). Head office: Telephone House, Victoria Embankment, London, E.C. (Telegrams: "National Telephone, London.")

Oriental Telephone & Electric Co., Ltd., Alderman's House, Alderman's Walk, Bishopsgate, London, E.C.

Peru Telephone Co., Ltd. (Edmund Petley, F.C.I.S., sec.), 42, Old Broad-st., London, E.C.

Spanish Telephone Co., Ltd., 39, Lombard-st., E.C.

Telephone Co. of Egypt, Ltd., Alderman's House, Alderman's Walk, Bishopsgate, E.C. (Telegs.: "Oakenpin, London." Teleph. No. 2188, London Wall.) Sec., John Macleod.

United River Plate Telephone Co., Ltd., 340, Dashwood House, Old Broad-st., London, E.C. Secretary, David Smith.

Venezuela Telephone & Electrical Appliances Co., Ltd., 104, Dashwood House, 9, New Broad-st., London, E.C.

Telephone Exchanges—Equippers of.

F.—Téléphones—Constr. de Bureaux de.
G.—Teleph. Amter-Einrichtungen von.

Adnil Electric Co., Ltd., Adnil-bldg., Artillery-lane, London, E.C.

BRITISH INSULATED & HELSBY CABLES, LTD. Head office: Prescot, Lancs. Works: Prescot, Helsby & Liverpool. For branch offices, telegraphic & telephonic addresses, *see* ALPHABETICAL ENTRY. *See advt., page* 437.

British L. M. Ericsson Manufacturing Co., Ltd., The, Byron House, 82/85, Fleet-st., London, E.C. Works: Beeston, Notts. *See advt., page* 719.

INTERNATIONAL ELECTRIC CO. (H. Oppenheimer, manager), 111–115, Salusbury-rd., Kilburn, London, N.W. *See advt., page* 19.

Saunders, J. B., & Co., White Mansion, 91, York-st., Westminster, S.W.; & at Cardiff, Brecon, Welshpool, Swindon, Builth, Portmadoc, Barrow-in-Furness, Barnstaple & Isle of Wight.

Telephone Exchanges—Equippers of—*continued.*

SIEMENS BROS. & CO., LTD., Caxton House, Westminster, London, S.W. *See advt., page* 573.
WESTERN ELECTRIC CO., Norfolk House, Victoria Embankment, London, W.C. Works: North Woolwich. *See advts., pages* 439 *&* 720.

Telephone & Telegraph Wire Coverers.

(*See* WIRE COVERERS.)

Telephones—Makers of.

F.—Téléphones—Fab. de.
G.—Teleph.—Fab. von.

Adnil Electric Co., Ltd., Adnil-bldg., Artillery-lane, London, E.C.
Bell Telephone & Electric Co., The, Parliament-chbrs., Great Smith-st., Westminster, S.W.
Bonnella, D. H., & Son, 58 & 60, Mortimer-st., W. Works: Kirby-st., Hatton Garden, E.C. (Telegs.: "Boncinello, London." Teleph Gerrard 1882 & 9784.) *See advt., page* 626.
BRITISH INSULATED & HELSBY CABLES, LTD. Head office: Prescot, Lancs. Works: Prescot, Helsby & Liverpool. For branch offices, telegraphic & telephonic addresses, *see* ALPHABETICAL ENTRY. *See advt., page* 437.
British L. M. Ericsson Manufacturing Co., Ltd., The, Byron House, 82/85, Fleet-st., London, E.C. Works: Beeston, Notts. *See advt., page* 719.
British Telephone Supply Co., 17, Bloomsbury-st., Birmingham.
ELECTRIC & ORDNANCE ACCESSORIES CO., LTD., Cheston-rd., Aston, Birmingham. (Telegs.: "Stellite, Birmingham." Teleph. Nos.: Nat. 176 & 179, East; & P.O. 9 (Trunk Calls).) *See page* 134 *for full entry.*
Falk, Stadelmann & Co., Ltd., 83, 85 & 87, Farringdon-rd., London, E.C.; & Glasgow.
General Electric Co., Ltd. (*G. Byng, chairman*). Head office: 71, Queen Victoria-st., London, E.C. Works: London, Manchester, Birmingham & Witton. For branch offices, telegraphic addresses & telephone numbers, *see* ALPHABETICAL SECTION. *See advts., pages* 446, 707 *&* 734.
McGeoch, William, & Co., Ltd., 28, West Campbell-st., Glasgow. (Telegs.: "McGeoch, Glasgow." Teleph. Nos.: Nat. 2181 (4 lines); P.O. 101 & 2.) Sole agents for Scotland for The Sterling Telephone & Electric Co., Ltd., 200, Upper Thames-st., London, E.C. Works: Dagenham, Essex.
Mix & Genest, 55, Red Cross-st., Barbican, E.C.
Northern Telephone Manufacturing Co.

Telephones—Makers of—*continued.*

Nussbaum, G. A., St. Martin's House, 29, Ludgate Hill, London, E.C.
SIEMENS BROS. & CO., LTD., Caxton House, Westminster, London, S.W. Makers of loud-speaking telephones. *See advt., page* 573.
STERLING TELEPHONE & ELECTRIC CO., LTD., THE, 200, Upper Thames-st., London, E.C. (Telegs.: "Cucumis, London." Teleph. Bank 6089; & Central 12716.) Works: Dagenham, Essex.
Thomson-Davis Telephone System, Ltd., 66, Victoria-st., Westminster, S.W.

Testing & Experimental Engineers.

WALKER, W. G., & CO., Emery Hill-st., Victoria-st., Westminster, S.W. (Telegs.: "Walker, Emery Hill Street, London." Teleph. No. 1622, Victoria.) *See advts., pages* 485 *&* 590.

Testing Instrument Makers—Electrical.

F.—Instruments électriques d'essai.
G.—Probierinstrumente für Elektricität.

Adnil Electric Co., Ltd., Adnil-bldg., Artillery-lane, London, E.C.
Apps, A., 433, Strand, London, W.C.
British L. M. Ericsson Manufacturing Co., Ltd., The, Byron House, 82/85, Fleet-st., London, E.C. Works: Beeston, Notts. *See advt., page* 719.
CROMPTON & CO., LTD., Salisbury House, London Wall, London, E.C. Works: Chelmsford. Current & potential indicators, &c. *See advt. inside front cover.*
DORMAN & SMITH, Ordsal Electrical Works, Salford, Manchester. (Telegs.: "Current, Manchester." Teleph. No. 1741, Nat.) Agents—London: Sambidge & Co., 17, Victoria-st., S.W. (Telegs.: "Prefix, London." Teleph. Victoria 530.) Scottish: Andrews & Co., 198A, St. Vincent-st., Glasgow. Birmingham: S. T. Pemberton, Council-chbrs., Colmore-row. Newcastle-on-Tyne: F. T. Hanks, 1, Higham-pl. *See also page* 123 *& advt., page* 21.
Everett, Edgcumbe & Co., Ltd., 117, Victoria-st., S.W.; & Collindale Works, Hendon, London, N.W. Insulation & resistance sets. *See advt., page* 643.
EVERSHED & VIGNOLES, LTD., Acton-lane Works, Chiswick, London, W.
Ferranti Ltd., Hollinwood, Lancs. (Telegs.: "Ferranti, Hollinwood." Teleph. Failsworth 31 & 48); & 78, King-st., Manchester.
Gambrell Bros., Durham House, 23, North Side, Clapham Common, London, S.W.
Geipel, Wm., & Co. (late Geipel & Lange), Vulcan Works, 72A, St. Thomas-st., London, S.E. (Telegs.: "Patella, London." Teleph. Hop 594 (2 lines).) *See advt., page* 19.

Testing Instrument Makers—Electrical —*continued.*

INDIA RUBBER, GUTTA PERCHA & TELEGRAPH WORKS CO., LTD. Head offices: 106, Cannon-st., E.C. Warehouses: 100 & 102, Cannon-st., London, E.C.; & 97, boul. Sebastopol, Paris. Works: Silvertown, Essex; & Persan, France. For telegraphic addresses & branches, *see advt. outside of back cover.*

KELVIN & JAMES WHITE, LTD., 18, Cambridge-st., Glasgow (Telegs.: "Meter, Glasgow." Teleph. P.O., Central 4519; Nat., Douglas 172); & 11, Billiter-st., London, E.C. (Telegs.: "Stormglass, London." Teleph. London Wall 9779.)

NALDER BROS. & CO., 7, Carteret-st., Queen Anne's Gate, Westminster, S.W. (late 16, Red Lion-st., Clerkenwell). (Telegs.: "Secohm, London." Teleph. Gerrard 779.)

PAUL, ROBT. W., Newton-ave. Works, New Southgate, London, N. Show-rooms: 33, Leicester-sq., London, W.C. *See* ALPHABETICAL. *See advt., page* 617.

Siemens Bros. & Co., Ltd., Caxton House, Westminster, London, S.W. *See advt., page* 573.

UNION ELECTRIC CO., LTD., Park-st., Southwark, London, S.E. (Telegs.: "Abeam, London." A.B.C. Code. Teleph. Hop. 2970.) *See advt., page* 563.

Walsall Electrical Co., Ltd., 57, Bridge-st., Walsall. For branches, telegrams & telephone numbers, *see* ALPHABETICAL.

Walter's Electrical Manufacturing Co., Ltd., 249 & 251, Kensal-rd., W. (P.O. Teleph. No. 653, Western.)

Testing Machines for Wire—Makers of.

F.—Machines à essayer les fil—Fab. de.
G.—Probiermaschinen für Draht—Fabr.

GREENWOOD & BATLEY, LIMITED, Albion Works, Leeds; & 16, Great George-street, Westminster, London, S.W. (Telegrams: "Greenwood, Leeds;" & "Outflank, London.") *See advt., page* 20.

Textile Machinery Controlling Apparatus.

Tetley & Co., Falcon Works, Bedford-st., Greengate, Salford.

Theatrical Equipment Specialists.

TETLEY & CO., Falcon Works, Bedford-st., Greengate, Salford.

Thermostats (Electric) & Gas Regulators —Makers of.

F.—Thermostats et Régulateurs électr. de gaz—Fab.
G.—Electr. Wärme & Gas Regulatoren.

Third-Rail Insulators.

DOULTON & CO., LTD., Royal Doulton Potteries, Lambeth, London, S.E.; Burslem, Staffs.; Rowley Regis, Staffs.; St. Helens, Lancs.; Paisley, N.B. Depôts: Birmingham, Liverpool, Manchester & Glasgow. Head office: Lambeth, London, S.E. *See advt., page* 439.

Timber Merchants.

(*See* MAHOGANY, HARDWOOD & TIMBER MERCHANTS.)

Time Balls—Electric.

F.—Indicateurs de temps.
G.—Elektrische Zeitsemaphoren.

Smith & Sons, The Clerkenwell Steam Clock Works, St. John's-sq., London, E.C. Inventions Exhibition, London, 1885. Only medal for above awarded.

Time Check (Electric) Manufacturers.

F.—Instruments pour l'échec du temps.
G.—Zeitzähler—elek—Fabr.

Dey Time Registers, Ltd., 40, Paradise-st., Liverpool; & 100B, Queen Victoria-st., London, E.C.

Gent & Co., Ltd., Faraday Works, Leicester; 3A, Upper Thames-st., London, E.C.; & 67, High Bridge, Newcastle-on-Tyne. (Telegs.: "Lodestone, Leicester;" "Knifeedge, London;" & "Gents, Newcastle." Teleph. Leicester 151; Bank, London 8135; & Newcastle 1135.) *See advts., pages* 451 *&* 721.

Time Limit Relays.

SWITCHGEAR CO., LTD., THE, Wilfred-st., Sherborne-st., Manchester. Time Lag Relays for A. C. or D. C.

Time Switches—Automatic.

Marsh, Son & Co., Ltd., 15, Gerrard-st., London, W. (Telegrams: "Voltmeters, London." Telephone No. 2414, Gerrard.) *See advt., page* 402.

Offord & Co., 97 & 98, Woodcock-st., Birmingham. (Telegs.: "Offord, Woodcock-st., Birmingham." Teleph. No. 2229.)

VENNER & CO., 6, Old Queen-st., Westminster, S.W. Time switches for controlling 2-rate meters, & lighting of streets, signs, staircases, shop windows, servants' quarters, &c. Time switches to do everything—except fail. *See advt., page* 689.

Tin & Lead Foil Manufacturers.

F.—Feuilles d'étain et de plomb—Fab. de.
G.—Zinn und Bleiblätter—Fab.

Bousquet, I., & Co., 28, Barbican, London, E.C.

Grey & Marten, Ltd., Southwark Bridge, London, S.E. (Telegrams: "Amalgam, London." Telephone No. 750, Hop.)

Grosvenor, Henry, 6, Golden-lane, London, E.C.

Tin & Lead Foil Manufacturers—*continued.*

Quirk, Barton & Co., 102, Bishopsgate-st. Within, E.C.

Woollacott & Friederich, 5 & 4, Brickhill-lane, Upper Thames-st., London, E.C.

Tin Merchants.

F.—Marchands—étain.
G.—Zinn-Händler.

Braby, Frederick, & Co., Ltd., Fitzroy Works, 352-364, Euston-rd., London, N.W. For branches, telegraphic addresses & telephone numbers, *see* ALPHABETICAL ENTRY.

Grey & Marten, Ltd., Southwark Bridge, London, S.E. (Telegrams: "Amalgam, London." Telephone No. 750, Hop.)

Tin Wire Drawers.

F.—Etirage du fil d'étain.
G.—Zinndrahtfabrik.

ORMISTON, P., & SONS, 79, Clerkenwell-rd., E.C. (Teleph. No. 13259, Central.) Tin wire drawers for fuses. *See advt., page* 601.

SMITH, FREDERICK, & CO., INCORPORATED IN THE LONDON ELECTRIC WIRE CO. & SMITHS, LTD., Wire Manufacturers, Anaconda works, Salford, Manchester. Copper wire, hard-drawn H.C. long lengths copper wire, plain soft tinned, & strips for all electrical purposes. Tape & strand for lightning conductors. Silicium bronze wire, "Cog-wheel Brand." Phosphor bronze spring wire, aluminium wire & strip. (Telegs.: "Anaconda, Manchester.") *See advt., page* 747.

Tool Manufacturers & Merchants.

F.—Outils—Fab. et Marchands.
G.—Werkzeuge—Fabr. u. Händler.

Brooke Tool Manufacturing Co., Ltd., 179-181, Belgrave-rd., Birmingham.

Contractors' Supply & Equipment Co., 12, Cherry-st., Birmingham.

Watlington & Co., Moorgate Station-chbrs., London, E.C.; & Trafford Park, Manchester.

Willcox, W. H., & Co., Ltd. Office: 23, Southwark-st. Warehouse: 32, 34 & 36, Southwark-st., London, S.E. Works: Castle-st. (Telegs.: "Willcox, Southwark-st., London." Teleph. Hop 3740 & 3741.) *See advt. facing inside front cover.*

Torpedo Manufacturers.

F.—Torpilles—Fab. de.
G.—Torpedo-Fabriken.

INDIA RUBBER, GUTTA PERCHA & TELEGRAPH WORKS CO., LTD. Head offices: 106, Cannon-st., E.C. Warehouses: 100 & 102, Cannon-st., London, E.C.; & 97, boul. Sebastopol, Paris. Works: Silvertown, Essex; & Persan, France. For telegraphic addresses & branches, *see advt. outside of back cover.*

Torpedo Manufacturers—*continued.*

Siemens Bros. & Co., Ltd., Caxton House, Westminster, London, S.W. Submarine Mines. *See advt., page* 573.

Whitehead Torpedo Works (Weymouth), Ltd., Weymouth, Dorset.

Traction Engineers—Electric.

F.—Traction électr.—Ingénieurs de.
G.—Electr. Zugapparate—Ingenieure von.

Bailie, J. D., Messrs. C. A. Parsons & Co., Prudential-bldgs., Park-row, Leeds. (Telegs.: "Turbo, Leeds." Teleph. No. 1194.)

BELLISS & MORCOM LTD., Ledsam-st. Works, Birmingham. London office: 8, Victoria-st., S.W. (Telegs.: "Belliss, Birmingham." Tel. Nos. 4480 & 4481.) *See advt., page* 533.

BLACKWELL, ROBERT W., & CO., LTD., 14, Gt. Smith-st., S.W. (Telegs.: "Kurkee, London." Teleph. Nos. 766 & 767, Westminster.)

BRECKNELL, MUNRO & ROGERS, LTD., Thrissell-st. & Lawrence Hill, Bristol; & Finsbury Pavement House, London, E.C.

British Electric Traction Co., Ltd., Electrical Federation Offices, Kingsway, London, W.C.

British Thomson-Houston Co., Ltd. Head office & works: Rugby. Registered office: 83, Cannon-st., London, E.C. Branch offices: 91, Wellington-st., Glasgow; 41, Church-st., Sheffield; Collingwood-bldgs., Newcastle-on-Tyne; Star Life-bldgs., 30, Cross-st., Manchester; Maritime-bldgs., Middlesbrough; 115, Colmore-row, Birmingham; & Greek-st.-chbrs., Leeds. (Telegs.: "Asteroidal." Teleph. Nos.: Head office, Rugby 54 & 55; London office, London Wall 135 (4 lines).)

British Westinghouse Electric & Manufacturing Co., Ltd., The, Westinghouse Works, Trafford Park, Manchester.

DICK, KERR & CO., LTD. Head offices: Abchurch-yard, Cannon-st., London, E.C. For branch offices, telegrams & telephone numbers, *see* ALPHABETICAL.

Down, Fred. J., Harpenden, Herts.; & 6, 7 & 8, Crutched Friars, London, E.C. A founder, 1883, of Laing, Wharton & Down.

Eck, Justus, M.A. (Cantab.), M.I.E.E., 53-57, Park-st., Southwark, S.E.

ELECTRICAL POWER STORAGE CO., LTD., SOLE MANUFACTURERS OF THE CELEBRATED E.P.S. STORAGE BATTERIES. HEAD OFFICE: 4, GREAT WINCHESTER-ST., E.C. WORKS: MILLWALL, LONDON, E. Storage battery makers by Royal Warrant to His Majesty the King. (TELEGS.: "STORAGE, LONDON." TELEPH. LONDON WALL 1253.) *See advt., page* 427.

Elieson, C. P., 24, St. Mary Abbot's-ter., Kensington, London, W.

Foote & Milne, Ltd., 66, Victoria-st., London, S.W. (Telegrams: "Pedetentim, London." Telephone No. 352, Westminster.)

Traction Engineers—Electric—*continued.*

Hird, M., G. B. Surface Contact Co., Hamilton House, Bishopsgate-st. Without, E.C.

LANCASHIRE DYNAMO & MOTOR CO., LTD. Offices & works: Trafford Park, Manchester; 87, Union-st., Glasgow; Northumberland-st., Newcastle-on-Tyne; 28, Victoria-st., London, S.W.; St. Mary-st., Cardiff; & 3, New-st., Birmingham. *See advt., page* 729.

MATHER & PLATT, LD., Salford Iron Works, Manchester; & Queen Anne's-chbrs., Westminster, London, S.W. (Telegrams: "Mather, Manchester;" "Sprinkler, London." Nat. Telephone Nos.: 5781, 5782 & 5783, Manchester; & 851 & 852, Westminster.)

Miller, T. L., Wilson & Pegg, 19, Brazennose-st., Manchester; 709, Tower-bldgs, Water-st., Liverpool; & 47 & 48, Scottish Temperance Insurance-bldgs., Donegall-sq., Belfast.

Power & Traction, Ltd., 79, Palace-chbrs., Westminster, S.W.

Reid Brothers, 12, Wharf-rd., London, N. (Telegrams: "Supra, London." Telephone No. 12249, Central.) *See advt., page* 571.

Salter, A. J., Suffolk House, Laurence Pountney Hill, E.C.

Swinburne, James, 82, Victoria-st., S.W. (Telegs.: "Swooper, London." Teleph. Westminster 292; & Oxted 10.)

Swinburne, O'Gorman & Baillie, 82, Victoria-st., London, S.W.

Traction Generators.

CROMPTON & CO., LTD., Salisbury House, London Wall, London, E.C.; & Chelmsford. *See advt. inside front cover.*

Trade Marks.

(*See* SPECIALITIES—ELECTRICAL, & TRADE MARKS.)

Trailing Cable Makers.

Glover, W. T., & Co., Ltd., Trafford Park, Manchester. (Telegs.: "Cables, Manchester." Tel. Central 7200 (6 lines).) London: Parliament Mansions, Orchard-st., S.W. *See* ALPHABETICAL.

Train Signalling Apparatus—Makers of.

F.—Signaller les Chemins de fer—Fab. d'appareils pour.

G.—Eisenbahn Signale—Fab. von.

BRECKNELL, MUNRO & ROGERS, LTD., Thrissell-st. & Lawrence Hill, Bristol; & Finsbury Pavement House, London, E.C.

SIEMENS BROS. & CO., LTD., Caxton House, Westminster, London, S.W. *See advt., page* 573.

SPAGNOLETTI, LTD., Goldhawk Works, Goldhawk-rd., London, W.

Tramcar Engines (Electric)—Makers of.

F.—Tramways—Fab. de machines élect. pour.

G.—Strassenwagen Maschinen (Electr.)—Fab. von.

BELLISS & MORCOM LTD., Ledsam-st. Works, Birmingham. London office: 8, Victoria-st., S.W. (Telegs.: "Belliss, Birmingham." Tel. Nos. 4480 & 4481.) *See advt., page* 533.

NEWTONS LTD., Taunton. (Telegrams: "Arc, Taunton." Telephone No. 9.)

Tramcars.

F.—Voitures de tramways.

G.—Strassenbahn—Wagen.

BRUSH ELECTRICAL ENGINEERING CO., LTD., THE. London office: Electrical Federation Offices, Kingsway, W.C. Works: Loughborough, Leicestershire. *See* ALPHABETICAL.

DICK, KERR & CO., LTD. Head offices: Abchurch-yard, Cannon-st., London, E.C. For branch offices, telegrams & telephone numbers, *see* ALPHABETICAL.

Hurst, Nelson & Co., Ltd., The Glasgow Rolling Stock & Plant Works, Motherwell. London office: 14, Leadenhall-st., E.C. Manchester office: Northern office, Northern Assurance-bldgs., Albert-sq.; Chatsworth Wagon Works, nr. Chesterfield; & at Bridgend Wagon Works, Bridgend, Glamorganshire.

Midland Railway Carriage & Wagon Co., Ltd., Midland Works, Birmingham; Abbey Works, Shrewsbury; & 5, Laurence Pountney Hill, London, E.C.

Tramway Equipment.

TURNERS & MANVILLE, LTD., 5, Lloyd's-ave., E.C. (Telegs.: "Vulbeston, London." Teleph. Avenue 1458.)

Tramway "Lay-Outs."

Hadfield's Steel Foundry Co., Ltd., East Hecla Works, Sheffield; & Norfolk House, Laurence Pountney Hill, London, E.C.

Tramway Systems—Electric.

(*See* RAILWAYS & TRAMWAYS—ELECTRIC.)

F.—Systèmes de Tramways électriques.

G.—Elektrische Strassenbahnsysteme.

British Westinghouse Electric & Manufacturing Co., Ltd., The, Westinghouse Works, Trafford Park, Manchester.

DICK, KERR & CO., LTD. Head offices: Abchurch-yard, Cannon-st., London, E.C. For branch offices, telegrams & telephone numbers, *see* ALPHABETICAL.

Down, Fred. J., Harpenden, Herts.; & 6, 7 & 8, Crutched Friars, London, E.C. A founder, 1883, of Laing, Wharton & Down.

TURNERS & MANVILLE, LTD. (Equipment), 5, Lloyd's-ave., E.C. (Telegs.: "Vulbeston, London." Teleph. Avenue 1458.)

Tramways—Electric.

(*See* RAILWAYS & TRAMWAYS—ELECTRIC.)

Tramways (Electric)—Makers of & Contractors for.

F.—Tramways élec.—Fab. et entrepr. de.
G.—Elek. Strassenbahnen.—Fabr. u. Unternehm.

BRECKNELL, MUNRO & ROGERS, LTD., Thrissell-st. & Lawrence Hill, Bristol; & Finsbury Pavement House, London, E.C.

BRITISH INSULATED & HELSBY CABLES, LTD. Head office: Prescot, Lancs. Works: Prescot, Helsby & Liverpool. For branch offices, telegraphic & telephonic addresses, *see* ALPHABETICAL ENTRY. *See advt., page* 437.

British Thomson-Houston Co., Ltd. Head office & works: Rugby. Registered office: 83, Cannon-st., London, E.C. Branch offices: 91, Wellington - st., Glasgow; 41, Church - st., Sheffield; Collingwood-bldgs., Newcastle-on-Tyne; Star Life-bldgs., 30, Cross-st., Manchester; Maritime-bldgs., Middlesbrough; 115, Colmore-row, Birmingham; & Greek-st.-chbrs., Leeds. (Telegs.: "Asteroidal." Teleph. Nos.: Head office, Rugby 54 & 55; London office, London Wall 135 (4 lines).)

British Westinghouse Electric & Manufacturing Co., Ltd., The, Westinghouse Works, Trafford Park, Manchester.

Broughton Copper Co., Ltd., Broughton Copper Works, Manchester.

BRUSH ELECTRICAL ENGINEERING CO., LTD., THE. London office: Electrical Federation Offices, Kingsway, W.C. Works: Loughborough, Leicestershire. *See* ALPHABETICAL.

Callender's Cable & Construction Co., Ltd., Hamilton House, Victoria Embankment, London, E.C. *See advt., page* 441.

CHLORIDE ELECTRICAL STORAGE CO., LTD., Pendlebury, Manchester; & 39, Victoria-st., Westminster. For telegraphic addresses & telephone numbers, *see* ALPHABETICAL ENTRY. *See advt., page* 404.

CROMPTON & CO., LTD., Salisbury House, London Wall, E.C.; & Chelmsford. Tramways fitted complete. *See advt. inside front cover.*

Cumberland Construction Co., Ltd., 13, Springgdns., Manchester.

DICK, KERR & CO., LTD. Head offices: Abchurch-yard, Cannon-st., London, E.C. For branch offices, telegrams & telephone numbers, *see* ALPHABETICAL.

Dutilh-Smith, McMillan & Co., 29, Great St. Helens, E.C.

Estler Bros., 3, Cross-lane, E.C. Works: South Molton-rd., Victoria Docks, E.

Finnegan, R., East Park, Northampton.

FULLER ELECTRICAL & MANUFACTURING CO., Norfolk House, Laurence Pountney Hill, E.C. (Motors for). (Telegs.: "Fullmage, London." Teleph. No. 3186, London Wall.) *See advt., page* 481.

Tramways (Electric)—Makers of & Contractors for—*continued.*

"G. B." (Griffiths Bedell) Surface Contact Co., Hamilton House, Bishopsgate-st. Without, E.C.

Hadfield's Steel Foundry Co., Ltd., East Hecla Works, Sheffield; & Norfolk House, Laurence Pountney Hill, London, E.C.

Imperial Tramways Co., Ltd., Clare-st. House, Bristol.

LAHMEYER ELECTRICAL CO., LTD., 109–111, New Oxford-st., W.C. (Telegs.: "Drehstrom, London." Teleph. Nos. 133 & 134, Gerrard.)

LANCASHIRE DYNAMO & MOTOR CO., LTD. Offices & works: Trafford Park, Manchester; 28, Victoria-st., London, S.W.; 87, Union-st., Glasgow; Northumberland-st., Newcastle-on-Tyne; St. Mary-st., Cardiff; & 3, New-st., Birmingham. *See advt., page* 729.

MATHER & PLATT, LD., Salford Iron Works, Manchester; & Queen Anne's-chbrs., Westminster, S.W. (Telegrams: "Mather, Manchester;" "Sprinkler, London." Nat. Telephone Nos.: 5781, 5782 & 5783, Manchester; & 851 & 852, Westminster.)

Siemens Bros. Dynamo Works, Ltd., Caxton House, Westminster, London, S.W.

Thermit, Ltd., 27, Martin's-lane, Cannon-st., London, E.C.

Tudor Accumulator Co., Ltd., 119, Victoria-st., S.W. (Telegrams: "Subconical, London.") Works at Dukinfield, nr. Manchester. *See advt., page* 407.

YUILLE, WM. C., & CO., 60, Brown-st., Glasgow.

Transformer Oil Manufacturers.

Grindley & Co., Ltd., Poplar, London, E.

Transformers—Makers of.

F.—Transformeurs—Fab. de.
G.—Transformatoren—Fab. von.

Adnil Electric Co., Ltd., Adnil-bldg., Artillery-lane, London, E.C.

ARC LAMPS, LTD. (Davy Arc Lamps). Works: Sphere Engineering Works, St. Albans, Herts. (Telegs.: "Voltarcon, St. Albans." Teleph. No. 258, St. Albans.) *See advts., pages* 417 & 418.

Bailie, J. D., Messrs. C. A. Parsons & Co., Prudential-bldgs., Park - row, Leeds. (Telegs.: "Turbo, Leeds." Teleph. No. 1194.)

British Thomson-Houston Co., Ltd. Head office & works: Rugby. Registered office: 83, Cannon-st., London, E.C. Branch offices: 91, Wellington - st., Glasgow; 41, Church - st., Sheffield; Collingwood-bldgs., Newcastle-on-Tyne; Star Life-bldgs., 30, Cross-st., Manchester; Maritime-bldgs., Middlesbrough; 115, Colmore-row, Birmingham; & Greek-st.-chbrs., Leeds. (Telegs.: "Asteroidal." Teleph. Nos.: Head office, Rugby 54 & 55; London office, London Wall 135 (4 lines).)

Transformers—Makers of—*continued.*

British Westinghouse Electric & Manufacturing Co., Ltd., The, Westinghouse Works, Trafford Park, Manchester.

BRUSH ELECTRICAL ENGINEERING CO., LTD., THE. London office: Electrical Federation Offices, Kingsway, W.C. Works: Loughborough, Leicestershire. *See* ALPHABETICAL.

BURNAND, W. E., & CO., Chippinghouse Works, Lowfields, Sheffield. (Teleph. No. 16, Sharrow.)

Callender's Cable & Construction Co., Ltd., Hamilton House, Victoria Embankment, E.C. *See advt., page* 441.

Electric Construction Co., Ltd., Wolverhampton. Head office: Dashwood House, 9, New Broad-st., E.C.

Ferranti Ltd., Hollinwood, Lancs. (Telegs.: "Ferranti, Hollinwood." Teleph. Failsworth 31 & 48); & 78, King-st., Manchester.

FULLER ELECTRICAL & MANUFACTURING CO., Norfolk House, Laurence Pountney Hill, E.C. (Telegs.: "Fullmage, London." Teleph. No. 3186, London Wall.) Single, 3-phase & rotary. *See advt., page* 481.

GREVENER, J. & H., Eldon-st. House, Eldon-st., London, E.C.

Home & Rowland, Troughton-rd., Charlton, London, S.E.

Johnson & Phillips, Ltd., Victoria Works, Charlton, S.O., Kent; & 12, Union-ct., Old Broad-st., E.C. *See advt. inside back cover.*

LAHMEYER ELECTRICAL CO., LTD., 109–111, New Oxford-st., London, W.C. (Telegs.: "Drehstrom, London." Teleph. Nos. 133 & 134, Gerrard.)

Miller, Leslie, A.M.I.E.E., 66, Hatton Garden, London, E.C. High tension & Tesla Transformers a Speciality.

Morris & Lister, Ltd., Carlton Works, Lockhurst-lane, Coventry.

NEVILLE, WILLIAMS & CO., 80A, Southwark-st., London, S.E. Makers of "Ensign" Transformers.

Siemens Bros. Dynamo Works, Ltd., Caxton House, Westminster, London, S.W.

Transmission of Power—Electric.

F.—Transmission de la force—électrique.

G.—Gesellschaften für elektrische Uebertragung der Kraft.

Acme Motor & Traction Co., 72, Finsbury-pavement, E.C. Works: The Ham, Brentford.

Apps, A., 433, Strand, London, W.C.

BELLISS & MORCOM LTD., Ledsam-st. Works, Birmingham. London office: 8, Victoria-st., S.W. (Telegs.: "Belliss, Birmingham." Tel Nos. 4480 & 4481.) *See advt., page* 533.

BLACKWELL, ROBERT W., & CO., LTD., 14, Gt. Smith-st., S.W. (Telegs.: "Kurkee, London." Teleph. Nos. 766 & 767, Westminster.)

Transmission of Power—Electric—*continued.*

British Thomson-Houston Co., Ltd. Head office & works: Rugby. Registered office: 83, Cannon-st., London, E.C. Branch offices: 91, Wellington-st., Glasgow; 41, Church-st., Sheffield; Collingwood-bldgs., Newcastle-on-Tyne; Star Life-bldgs., 30, Cross-st., Manchester; Maritime-bldgs., Middlesbrough; 115, Colmore-row, Birmingham; & Greek-st.-chbrs., Leeds. (Telegs.: "Asteroidal." Teleph. Nos.: Head office, Rugby 54 & 55; London office, London Wall 135 (4 lines).)

British Westinghouse Electric & Manufacturing Co., Ltd., The, Westinghouse Works, Trafford Park, Manchester.

Callender's Cable & Construction Co., Ltd., Hamilton House, Victoria Embankment, London, E.C. *See advt., page* 441.

CHLORIDE ELECTRICAL STORAGE CO., LTD., Pendlebury, Manchester; & 39, Victoria-st., Westminster. For telegraphic addresses & telephone numbers, *see* ALPHABETICAL ENTRY. *See advt., page* 404.

CHRISTY BROS. & CO., LTD., Broomfield-rd. Works, Chelmsford. (Telegs.: "Engineering, Chelmsford." Teleph. No. 8.)

CLARKE, CHAPMAN & CO., LTD., Victoria Works, Gateshead-on-Tyne. (Telegrams: "Cyclops, Gateshead.")

CORLETT ELECTRICAL ENGINEERING CO., LTD., Wilcock-st., Wigan.

CROMPTON & CO., LTD., Salisbury House, London Wall, London, E.C. Works: Chelmsford. Electro motors, &c., for the transmission of power. *See advt. inside front cover.*

DAVEY, PAXMAN & CO., LTD., Standard Iron Works, Colchester; & 78, Queen Victoria-st., London, E.C. (Telegrams: "Paxman, Colchester;" "Paxman, London." Telephone No. 52, Colchester.) *See advt., page* 531.

DICK, KERR & CO., LTD. Head offices: Abchurch-yard, Cannon-st., London, E.C. For branch offices, telegrams & telephone numbers, *see* ALPHABETICAL.

Drake & Gorham, Ltd., 66, Victoria-st., Westminster, London, S.W. Works: 1, Felix-st., S.E. For branches, telegrams & telephone numbers, *see* ALPHABETICAL. *See advt., page* 459.

Electric Construction Co., Ltd., Wolverhampton. Head office: Dashwood House, 9, New Broad-st., E.C.

Foote & Milne, Ltd., 66, Victoria-st., London, S.W. (Telegrams: "Pedetentim, London." Telephone No. 352, Westminster.)

Gifkins, A. V., & Co., 68, Victoria-st., Westminster, S.W.

GLOVER, F. A., & CO., LTD., Vine-st., Clerkenwell-rd., E.C.

Glover, W. T., & Co., Ltd., Trafford Park, Manchester. (Telegs.: "Cables, Manchester." Tel. Central 7200 (6 lines).) London: Parliament Mansions, Orchard-st., S.W. *See* ALPHABETICAL.

THE LANCASHIRE DYNAMO AND MOTOR CO., LTD.

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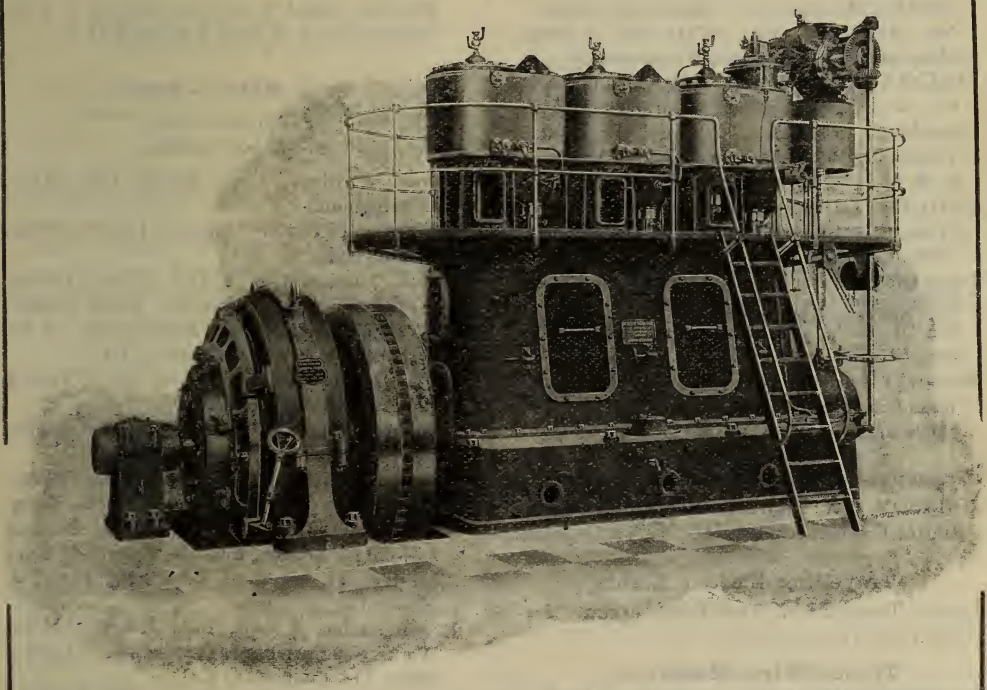

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REGISTERED OFFICE & WORKS - TRAFFORD PARK, MANCHESTER.
Telegrams: "IRONCLAD, MANCHESTER." Teleph. Nos. 6430, 6431 & 6432, Central.

LONDON - - VICTORIA MANSIONS, 28, VICTORIA STREET, S.W.
Telegrams: "UMFORMER, LONDON." Nat. Teleph. No. 839, Westminster.

GLASGOW - - - - CALEDONIAN CHBRS., 87, UNION STREET.
Telegrams: "IRONCLAD, GLASGOW." Nat. Teleph. No. 1404, Royal.

NEWCASTLE - STAR BUILDINGS, NORTHUMBERLAND STREET.
Telegrams: "IRONCLAD, NEWCASTLE." Teleph. No. 1923.

CARDIFF - - - - PRUDENTIAL BUILDINGS, ST. MARY STREET.
Telegrams: "DYNAMO, CARDIFF." Nat. Teleph. No. 1024.

BIRMINGHAM - - - - MIDLAND BUILDINGS, 3, NEW STREET.
Telegs.: "GENERATOR, BIRMINGHAM." Teleph. No. 4406, Central.

For telegraphic addresses & telephone numbers, see Alphabetical Section.

Transmission of Power—Electric—*continued.*

Hartnell, Wilson, & Co., Ltd., Volt Works, Kirkstall-rd., Leeds.

HOLMES, J. H., & CO., Portland-rd., Newcastle-on-Tyne; also at 17, Soho-sq., London, W.; Examiner-bldgs., Strutt-st., Manchester; & 19, Waterloo-st., Glasgow.

INDIA RUBBER, GUTTA PERCHA & TELEGRAPH WORKS CO., LTD. Head offices: 106, Cannon-st., E.C. Warehouses: 100 & 102, Cannon-st., London, E.C.; & 97, boul. Sebastopol, Paris. Works: Silvertown, Essex; & Persan, France. For telegraphic addresses & branches, *see advt. outside of back cover.*

Johnson & Phillips, Ltd., Victoria Works, Charlton, S.O., Kent; & 12, Union-ct., Old Broad-st., E.C. *See advt. inside back cover.*

MATHER & PLATT, LD., Salford Iron Works, Manchester; & Queen Anne's-chbrs., Westminster, London, S.W. (Telegrams: "Mather, Manchester;" "Sprinkler, London." Nat. Telephone Nos.: 5781, 5782 & 5783, Manchester; & 851 & 852, Westminster.)

PHŒNIX DYNAMO MANUFACTURING CO., LTD. Head offices: Thornbury Works, Bradford. (Telegs.: "Dynamo, Bradford." Teleph. No. 952.) London office: 17, Victoria-st., S.W.

REID BROTHERS, 12, Wharf-rd., London, N. (Telegs.: "Supra, London." Teleph. No. 12249, Central.) *See advt., page* 571.

Tudor Accumulator Co., Ltd., 119, Victoria-st., London, S.W. (Telegrams: "Subconical, London.") Works at Dukinfield, nr. Manchester. *See advt., page* 107.

Walsall Electrical Co., Ltd., 57, Bridge-st., Walsall. For branches, telegrams & telephone numbers, *see* ALPHABETICAL.

Transparent Fused Silica Apparatus.

JOHNSON, MATTHEY & CO., LTD., 74–81, Hatton Garden, London, E.C.

Travelling Electric Lights.

Laurie, Thos., & Co., West End, Falkirk. *See advt., page* 19.

Trolley Wire—Makers of.

BRITISH INSULATED & HELSBY CABLES, LTD. Head office: Prescot, Lancs. Works: Prescot, Helsby & Liverpool. For branch offices, telegraphic & telephonic addresses, *see* ALPHABETICAL ENTRY. *See advt., page* 437.

Felten & Guilleaume Lahmeyerwerke Actien Gesellschaft, Mülheim am Rhein. (Lahmeyer Electrical Co., Ltd., agents, 109–111, New Oxford-st., London, W.C.)

Troughing, Dussek Bitumen.

British Electrical Trade Supply & Bitumen Co., The. Offices & works: Canal Bank, Trundley-rd., Deptford, S.E. (Telegs.: "Trinidite, London." Teleph. No. 794, Deptford.)

Troughs, Asphalt.

HOWARD ASPHALT TROUGHING CO., LTD., THE, Trafford Park, Manchester.

Tube Expanders.

F.—Tubes—Expansion de.
G.—Röhren Erweiterer.

Wilkes, J., Sons & Mapplebeck, Ltd., 9, New Broad-st., London, E.C.; & Liverpool-st., Birmingham.

Willcox, W. H., & Co., Ltd. Office: 23, Southwark-st. Warehouse: 32, 34 & 36, Southwark-st., London, S.E. Works: Castle-st. (Telegs.: "Willcox, Southwark-st., London." Teleph. Hop 3740 & 3741.) *See advt. facing inside front cover.*

Tube Makers—Aluminium.

Bolton, Thomas, & Sons, Ltd., Mersey Copper Works, Widnes; Oakamoor, North Staffs.; Broad-st. Metal Works, Birmingham; & 88, Bishopsgate-st. Within, London, E.C.

Tube Makers—Brass.

F.—Tubes—Laiton.
G.—Röhren—Messing.

Benton & Stone, Aston Brook Tube Mills, Birmingham.

Birmingham & Battery Metal Co., Ltd., Selly Oak, Birmingham.

Bolton, Thomas, & Sons, Ltd., Mersey Copper Works, Widnes; Oakamoor, North Staffs.; Broad-st. Metal Works, Birmingham; & 88, Bishopsgate-st. Within, London, E.C.

Booth, James, & Co., Ltd., Sheepcote-st. Tube & Rolling Mills, Birmingham.

Broughton Copper Co., Ltd., Broughton Copper Works, Manchester.

Elliott's Metal Co., Ltd., Selly Oak Works, Birmingham; Pembrey Copper Works, Burry Port, R.S.O., Llanelly, South Wales; Leadenhall-bldgs., London, E.C.; 14, Brown-st., Manchester; 11, Irwell-st., Liverpool; Paris; & Newcastle.

Everitt, Allen, & Sons, Ltd., Kingston Metal Works, Smethwick, nr. Birmingham. London office: 118, Cannon-st., E.C.

Grice, Grice & Son, Ltd., Nile-st., Birmingham.

Hudson, Edmunds & Co., Ltd., Sheepcote-st., Birmingham.

Smith & Sons, 42, 44, 46, 47, 50 & 52, St. John's-sq., London, E.C.

Spencer, J. E. & S., 14, Great St. Thomas Apostle, Cannon-st., London, E.C.

United Flexible Metallic Tubing Co., Ltd., 112, Queen Victoria-st., London, E.C.

Willcox, W. H., & Co., Ltd. Office: 23, Southwark-st. Warehouse: 32, 34 & 36, Southwark-st., London, S.E. Works: Castle-st. (Telegs.: "Willcox, Southwark-st., London." Teleph. Hop 3740 & 3741.) *See advt. facing inside front cover.*

Tube Makers—Copper.

F.—Tubes—Cuivre.
G.—Röhren—Kupfer.

Barwell, C. J. W., Norton-st., Hockley, Birmingham.
Bolton, Thomas, & Sons, Ltd., Mersey Copper Works, Widnes; Oakamoor, North Staffs.; Broad-st. Metal Works, Birmingham; & 88, Bishopsgate-st. Within, London, E.C.
Broughton Copper Co., Ltd., Broughton Copper Works, Manchester.
Smith & Sons, 42, 44, 46, 47, 50 & 52, St. John's-sq., London, E.C.
Willcox, W. H., & Co., Ltd. Office: 23, Southwark-st. Warehouse: 32, 34 & 36, Southwark-st., London, S.E. Works: Castle-st. (Telegs.: "Willcox, Southwark-st., London." Teleph. Hop 3740 & 3741.) *See advt. facing inside front cover.*

Tube Makers—Ebonite, Vulcanite & Vulcanized Fibre.

F.—Tubes—Ebonite Vulcanite, et fibre Vulcanisé.
G.—Röhren—Ebonite Vulcanit u. Vulcanfieber.

BURNS, J., LTD., 189, Central-st., London, E.C. *See advt., page* 738.
MOSSES & MITCHELL, 122 & 124, Golden-lane, London, E.C. (Telegs.: "Insulator, London.") Vulcanized hard fibre tubing sheets, rods & sticks. *See advts., pages* 622 *&* 737.
VULCANITE WORKS, DR. HEINR. TRAUN & SONS, LONDON AGENCY (formerly Harburg Indiarubber C. Co.) (F. Winter, manager), 8, Redcross-st., London, E.C. (Telegrams: "Instantly, London." Telephone No. 3186, Central.) *See* EBONITE & VULCANITE.

Tube Makers—Glass.

F.—Tubes en verre.
G.—Röhren—Glas.

Butterworth Bros., Ltd., Newton Heath Glass Works, Manchester. (Telegrams: "Glasses, Newton Heath." Telephone No. 22, Failsworth.)
Forster & Sons, Ltd., St. Helens.
Tomey & Sons, Tay Glass Works, Perth. (Telegrams: "Tomey, Perth.")

Tube Makers—Iron.

F.—Tubes—Fer.
G.—Röhren—Eisen.

British Mannesmann Tube Co., Ltd., The, 110, Cannon-st., London, E.C.
Brotherton, John, Ltd., Wolverhampton.
BROTHERTON TUBES & CONDUITS, LTD., Excelsior Works, Commercial-rd., Wolverhampton.
Eadie, Jas., & Sons, Clydesdale Tube Works, Rutherglen, Glasgow. (Steel tubes.)

Tube Makers—Iron—*continued.*

FALKIRK IRON CO., Craven House, Kingsway, London, W.C. Works: Falkirk, N.B.
Foster Bros., Ltd., Lea Brook Tube Works, Wednesbury.
Guthrie, J. B., & Son, 96-98, Leadenhall-st., London, E.C.
Imperial Tube Co., Birmingham.
Lambert Bros., Alpha Tube & Fitting Works, Walsall.
Lambeth Brass & Iron Co., Ltd., 91 & 93, Southwark-st., London, S.E.
Lewis, Edwin, & Sons, Wolverhampton, Staffs.
Richmond, D., & Co., Ltd., City Tube Works, 35, Rose-st., Glasgow.
Russell, John, & Co., Ltd., Alma Tube Works, Walsall; 145, Queen Victoria-st., E.C.; Bristol; Manchester; & Leeds.
SIMPLEX CONDUITS, LTD. Head office: Garrison-lane, Birmingham. Works: Maxstoke-st., Birmingham; 113, 115, 117, Charing Cross-rd., London, W.C.; 16, Corporation-st., Manchester; 72A, Waterloo-st., Glasgow; Newcastle; Bristol; & Liverpool. L. M. Waterhouse, A.M.I.C.E., M.I.E.E., managing director. *See advts., pages* 455 *&* 456.
Spencer, J. E. & S., 14, Great St. Thomas Apostle, Cannon-st., London, E.C.
SPENCER, JOHN, LTD., Globe Tube Works, Wednesbury; 14, Great St. Thomas Apostle, London, E.C. (Lap or butt welded) for gas

steam, water, hydraulic & heating purposes, galvanized or white enamelled inside. Arc light poles. Telegraph & tram poles, cable & wire tubes, as supplied to London Electric Co. & others. High Pressure Steam Mains.
Staffordshire Tube Co., Ltd., 134, Edmund-st., Birmingham.
Stewarts & Lloyd, Ltd., 41, Oswald-st., Glasgow.

Tube Makers—Lead.

F.—Tubes—Plomb.
G.—Röhren—Blei.

Glover, W. T., & Co., Ltd., Trafford Park, Manchester. (Telegs.: "Cables, Manchester." Tel. Central 7200 (6 lines).) London: Parliament Mansions, Orchard-st., S.W. *See* ALPHABETICAL.
Grey & Marten, Ltd. (& tin), Southwark Bridge, London, S.E. (Telegrams: "Amalgam, London." Telephone No. 750, Hop.)

Tube Makers—Steel.

F.—Tubes—Acier.
G.—Röhren—Stahl.

Aird, Joseph, Great-bridge, Staffs.; & 46, Queen Victoria-st., London, E.C.

Tube Makers—Steel—*continued.*

Armorduct Manufacturing Co., Ltd., Farringdon-ave., London, E.C.; & 44, Blackett-st., Newcastle-on-Tyne. Works: Bathurst Works, Witton, nr. Birmingham. (Telegs.: "Armorduct," London, Newcastle-on-Tyne, Birmingham. Teleph. Nos.: London, 400, Holborn (2 lines); Newcastle-on-Tyne, 2827, Central; Witton Works, 812, East.) *See advt. on top edges.*

BROTHERTON TUBES & CONDUITS, LTD., Excelsior Works, Commercial-rd., Wolverhampton.

Foster Bros., Ltd., Lea Brook Tube Works, Wednesbury.

Hildick & Hildick, Walsall Tube Works, Pleck-road, Walsall.

Howell & Co., Ltd., Wincobank, Sheffield; & 18, Queen Victoria-st., E.C. Zeitz & Co., London agents.

Metallic Seamless Tube Co., Wiggin-st., Birmingham.

Needham, J., & Sons, 44, Brown-st., Manchester.

OLDBURY STEEL CONDUITS, LTD., Paddock Works, Oldbury.

Oriental Tube Co., Ltd., West Bromwich, Staffs.

Piggott, Thomas, & Co., Ltd., Western-rd., Springhill, Birmingham.

SIMPLEX CONDUITS, LTD. Head office: Garrison-lane, Birmingham. Works: Maxstoke-st., Birmingham; also at 113, 115, 117, Charing Cross-rd., London, W.C.; 16, Corporation-st., Manchester; 72A, Waterloo-st., Glasgow; Newcastle; Bristol; & Liverpool. L. M. Waterhouse, A.M.I.C.E., M.I.E.E., managing director. *See advts., pages* 455 & 456

TRADE MARK SIMPLEX

Spencer, J. E. & S., 14, Great St. Thomas Apostle, Cannon-st., London, E.C.

Washington & Co., Ltd., Sowerby Bridge, Yorks. (Telegs.: "Washington, Sowerby Bridge.")

Weldless Steel Tube Co., Ltd., 303 & 304, Icknield Port-rd., Birmingham. (Steel & iron.)

Turbine Water Wheel Makers.

F.—Turbines Roues hydrauliques—Fab.

G.—Turbinen Wasserräder—Fabr.

Armfield, J. J., & Co., 20, Mark-lane, London, E.C.; & Vale of Avon Ironworks, Ringwood, Hampshire.

BÖVING, JENS ORTEN, & CO., 9½, Union-ct., Old Broad-st., London, E.C.

Cadle, C., 39, Wellington-quay, Dublin.

Carrick & Ritchie, Ltd., Waverley Engineering Works, Abbeyhill, Edinburgh.

Dell & Son, 26, Mark-lane, London, E.C.

ELLIS, W. I., M.I.C.E., 49, Deansgate, Manchester.

ESCHER, WYSS & CO., 109, Victoria-st., Westminster, S.W. *See advt.* BELOW.

GILKES, GILBERT & CO., LTD., Canal Ironworks, Kendal. (Telegrams: "Gilkes, Kendal." Telephone No. 28.)

GORDON, JAMES, & CO., 81–83, Knightrider-st., London, E.C. (Telegs.: "Gordolobo, London." Teleph. Central 1674.) PATENT SAMSON & FRANCIS TURBINES, PELTONS. Highest efficiency, balanced gates, for good governing.

Günther, W., & Sons, Central Works, Oldham.

Hanna, Donald & Wilson, Abbey Works. Offices: 23, New Sneddon-st., Paisley, N.B.

Howes, S., Co., 64, Mark-lane, London, E.C.

Invincible Manufacturing Co., 64, Mark-lane, E.C.

Lord, J. C. & W., 52, Leadenhall-st., London, E.C.

Macdonald, J., & Co., Bridge Turbine Works, Pollokshaws, Glasgow.

Marx, J., & Co., 133-139, Finsbury Pavement, London, E.C.

Pitman, P., Bosbury, Ledbury.

Turnbull, J., jun., & Sons, Canal Basin Foundry, Dobbies Loan, Glasgow.

ESCHER, WYSS & CO., Engineers,
ZURICH, SWITZERLAND.

LONDON OFFICE: 109, Victoria St., Westminster, S.W.

WATER TURBINES—HIGH PRESSURE PIPE LINES.

High and Low Pressure Centrifugal Pumps. Zoelly Patent Steam Turbines.
Air Compressors. Paper-making Machinery.
Ice-making and Refrigerating Machinery.

ESTIMATES FREE OF CHARGE.

Telephone: 1454 Victoria. Telegraphic Addresses: "Neumuehle, London."
"Neumuehle, Zurich" (Head Office and Works).

Turbines—Steam.

BRUSH ELECTRICAL ENGINEERING CO., LTD., THE. London office: Electrical Federation Offices, Kingsway, W.C. Works: Loughborough, Leicestershire. *See* ALPHABETICAL.

ESCHER, WYSS & CO., 109, Victoria-st., Westminster, London, S.W. *See advt.* OPPOSITE.

Greenwood & Batley, Ltd., Albion Works, Leeds; 16, Great George-st., Westminster, S.W. (Telegrams: "Greenwood, Leeds;" & "Outflank, London.") *See advt., page* 20.

Melms, Pfenninger & Sankey, Ltd., 28, Victoria-st., S.W.

Turbo Electric Generators—Makers of.

F.—Fab. de Generateurs—turbo-electr.
G.—Turbo-elek. Generatoren—Fab. von.

Adnil Electric Co., Ltd., Adnil-bldg., Artillery-lane, London, E.C.

Bailie, J. D., Messrs. C. A. Parsons & Co., Prudential-bldgs., Park-row, Leeds. (Telegs.: "Turbo, Leeds." Teleph. No. 1194.)

British Westinghouse Electric & Manufacturing Co., Ltd., The, Westinghouse Works, Trafford Park, Manchester.

BRUSH ELECTRICAL ENGINEERING CO., LTD., THE. London office: Electrical Federation Offices, Kingsway, W.C. Works: Loughborough, Leicestershire. *See* ALPHABETICAL.

ESCHER, WYSS & CO., 109, Victoria-st., Westminster, S.W. *See advt.* OPPOSITE.

GREENWOOD & BATLEY, Albion Works, Leeds; & 16, Great George-st., Westminster, S.W. (Telegs.: "Greenwood, Leeds;" & "Outflank, London.") *See advt., page* 20.

Marples, Leach & Co. *See* Adnil Electric Co., Ltd.

Siemens Bros. Dynamo Works, Ltd., Caxton House, Westminster, London, S.W.

Turners.

(*See* IVORY & WOOD TURNERS.)

Underground Cable Systems.

F.—Câbles souterrains—Systèmes de.
G.—Untererdische Kabel Systeme.

BRITISH INSULATED & HELSBY CABLES, LTD. Head office: Prescot, Lancs. Works: Prescot, Helsby & Liverpool. For branch offices, telegraphic & telephonic addresses, *see* ALPHABETICAL ENTRY. *See advt., page* 437.

Callender's Cable & Construction Co., Ltd., Hamilton House, Victoria Embankment, London, E.C. *See advt., page* 441.

Glover, W. T., & Co., Ltd., Trafford Park, Manchester. (Telegs.: "Cables, Manchester." Tel. Central 7200 (6 lines).) London: Parliament Mansions, Orchard-st., S.W. *See* ALPHABETICAL.

HENLEY'S, W. T., TELEGRAPH WORKS CO., LTD. Offices: Blomfield-st., London, E.C. *See advt., page* 22.

HOWARD ASPHALT TROUGHING CO., LTD., THE, Trafford Park, Manchester.

Underground Cable Systems—*continued.*

INDIA RUBBER, GUTTA PERCHA & TELEGRAPH WORKS CO., LTD. Head offices: 106, Cannon-st., E.C. Warehouses: 100 & 102, Cannon-st., London, E.C.; & 97, boul. Sebastopol, Paris. Works: Silvertown, Essex; & Persan, France. For telegraphic addresses & branches, *see advt. outside of back cover.*

Johnson & Phillips, Ltd., Victoria Works, Charlton, S.O., Kent; & 12, Union-ct., Old Broad-st., E.C. *See advt. inside back cover.*

Reid Brothers, 12, Wharf-rd., London, N. (Telegs.: "Supra, London." Teleph. No. 12249, Central.) *See advt., page* 571.

Union Cable Co., Ltd., The, Eagle Wharf-rd., London, N. *See advt., page* 4.

Western Electric Co., Norfolk House, Victoria Embankment, London, W.C. Works: North Woolwich. *See advts., pages* 439 & 720.

Underground Electric Mains.

F.—Conduites souterraines pour Cables.
G.—Untererdische Electr. Haupt Leitungen.

Callender's Cable & Construction Co., Ltd., Hamilton House, Victoria Embankment, London, E.C. *See advt., page* 441.

CONNOLLY BROS., LTD., Blackley Vale Mills, Blackley, Manchester. *See advt., page* 438.

Felten & Guilleaume Lahmeyerwerke Actien Gesellschaft, Mülheim am Rhein. (Lahmeyer Electrical Co., Ltd., agents, Bank-bldgs., 109-111, New Oxford-st., London, W.C.)

Glover, W. T., & Co., Ltd., Trafford Park, Manchester. (Telegs.: "Cables, Manchester." Tel. Central 7200 (6 lines).) London: Parliament Mansions, Orchard-st., S.W. *See* ALPHABETICAL.

HENLEY'S, W. T., TELEGRAPH WORKS CO., LTD. Offices: Blomfield-st., London, E.C. *See advt., page* 22.

HOWARD ASPHALT TROUGHING CO., LTD., THE, Trafford Park, Manchester.

Johnson & Phillips, Ltd., Electric Cable Works, Charlton, S.O., Kent. Depôts: Glasgow, Newcastle, &c. *See advt. inside back cover.*

NORTHERN ELECTRIC WIRE CO., THE, SEDBURGH MILLS, HALIFAX. (TELEGRAMS: "CABLES, HALIFAX." TELEPHONE NO. 127.) *See advt., page* 744.

O'Gorman & Baillie (experts on), 82, Victoria-st., Westminster, S.W.

Pirelli, Ltd., 45, Basinghall-st., London, E.C.

Reid Brothers, 12, Wharf-rd., London, N. (Telegs.: "Supra, London." Teleph. No. 12249, Central.) *See advt., page* 571.

Shaw, John, & Co., Maryhill Ironworks, Glasgow.

Siemens Bros. & Co., Ltd., Caxton House, Westminster, London, S.W. *See advt., page* 573.

Union Cable Co., Ltd., The, Eagle Wharf-rd., London, N. *See advt., page* 4.

Western Electric Co., Norfolk House, Victoria Embankment, London, W.C. Works: North Woolwich. *See advts., pages* 439 & 720.

Utensils—Heating & Cooking.

General Electric Co., Ltd. (*G. Byng, chairman*). Head office: 71, Queen Victoria-st., London, E.C. Works: London, Manchester, Birmingham & Witton. For branch offices, telegraphic addresses & telephone numbers, *see* ALPHABETICAL SECTION. *See advts., pages* 446, 707 & BELOW.

Vacuum Pumps.

F.—Pompes à vide.
G.—Vakuumpumpen.

EDWARDS AIR PUMP SYND., LTD., THE, 3 & 5, Crown-ct., Old Broad-st., London, E.C.

Mackie, W., & Co., 47½, Old-st., London, E.C. (P.O. Teleph. Central 2704.) *See* DYNAMO MFRS.

POWER PLANT CO., LTD., Temple Bar House, Fleet-st., London, E.C. (Telegrams: "Biceps, London." Telephone No. 10968, Central.)

Pulsometer Engineering Co., Ltd., makers of High Class Vacuum Pumps for exhausting incandescent lamps & other purposes, Nine Elms Iron Works, Reading, Berks. (Telegrams: "Pulsometer." Telephone No. 583.) London offices: 61 & 63, Queen Victoria-st., E.C. *See advt.* OPPOSITE.

Vacuum Pumps—*continued.*

Rose Vacuum Pump, Ltd., 38 & 39, Beech-st., Barbican, London, E.C. (Telegs.: "Cryselco, London." Teleph. Central 7043.)

Smith, Sydney, & Sons, Ltd., Basford Brass Works, Nottingham.

ZEITLIN VACUUM SYND., LTD. Ideal vacuum pumps, giving highest & pure vacuua. Free from vapour of any kind; mercury or oil. Our 1908 design is a perfect vacuum pump for metal filament lamps. For particulars & prices apply 4, Queen Victoria-st., E.C. (Telegs.: "Eminencies, London." Teleph. No. 12321, Central.)

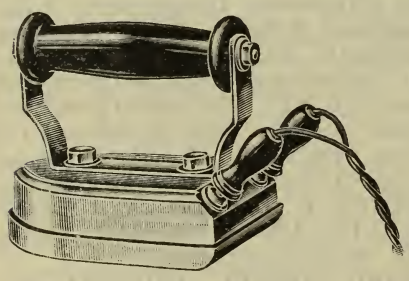
Valuers—Electrical & Mechanical.

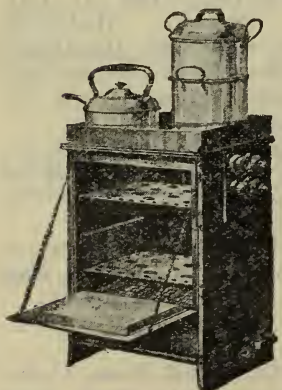
F.—Évaluateurs—élec. et méc.
G.—Taxatoren—Electr. u. mech.
(*See also* AUCTIONEERS & ARBITRATORS.)

Down, Fred. J., Harpenden, Herts.; & 6, 7 & 8, Crutched Friars, London, E.C. A founder, 1883, of Laing, Wharton & Down.

Fuller, Horsey, Sons & Cassell, 11, Billiter-sq., London, E.C.

HUDDLESTON, PERCY, 72, Finsbury Pavement, London, E.C.





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ELECTRIC HEATING & COOKING

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RADIATORS
OVENS
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IRONS
GLUE-POTS
CIGAR LIGHTERS
CURLING TONGS
etc., etc.

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THE GENERAL ELECTRIC CO., Ltd.
Head Office: 71, Queen Victoria St., London, E.C.

BRANCHES: Manchester, Glasgow, Birmingham, Newcastle, Dublin, Belfast, Cardiff, Paris, Madrid, Johannesburg, Cape Town, etc., etc.

WORKS: Witton, Birmingham, Manchester, London.

Valuers—Electrical & Mechanical— *continued.*

Place, John, M.I.MECH.E., A.M.I.E.E., Wheatley Kirk, Price & Co., 46, Watling-st., London, E.C. (Telegs.: "Indices, London." Teleph. Bank 5077); Manchester & Newcastle-on-Tyne.

Shepherd & Haward, 369, Birkbeck Bank-chbrs., Holborn, W.C.

Sherley-Price, Henry, M.I.MECH.E., M.I.E.E., &c., 46, Watling-st., London, E.C.; Manchester & Newcastle-on-Tyne.

WHEATLEY KIRK, PRICE & CO., 46, Watling-st., Queen Victoria-st., London, E.C. (Telegs.: "Indices, London." Teleph. Bank 5077); Manchester & Newcastle-on-Tyne. *See advt., page* 422.

WOOD & NEWLAND, 42, Spring-gardens, Manchester.

Valve Manufacturers.

F.—Valvules—Fab. de.
G.—Klappe—Fab. von.

Burns, J., Ltd., 189, Central-st., London, E.C. *See advt., page* 738.

Cockburn, A., & Co., 25, Gateside-st., Dennistoun, Glasgow.

Cowburn Safety Valve Co., Ambrose-st., West Gorton, Manchester.

Jenkins Bros., Ltd., 95, Queen Victoria-st., E.C.

Valve Manufacturers—*continued.*

Kirkpatrick & Rastall, Victoria Foundry, Barrack-st., Hulme, Manchester.

Lambeth Brass & Iron Co., Ltd., 91 & 93, Southwark-st., London, S.E.

Lunken Valve Co., 35, Great Dover-st., London, S.E.

Marchant, G. M., Albert-st., Huddersfield.

MATHER & PLATT, LD., Salford Iron Works, Manchester; & Queen Anne's-chbrs., Westminster, London, S.W. (Telegrams: "Mather, Manchester;" "Sprinkler, London." Nat. Telephone Nos.: 5781, 5782 & 5783, Manchester; & 851 & 852, Westminster.)

MOSSES & MITCHELL, 122 & 124, Golden-lane, London, E.C. (Telegs.: "Insulator, London.") THE ORIGINAL VULCANIZED FIBRE VALVES. *See advts., pages* 622 & 737.

Reid, W., & Co., 112, Fenchurch-st., London, E.C.

Shaw, Joseph, & Son, Ltd., Albert Works, Huddersfield.

Smith, Sydney, & Sons, Ltd., Basford Brass Works, Nottingham.

Templer & Ranoe, Ltd., Foleshill-rd., Coventry.

Willcox, W. H., & Co. Ltd. Office: 23, Southwark-st. Warehouse: 32, 34 & 36, Southwark-st., London, S.E. Works: Castle-st. (Telegs.: "Willcox, Southwark-st., London." Teleph. Hop 3740 & 3741.) *See advt. facing inside front cover.*

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(*See* LACQUER & VARNISH.)

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WALKER, W. G., & CO., Emery Hill-st., Victoria-st., Westminster, S.W. (Telegs.: "Walker, Emery Hill Street, London." Teleph. No. 1622, Victoria.) *See advts., pages* 485 *&* 590.

Ventilator Manufacturers.

(*See* ENGINEERS—VENTILATING.)

Vertical Oil Engines.

BARKER, JOHN, & CO., LTD. (1½ B.H.P. & upwards), 52-60, Kensington High-st., W.

Vibration—System for Preventing.

Down, Fred. J., Harpenden, Herts; & 6, 7 & 8, Crutched Friars, London, E.C. A founder, 1883, of Laing, Wharton & Down.

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F.—Etaux—Paralleles—fer forgé et de fonte.
G.—Schraubstöcke (Parallel)—Schmied u. Gusseisen.

Kain, Ed., & Co., Sheffield.

SELIG, SONNENTHAL & CO., 85, Queen Victoria-st., London, E.C. (Telegs.: "Selig, London." Teleph. Nos.: 341, Bank; & 11779, Central.) *See advt., page* 637.

Willcox, W. H., & Co., Ltd. Office: 23, Southwark-st. Warehouse: 32, 34 & 36, Southwark-st., London, S.E. Works: Castle-st. (Telegs.: "Willcox, Southwark-st., London." Teleph. Hop 3740 & 3741.) *See advt. facing inside front cover.*

Voltmeters—Makers of.

F.—Voltmètres—Fab. de.
G.—Voltmesser—Fab. von.

Adnil Electric Co., Ltd., Adnil-bldg., Artillery-lane, London, E.C.

BECKETT & PARKER, Tenby-st., Birmingham.

CROMPTON & CO., LTD., Salisbury House, London Wall, London, E.C. Works: Chelmsford. *See advt. inside front cover.*

EDISON & SWAN UNITED ELECTRIC LIGHT CO., LTD. Head office, depôt & show-rooms: Ediswan-bldgs., Queen-st., E.C.

ELLIOTT BROS., Century Works, Lewisham, London, S.E. (Telegs.: "Ohm, London." Teleph. Nos. 218 & 237, Deptford.)

Voltmeters—Makers of—*continued.*

Everett, Edgcumbe & Co., Ltd., 117, Victoria-st., London, S.W.; & Collindale Works, Hendon, London, N.W. *See advt., page* 643.

EVERSHED & VIGNOLES, LTD., Acton-lane Works, Chiswick, London, W.

Ferranti Ltd., Hollinwood, Lancs. (Telegs.: "Ferranti, Hollinwood." Teleph. Failsworth 31 & 48); & 78, King-st., Manchester.

GEIPEL, WM., & CO. (late Geipel & Lange), Vulcan Works, 72A, St. Thomas-st., London, E.C. (Telegs.: "Patella, London." Teleph. No. 594, Hop. (2 lines).) *See advt., page* 19.

HODGES, CECIL, & CO., Balfour House, Finsbury Pavement, London, E.C.

HOLMES, J. H., & CO., Portland-road, Newcastle-on-Tyne; also at 17, Soho-square, London, W.; Examiner-bldgs., Strutt-st., Manchester; & 19, Waterloo-st., Glasgow.

KELVIN & JAMES WHITE, LTD., 18, Cambridge-st., Glasgow (Telegs.: "Meter, Glasgow." Teleph. P.O. Central 4519; Nat., Douglas 172); & 11, Billiter-st., London, E.C. (Telegs.: "Stormglass, London." Teleph. London Wall 9779.)

McWhirter, Wm., & Son, 212, 214 & 216, Holm-st., Glasgow. (Telegs.: "Testing, Glasgow.")

PAUL, ROBT. W., Newton-ave. Works, New Southgate, London, N. Show-rooms: 33, Leicester-sq., London, W.C. *Ayrton-Mather Electrostatic Voltmeters.* *See* ALPHABETICAL. *See advt., page* 617.

PITKIN, JAMES, & CO., 56, Red Lion-st., Clerkenwell, London, E.C. (Telegs.: "Barograph, London." Teleph. No. 11273, Central.)

Plutte, Scheele & Co., 18 & 19, Queenhithe, London, E.C. (agents).

SPAGNOLETTI, LTD., Goldhawk Works, Goldhawk-rd., W.

UNION ELECTRIC CO., LTD., Park-st., Southwark, London, S.E. (Telegs.: "Abeam, London." A.B.C. Code. Teleph. Hop. 2970.) *See advt., page* 563.

Walsall Electrical Co., Ltd., 57, Bridge-st., Walsall. For branches, telegrams & telephone numbers, *see* ALPHABETICAL.

WESTON ELECTRICAL INSTRUMENT CO., Audrey House, Ely-pl., London, E.C. *See inset advt., pages* 615 *&* 616.

Vulcanite Manufacturers.

F.—Vulcanite—Fab. de.
G.—Hart Gummi-Fabriken.

American Hard Rubber Co., Basma House, 13A, Fore-st., London, E.C. (Telegs.: "Eboniseth London." Teleph. No. 12754, Central.) Ebonite & vulcanite manufacturers. Large stock sheet, rod & tubing kept in London.

BURNS, J., LTD., 189, Central-st., London, E.C. *See advt., page* 738.

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(Formerly HARBURG INDIARUBBER C. CO.).

LONDON MANAGER: F. WINTER,

8, REDCROSS STREET, E.C.

Telegrams: "INSTANTLY, LONDON."
Telephone No. 3186, Central.

EBONITE.

Vulcanite Manufacturers—*continued.*

CARSON & EVANS, 3, Fenchurch-bldgs., Fenchurch-st., London, E.C. (Telegs.: "Irishism, London." Teleph. Avenue 2507.) *See advts., page* 486 *&* BELOW.

Cort, Arthur, & Co., 303½, Camberwell-rd., London, S.E. Factory: Bullace Works, Camberwell.

General Electric Co., Ltd. (*G. Byng, chairman*). Head office: 71, Queen Victoria-st., London, E.C. Works: London, Manchester, Birmingham & Witton. For branch offices, telegraphic addresses & telephone numbers, *see* ALPHABETICAL SECTION. *See advts., pages* 446, 707 *&* 734.

HESSBERG BROS., 102, Fenchurch-st., London, E.C. (Telegrams: "Pulkha, London." P.O. Telephone No. 9159, Central.)

HILL, FREDK. A., & CO., 108, Bishopsgate-st. Within, London, E.C. (Telegs.: "Blasting, London." Teleph. No. 9905, Wall.)

INDIA RUBBER, GUTTA PERCHA & TELEGRAPH WORKS CO., LTD. Head offices: 106, Cannon-st., E.C. Warehouses: 100 & 102, Cannon-st., London, E.C.; & 97, boul. Sebastopol, Paris. Works: Silvertown, Essex; & Persan, France. For telegraphic addresses & branches, *see advt. outside of back cover.*

VULCANITE

CARSON & EVANS
3 FENCHURCH BUILDINGS.
LONDON. E.C.

EBONITE

Vulcanite Manufacturers—*continued.*

LITHOLITE, LTD., 55, Hackney Grove, London, N.E. (Telegs.: "Ferrules, London." Teleph. North 1492.) *See advt., page* 620.

MANNHEIM INDIA RUBBER, GUTTA PERCHA & ASBESTOS WORKS CO., LTD., 61, Leadenhall-st., London, E.C.

MOSSES & MITCHELL, 122 & 124, Golden-lane, London, E.C. (Telegs: "Insulator, London." Teleph. London Wall 437.) *See advts., page* 622 *&* BELOW.

Neville, Williams & Co. (factors), 80A, Southwark-st., London, S.E.

Sangster, J., 34, Moorfields, London, E.C.

VULCANITE WORKS, DR. HEINR. TRAUN & SONS, LONDON AGENCY (formerly Harburg Indiarubber C. Co.) (F. Winter, manager), 8, Redcross-st., London, E.C. (Telegs.: "Instantly, London." Teleph. No. 3186, Central.) *See advts., page* 486 *&* IN PREVIOUS COLUMN.

Vulcanized Bitumen Cable Makers.

Glover, W. T., & Co., Ltd., Trafford Park, Manchester. (Telegs.: "Cables, Manchester." Tel. Central 7200 (6 lines).) London: Parliament Mansions, Orchard-st., S.W. *See* ALPHABETICAL.

Vulcanized Fibre Manufacturers.

F.—Fibre vulcanisé—Fab. de.
G.—Vulcanfieber—Fab.

American Hard Fibre Co. (F. Winter, agent), 8, Redcross-st., London, E.C. (Telegs.: "Instantly, London." Teleph. No. 3186, Central.)

British Vulcanized Fibre, Ltd. Registered office: 21, Major-st., Manchester. (Telegs.: "Fibrine, Manchester." Teleph. No. 2700.) Hard & flexible vulcanized fibre. Sheets, rods, tubes & specialities.

BURNS, J., LTD., 189, Central-st., London, E.C. *See advt., page* 738.

Callender's Cable & Construction Co., Ltd., Hamilton House, Victoria Embankment, London, E.C. *See advt., page* 441.

CARSON & EVANS, 3, Fenchurch-bldgs., Fenchurch-st., London, E.C. (Telegs.: "Irishism, London." Teleph. Avenue 2507.) *See advts., page* 486 *&* IN PREVIOUS COLUMN.

Christie & Co., 134, Upper Thames-st., London, E.C.

GENUINE

M & M VULCANISED FIBRE.

MOSSES & MITCHELL, 122 & 124, GOLDEN LANE, LONDON, E.C.

Codes: A.B.C. & Anglo-American.

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Vulcanized Fibre Manufacturers—*continued.*

Cort, Arthur, & Co., 303½, Camberwell-rd., S.E. Factory: Bullace Works, Camberwell.

HILL, FREDK. A., & CO., 108, Bishopsgate-st. Within, E.C. (Teleph. No. 9905, Wall.)

Hobdell, Way & Co., Ltd., 63, Crutched Friars, London, E.C.

INDIA RUBBER, GUTTA PERCHA & TELEGRAPH WORKS CO., LTD. Head offices: 106, Cannon-st., E.C. Warehouses: 100 & 102, Cannon-st., London, E.C.; & 97, boul. Sebastopol, Paris. Works: Silvertown, Essex; & Persan, France. For telegraphic addresses & branches, *see advt. outside of back cover.*

LITHOLITE, LTD., 55, Hackney Grove, London, N.E. (Telegs.: "Ferrules, London." Teleph. North 1492.) *See advt., page* 620.

MOSSES & MITCHELL, 122 & 124, Goldenlane, London, E.C. (Telegs.: "Insulator, London." Teleph. London Wall 437.) SOLE MAKERS OF THE ORIGINAL & ONLY GENUINE VULCANIZED FIBRE. *See advts., pages* 622 *&* 737.

TERRY, A., 61, Leadenhall-st., London, E.C.

Wallach Bros., Ltd., Royal London House, Finsbury-sq., London, E.C.

Willcox, W. H., & Co., Ltd. Office: 23, Southwark-st. Warehouse: 32, 34 & 36, Southwark-st., London, S.E. Works: Castle-st. (Telegs.: "Willcox, Southwark-st., London." Teleph. Hop 3740 & 3741.) *See advt. facing inside front cover.*

Vulcanized Indiarubber Wires & Cables.

F.—Fil et cables caoutchouc vulcanisé.
G.—Vulkanisirte Gummi Drähte und Kabel.

Armorduct Manufacturing Co., Ltd., Farringdon-ave., London, E.C.; & 44, Blackett-st., Newcastle-on-Tyne. Works: Bathurst Works, Witton, nr. Birmingham. (Telegs.: "Armorduct," London, Newcastle-on-Tyne, Birmingham. Teleph. Nos.: London, 400, Holborn (2 lines); Newcastle-on-Tyne, 2827, Central; Witton Works, 812, East.) *See advt. on top edges.*

Vulcanized Indiarubber Wires & Cables—*continued.*

CONNOLLY BROS., LTD., Blackley Vale Mills, Blackley, Manchester. *See advt., page* 441.

Donovan & Co., 22, Barwick-st., Birmingham.

Felten & Guilleaume Lahmeyerwerke Actien Gesellschaft, Mülheim am Rhein, Germany. (Lahmeyer Electrical Co., Ltd., agents, Bank-bldgs., 109–111, New Oxford-st., London, W.C.)

Geipel, Wm., & Co. (late Geipel & Lange), Vulcan Works, 72A, St. Thomas-st., London, S.E. (Telegs.: "Patella, London." Teleph. No. 594, Hop. (2 lines).) *See advt., page* 19.

Geoffroy & Delore (London manager, Mr. A. H. Hunt), 115–117, Cannon-st., London, E.C. (Telegs.: "Keyage, London." Teleph. No. 8114, Bank.)

Glover, W. T., & Co., Ltd., Trafford Park, Manchester. (Telegs.: "Cables, Manchester." Tel. Central 7200 (6 lines).) London: Parliament Mansions, Orchard-st., S.W. *See* ALPHABETICAL.

HAWKINS BROS. & CO., LTD., Hatfield-st., & Basterfield-st., Golden-lane, London, E.C. *See advt., page* 440.

INDIA RUBBER, GUTTA PERCHA & TELEGRAPH WORKS CO., LTD. Head offices: 106, Cannon-st., E.C. Warehouses: 100 & 102, Cannon-st., London, E.C.; & 97, boul. Sebastopol, Paris. Works: Silvertown, Essex; & Persan, France. For telegraphic addresses & branches, *see advt. outside of back cover.*

Johnson & Phillips, Ltd., Electric Cable Works, Charlton, S.O., Kent. Depôts: Glasgow, Newcastle, &c. *See advt. inside back cover.*

Liverpool Electric Cable Co., Ltd., Vauxhall-rd., Liverpool. (Telegrams: "Concentric, Liverpool." Teleph. No. 6563.) *See advt., page* 440.

MIDLAND ELECTRIC WIRE CO., LTD., Leicester. (Telegs.: "Conductors, Leicester." Teleph. No. 45.) *See advt., page* 482.

NORTHERN ELECTRIC WIRE CO., THE, SEDBURGH MILLS, HALIFAX. (TELEGRAMS: "CABLES, HALIFAX." TELEPHONE NO. 127.) *See advt., page* 744.

Pirelli, Ltd., 45, Basinghall-st., London, E.C.

RICKARD, WILLIAM, LTD., Ashbourne-rd. Mills, Derby. (Telegrams: "Rickard, Derby." Telephone No. 18.) *See advt. facing title page.*

Siemens Bros. & Co., Ltd., Caxton House, Westminster, London, S.W. *See advt., page* 573.

Union Cable Co., Ltd., The, Eagle Wharf-rd., London, N. *See advt., page* 4.

Wall Plugs, Sockets, or Connectors.

F.—Douilles, tampons ou connections.
G.—Steckkontakte u. Anschlussdosen.

Adnil Electric Co., Ltd., Adnil-bldg., Artillery-lane, London, E.C.

Wall Plugs, Sockets, or Connectors— *continued.*

Armorduct Manufacturing Co., Ltd., Farringdon-ave., London, E.C.; & 44, Blackett-st., Newcastle-on-Tyne. Works: Bathurst Works, Witton, nr. Birmingham. (Telegs.: "Armorduct," London, Newcastle-on-Tyne, Birmingham. Teleph. Nos.: London, 400, Holborn (2 lines); Newcastle-on-Tyne, 2827, Central; Witton Works, 812, East.) *See advt. on top edges.*

Bonnella, D. H., & Son, Ltd., 58 & 60, Mortimer-st., W. Works: Kirby-st., Hatton Garden, London, E.C. (Telegs.: "Boncinello, London." Teleph. Gerrard 1882 & 9784.) *See advt., page* 626.

Bullers, Ltd. (porcelain). London office: 6, Laurence Pountney Hill, E.C. Works: Tipton & Hanley. (Telegs.: "Bullers, London." Teleph. Nos. 4907/8, London Wall.) *See advt., page* 15.

DORMAN & SMITH, Ordsal Electrical Works, Salford, Manchester. (Telegs.: "Current, Manchester." Teleph. No. 1741, Nat.) Agents—London: Sambidge & Co., 17, Victoria-st., S.W. (Telegs.: "Prefix, London." Teleph. Victoria 530.) Scottish: Andrews & Co., 198A, St. Vincent-st., Glasgow. Birmingham: S. T. Pemberton, Council-chbrs., Colmore-row. Newcastle-on-Tyne: F. T. Hanks, 1, Higham-pl. *See also page* 123 & *advt., page* 21.

Wall Plugs, Sockets, or Connectors— *continued.*

ELECTRIC & ORDNANCE ACCESSORIES' CO., LTD., Cheston-rd., Aston, Birmingham. (Telegs.: "Stellite, Birmingham." Teleph. Nos.: Nat. 176 & 179, East; & P.O. 9 (Trunk Calls).) *See page* 134 *for full entry.*

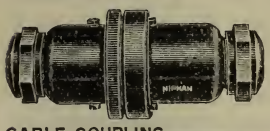
GALSWORTHY LTD., formerly The London Electrical Fittings Co., Ltd., Roberts Works, Hampstead-rd., N.W. (Telegs.: "Filosofone, London." Teleph. No. 441, North.) Showrooms: 15 & 16, Newman-st., Oxford-st., London, W. (Teleph. No. 6621, Gerrard.) *See advts., pages* 593 & 604.

Improved Plug Co., 75, Edmund-st., Birmingham.

LITHOLITE, LTD., 55, Hackney Grove, London, N.E. (Telegs.: "Ferrules, London." Teleph. North 1492.) *See advt., page* 620.

London Electrical Fittings Co., Ltd. *See* Galsworthy Ltd.

Patented in England and Abroad.



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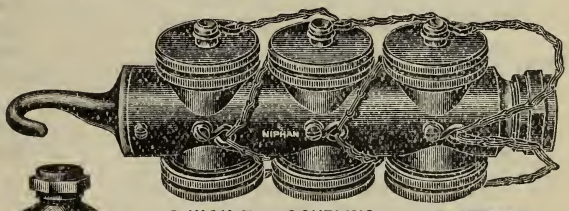

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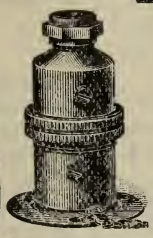

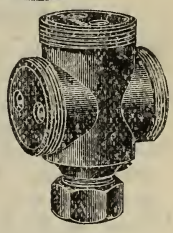

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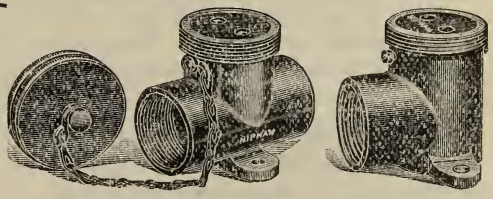
Made Two-, Three- and Four-Pole.

Registered "NIPHAN" Trade Mark.

Watertight Plugs & Cable Couplings,

5 to 100 Amps. 500 volt Circuits.



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SIMMONDS BROS., LTD., 4, 6, 8, Newton St., Holborn, W.C.

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Lundberg, A. P., & Sons, Pioneer Electrical Works, 477-487, Liverpool-rd., London, N. (Telegs.: "Lundberg,London." Teleph. No. 1746, North.) Agents: Scotland, Messrs. Yuille & Co., 60, Brown-st., Glasgow; other districts: leading wholesale houses.

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By Royal Warrant to H.M. the King.

See advt., page 710 & on lower outside edges. *See* also under COMBINED SWITCH & WALL SOCKET MAKERS.

North-Eastern Novelty Co., 20, Victoria-st., Goole, Yorks.

REYROLLE, A., & CO., LTD., Hebburn-on-Tyne; & 8, Howland Mews, W., Fitzroy-sq., London, W.

SIMMONDS BROS., LTD., 4, 6 & 8, Newton-st., High Holborn, London, W.C. *See advt., page* 739.

TUCKER, J. H., & CO., King's-rd., Hay Mills, Birmingham. Branches: London, Glasgow & Belfast. For telegrams & telephone numbers, *see* ALPHABETICAL.

TELAC REG. TRADE MARK.

Wall Tube Makers—Stoneware.

Price, Powell & Co., Bristol, Manufacturers. (Telegs.: "Pottery, Bristol." Nat. Tel. No. 279.)

Washers & Rivets—Makers of.

F.—Rivets et Rondelles—Fab. de.

G.—Scheiben u. Niet Fabrikanten.

JENKS, A. E., & CATTELL, Heath Town, Wolverhampton. (Telegrams: "Washers, Wolverhampton." Telephone No. 104.) All kinds of washers, bright & black.

PARTRIDGES LTD., 128–138, Northwood-st., Birmingham. Our Plant & Machinery are thoroughly up to date. (Nat. Teleph. No. 1639.)

Willcox, W. H., & Co., Ltd. Office: 23, Southwark-st. Warehouse: 32, 34 & 36, Southwark-st., S.E. Works: Castle-st. (Telegs.: "Willcox, Southwark-st., London." Teleph. Hop 3740 & 3741.) *See advt. facing inside front cover.*

Watchman's Recording Clock Manufacturers.

GENT & CO., LTD., Faraday Works, Leicester; 3A, Upper Thames-st., London, E.C.; & 67, High Bridge, Newcastle-on-Tyne. (Telegs.: "Lodestone, Leicester;" "Knifeedge, London;" & "Gents, Newcastle." Teleph. Leicester 151; Bank, London 8135; & Newcastle 1135.) *See advts., pages* 451 & 721.

Water-Cooling Towers.

Balcke & Co., 27, Clement's-lane, London, E.C.

Ferbeck Chimney Construction Co., 222, Finsbury Pavement House, London, E.C.

Water-Level Apparatus Makers—Electrical.

F.—Niveau d'eau électr.—Fab. de.

G.—Elektr. Apparate zur Bemessung des Wasserhöhestandes—Fab. von.

Apps, A., 433, Strand, London, W.C.

British L. M. Ericsson Manufacturing Co., Ltd., The, Byron House, 82/85, Fleet-st., London, E.C. Works: Beeston, Notts. *See advt., page* 719.

DAVIS, JOHN, & SON (DERBY), LTD., All Saints' Works, Derby. (Telegs.: "Davis, Derby." Teleph. No. 240, Derby.)

GENT & CO., LTD., Faraday Works, Leicester; 3A, Upper Thames-st., London, E.C.; & 67, High Bridge, Newcastle-on-Tyne. (Telegs.: "Lodestone, Leicester;" "Knifeedge, London;" & "Gents, Newcastle." Teleph. Leicester 151; Bank, London 8135; & Newcastle 1135.) *See advts., pages* 451 & 721.

INDIA RUBBER, GUTTA PERCHA & TELEGRAPH WORKS CO., LTD. Head offices: 106, Cannon-st., E.C. Warehouses: 100 & 102, Cannon-st., London, E.C.; & 97, boul. Sebastopol, Paris. Works: Silvertown, Essex; & Persan, France. For telegraphic addresses & branches, *see advt. outside back cover.*

McWhirter, Wm., & Son, 212, 214 & 216, Holm-st., Glasgow. (Telegs.: "Testing, Glasgow.")

Siemens Bros. & Co., Ltd., Caxton House, Westminster, London, S.W. *See advt., page* 573.

Water Purifying Plant.

MATHER & PLATT, LD., Salford Iron Works, Manchester; & Queen Anne's-chbrs., Westminster, London, S.W. (Telegrams: "Mather, Manchester;" "Sprinkler, London." Nat. Telephone Nos.: 5781, 5782 & 5783, Manchester; & 851 & 852, Westminster.)

Paterson Engineering Co., Ltd., Amberley House, Norfolk-st., W.C. (Telegs.: "Cumulative, London." Teleph. No. 6560, Gerrard.)

Pulsometer Engineering Co., Ltd., The, Nine Elms Iron Works, Reading, Berks.; & 61 & 63, Queen Victoria-st., London, E.C. Manufacturers of the "Torrent" Filter. *See advt., page* 735.

Water Tanks.

Piggott, T., & Co., Ltd., 63, Queen Victoria-st., London, E.C.

Water Tube Boiler Makers.

CLARKE, CHAPMAN & CO., LTD., Victoria Works, Gateshead-on-Tyne. (Telegrams: "Cyclops, Gateshead.")

Water Tube Boiler Makers—*continued.*

WATER TUBE BOILER & ENGINEERING CO., 11, Queen Victoria-st., London, E.C. (Telegs.: "Arcturus, London." Teleph. Bank 8145.) *See advt., page* 24.

Watertight Fittings.

Lundberg, A. P., & Sons, Pioneer Electrical Works, 477-487, Liverpool-rd., London, N. (Telegs.: "Lundberg, London." Teleph. No. 1746, North.) Agents: Scotland, Messrs. Yuille & Co., 60, Brown-st., Glasgow; other districts: leading wholesale houses.

REGD LEKTRIK TRADE MARK

By Royal Warrant to H.M. the King.

See advt., page 710 *& on lower outside edges.*

Watt Hour Meters.

Chamberlain & Hookham, Ltd., New Bartholomew-st., Birmingham. (Telegrams: "Solar, Birmingham.") *See advt., page* 497.

GEIPEL, WM., & CO. (late Geipel & Lange), Vulcan Works, 72A, St. Thomas-st., London, S.E. (Telegs: "Patella, London." Teleph. Nos. 594 & 595, Hop.) *See advt., page* 19.

Wattmeters (indicating).

NALDER BROS. & THOMPSON, LTD., 34, Queen-st., London, E.C. *See advt., page* 643.

Welded & Riveted Steel Pipes.

Piggott, T., & Co., Ltd., 63, Queen Victoria-st., London, E.C.

Welding—Electric.

F.—Soudure électr.

G.—Elektr. Schweissen.

Electric Welding Co., Ltd., 28, Basinghall-st., London, E.C.

Smith, Parfrey & Co., Ltd., Rannoch-st., Fulham Palace-rd., Hammersmith, London, W.

White Metal Manufacturers.

F.—Métal blanc—Fab. de.

G.—Weiss Metall—Fabr. von.

Broughton Copper Co., Ltd., Broughton Copper Works, Manchester.

Grey & Marten, Ltd., Southwark Bridge, London, S.E. (Telegrams: "Amalgam, London." Telephone No. 750, Hop.)

Winches—Electric.

CLARKE, CHAPMAN & CO., LTD., Victoria Works, Gateshead-on-Tyne. (Telegrams: "Cyclops. Gateshead.")

CROMPTON & CO., LTD., Salisbury House, London Wall, London, E.C. Works: Chelmsford. *See advt. inside front cover.*

Winches for Arc Lamps.

F.—Treuils pour lampes à arc.

G.—Winde für Bogenlampen.

Abbott & Co. (Newark), Ltd., Newark-on-Trent.

Baxendale & Co., Miller-st. Works & Warehouses, Manchester; Hanover-st., Edinburgh; Capel-st., Dublin; & Hood-st., Liverpool.

Donovan & Co., 22, Barwick-st., Birmingham.

Field, Mallett & Co., Ltd., 2, St. Dunstan's Hill, London, E.C.

Globe Electric Co., Ltd., 11, Farringdon-ave., London, E.C. Works: Holloway, N. (Telegs.: "Santochimo, London." Teleph. Central 4774.)

ELECTRIC TRADE MARK

GREVENER, J. & H., Eldon-st. House, Eldon-st., London, E.C.

London Electric Firm, George-st., Croydon.

UNION ELECTRIC CO., LTD., Park-st., Southwark, London, S.E. (Telegs.: "Abeam, London." A B.C. Code. Teleph. Hop. 2970.) *See advt., page* 563.

Wire Cable Machine Makers.

F.—Machines à faire les Cables—Fab. de.

G.—Draht-Kabel Maschinen—Fabr. von.

Iddon Bros., Ltd., Brookfield Iron Works, Leyland, nr. Preston.

Johnson & Phillips, Ltd., Victoria Works, Charlton, S.O., Kent; & 12, Union-ct., Old Broad-st., E.C. *See advt. inside back cover.*

SELIG, SONNENTHAL & CO., 85, Queen Victoria-st., London, E.C. (Telegs.: "Selig, London." Teleph. Nos.: 341, Bank; & 11779, Central.) *See advt., page* 637.

Washington & Co., Ltd., Sowerby-bridge, York. (Telegrams: "Washington, Sowerby-bridge.")

Wire Cord Manufacturers.

F.—Cordes de Fil électr.—Fab. de.

G.—Drahtschnur—Fab. von.

General Electric Co., Ltd. (*G. Byng, chairman*). Head office: 71, Queen Victoria-st., London, E.C. Works: London, Manchester, Birmingham & Witton. For branch offices, telegraphic addresses & telephone numbers, *see* ALPHABETICAL SECTION. *See advts., pages* 446, 707 *&* 734.

Lewis, Joseph, 5 & 6, Great Winchester-st., London, E.C. (Telephone No. 3053, Central.) *See* LIGHTNING CONDUCTORS.

Midland Wire Cordage Co. (Davison's), Orchard Works, Vincent-st., Balsall-heath, Birmingham. (Telegs.: "Orchard, Birmingham.")

Wire Cord Manufacturers—*continued.*

NORTHERN ELECTRIC WIRE CO., THE, SEDBURGH MILLS, HALIFAX. (TELEGRAMS: "CABLES, HALIFAX." TELEPHONE NO. 127.) *See advt., page* 744.

ORMISTON, P., & SONS, 79, Clerkenwell-rd., E.C. (Telegs.: "Ormiston, London." Teleph. No. 13259, Central.) *See advt., page* 601.

Saxonia Electrical Wire Co., Ltd., Roan Works, Roan-st., Greenwich, S.E.

SMITH, FREDERICK, & CO., INCORPORATED IN THE LONDON ELECTRIC WIRE CO. & SMITHS, LTD., Wire Manufacturers, Anaconda Works, Salford, Manchester. Copper wire, hard-drawn H.C. long lengths copper wire, plain soft tinned, & strips for all electrical purposes. Tape & strand for lightning conductors. Silicium bronze wire, "Cog-wheel Brand." Phosphor bronze spring wire, aluminium wire & strip. (Telegs.: "Anaconda, Manchester.") *See advt., page* 747.

Union Cable Co., Ltd., The, Eagle Wharf-rd., London, N. *See advt., page* 4.

UNSWORTH, G. B., & SONS, LTD., Green-lane Mills, Derby. (Telegrams: "Unsworth, Derby.") *See advt.* BELOW.

WESTERN ELECTRIC CO., Norfolk House, Victoria Embankment, London, W.C. Works: North Woolwich. *See advts., pages* 439 *&* 720.

Wire Coverers—Cotton.

F.—Fil recouvert—Coton.
G.—Drahtspinner—Baumwolle.

BRITISH INSULATED & HELSBY CABLES, LTD. Head office: Prescot, Lancs. Works: Prescot, Helsby & Liverpool. For branch offices, telegraphic & telephonic addresses, *see* ALPHABETICAL ENTRY. *See advt., page* 437.

CONNOLLY BROS., LTD., Blackley Vale Mills, Blackley, Manchester. *See advt., page* 438.

Glover, W. T., & Co., Ltd., Trafford Park, Manchester. (Telegs.: "Cables, Manchester." Tel. Central 7200 (6 lines).) London: Parliament Mansions, Orchard-st., S.W. *See* ALPHABETICAL.

HAWKINS BROS. & CO., LTD., Hatfield-st. & Basterfield-st., Golden-lane, London, E.C. *See advt., page* 440.

Holloway, F. E., 35, Summerfield-crescent, Birmingham.

Johnson & Phillips, Ltd., Electric Cable Works, Charlton, S.O., Kent. Depôts: Glasgow, Newcastle, &c. *See advt. inside back cover.*

Liverpool Electric Cable Co., Ltd., Vauxhall-rd., Liverpool. (Telegs.: "Concentric, Liverpool." Teleph. No. 6563.) *See advt., page* 440.

LONDON ELECTRIC WIRE COMPY. & SMITHS, LTD., THE, Playhouse-yard, Golden-lane, London, E.C. *See advt. facing inside back cover.*

ESTABLISHED 1827. Telegraphic Address: "UNSWORTH, DERBY."

G. B. UNSWORTH & SONS, LTD.

GREEN LANE MILLS, DERBY.

Gold Medals—London, Saltaire, and Paris.

TRADE MARK

Gold Medals—London, Saltaire, and Paris.

Manufacturers of Electrical Wires of every description for Electrical Instruments, Dynamo Machines, Telephones, & Electric Bells.

Insulated Line Wires & Cables,

For Use in Mines, Hotels, etc.

PLAIN AND BRAIDED FLEXIBLE CORDS, SILK, COTTON, AND WORSTED COVERED WIRES, OF ALL SIZES AND DESCRIPTION.

Large Stock of the Leading Wires always on hand.

PERFECT WORK AND QUICK DESPATCH GUARANTEED.

Wire Coverers—Cotton—*continued.*

MIDLAND ELECTRIC WIRE CO., LTD., Leicester. (Telegs.: "Conductors, Leicester." Teleph. No. 45.) *See advt., page* 482.

NORTHERN ELECTRIC WIRE CO., THE, SEDBURGH MILLS, HALIFAX. (TELEGRAMS: "CABLES, HALIFAX." TELEPHONE NO. 127.) *See advt., page* 744.

Registered Trade Mark.

ORMISTON, P., & SONS, 79, Clerkenwell-rd., E.C. (Telegs.: "Ormiston, London." Teleph. No. 13259, Central.) *See advt., page* 601.

Rickard, William, Ltd., Ashbourne-rd. Mills, Derby. (Telegrams: "Rickard, Derby." Telephone No. 18.) *See advt. facing title page.*

St. Helen's Cable & Rubber Co., Ltd., Warrington.

Sloan Electrical Co., Ltd. (agents), 15, Fore-st.-ave., London, E.C.

Smith, H. W., & Co., Lydbrook, Glos.

Union Cable Co., Ltd., The, Eagle Wharf-rd., London, N. *See advt., page* 4.

UNSWORTH, G. B., & SONS, LTD., Greenlane Mills, Derby. (Telegrams: "Unsworth, Derby.") *See advt.* OPPOSITE.

WARD & GOLDSTONE, Sampson Works, Salford, Manchester. (Telegs.: "Multum, Manchester." Teleph. Nos. 7084 & 7085, & Trunk line.) *See advt., page* 756.

Western Electric Co., Norfolk House, Victoria Embankment, London, W.C. Works: North Woolwich. *See advts., pages* 439 *&* 720.

Wire Coverers—Indiarubber & Guttapercha.

F.—Fil recouvert—Caoutchouc et G. P.

G.—Drahtspinner—Gummi u. Gutta Percha.

BRITISH INSULATED & HELSBY CABLES, LTD. Head office: Prescot, Lancs. Works: Prescot, Helsby & Liverpool. For branch offices, telegraphic & telephonic addresses, *see* ALPHABETICAL ENTRY. *See advt., page* 437.

Callender's Cable & Construction Co., Ltd., Hamilton House, Victoria Embankment, London, E.C. *See advt., page* 441.

CONNOLLY BROS., LTD., Blackley Vale Mills, Blackley, Manchester. *See advt., page* 438.

Craigpark Electric Cable Co., Ltd., Springburn, Glasgow.

Glover, W. T., & Co., Ltd., Trafford Park, Manchester. (Telegs.: "Cables, Manchester." Tel. Central 7200 (6 lines).) London: Parliament Mansions, Orchard-st., S.W. *See* ALPHABETICAL.

GRIFFITHS BROS. & CO., Macks-rd., Bermondsey, S.E. Sole makers of "Anti-Sulphuric" Enamel for protecting metal from acid fumes, & "Ohmaline," "Armour" fireproofing paint liquid for cotton covering, "Insulderm" for coating wires. *See advt., page* 18.

Wire Coverers—Indiarubber & Guttapercha—*continued.*

HENLEY'S, W. T., TELEGRAPH WORKS CO., LTD. Offices: Blomfield-st., London, E.C. *See advt., page* 22.

INDIA RUBBER, GUTTA PERCHA & TELEGRAPH WORKS CO., LTD. Head offices: 106, Cannon-st., E.C. Warehouses: 100 & 102, Cannon-st., London, E.C.; & 97, boul. Sebastopol, Paris. Works: Silvertown, Essex; & Persan, France. For telegraphic addresses & branches, *see advt. outside of back cover.*

Johnson & Phillips, Ltd., Electric Cable Works, S.O., Charlton, Kent. Depôts: Glasgow, Newcastle, &c. *See advt. inside back cover.*

Liverpool Electric Cable Co., Ltd., Vauxhall-rd., Liverpool. (Telegrams: "Concentric, Liverpool." Teleph. No. 6563.) *See advt., page* 440.

LONDON ELECTRIC WIRE COMPY. & SMITHS, LTD., THE, Playhouse-yard, Golden-lane, London, E.C. *See advt. facing inside back cover.*

MIDLAND ELECTRIC WIRE CO., LTD., Leicester. (Telegs.: "Conductors, Leicester." Teleph. No. 45.) *See advt., page* 482.

NEW GUTTA PERCHA CO., LTD., Dashwood House, New Broad-st., London, E.C. *See advt., page* 400.

NORTHERN ELECTRIC WIRE CO., THE, SEDBURGH MILLS, HALIFAX. (TELEGRAMS: "CABLES, HALIFAX." TELEPHONE NO. 127.) *See advt., page* 744.

Registered Trade Mark.

Nussbaum, G. A., St. Martin's House, 29, Ludgate Hill, London, E.C.

Pirelli, Ltd., 45, Basinghall-st., London, E.C.

Reliance Electrical Wire Co., 36, Spital-sq., Bishopsgate, E.C.

Rickard, William, Ltd., Ashbourne-rd. Mills, Derby. (Telegrams: "Rickard, Derby." Telephone No. 18.) *See advt. facing title page.*

Siemens Bros. & Co., Ltd., Caxton House, Westminster, London, S.W. *See advt., page* 573.

Smith, H. W., & Co., Lydbrook, Glos.

Union Cable Co., Ltd., The, Eagle Wharf-rd., London, N. *See advt., page* 4.

UNSWORTH, G. B., & SONS, LTD., Greenlane Mills, Derby. (Telegrams: "Unsworth, Derby.") *See advt.* OPPOSITE.

WARD & GOLDSTONE, Sampson Works, Salford, Manchester. (Telegs.: "Multum, Manchester." Teleph. Nos. 7084 & 7085, & Trunk line.) *See advt., page* 756.

Western Electric Co., Norfolk House, Victoria Embankment, London, W.C. Works: North Woolwich. *See advts., pages* 439 *&* 720.

Wire Coverers—Silk.

F.—Fil recouvert—Soie.

G.—Drahtspinner—Seide.

BRITISH INSULATED & HELSBY CABLES, LTD. Head office: Prescot, Lancs. Works: Prescot, Helsby & Liverpool. For branch offices, telegraphic & telephonic addresses, *see* ALPHABETICAL ENTRY. *See advt., page* 437.

Dould, Charles, 1A, Fore-st., London, E.C.

Glover, W. T., & Co., Ltd., Trafford Park, Manchester. (Telegs.: "Cables, Manchester." Tel. Central 7200 (6 lines).) London: Parliament Mansions, Orchard-st., S.W. *See* ALPHABETICAL.

HAWKINS BROS. & CO., LTD., Hatfield-st. & Basterfield-st., Golden-lane, London, E.C. *See advt., page* 440.

LONDON ELECTRIC WIRE COMPY. & SMITHS, LTD., THE, Playhouse-yard, Golden-lane, London, E.C. *See advt. facing inside back cover.*

MIDLAND ELECTRIC WIRE CO., LTD., Leicester. (Telegs.: "Conductors, Leicester." Teleph. No. 45.) *See advt., page* 482.

NORTHERN ELECTRIC WIRE CO., THE, SEDBURGH MILLS, HALIFAX. (TELEGRAMS: "CABLES, HALIFAX." TELEPHONE NO. 127.) *See advt.* BELOW.

ORMISTON, P., & SONS, 79, Clerkenwell-rd., E.C. (Telegs.: "Ormiston, London." Teleph. No. 13259, Central.) *See advt., page* 601.

Wire Coverers—Silk—*continued.*

Rickard, William, Ltd., Ashbourne-rd. Mills, Derby. (Telegs.: "Rickard, Derby." Teleph. No. 18.) *See advt. facing title page.*

St. Helen's Cable & Rubber Co., Ltd., Warrington.

Union Cable Co., Ltd., The, Eagle Wharf-rd., London, N. *See advt., page* 4.

UNSWORTH, G. B., & SONS, LTD., Greenlane Mills, Derby. (Telegrams: "Unsworth, Derby.") *See advt., page* 742.

Wire Covering Machine Manufacturers.

F.—Machines à recouvrir les fil.

G.—Maschinen zum Drahtumspinnen—Fab.

Edward, George, & Co., Hercules Iron Works, Johnstone, nr. Glasgow.

Glover, W. T., & Co., Ltd., Trafford Park, Manchester. (Telegs.: "Cables, Manchester." Tel. Central 7200 (6 lines).) London: Parliament Mansions, Orchard-st., S.W. *See* ALPHABETICAL.

Johnson & Phillips, Ltd., Victoria Works, Charlton, S.O., Kent; & 12, Union-ct., Old Broad-st., E.C. *See advt. inside back cover.*

Maschinenbauanstalt für Kabelfabrikation, Conrad Felsing, jun., Coepenick, nr. Berlin. *See advt., page* 14.

Robinson, J., & Co., Springfield Iron Works, Salford.

THE NORTHERN ELECTRIC WIRE Co.,

(FRANK PATCHETT; RILEY PATCHETT.)

SEDBURGH MILLS, HALIFAX.

MAKERS OF ALL DESCRIPTIONS OF

Vulcanized Indiarubber, Electric Light Wires & Cables, Flexible Cords.

Silk and Cotton-covered Magnet Wires, Gutta Percha and Indiarubber-covered Bell Wires.

Specialities { VULCANIZED FLEXIBLE CORDS & SHOT-FIRING CABLES.

Telegraphic Address: "CABLES, HALIFAX." Telephone No. 127.

Wire Covering Machine Manufacturers
—continued.

SELIG, SONNENTHAL & CO., 85, Queen Victoria-st., London, E.C. (Telegs.: "Selig, London." Teleph. Bank 341; & Central 11779.) *See advt., page* 637.

Washington & Co., Ltd., Sowerby Bridge, Yorks. (Telegrams: "Washington, Sowerby Bridge.")

Wire Drawers.

F.—Étireurs de Fil.

G.—Draht-Zieher.

Binns, J. & A., West Mount Wire Works, Halifax.

Brearley, Ralph, Woodland Wire Mill, Brighouse, Yorks.

BRITISH INSULATED & HELSBY CABLES, LTD. Head office: Prescot, Lancs. Works: Prescot, Helsby & Liverpool. For branch offices, telegraphic & telephonic addresses, *see* ALPHABETICAL ENTRY. *See advt., page* 437.

Christie, George, Ltd., Ladywell Wire Works, Govan, Glasgow; & 70 & 71, Bishopsgate-st. Within, London, E.C.

Clifford, Charles, & Son, Ltd., Fazeley-st., & Dog-pool Mills, Birmingham.

DENNIS, W. F., & CO., Albert-bldgs., 49, Queen Victoria-st., London, E.C.

Espir, Fernand, 3, East India-ave., London, E.C. (Agent for Tréfileries et Laminoirs du Havre (Anciens Établissements Lazare Weiller et Sté. Cooperative de Rugles réunis).) *See advts., pages* 662 *&* 751.

FELTEN & GUILLEAUME LAHMEYER-WERKE ACT. GES., MÜLHEIM AM RHEIN. (Lahmeyer Electrical Co., Ltd., agents, Bank-bldgs., 109–111, New Oxford-st., London, W.C.)

Greening, N., & Sons, Ltd., Warrington.

Haley, S., & Sons, Ltd., Pyenot Hall Mills, Cleckheaton, Yorkshire.

Hallam, G., & Co., Havelock Steel & Wire Mills, Walkley Bank, nr. Sheffield.

Hawkins Bros. & Co., Ltd., London Wire Mills, Hatfield-st., & Basterfield-st., Golden-lane, London, E.C. *See advt., page* 440.

Hughes, William, Ltd., 37, Drury-lane, London, W.C.

Jagger, J. & G., Old Wire Mills, Thurgoland, Sheffield.

Johnson, C. H., & Sons, Ltd., Manchester Wire Works, Smedley-rd., Manchester.

Law, S., & Sons, Ltd., Moorland Mills, Cleckheaton, Yorks.

LONDON ELECTRIC WIRE COMPY. & SMITHS, LTD., THE, Playhouse-yard, Golden-lane, London, E.C. *See advt. facing inside back cover.*

Longford Wire Co., Ltd., Warrington.

North British Wire Manufacturing Co., Glasgow & London.

Wire Drawers—*continued.*

NORTHERN ELECTRIC WIRE CO., THE, SEDBURGH MILLS, HALIFAX. (TELEGRAMS: "CABLES, HALIFAX." TELEPHONE NO. 127.) *See advt.* OPPOSITE.

Registered Trade Mark.

ORMISTON, P., & SONS, 79, Clerkenwell-rd., E.C. (Telegs.: "Ormiston, London." Teleph. No. 13259, Central.) *See advt., page* 601.

RAMSDEN, CAMM & CO., LTD., Brighouse, Yorkshire. Specialities in copper & brass wires to finest sizes. (Telegrams: "Ramsden, Brighouse." Teleph. No. 5.) *See advt., page* 747.

Russell & Son, 73, Stibbington-st., London, S.W.

Sheffield Wire Co., Arundel-street, Sheffield.

SHROPSHIRE IRON CO., LTD., Hadley, near Wellington, Salop. (Telegrams: "Sun, Wellington, Salop.") *See advt., page* 750.

SMITH, FREDERICK, & CO., INCORPORATED IN THE LONDON ELECTRIC WIRE CO. & SMITHS, LTD., Wire Manufacturers, Anaconda Works, Salford, Manchester. Copper wire, hard-drawn H.C. long lengths copper wire, plain soft tinned, & strips for all electrical purposes. Tape & strand for lightning conductors. Silicium bronze wire, "Cog-wheel Brand." Phosphor bronze spring wire, aluminium wire & strip. (Telegs.: "Anaconda, Manchester.") *See advt., page* 747.

Smith, H. W., & Co., Lydbrook, Glos.

Stanton, Fredk. & Edwin, Silk Mills, Lewisham, London, S.E.

Tayler, D. F., & Co., Ltd., New Hall Works, George-street, Birmingham.

Tyne Wire Drawing Co., Ltd., South-shore, Gateshead.

Wordsworth, Geo., & Sons, New Wire Mill, Thurgoland, Sheffield.

Worrall, Hallam & Co., Needle Works, Warren-street, Sheffield.

Young, T. W., 220, Old-st., London, E.C.

Wire Draw-Plate Makers.

F.—Filière à tirer—Fab.

G.—Zieheisen-Fabriken.

Woods, T. G., & Sons, Clerkenwell, London, E.C.

Wire Gauge Manufacturers.

F.—Fil—Fab. de Machines pour Calibrer le.

G.—Draht-Messer—Fabr.

Apps, A., 433, Strand, London, W.C.

Glover, W. T., & Co., Ltd., Trafford Park, Manchester. (Telegs.: "Cables, Manchester." Tel. Central 7200 (6 lines).) London: Parliament Mansions, Orchard-st., S.W. *See* ALPHABETICAL.

Smith, J. Ciceri, Raymond House, 32, Theobald's-rd., London, W.C.

Wire Gauze Manufacturers.

PATENT PROCESS WIRE WEAVING CO., Bridgeton, Glasgow. (Telegrams: "Durable, Glasgow." Nat. Telephone No. 2527.) *See advt., page* 478.

Wire Manufacturers—Armature Binding.

Brunton, W. N., & Son, Musselburgh, Scotland.

Wire Manufacturers—Braided.

F.—Fil tressé—Fab. de.
G.—Draht Fab.—Geflochten.

Donovan & Co., 22, Barwick-st., Birmingham.

General Electric Co., Ltd. (*G. Byng, chairman*). Head office: 71, Queen Victoria-st., London, E.C. Works: London, Manchester, Birmingham & Witton. For branch offices, telegraphic addresses & telephone numbers, *see* ALPHABETICAL SECTION. *See advts., pages* 446, 707 *&* 734.

Geoffroy & Delore (A. H. Hunt), 115-117, Cannon-st., London, E.C. (Telegrams: "Keyage, London." Telephone No. 8114, Bank.)

Glover, W. T., & Co., Ltd., Trafford Park, Manchester. (Telegs.: "Cables, Manchester." Tel. Central 7200 (6 lines).) London: Parliament Mansions, Orchard-st., S.W. *See* ALPHABETICAL.

INDIA RUBBER, GUTTA PERCHA & TELEGRAPH WORKS CO., LTD. Head offices: 106, Cannon-st., E.C. Warehouses: 100 & 102, Cannon-st., London, E.C.; & 97, boul. Sebastopol, Paris. Works: Silvertown, Essex; & Persan, France. For telegraphic addresses & branches, *see advt. outside of back cover.*

Johnson & Phillips, Ltd., Electric Cable Works, Charlton, S.O., Kent. Depôts: Glasgow, Newcastle, &c. *See advt. inside back cover.*

LONDON ELECTRIC WIRE COMPY. & SMITHS, LTD., THE, Playhouse-yard, Golden-lane, London, E.C. *See advt. facing inside back cover.*

MIDLAND ELECTRIC WIRE CO., LTD., Leicester. (Telegs.: "Conductors, Leicester." Teleph. No. 45.) *See advt., page* 482.

NORTHERN ELECTRIC WIRE CO., THE, SEDBURGH MILLS, HALIFAX. (TELEGRAMS: "CABLES, HALIFAX." TELEPHONE NO. 127.) *See advt., page* 744.

Saxonia Electrical Wire Co., Ltd., Roan Works, Roan-st., Greenwich, S.E.

Union Cable Co., Ltd., The, Eagle Wharf-rd., London, N. *See advt., page* 4.

UNSWORTH, G. B., & SONS, LTD., Greenlane Mills, Derby. (Telegrams: "Unsworth, Derby.") *See advt., page* 742.

WARD & GOLDSTONE, Sampson Works, Salford, Manchester. (Telegs.: "Multum, Manchester." Teleph. Nos. 7084 & 7085, & Trunk line.) *See advt., page* 756.

Wire Manufacturers—Brass.

F.—Fil—laiton—Fab.
G.—Draht fabr.—Messing.

Beyer, Fred, 8 & 9, Great St. Helen's, London, E.C.

Bolton, Thomas, & Sons, Ltd., Mersey Copper Works, Widnes; Oakamoor, North Staffs.; Broad-st. Metal Works, Birmingham; & 88, Bishopsgate-st. Within, London, E.C.

DAVIS & TIMMINS, LTD., York-rd., King's Cross; & Wood Green, N. (Telegs.: "Conductivity, London." Tel. 11070, Central.) *See advt., page* 687.

Heaton & Dugard, Shadwell-street Mills, Birmingham.

Kuhn, Ernst, 7, Savage-gardens, London, E.C.

ORMISTON, P., & SONS, 79, Clerkenwell-rd., E.C. (Telegs.: "Ormiston, London." Teleph. No. 13259, Central.) *See advt., page* 601.

Ramsden, Camm & Co., Ltd., Brighouse, Yorkshire. H.C. copper wire. *See advt.* OPPOSITE.

Rheinische Westfalische Kupferwerke, 6, Lime-street, London, E.C.

SHROPSHIRE IRON CO., LTD., Hadley, nr. Wellington, Salop. (Telegrams: "Sun, Wellington, Salop.") *See advt., page* 750.

SMITH, FREDERICK, & CO., INCORPORATED IN THE LONDON ELECTRIC WIRE CO. & SMITHS, LTD., Wire Manufacturers, Anaconda Works, Salford, Manchester. Copper wire, hard-drawn H.C. long lengths copper wire, plain soft tinned, & strips for all electrical purposes. Tape & strand for lightning conductors. Silicium bronze wire, "Cog-wheel Brand." Phosphor bronze spring wire, aluminium wire & strip. (Telegs.: "Anaconda, Manchester.") *See advt.* OPPOSITE.

Smith & Sons, 42, 44, 46, 47, 50 & 52, St. John's-sq., London, E.C.

Tayler, D. F., & Co., Ltd., New Hall Works, George-street, Birmingham.

United Wire Works, Ltd., Edina Works, Edinburgh; Glasgow; & Newcastle.

Vivian, H. H., & Co., Ltd., 43 & 44, George-street-parade, Birmingham.

Wire Manufacturers—Copper.

F.—Fil—cuivre—Fab.
G.—Draht fabr.—Kupfer.

Altendorf & Wright, Vesey-st., Birmingham.

BATH, HENRY, & SON, A-12, Exchange-bldgs., Liverpool. Agents for the WACLARK WIRE CO., New York, makers of high conductivity trolley wire, copper rods & all sizes of drawn wire. (Telegs.: "Bathota, Liverpool." Teleph. Central 5141.)

Beyer, Fred, 8 & 9, Great St. Helen's, London, E.C. Fine Wires.

FREDERICK SMITH & Co.,

Incorporated in The London Electric Wire Co. & Smiths, Ltd.,

Anaconda Works, Salford, Manchester.

Contractors to H.M. Government and Railway Companies.

COPPER WIRE

(100 PER CENT. CONDUCTIVITY).

Plain Soft. Hard Drawn to Government Specifications. Special Tinned Wire.

TROLLEY WIRE

Specially prepared, in half-mile and mile lengths.

SILICIUM BRONZE WIRE & STRIP

"COGWHEEL" BRAND.

PHOSPHOR BRONZE SPRING WIRE.

ALUMINIUM WIRE & STRIPS for all purposes.

Wire Manufacturers—Copper—*continued.*

Bolton, Thomas, & Sons, Ltd., Mersey Copper Works, Widnes; Oakamoor, North Staffs.; Broad-st. Metal Works, Birmingham; & 88 Bishopsgate-st. Within, London, E.C.

BRITISH INSULATED & HELSBY CABLES, LTD. Head office: Prescot, Lancs. Works: Prescot, Helsby & Liverpool. For branch offices, telegraphic & telephonic addresses, *see* ALPHABETICAL ENTRY. *See advt., page* 437.

Christie & Co., 134, Upper Thames-st., London, E.C. (Agents for the Compagnie Française des Metaux.) Best H.C. Copper Wire, hard & soft, plain & tinned.

DAVIS & TIMMINS, LTD., York-rd., King's Cross; & Wood Green, N. (Telegs.: "Conductivity, London." Tel. 11070, Central.) *See advt., page* 687.

De Grelle, Houdret & Co., 130, London Wall, E.C.

Espir, Fernand, 3, East India-ave., London, E.C. (Agent for Tréfileries et Laminoirs du Havre (Anciens Établissements Lazare Weiller et Société Cooperative de Rugles réunis).) *See advts., pages* 662 & 751.

Felten & Guilleaume Lahmeyerwerke Actien Gesellschaft, Mülheim am Rhein. (Lahmeyer Electrical Co., Ltd., agents, Bank-bldgs., 109–111, New Oxford-st., London, W.C.)

Wire Manufacturers—Copper—*continued.*

Gallimore, W., & Sons, Arundel Works, Sheffield.

Geipel, Wm., & Co. (late Geipel & Lange), Vulcan Works, 72A, St. Thomas-st., London, S.E. (Telegs.: "Patella, London." Teleph. No. 594, Hop. (2 lines).) *See advt., page* 19.

Glover, W. T., & Co., Ltd., Trafford Park, Manchester. (Telegs.: "Cables, Manchester." Tel. Central 7200 (6 lines).) London: Parliament Mansions, Orchard-st., S.W. *See* ALPHABETICAL.

Johnson & Phillips, Ltd., Victoria Works, Charlton, S.O., Kent; & 12, Union-ct., Old Broad-st., E.C. *See advt. inside back cover.*

Kemp, A., & Son, Tenby-st. North, Birmingham.

Leeds Electric Co., Ltd., 22, Park Cross-st., Leeds.

LONDON ELECTRIC WIRE COMPY. & SMITHS, LTD., THE, Playhouse-yard, Golden-lane, London, E.C. *See advt. facing inside back cover.*

PATENT PROCESS WIRE WEAVING CO., Bridgeton, Glasgow. (Telegrams: "Durable, Glasgow." Telephone No. 2527, Nat.) *See advt., page* 478.

Powells, Ltd., Vauxhall, Birmingham.

Ramsden, Camm & Co., Ltd., Brighouse, Yorkshire. Best H.C. copper wire, hard or soft, plain & tinned. (Telegrams: "Ramsden, Brighouse." Teleph. No. 5.) *See advt.* BELOW.

RAMSDEN, CAMM & Co., LTD.,

BRIGHOUSE, YORKSHIRE.

MANUFACTURERS OF

TELEGRAPH, TELEPHONE AND CABLE WIRE,

Contractors to H.M. Postmaster-General, the Indian & Colonial Governments and leading Railway Companies.

BEST H. C. COPPER WIRE.

747

For telegraphic addresses & telephone numbers, see Alphabetical Section.

Wire Manufacturers—Copper—*continued.*

Schwarte & Hammer, 3, East India-ave., London, E.C.

SHROPSHIRE IRON CO., LTD., Hadley, near Wellington, Salop. (Telegrams: "Sun, Wellington, Salop.") *See advt., page* 750.

SMITH, FREDERICK, & CO., INCORPORATED IN THE LONDON ELECTRIC WIRE CO. & SMITHS, LTD., Wire Manufacturers, Anaconda Works, Salford, Manchester. Copper wire, hard-drawn H.C. long lengths copper wire, plain soft tinned, & strips for all electrical purposes. Tape & strand for lightning conductors. Silicium bronze wire, "Cog-wheel Brand." Phosphor bronze spring wire, aluminium wire & strip. (Telegs.: "Anaconda, Manchester.") *See advt., page* 747.

Smith & Sons, 42, 44, 46, 47, 50 & 52, St. John's-sq., London, E.C.

Tayler, D. F., & Co., Ltd., New Hall Works, George-street, Birmingham.

Wire Manufacturers—Galvanized Iron & Steel.

F.—Fil—Fer et Acier galvanisé—Fab.

G.—Draht—Verzinktes Eisen und Stahl—Fabr.

Braby, Frederick, & Co., Ltd., Fitzroy Works, 352-364, Euston-rd., London, N.W. For branches, telegraphic addresses & telephone numbers, *see* ALPHABETICAL ENTRY.

Felten & Guilleaume Lahmeyerwerke Actien Gesellschaft, Mülheim am Rhein. (Lahmeyer Electrical Co., Ltd., agents, Bank-bldgs., 109-111, New Oxford-st., London, W.C.)

Ramsden, Camm & Co., Ltd., Brighouse, Yorkshire. (Telegrams: "Ramsden, Brighouse." Telephone No. 5.) *See advt., page* 747.

SHROPSHIRE IRON CO., LTD., Hadley, near Wellington, Salop. (Telegrams: "Sun, Wellington, Salop.") *See advt., page* 750.

SMITH, FREDERICK, & CO., WIRE MANUFACTURERS, LTD., Caledonia Works, Halifax. (Telegs.: "Smith, Halifax.") *See advt.* BELOW.

Whitecross Co., Ltd., Milner-st., Warrington.

Wire Manufacturers—German Silver.

F.—Fil—Maillechort—Fab.

G.—Draht fabr.—Neusilber.

Barker & Allen, Ltd., Rolling & Wire Mills, Spring Hill, Birmingham.

Wire Manufacturers—German Silver—*continued.*

Glover, W. T., & Co., Ltd., Trafford Park, Manchester. (Telegs.: "Cables, Manchester." Tel. Central 7200 (6 lines).) London: Parliament Mansions, Orchard-st., S.W. *See* ALPHABETICAL.

Gorrill, J., Sydney Works, Sydney-st., Sheffield.

Hall-st. Metal Rolling Co., Ltd., Hall-st. Works, & Western-rd. Mills, Birmingham.

HECKFORD, ARTHUR E., Birmingham Metal Works, Birmingham. *See advt., page* 680.

ORMISTON, P., & SONS, 79, Clerkenwell-rd., E.C. (Telegs.: "Ormiston, London." Teleph. No. 13259, Central.) *See advt., page* 601.

Ramsden, Camm & Co., Ltd., Brighouse, Yorkshire. (Telegrams: "Ramsden, Brighouse." Telephone No. 5.) *See advt., page* 747.

SMITH, FREDERICK, & CO., INCORPORATED IN THE LONDON ELECTRIC WIRE CO. & SMITHS, LTD., Wire Manufacturers, Anaconda Works, Salford, Manchester. Copper wire, hard-drawn H.C. long lengths copper wire, plain soft tinned, & strips for all electrical purposes. Tape & strand for lightning conductors. Silicium bronze wire, "Cog-wheel Brand." Phosphor bronze spring wire, aluminium wire & strip. (Telegs.: "Anaconda, Manchester.") *See advt., page* 747.

Smith & Sons, 42, 44, 46, 47, 50 & 52, St. John's-sq., London, E.C.

Wire Manufacturers—Iron.

F.—Fil—Fer—Fab.

G.—Draht fabr.—Eisen.

Beckmann & Co., 21, Finsbury-st., Moorfields, E.C.

Brunton, W. N., & Son, Musselburgh, Scotland.

Felten & Guilleaume Lahmeyerwerke Actien Gesellschaft, Mülheim am Rhein. (Lahmeyer Electrical Co., Ltd., agents, Bank-bldgs., 109-111, New Oxford-st., London, W.C.)

Hadfield's Steel Foundry Co., Ltd., manufacturers of Hadfield's Patent "Era" Manganese steel & "Resista" steel wire & strips for resistance coils, East Hecla Works, Sheffield; & Norfolk House, Laurence Pountney Hill, London, E.C.

Hattemore, M., & Co., 265, Bethnal Green-rd., E.

Haybridge Iron Co., Ltd., Wellington, Salop.

Johnson, Richard, & Nephew, Ltd., Bradford Iron Works, Manchester; 65, London Wall, London, E.C.; & Ambergate Wire Mills, nr. Derby.

Rainforth, W., & Sons, Britannia Iron & Wire Works, Lincoln.

FREDERICK SMITH & CO., WIRE MANUFACTURERS, LTD.

Tel. Add.: "SMITH, HALIFAX." CALEDONIA WORKS, HALIFAX. Tel. No. 31.

Improved Patent & Plough Steel Rope Wire.

Best Galvanized Telegraph & Telephone Wire to all Specifications. Galvanized Fencing Strand & Wire. ***Plated Steel Armature Binding Wire. Thistle Brand Tempered Steel Spring Wire. Cycle & Motor Tyre Wire.*** Hardened & Tempered Steel Wire.

Wire Manufacturers—Iron—*continued.*

Ramsden, Camm & Co., Ltd., Brighouse, Yorkshire. (Telegrams: "Ramsden, Brighouse." Telephone No. 5.) *See advt , page* 747.

Rigby, J., & Sons, Ltd., Parkhouse Mill, Low Moor, Bradford.

SHROPSHIRE IRON CO., LTD., Hadley, near Wellington, Salop. (Telegrams: "Sun, Wellington, Salop.") *See advt., page* 750.

Smith & Sons, 42, 44, 46, 47, 50 & 52, St. John's-sq., London, E.C.

Staniar, John, & Co., Manchester Wire Works, Manchester.

Starkie, Jas., & Sons, Ltd., Preston, Lancs.

Tayler, D. F., & Co., Ltd., New Hall Works, George-street, Birmingham.

White, T., & Sons, 5, Hertford-st., Balsall Heath, Birmingham.

Wire Manufacturers—Manganese Steel.

Hadfield's Steel Foundry Co., Ltd., manufacturers of Hadfield's Patent "Era" Manganese steel & "Resista" steel wire & strips for resistance coils, East Hecla Works, Sheffield; & Norfolk House, Laurence Pountney Hill, London, E.C.

Wire Manufacturers—Phosphor Bronze.

F.—Fil—Phosphor Bronz—Fab.
G.—Draht—Phosphor Bronze—Fabr.

Beyer, Fred, 8 & 9, Great St. Helen's, London, E.C.

Brunton, W. N., & Son, Musselburgh, Scotland.

De Grelle, Houdret & Co., 130, London Wall, London, E.C.

Felten & Guilleaume Lahmeyerwerke Actien Gesellschaft, Mülheim am Rhein. (Lahmeyer Electrical Co., Ltd., agents, Bank-bldgs., 109–111, New Oxford-st., London, W.C.

SHROPSHIRE IRON CO., LTD., Hadley, nr. Wellington, Salop. (Telegrams: "Sun, Wellington, Salop.") *See advt., page* 750.

SMITH, FREDERICK, & CO., INCORPORATED IN THE LONDON ELECTRIC WIRE CO. & SMITHS, LTD., Wire Manufacturers, Anaconda Works, Salford, Manchester. Copper wire, hard-drawn H.C. long lengths copper wire, plain soft tinned, & strips for all electrical purposes. Tape & strand for lightning conductors. Silicium bronze wire, "Cog-wheel Brand." Phosphor bronze spring wire, aluminium wire & strip. (Telegs.: "Anaconda, Manchester.") *See advt., page* 747.

Smith & Sons, 42, 44, 46, 47, 50 & 52, St. John's-sq., London, E.C.

Wire Manufacturers—Platinoid.

F.—Fil—Platine—Fab. de.
G.—Draht fabr.—Platinoid.

LONDON ELECTRIC WIRE COMPY. & SMITHS, LTD., THE, Playhouse-yard, Golden-lane, London, E.C. *See advt. facing inside back cover.*

Wire Manufacturers—Platinum.

F.—Fil de Platine—Fab. de.
G.—Draht—Fabr.—Platin.

JOHNSON, MATTHEY & CO., LTD., 74–81, Hatton Garden, London, E.C.

Wire Manufacturers—Steel.

F.—Fil—Fab. de—Acier.
G.—Draht-Fabriken—Stahl.

Beyer, Fred, 8 & 9, Great St. Helen's, London, E.C. Fine Wires.

Cookes & Swinnerton, Barrow Steel Wire Works, Barrow-in-Furness.

Düsseldorfer Eisen und Draht Industrie (Schwartc & Hammer), 6, Lime-st., London, E.C.

Elliot, Geo., & Co., Ltd., Steel & Wire Mills, Heeley, Sheffield.

Hirst, Charles, & Sons, Ltd., Exchange Mill, Cleckheaton, Yorkshire.

Ramsden, Camm & Co., Ltd., Brighouse, Yorkshire. (Telegrams: "Ramsden, Brighouse." Teleph. No. 5.) *See advt., page* 747.

SHROPSHIRE IRON CO., LTD., Hadley, nr. Wellington, Salop. (Telegrams: "Sun, Wellington, Salop.") *See advt., page* 750.

Smith, E. A., & Co., Ltd., Phœnix Works, Cleckheaton.

Smith & Sons, 42, 44, 46, 47, 50 & 52, St. John's-sq., London, E.C.

Tayler, D. F., & Co., Ltd., New Hall Works, George-street, Birmingham.

Wall, G. P., Magneto Works, Sheffield.

Wire Manufacturers—Telegraph.

F.—Fil télégraphique—Fab. de.
G.—Draht Fabriken für Telegraphie.

Bolton, Thomas, & Sons, Ltd., Mersey Copper Works, Widnes; Oakamoor, North Staffs.: Broad-st. Metal Works, Birmingham; & 88, Bishopsgate-st. Within, London, E.C.

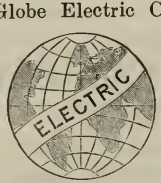
BRITISH INSULATED & HELSBY CABLES, LTD. Head office: Prescot, Lancs. Works: Prescot, Helsby & Liverpool. For branch offices, telegraphic & telephonic addresses, *see* ALPHABETICAL ENTRY. *See advt., page* 437.

Connolly Bros., Ltd., Blackley Vale Mills, Blackley, Manchester. *See advt., page* 438.

DENNIS, W. F., & CO., Albert-bldgs., 49, Queen Victoria-st., E.C.

Espir, Fernand, 3, East India-ave., London, E.C. (Agent for Tréfileries et Lancinoirs, du Havre (Anciens Établissements Lazare Weiller et Sté. Cooperative de Rugles réunis).) *See advts., pages* 662 *&* 751.

Globe Electric Co., Ltd., 11, Farringdon-ave., London, E.C. Works: Holloway, N. (Telegs.: "Santochimo, London." Teleph. Central 4774.)



TRADE MARK

Wire Manufacturers—Telegraph—*contd.*

Glover, W. T., & Co., Ltd., Trafford Park, Manchester. (Telegs.: "Cables, Manchester." Tel. Central 7200 (6 lines).) London: Parliament Mansions, Orchard-st., S.W. *See* ALPHABETICAL.

Gössell, Otto (Aix-la-Chapelle Iron & Steel Co.), 110, Cannon-st., London, E.C.

HENLEY'S, W. T., TELEGRAPH WORKS CO., LTD. Offices: Blomfield-st., London, E.C. *See advt., page* 22.

Hooper's Telegraph & Indiarubber Works, Ltd. 31, Lombard-street, London, E.C.

INDIA RUBBER, GUTTA PERCHA & TELEGRAPH WORKS CO., LTD. Head offices: 106, Cannon-st., E.C. Warehouses: 100 & 102, Cannon-st., London, E.C.; & 97, boul. Sebastopol, Paris. Works: Silvertown, Essex; & Persan, France. For telegraphic addresses & branches, *see advt. outside of back cover.*

King's Norton Metal Co., Ltd., 16, Great George-st., London, S.W.; & King's Norton, nr. Birmingham.

Koenigs, H., & Co., 38, Lime-st., London, E.C.

LONDON ELECTRIC WIRE COMPY. & SMITHS, LTD., THE, Playhouse-yard, Golden-lane, London, E.C. *See advt. facing inside back cover.*

Moenich, Oscar & Co., Ltd., Billiter House, Billiter-st., London, E.C.

NORTHERN ELECTRIC WIRE CO., THE, SEDBURGH MILLS, HALIFAX. (TELEGRAMS: "CABLES, HALIFAX." TELEPHONE NO. 127.) *See advt., page* 744.

ORMISTON, P., & SONS, 79, Clerkenwell-rd., E.C. (Telegs.: "Ormiston, London." Teleph. No. 13259, Central.) *See advt., page* 601.

Patchett, G., & Sons, Sedburgh Mills, Halifax.

Power, F. A., & Son, Midland Wire Mills, Saltley, Birmingham.

Wire Manufacturers—Telegraph—*contd.*

RAMSDEN, CAMM & CO., LTD., Brighouse, Yorkshire. Manufacturers of Telegraph & Telephone Wire. Iron & Steel Wire for Submarine Cables, &c. **H.C. COPPER WIRE.** Contractors to H.M. Postmaster-General. (Telegrams: "Ramsden, Brighouse." Telephone No. 5.) *See advt., page* 747.

Royston, J., Son & Co., Ltd., Shrogg's Mills, Halifax.

Rylands Bros., Ltd., Warrington.

Shipman, J., & Co., Attercliffe, Sheffield.

SHROPSHIRE IRON CO., LTD., Hadley, nr. Wellington, Salop. (Telegrams: "Sun, Wellington, Salop.") *See advt.* BELOW.

Siemens Bros. & Co., Ltd., Caxton House, Westminster, London, S.W. *See advt., page* 573.

SMITH, FREDERICK, & CO., INCORPORATED IN THE LONDON ELECTRIC WIRE CO. & SMITHS, LTD., Wire Manufacturers, Anaconda Works, Salford, Manchester. Copper wire, hard-drawn H.C. long lengths copper wire, plain soft tinned, & strips for all electrical purposes. Tape & strand for lightning conductors. Silicium bronze wire, "Cog-wheel Brand." Phosphor bronze spring wire, aluminium wire & strip. (Telegs.: "Anaconda, Manchester.") *See advt., page* 747.

SMITH, FREDERICK, & CO., WIRE MANUFACTURERS, LTD., Caledonia Works, Halifax. Patent galvanized high conductivity telegraph wire to all specifications. (Telegs.: "Smith, Halifax.") *See advt., page* 748.

THE SHROPSHIRE IRON CO., LTD.,

HADLEY, near WELLINGTON, SALOP.

LONDON: 110, CANNON STREET.

BARS, HOOP, SECTIONS & WIRE

MANUFACTURED IN

Iron, Steel, Copper & Brass.

GALVANIZED, TELEGRAPH, TELEPHONE,
CABLE & TROLLEY WIRE to all Specifications.

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CONTRACTORS TO H.M. POSTMASTER-GENERAL, ADMIRALTY, WAR OFFICE, INDIAN & COLONIAL GOVERNMENTS, ENGLISH & FOREIGN RAILWAY COMPANIES.

BEST H.C. COPPER AND BRONZE WIRE.

Telegrams: "SUN, WELLINGTON, SALOP." "SUNBRAND, LONDON."

Telephone No. 11, Wellington, Salop. London: 4959 BANK.

SYDNEY BRONZE MEDAL, 1879. NEW ZEALAND GOLD MEDAL, 1882.
LIVERPOOL SILVER MEDAL, 1886. ADELAIDE GOLD MEDAL, 1887.
FRANCO-BRITISH GRAND PRIX (Highest Award), 1908.

Wire Manufacturers—Telegraph—*contd.*

Union Cable Co., Ltd., The, Eagle Wharf-rd., London, N. *See advt., page* 4.

Warden, Joseph, & Sons, 110, Cannon-street, London, E.C.

Western Electric Co., Norfolk House, Victoria Embankment, London, W.C. Works: North Woolwich. *See advts., pages* 439 *&* 720.

Wire Manufacturers—Telephone.

F.—Fil Téléphonique—Fab. de.
G.—Draht für Telephonie.

Bolton, Thomas, & Sons, Ltd., Mersey Copper Works, Widnes; Oakamoor, North Staffs.; Broad-st. Metal Works, Birmingham; & 88, Bishopsgate-st. Within, London, E.C.

Braulik, G., 8, Lambeth Hill, London, E.C.

BRITISH INSULATED & HELSBY CABLES, LTD. Head office: Prescot, Lancs. Works: Prescot, Helsby & Liverpool. For branch offices, telegraphic & telephonic addresses, *see* ALPHABETICAL ENTRY. *See advt., page* 437.

Connolly Bros., Ltd., Blackley Vale Mills, Blackley, Manchester. *See advt., page* 438.

De Grelle, Houdret & Co., 130, London Wall, London, E.C.

Wire Manufacturers—Telephone—*contd.*

Espir, Fernand, 3, East India-ave., London, E.C. (Agent for Tréfileries et Laminoirs du Havre (Anciens Établissements Lazare Weiller et Sté. Cooperative de Rugles réunis).) *See advts., page* 662 *&* BELOW.

Glover, W. T., & Co., Ltd., Trafford Park, Manchester. ("Telegs.: "Cables, Manchester." Tel. Central 7200 (6 lines).) London: Parliament Mansions, Orchard-st., S.W. *See* ALPHABETICAL.

HENLEY'S, W. T., TELEGRAPH WORKS CO., LTD. Offices: Blomfield-st., London, E.C. *See advt. page* 22.

INDIA RUBBER, GUTTA PERCHA & TELEGRAPH WORKS CO., LTD. Head offices: 106, Cannon-st., E.C. Warehouses: 100 & 102, Cannon-st., London, E.C.; & 97, boul. Sebastopol, Paris. Works: Silvertown, Essex; & Persan, France. For telegraphic addresses & branches, *see advt. outside of back cover.*

LONDON ELECTRIC WIRE COMPY. & SMITHS, LTD., THE, Playhouse - yard, Golden-lane, London, E.C. Specially prepared cords, wires & cables for telephone work. *See advt. facing inside back cover.*

NORTHERN ELECTRIC WIRE CO., THE, SEDBURGH MILLS, HALIFAX. (TELEGRAMS: "CABLES, HALIFAX." TELEPHONE NO. 127.) *See advt., page* 744.

TRÉFILERIES & LAMINOIRS DU HAVRE

(Anciens Etablissements Lazare Weiller & Société Coopérative de Rugles Réunis).

AWARDS:

Legion of Honour, 1884. Gold Medal—Paris Universal Exhibition, 1889.
Grand Diploma of Honour.
Member of Jury at all recent Exhibitions—"Hors Concours."
Grand Prix—Franco-British Exhibition, London, 1908.

MANUFACTURERS OF

COPPER: High Conductivity Plain & Tinned Copper Wire & Bare Strands. Round, Figure Eight & Grooved Trolley Wire. Radial Strip & Half-round Wire. Straight Round Rods. Segment or Commutator Bars. Wire Rods. Bottling Wire. Piano Wire. Weaving Wire. Binders. Locomotive Stay Rods. Locomotive Fire Box Plates. Sheets. Flat & Hollow Bottoms. Rivets & Washers. Nails. Arsenical & Manganese Stay Rods. Arsenical Fire Box Plates.

BRASS: Plain Wire. Weaving Wire. Pin Wire. Screw Rods. Shaped Bars. Sheets. Flat Bottoms. Cartridge Strips. Gun Strips. Bullet Wire. Shoe Rivets. Washers. Fine Wire.

BRONZE: Wire. Strands, Bars & Segments to all Government Specifications.

IRON & STEEL: Soft Iron or Steel in Rods, Wire & Wire Nails. Shoe Rivets. Fencing Wire. Barbed Wire. High Tensile Steel Wire for all Purposes.

BI-METAL: Wire & Strands for Electrical Purposes. Red & Yellow Wire & Strands for Mechanical Purposes.

ALUMINIUM: Ingots. Bars. Rods. Wire & Strands for Electrical Purposes. Sheets. Flat Bottoms. Rivets & Washers.

29, RUE DE LONDRES, PARIS.

WORKS at HAVRE (Seine-Inférieure) and at RUGLES (Eure).

General Agency and Depôt (for the United Kingdom and Colonies),

FERNAND ESPIR, 3, East India Avenue, London, E.C.

Telephones: 1600, Avenue; 4183, Central. Telegraphic Address: "ESPIR, LONDON."

Wire Manufacturers—Telephone—*contd.*

Ramsden, Camm & Co., Ltd., Brighouse, Yorks. Best H.C. copper wire. (Telegrams: "Ramsden, Brighouse." Telephone No. 5.) *See advt., page* 747.

SHROPSHIRE IRON CO., LTD., Hadley, nr. Wellington, Salop. (Telegrams: "Sun, Wellington, Salop.") *See advt., page* 750.

Siemens Bros. & Co., Ltd., Caxton House, Westminster, London, S.W. *See advt., page* 573.

SMITH, FREDERICK, & CO., INCORPORATED IN THE LONDON ELECTRIC WIRE CO. & SMITHS, LTD., Wire Manufacturers, Anaconda Works, Salford, Manchester. Copper wire, hard-drawn H.C. long lengths copper wire, plain soft tinned, & strips for all electrical purposes. Tape & strand for lightning conductors. Silicium bronze wire, "Cog-wheel Brand." Phosphor bronze spring wire, aluminium wire & strip. (Telegs.: "Anaconda, Manchester.") *See advt., page* 747.

Smith & Sons, 42, 44, 46, 47, 50 & 52, St. John's-sq., London, E.C.

Wire Manufacturers—Tin.

F.—Fil d'étain—Fab. de.
G.—Zinn Draht—Fabr. von.

British Electric Calibrated Fuse Co., The, Harpenden, Herts.

Donovan & Co., 22, Barwick-st., Birmingham.

ORMISTON, P., & SONS, 79, Clerkenwell-rd., E.C. (Telegs.: "Ormiston, London." Teleph. No. 13259, Central.) *See advt., page* 601.

SMITH, FREDERICK, & CO., INCORPORATED IN THE LONDON ELECTRIC WIRE CO. & SMITHS, LTD., Wire Manufacturers, Anaconda Works, Salford, Manchester. Copper wire, hard-drawn H.C. long lengths copper wire, plain soft tinned, & strips for all electrical purposes. Tape & strand for lightning conductors. Silicium bronze wire, "Cog-wheel Brand." Phosphor bronze spring wire, aluminium wire & strip. (Telegs.: "Anaconda, Manchester.") *See advt., page* 747.

Wire Rope Machine Makers.

F.—Fil métallique—Fab. de machines pour la fabr. de.
G.—Maschinenbau für Drahtseiler.

Maschinenbauanstalt für Kabelfabrikation, Conrad Felsing, jun., Coepenick, nr. Berlin. *See advt., page* 14.

Washington & Co., Ltd., Sowerby Bridge, Yorks. (Telegrams: "Washington, Sowerby Bridge.")

Wire Rope Manufacturers.

F.—Fil métallique—Fab. de.
G.—Draht Seil Fabr.

Allan, Whyte & Co., Rutherglen, Glasgow.

Binks Bros., Strafford-street, Millwall, London, E.

Bullivant's South African Co., Ltd., 72, Mark-lane, E.C.

Wire Rope Manufacturers—*continued.*

FELTEN & GUILLEAUME LAHMEYERWERKE ACT. GES., MÜLHEIM AM RHEIN.

Haggie Bros., Ltd., Gateshead.

Haggie, R. Hood, & Son, Ltd., Cathedral-bldgs., Newcastle-on-Tyne; 36, Lime-st., London, E.C.; Victoria Pier, Hull; 29, Clive-st., North Shields; Pier Head-chbrs., Cardiff; & 93, Hope-st., Glasgow.

Latch & Batchelor, Ltd., Hay Mills, near Birmingham; & Avon Steel Works, Sheffield.

Lewis, Joseph, 5 & 6, Great Winchester-st., London, E.C. Chimney shafts, &c., restored. (Telegrams: "Weathervane, London." Telephone No. 3053, Central.) *See* LIGHTNING CONDUCTORS.

Midland Wire Cordage Co. (Davison's), Orchard Works, Vincent-st., Balsall-heath, Birmingham. (Telegrams: "Orchard, Birmingham.")

ORMISTON, P., & SONS, 79, Clerkenwell-rd., E.C. (Telegs.: "Ormiston, London." Teleph. No. 13259, Central.) *See advt., page* 601.

SMITH, FREDERICK, & CO., INCORPORATED IN THE LONDON ELECTRIC WIRE CO. & SMITHS, LTD., Wire Manufacturers, Anaconda Works, Salford, Manchester. Copper wire, hard-drawn H.C. long lengths copper wire, plain soft tinned, & strips for all electrical purposes. Tape & strand for lightning conductors. Silicium bronze wire, "Cog-wheel Brand." Phosphor bronze spring wire, aluminium wire & strip. (Telegs.: "Anaconda, Manchester.") *See advt., page* 747.

Wilkins Wire Rope Co., Ltd., Eastwood, Notts. (Telegs.: "Cordelero, Eastwood." Teleph. No. 17, Langley Mill.)

Wire Staples Manufacturers.

F.—Crochets pour fil de fer.
G.—Draht-Krampen—Fabr.

Baxendale & Co. (merchants), Miller-st. Works & Warehouses, Manchester; Hanover-st., Edinburgh; Capel-st., Dublin; & Hood-st., Liverpool.

BURNS, J., LTD., 189, Central-st., London, E.C. *See advt., page* 738.

General Electric Co., Ltd. (*G. Byng, chairman*). Head office: 71, Queen Victoria-st., London, E.C. Works: London, Manchester, Birmingham & Witton. For branch offices, telegraphic addresses & telephone numbers, *see* ALPHABETICAL SECTION. *See advts., pages* 446, 707 *&* 734.

MOSSES & MITCHELL, 122 & 124, Golden-lane, London, E.C. Sole agents for the BLAKE INSULATING STAPLES, also Insulating Saddle Staples. *See advts., pages* 622 *&* 737.

Ramsden, Camm & Co., Ltd., Brighouse, Yorkshire. (Telegs.: "Ramsden, Brighouse." Teleph. No. 5.) *See advt., page* 747.

Wire Staples Manufacturers—*continued.*

SHROPSHIRE IRON CO., LTD., Hadley, nr. Wellington, Salop. (Telegrams: "Sun, Wellington, Salop.") *See advt., page* 750.

Thornton, Robt., Paragon Works, Cleckheaton, Yorks.

Tower Manufacturing Co., Ltd., Central Works, Shrub-hill, Worcester.

WARD & GOLDSTONE, Sampson Works, Salford, Manchester. (Telegs.: "Multum, Manchester." Teleph. Nos. 7084 & 7085, & Trunk line.) *See advt., page* 756.

Warrington Wire Rope Works, Ltd. Head office: 13, Goree Piazzas, Liverpool.

Western Electric Co., Norfolk House, Victoria Embankment, London, W.C. Works: North Woolwich. *See advts., pages* 439 *&* 720.

Wire Testing Machines.

(*See* TESTING MACHINES FOR WIRE.)

Wire Workers & Weavers.

F.—Fil—Façonneurs et tisserands de.
G.—Drahtarbeiter & Weber.

Braby, Frederick, & Co., Ltd., Fitzroy Works, 352–364, Euston-rd., London, N.W. For branches, telegraphic addresses & telephone numbers, *see* ALPHABETICAL ENTRY.

Caledonian Wire Works, 28, Thistle-st., Glasgow.

Harding, George, & Sons, Ltd., 25–51, Long-lane, Borough, London, S.E.

Hawkins, T. P., & Son, 27, Dale-end, Birmingham.

James, A. A., Ltd., St. George's Works, Paradise-st., West Bromwich.

PATENT PROCESS WIRE WEAVING CO., Bridgeton, Glasgow. (Telegrams: "Durable, Glasgow." Nat. Telephone No. 2527.) *See advt., page* 478.

Patterson, William, Walker Gate, Newcastle-on-Tyne. (Telegs.: "Wirework, Newcastle-on-Tyne." Nat. Teleph. No. 510.) *See advt., page* 479.

Potter, F. W., & Co., Phipp-st., Gt. Eastern-st., London, E.C. (Telegrams: "Wirework, London." Telephone No. 1169, London Wall.)

Riddell, Wm., & Co., 636, Springfield-rd., Glasgow.

RIPPINGILLE MANUFACTURING CO., LTD., Plume-st., Aston, Birmingham. *See inset advt., pages* 597 *&* 598.

Stonier, F. & G. W., & Co., Harris-street, Strangeways, Manchester.

Topham, Charles, & Co., 3, Dufferin-st., Bunhill-row, London, E.C.

Wireless Telegraph Apparatus.

F.—Télégraphie sans fil—Appareils pour.
G.—Drahtlose Telegraphie—Apparate für.

Lepel-Wireless Syndicate, Ltd., 1, Cecil-chbrs. (West), Strand, London, W.C.

Lodge-Muirhead Wireless & General Telegraphy Syndicate, Ltd., 7, Carteret-st., Queen Anne's Gate, London, S.W.

Wireless Telegraph Apparatus—*continued.*

Marconi's Wireless Telegraph Co., Ltd., Watergate House, York-bldgs., Adelphi, London, W.C.

Siemens Bros. & Co., Ltd., Caxton House, Westminster, London, S.W. *See advt., page* 573.

Wireless Syndicate, Ltd., Queen's House, Queen-st., Cheapside, E.C.

Wiring Contractors.

(*See* CONTRACTORS—INSTALLATION.)

Wiring Systems—Contractors for.

BROTHERTON TUBES & CONDUITS, LTD., Excelsior Works, Commercial-rd., Wolverhampton.

SIMPLEX CONDUITS, LTD. Head office: Garrison-lane, Birmingham. Works: Maxstoke-st., Birmingham; also at 113, 115, 117, Charing Cross-rd., London, W.C.; 16, Corporation-st., Manchester; 72A, Waterloo-st., Glasgow; Newcastle; Bristol; & Liverpool. L. M. Waterhouse, A.M.I.C.E., M.I.E.E., managing director. *See inset advt., pages* 455 *&* 456.

Wiring Tubes & Conduits—Makers of.

BROTHERTON TUBES & CONDUITS, LTD., Excelsior Works, Commercial-rd., Wolverhampton.

SIMPLEX CONDUITS, LTD. Head office: Garrison-lane, Birmingham. Works: Maxstoke-st., Birmingham; also at 113, 115, 117, Charing Cross-rd., London, W.C.; 16, Corporation-st., Manchester; 72A, Waterloo-st., Glasgow; Newcastle; Bristol; & Liverpool. L. M. Waterhouse, A.M.I.C.E., M.I.E.E., managing director. *See inset advt., pages* 455 *&* 456.

Wood Casings & Cleats for Wires.

F.—Boîtes en bois et galoches pour Fil.
G.—Gehäuse zum Bedecken von Drähten.

Addington Timber, Slate & Cement Co., Ltd., Cold Blow-rd., Brocklehurst-st., Hatcham, London, S.E.

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Dodimead, J. F., & Son, 50, Tottenham Court-rd., London, W.

Donovan & Co., 22, Barwick-st., Birmingham.

Wood Casings & Cleats for Wires— *continued.*

EDISON & SWAN UNITED ELECTRIC LIGHT CO., LTD. Head office, depôt & show-rooms: Ediswan-bldgs., Queen-st., London, E.C.

Fire-Resisting Corporation, Ltd., Townmead-rd., Fulham, S.W.

GENERAL ELECTRIC CO., LTD. (*G. Byng, chairman*). Head office: 71, Queen Victoria-st., London, E.C. Works: London, Manchester, Birmingham & Witton. For branch offices, telegraphic addresses & telephone numbers, *see* ALPHABETICAL SECTION. *See advts., pages* 446, 707 *&* 734.

Glover, W. T., & Co., Ltd., Trafford Park, Manchester. (Telegs.: "Cables, Manchester." Tel. Central 7200 (6 lines).) London: Parliament Mansions, Orchard-st., S.W. *See* ALPHABETICAL.

HARRIS, J. F. & G. Offices & mills: 58Q, Wilson-st., Finsbury, E.C.; 107-109, Snow's Fields, Newcomen-st., Borough, S.E.; Victoria Wharf, Palmer's-rd., Green-st., Bethnal Green, London, E.; & Roding Joinery Works, Ilford. Mahogany & general timber merchants & mouldings manufacturers. IN STOCK:—IMPROVED ELECTRIC LIGHT CASINGS. *See advt.* BELOW.

Hindle, T., Accrington Saw Mills, Accrington, Lancs.

Wood Casings & Cleats for Wires— *continued.*

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Jones, P. Lloyd, Romeo-st., Canada Dock, Bootle, Lancs.

McGaw & Co. (wholesale), Moulding Works, York-road, Lambeth, London, S.E.

Matthews, H., & Sons, Stockport-rd., Manchester.

Moffatt & Co., Midland Mills, Gloucester.

Newsum, H., Sons & Co., Ltd., Gainsborough.

Parker, J., Steam Joinery Works, 109, Conybere-st., Highgate, Birmingham.

Scupham & Wood, Ltd., Mill-st. Turning-mills, Leeds.

Trenery, E. T., & Sons, Bridge-st., Northampton.

Turner & Hudson, 31, Ivy-st., Hoxton, London, N.

Vigers Bros., 67, King William-st., London, E.C.

VIGERS SONS & CO., Eagle Wharf & Mills, High-st., Peckham. (Telegs.: "Vigers, Peckham." Teleph. Hop 332 & 333.) Branches at Stanley Bridge, Fulham, Sloane-sq. & Poland-st., W.

Wilesmith, John, & Co., The Bridge Works, Worcester.

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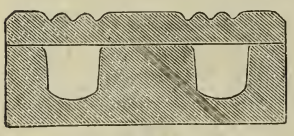

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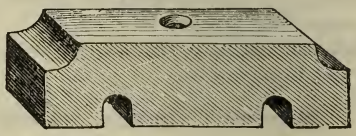

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G.—Holzgegenständen für Electr. Zwecke.

BONNELLA, D. H., & SON, LTD., 58 & 60, Mortimer-st., W. Works: Kirby-st., Hatton Garden, London, E.C. (Telegs.: "Boncinello, London." Teleph. Gerrard 1882 & 9784.) *See advt., page* 626.

"Clincher" Patent Plug Co., 115–117, Cannon-st., E.C.

HARRIS, J. F. & G. Offices & mills: 58Q, Wilson-st., Finsbury, E.C.; 107–109, Snow's Fields, Newcomen-st., Borough, S.E.; Victoria Wharf, Palmer's-rd., Green-st., Bethnal Green, London, E.; & Roding Joinery Works, Ilford. *See advt.* OPPOSITE.

Lundberg, A. P., & Sons, Pioneer Electrical Works, 477–487, Liverpool-rd., London, N. (Telegs.: "Lundberg, London." Teleph. No. 1746, North.) Agents: Scotland, Messrs. Yuille & Co., 60, Brown-st., Glasgow; other districts; leading wholesale houses.

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See advt., page 710 *& on lower outside edges.*

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Patent Plug Co., Ltd., 11, Carteret-st., S.W.

RIPPINGILLE MANUFACTURING CO., LTD., Plume-st., Aston, Birmingham. *See inset advt., pages* 597 *&* 598.

SPRATT BROS. (branch of Houghtons, Ltd.), Ensign Works, Clifford-rd., Wood-st., Walthamstow, Essex.

VIGERS SONS & CO., Eagle Wharf & Mills, High-st., Peckham. (Telegs.: "Vigers, Peckham." Teleph. Hop 332 & 333.) Branches at Stanley Bridge, Fulham, Sloane-sq. & Poland-st., W.

Wood Poles.

F.—Poteaux en bois.

G.—Holz Pfosten.

Armstrong, Addison & Co. (creosoted), Sunderland.

BRITISH INSULATED & HELSBY CABLES, LTD. Head office: Prescot, Lancs. Works: Prescot, Helsby & Liverpool. For branch offices, telegraphic & telephonic addresses, *see* ALPHABETICAL ENTRY. *See advt., page* 437.

WADE, RICHD., SONS & CO., LTD., Hull & West Hartlepool. *See advt.* BELOW.

Wood Working Machinery.

Wadkin & Co., North Evington Engineering Works, London-st., Leicester.

Zinc Merchants.

F.—Zinc—Marchands.

G.—Zink—Händler.

Ashby, M., Ltd., 17, Laurence Pountney-lane, London, E.C.

Barnard, H. B., & Sons, 144, Lambeth-walk, London, S.E. (Telegrams: "Metalcibles, London." Teleph. Victoria 1714.) City office: 59/60, Gracechurch-st. (Telegs.: "Soldeerpan, London." Teleph. Central 767.) Birmingham office: Guildhall-bldgs., Navigation-st., Birmingham. (Telegs.: "Metalcibles, Birmingham." Teleph. Midland 732.)

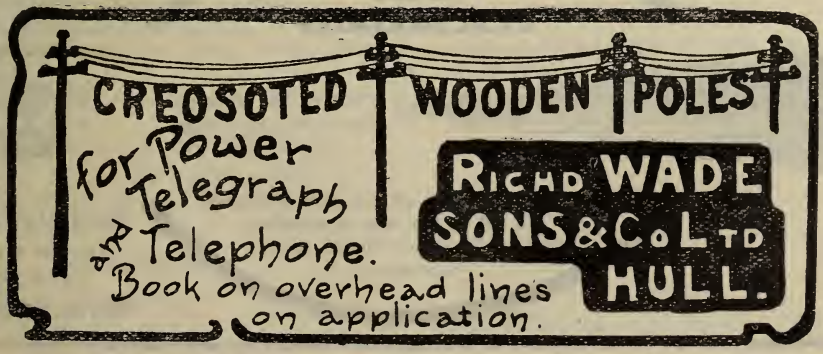
Barns, Wm., & Son, Globe Works, Queensland-rd., Holloway, N.

BENNETT, WALTER, 60, Gracechurch-st. London, E.C. (Telegrams: "Benefit, London." P.O. Telephone No. 770, Central.)

Braby, Frederick, & Co., Ltd., Fitzroy Works, 352–364, Euston-rd., London, N.W. For branches, telegraphic addresses & telephone numbers, *see* ALPHABETICAL ENTRY.

Farmiloe, T. & W., Ltd., 19–23, Rochester-row, London, S.W.

Farwig, Johnson & Co., Ltd., 7, East India-ave., London, E.C.



Zinc Merchants—*continued.*

Grey & Marten, Ltd., Southwark Bridge, London, S.E. (Telegrams: "Amalgam, London." Telephone No. 750, Hop.)
Harrison, George, & Sons, 182, Drury-lane, W.C.
Heaps, Arnold & Heaps, Leeds Old Lead Works, Leeds.
Hepton, W., & Son, Hunslet-lane, Leeds.
Smith & Sons, 42, 44, 46, 47, 50 & 52, St. John's-sq., E.C.

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Canning, W., & Co. Head office & works: 133-137, Gt. Hampton-st., Birmingham; & at 18-20, St. John's-sq., Clerkenwell, London, E.C.

CROGGON & CO., LTD., 16 & 230, Upper Thames-st., E.C.; Colonial-chbrs., Temple-st., Liverpool; & 7, John-st., Glasgow. *See advt., page* 494.

ECCO BATTERY & ELECTRICAL CO., Invicta Works, Bow Common-lane, London, E. (Telegs.: "Medikaster, London." Teleph. East 3633.) Contractors to H.M. Government.

General Electric Co., Ltd. (*G. Byng, chairman*). Head office: 71, Queen Victoria-st., London, E.C. Works: London, Manchester, Birmingham & Witton. For branch offices, telegraphic addresses & telephone numbers, *see* ALPHABETICAL SECTION. *See advts., pages* 446, 707 & 734.

INDIA RUBBER, GUTTA PERCHA & TELEGRAPH WORKS COMPANY, LTD. Head offices: 106, Cannon-st., E.C. Warehouses: 100 & 102, Cannon-st., London, E.C.; & 97, boul. Sebastopol, Paris. Works: Silvertown, Essex; & Persan, France. For telegraphic addresses & branches, *see advt. outside of back cover.*

Johnson & Phillips, Ltd., Victoria Works, Charlton, S.O., Kent; & 12, Union-ct., Old Broad-st., E.C. *See advt. inside back cover.*

London Zinc Mills, Ltd., Wenlock-rd., London, N.

Siemens Bros. & Co., Ltd., Caxton House, Westminster, London, S.W. *See advt., page* 573.

Smith & Sons, 42, 44, 46, 47, 50 & 52, St. John's-sq. E.C.

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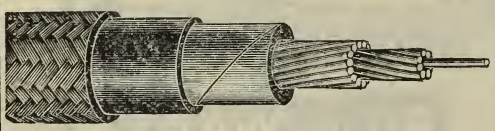

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Williams, E. D., elec. engr.

Aberdeen.

Aberdeen Elec. Eng. Co., Ltd., 15, Belmont-st.
Aberdeen Suburban Tramways, 15, Golden-sq. Engr., J. Ross.
Anderson, J. F., install. wk., 23, Bridge-st.
Bell, J. Alex., M.I.E.E., M.I.M.E., city elec. & trys. engr.
Blaikie, J., & Sons, elec. lt. engrs., 218, Union-st.
Corp. Elec. Wrks. J. Alex. Bell, M.I.E.E., M.I.M.E., engr. & mgr.
Dean, J., install. wk., 32, Queen-st.
Elmslie, A. G., Ltd., elec. contrs., 129, Union-st.
Hamilton, Claud (Aberdeen), Ltd., elec. engrs. & contrs., 254A, Union-st.
Harpers Ltd., engrs., Craiginches.
Henderson, John M., & Co., elec. cranes., King-st. Eng. Wks.
Japp, F. R., LL.D., F.R.S., prof. of chemistry, The University.
Lanng, V. R., supt. G.N. Tel. Co., Ltd.
McHardy, D., & Son, elec. bell ftrs., 54, Netherkirkgate.
Mairs, J. B., local mgr. Nat. Teleph. Co., 28, Market-st.
Parker, J. A., M.I.C.E., engr. in chief (G.N. of S. Rly.).
Pratt & Keith, elec. engrs., 161, Union-st.
Robert Gordon's College, Schoolhill.
Robertson, A. B., & Son, install. work, 260, Union-st.
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Simpson, W., elec. lt. & p. engr., 446, Union-st.
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University of Aberdeen, Broad-st.

Abergavenny.

Davies & Co., oil eng. mkrs.
Hampton, Edwin, elec. engr.

Aberystwith.

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Lewis, D. M., M.A., prof. of phys., Univ. Coll.
University College of Wales.

Abingdon.

Brind, Gillingham & Co., Ltd., elec. engrs.

Accrington.

Bailey, H., & Co., elec. engrs. & contrs., Lisbon-pl., 10, Whalley-rd.
Birch, T. E., elec. contr., 135B, Blackburn-rd.
Corp. Elec. Wks. H. Gray, A.M.I.E.E., boro' ele . & trys. engr.
Gerland, Dr. B. W., analytical chemist, Plantation-st.
Gerland, R. P., & Co., elec. engrs., Moscow Mill, Church, nr.
Gray, Harold, A.M.I.E.E., Corp. elec. & try. engr.
Hindle, T., electric casings mkr., Saw Mills.
Stephenson, G. V., & Sons, prac. elecns., 31, Blackburn-rd.

Airdrie.

Spence, J., & Sons, elec. lt. contrs., Bellsdyke Wks.

Alderley Edge.

Alderley & Wilmslow Elec. Supply, Ltd. Engr., C. W. Bentley.
Anderson, F. C., elec. pr. engr., The Hollies.

Aldershot.

Birch & Verity, elecns., 38, Union-st.
Stoodley Bros., elec. engrs., The Arcade.
U.D.C. Elec. Wks. Engr., F. Garside.

Alfreton.

King, Arthur, eng. speed counter, Pinxton.

Alloa.

Brit. Elec. Plant Co., Ltd. Mng. director, R. H. Willis, A.M.I.E.E.
Sharer & Young, Ltd., marine & elec. engrs.

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McBain Bros., inst. contrs.
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Reavell Bros., inst. contrs.
Summerside, J. W, engr., North. Cos. Elecy. Sup. Co, Ltd.

Amersham.

Missenden & Dis. Elec. L. & P. Co., Ltd., High-st.

Andover.

Bell, S., elec. engr., 15, Linden-st.

Arbroath.

A. Elec. Lt. & P. Co., Ltd. Engr., J. C. Christie.

Ashford.

Bugler, J. U., Ltd., elec. bell ftrs., 35, High-st.
Fox, F. W., elec. engr., 39, Bank-st.

Ashstead.

Leatherhead & Dist. Elec. Co., Ltd. Engr., H. L. Dixon, A.M.I.E.E.

Ashton-under-Lyne.

Appelbee, N., M.I.E.E., boro' elec. engr.
Corp. Elec. Wks. Engr., N. Appelbee.
Dugdale, J. W., gen. mgr. & engr., Corp. Trys.
Gregson & Gartside, elec. engrs., George-st.
Lancs. Elec. Engineering Co., Ltd., Old-st.
National Gas Engine Co., Ltd., gas eng. mkrs.
O'Connor, J., elec. engr., Park-st.
Taylor, J. E., & Co., elec. engrs., 78 & 80, Bentinck-st.

Atherton.

Lanc. Light Rlys. Co., Ltd. Engr., J. R. Salter, A.M.I.M.E., M.I.E.E.
Lancashire United Tramways, Ltd., Howe Bridge. Engr., J. R. Salter, M.I.E.E.
S. Lancs. Elec. Sup. Co., Ltd.
U.D.C. Elec. Wks. Cons. engr., T. L. Miller; res. engr., C. T. Astbury.

Aylesbury.

Field & Son, mfg. elecns., Market-sq.
Mackrill, E. T., & Co., elec. engrs., Kingsbury-sq.
Young, W., elecn.

Ayr.

Auld, W., & Sons, elec. engrs., 70, Sandgate.
Corp. Electricity Supply Wks. & Elec. Trwys. R. Marshall, M.I.E.E., engr.
Grant, W., engr. & gen. mgr., Burgh Elec. Trwys. Dept.
Marshall, R., M.I.E.E., burgh elec. & con. engr.
Reid & Co., brass fdrs. & elec. ftgs., 108, High-st.
Terry, Isaac, elec. bell ftr., 32, High-st.

Bakewell.

D. P. Batt. Co., Ltd., Lumford Mills.
Fletcher Bros., elec. engrs. & contrs., Ashford.

Ballinskelligs.

Topping, F. W., M.I.E.E., Supt. Direct U. S. Cable Co.

Ballyshannon.

Elecy. Wks. Jno. Myles & Co., props. Engr., Thos. May, B.A., A.M.I.E.E.

Banbury.

B. & Dist. Elec. S. Co., Ltd. Mgr., A. J. Wray, A.I.E.E.
Elecl. & Motor Co., The Garage, Opposite Town Hall.
Elliott, J. E., & Co., elec. & mech. engrs., 23, Bridge-st.
Mawle, J., & Sons, elec. bell ftrs., 22 & 65, High-st.
Samuelson & Co., Ltd., ironfounders, &c.

Bangor.

Corp. Elec. Wks. P. F. White, engr.
Jones, P. E., elec. contr., 287, High-st.
Nat. Elec. Construc. Co., Ltd., 245, High-st. D. O. Evans, M.I.E.E., mgr.
Orton, K. J. P., M.A., PH.D., F.I.C., prof. of chem., University College of N. Wales.
University Coll. of N. Wales. E. Taylor Jones, D.SC., prof. phys. & elec. engr.
Walker, T. L., elec. engr. & contr., 216, High-st.
White, P. F., engr., Corp. Elec. Wks.

Barking.

U.D.C. Elec. Wks. & Trams. Engr., H. L. Howard, A.M.I.M.E., A.M.I.E.E.

Barmouth.

Barmouth & Dist. Elec. Lighting & Power Co.

Barnsley.

Barker, E. A., M.I.E.E., boro' elec. engr.
B. & Dist. Elec. Trac. Co. Engr. & man., P. H. Marco.
Corp. Elec. Wks. E. A. Barker, M.I.E.E., engr.
Lowrance, M., & Son, mfg. elecns., Peel-sq. & Market-st.
Marsh, J., elecn. & elec. bell ftr., 58, Wharncliffe Silkstone Colliery, nr.
Reynolds & Wadsworth, elec. access., Market Hill.
Rushforth, S., & Son, elec. engrs., Eldon-st.
Snowden & Son, elec. engrs., Market-st.
Taylor, Jas., elec. & motor wks., May Day Green.

Barnstaple.

Corp. Elec. Wks. Engr., J. W. Hadfield, A.M.I.E.E.
Edmundson's Electricity Corp., Ltd., elec. engrs. & contrs.
Hadfield, J. W., A.M.I.E.E., boro' elec. engr.
Harris & Lyle, elec. engrs.
Malone, J., elec. engr. & contr.
Saunders, J. B., & Co., elec. engrs.

Barrow-in-Furness.

Corp. Elec. Wks. H. R. Burnett, boro' elec. engr.
Saunders, J. B., & Co., elec. engrs.
Taylor, W., dis. mgr. Nat. Teleph. Co., 25, Hindpool-rd.
Thornton, E., A.M.I.E.E., 24, Oxford-st.
Thornton, W. R., & Son, elec. engrs., Ramsden-sq.

Barry.

Evans, F. J., M.I.E.E., elec. engr., Barry Rly. Co.
Saunders, J. B., & Co., elec. engrs.

Basingstoke.

Julian & Sons, Ltd., elecns.
Wallis & Steevens, Ltd., engrs.

Bath.

B. Elec. Trwys., Ltd. Engr., W. E. Hardy.
B. Tech. School. *See* SCHOOLS.
Bush, T. C., wiring contr., Wells-rd.
Cater, Stoffell & Fortt, Ltd., wiring contrs., High-st.
Corp. Elec. Dept. F. Teague, engr.
Gatehouse, J. W., elec. inspec., 36, Broad-st.
Griffin Engineering Co., Ltd., gas & oil eng. mkrs., Kingston Iron Works, Oldfield Park.
Hayward & Son, wiring contrs., 4, Walcot-st.
Heath, C. R., A.M.I.E.E., elec. engr., 4, St. Luke's-rd.
Kendall, R., & Sons, wiring contrs., 21, Milsom-st.
Lambert & Sons, wiring contrs., Broad-st.
Lee, Charles, & Son, elec. bell ftrs., Stall-st.
Rudge, E., elecn., 1, New Bond-st.-pl.
Silcox, H., wiring contr., Fountain-bldgs.
Stothert & Pitt, Ltd., elec. cranes.
Teague, F., corp. elec. engr.

Batley.

Bagshaw, J., & Sons, Ltd., clutch & pulley mfrs.
B. Elec. Carbonising Co., Ltd., Bradford-rd.
Corp. Elec. Wks. & Trams. Boro' elec. engr., S. D. Jones, A.M.I.E.E., A.M.I.M.E.
Jaggar, H., & Co., elec. engrs., Henrietta-st., Commercial-st.

Beckenham.

Harding, S. J., elec. engr., 75, Cedars-rd.
Jones, O., & Co., wiring contrs., 7, Victoria-bldgs., Beckenham-rd.
U.D.C. Elec. Wks. J. E. Tapper, A.M.I.E.E., chief engr.

Bedford.

Adams Mfg. Co., Ltd.
Allen, W. H., Son & Co., Ltd., mech. & elec. engrs., Queen's Engineering Wks.
Bacchus, H., elec. lt. & p. contr.
Corp. Elec. Wks. R. W. L. Phillips, A.M.I.E.E., engr.
Course, W., & Son, engrs., Hassett-st.
Cryselco, Ltd., incan. lamp mfrs., Kempston Wks.
Grafton & Co., stm. & elec. cranes, Vulcan Wks.
Howard, J. & F., engs., Britannia Iron Wks.
Huddleston, P., & Co., elec. & mech. auctnrs., 16, Albany-rd.
Kilpin & Billson, elec. lt. engrs. & contrs., High-st.

Bedford—*continued.*

Phillips, R. W. L., A.M.I.E.E., boro' elec. engr.
Rhodes, T. C., local mgr., Nat. Tel. Co.
Robertson, W. H. A., & Co., Ltd., mech. & elec. engrs., Lynton Wks.
Wilton, W. S., & Co., elec. engrs., 43, Bromham-rd.

Belfast.

Ardrey, J., elec. agt., 43A, High-st.
Aston Bros., Ltd., elec. engrs., 38, Donegall-st.
Blackburn, A. A., A.M.I.E.E., rolling stock supt., City Trys.
Bloxam, T. W., M.I.E.E., city elec. engr., Corp. Elec. Wks.
Boyes & Rudkin, elec. engrs., Ravenhill-rd.
Brit. Ins. & Helsby Cables, Ltd., 11, Queen-st.
Brotherton Tubes & Conduits, Ltd., 43A, High-st.
Brown-Mackenzie Signal Co., Ltd., 1, Marcus Ward-st.
Coates, Wm., & Son, Ltd., elec. lt. & p. engrs., Fountain-st.
Combe Barbour, branch of Fairbairn Lawson Combe Barbour, Ltd., elec. lt. eng. mkrs., Falls Fdry.
Combe, G., & Co., con. elec. engrs., Castle-lane-pl.
Corp. Elec. Wks. & Trmy. Power House. Engr., T. W. Bloxam, M.I.E.E.
Crompton & Co., Ltd., elec. engrs., Grosvenor Ho., Wellington-pl.
Cryselco, Ltd., incand. lmp. mfrs., 43A, High-st.
Curran Bros., elec. engrs., &c., 2, Kent-st.
Dale, C. E., engr. in ch., Corp. Elec. Wks.
Dashwood, E. S., elec. engr., Fountain-st.
Davidson & Co., Ltd., elec. fans, Sirocco Eng. Wks.
Dowling, J., & Co., elec. engrs., 5, Up. Queen-st.
Edison & Swan U.E.L. Co., Ltd., 134, Royal-ave.
Evans, J., dis. supt. Edison & Swan U.E.L. Co., 134, Royal-ave.
Farrell, A. B., res. engr., Corp. Elec. Wks.
FitzGerald, M. F., elec. insp. B.O.T., prof. of eng., Queens Coll.
General Elec. Co., Ltd., elec. supplies mfrs., 13, Queen-st.
Gilmore & Co., elec. engrs., 25, Fountain-st.
Glover, W. T., & Co., Ltd., cables, 43A, High-st.
Greenhill & Craig, elec. engrs. & contrs., 33, 35 & 37, King-st.
Hind Bros., elec. agts., 20, York-st.
I. R., G. P. & Teleg. Works Co., Ltd., 75, Ann-st.
Johnston, S., elec. engr., 7 & 9, Queen-st.
Kempster, J. W., M.I.E.E., Harland & Wolff.
L'pool Elec. Cable Co., Ltd., wires & cables, 13, Queen's-sq.
Lowden, Jas., & Co., inst. contrs., Ann-st.
Macauley, W., & Co., elec. agts., 125, Gt. Victoria-st.
McCormack, H. T. & Jas., elec. wiring contrs., 42, Summer-st.
McGrady, J., & Co., inst. contrs., 33, Old Lodge-rd.
Millfield Foundry, engrs. & ironfdrs., 114, Millfield.
Milliken, J., motor cars, 3, Ocean-bldgs.
Municipal Tech. Inst.
Musgrave & Co., Ltd., elec. fans, St. Ann's Foundry.

Belfast—*continued.*

Patterson, R., & Co., inst. contrs., 57 & 59, High-st.
Queen's College. *See* SCHOOLS, &c.
Scott, H. J., & Co., dynamos, Ravenhill-ave.
Stewart, J. D. W., dis. mgr. Nat. Teleph. Co., Ltd., Upper Queen-st.
Wilson Bros., inst. contrs., 12, Bedford-st.
Woodside, J., & Co., cons. elec. engrs., Ocean-bldgs., Donegall-sq. East.

Berwick-on-Tweed.

Caverhill, W. C., & Co., Ltd., elec. bell fitrs.
Urban Elec. Sup. Co., Ltd. Res. engr., J. H. Home, A.M.I.E.E.

Bessbrook.

Bessbrook & Newry Elec. Trwy. Co. Engr., J. L. D. Meares.
Caven, R., mgr. Bessbrook & Newry Elec. Trwy. Co.
Meares, J. L. D., C.E., cons. engr., Bess. & Newry Trwy. Co.

Bexhill-on-Sea.

Baker & Farnfield, elec. engrs., Victoria-rd.
Bruce & Co., elec. engrs., Sea-rd.
Corp. Elec. Wks. W. T. Le Feuvre, engr.
Durrant, F., elec. engr., 28, Windsor-rd.
French, J. L., & Co., elec. engrs., 36, Devonshire-rd.
Hill, A., elec. engr., 9, Reginald-rd.
Hodgkinson, P., elec. engr., Devonshire-rd.
Le Feuvre, W. T., A.M.I.E.E., Corp. elec. engr.
Robson, W. T., elec. engr., Station-rd.
Russell, L., elec. engr., Station-rd.
Squirrell & Co., Ltd., elec. engrs., 4, Upper Station-rd.
Wells, E. J., A.M.I.E.E., elec. engr., Granville Hotel.
Woolley, T., elec. engr., 3, Church-st.

Bexley.

U.D.C. Elec. Wks. & Trwys. Engr. & mgr., C. Mittelhousen, A.M.I.C.E.

Bideford.

Stephens, Brain & Co., Ltd., elec. l. contrs., 9, High-st.

Bilston.

Holcroft, T., arc lt. pillars, &c.
Perry, Thos., & Son, Ltd., mech. engrs., Highfield Wks.
U.D.C. Elecy. Wks. Engr., J. P. Wakeford.

Birkdale.

Bentham, H., A.M.I.E.E., res. engr., Elec. Wks.
B. Dist. Elec. Sup. Co., Ltd. Engr., H. Bentham, A.M.I.E.E.

Birkenhead.

Adamson, Ramsbottom & Co., Ltd., elec. cranes, Cleveland Wks.
Allison, J. G., & Co., elec. engrs., Marcus-st.

Birkenhead—*continued.*

Bates, Wm., M.I.C.E., A.M.I.E.E., elec. engr., 18, Rosemount, Oxton.
Blagg, C. W., elecn., 108, Church-rd., Higher Tranmere.
Brewer & Brunt, elec. engrs. & contrs., Hoylake, nr.
Brownridge, C., boro' engr.
Corp. Elec. Wks. & Trwys. Engr. & trwys. mgr., W. Wyld, M.I.M.E., M.I.E.E.
Edwards, S. J., & Son, elec. engrs., 129, Claughton-rd.
Heaney & Co., elec. engrs., 327, Borough-rd.
Hinson & Co., Ltd., elec. bell ftrs., &c., 69, 71 & 73, Argyll-st.; & Hinson-st.
Hughes, B. J., elecn., 26, Patten-st.
Male, Wm., & Son, Ltd., inst. contr., 1A, Village-rd.
Mawby, Wm., & Son, wiring contrs., Cross-st.
Preston, E., wiring contr., 42, Grange-rd. West.
Stafford & Co., elec. engrs., 117, Oxton-rd.
Wyld, W., M.I.M.E., M.I.E.E., engr., Corp. Elec. Wks. & Trwys.

Birmingham (including Aston, Smethwick, &c.).

Adamant & Asphalte Co., Ltd., Commercial-st.
Albion Lamp Co., Ltd. (Rippingille's), electroliers, Aston-rd. N.
Allcock Brs., bell mfrs., 24–28, King Edward's-rd.
Alldays & Onions Pneumatic Engineering Co., Ltd., elec. vent. engrs., Gt. Western Wks., Sydenham-rd.
Altendorf & Wright, wire mfrs., 2–4, Vesey-st.
Archdale, James, & Co., lathe mkrs. for elecns., Manchester Wks., Ledsam-st.
Arculus, A., & Co., globes for elec. ltg., 295, Broad-st.
Armorduct Mfg. Co., Ltd., wires & cables, Bathurst Wks, nr. Witton.
Armstrong, Stevens & Son, bolts & nuts, Whittall-st.
Aston-Manor Corp. Elec. Wks., Chester-st. Boro' elec. engr., R. Foster.
Aston Manor Tech. School, Whitehead-rd., Aston.
Automobile Elec. Ltg. Synd., Ltd., Queen's College, Paradise-st.
Badger, J., & Co., elec. lt. app. mfrs., 11, Summer-row.
Baker, A., mgr. Municipal Tramways.
Bannister, Wm., & Co., elec. engrs., 75, Spencer-st.
Barker, George, pat. & reg. agt., 77, Colmore-row.
Barker & Allen, Ltd., German silver, Spring Hill.
Barnard, H. B., & Sons, metal merchs., 17 & 18, Guildhall-bldgs., Navigation-st.
Barnes, F., & Son, elec. engrs., 81½, Gt. Hampton-row.
Barnes & Hacker, elec. lt. ftgs. mfrs., 113, Suffolk-st.
Barter, Charles, A.I.E.E., 122, Suffolk-st.
Barwell, C. J. W., cop. tube, Norton-st., Hockley.
Barwell, James, Son & Co., elec. lt. ftgs. mfrs., Clement-st.
Barwells, Ltd., nut, bolt & rivet mfrs., Brookfield-rd., & 28, Pickford-st.

Birmingham (including Aston, Smethwick, &c.)—*continued.*

Baxter & Impey, elec. engrs., 54, Dudley-st.
Beaten Metal Co., Ltd., elec. ftgs., 90, Bromsgrove-st.
Beckett & Parker, mfg. elecns., Tenby-st.
Belliss & Morcom Ltd., engrs., Ledsam-st. Wks.
Benton & Stone, tube mfrs., Aston Brook Tube Mills.
Berkeley, A., elec. agt., Guildhall-bldgs.
Berry, Skinner & Co., elec. engrs., Oozells-st.
Best & Lloyd, Ltd., electrolier mfrs., Cambray Wks., Handsworth.
Bibby, P. H., elec. lt ftgs., 34, Livery-st.
Bill, S., & Co., elec. app., 56, Guest-st.
Birm. Assoc. of Mech. Engrs. Sec., L. O'Brien, 37, Gt. Hampton-st.
Birm. Batty. & Met. Co., Ltd., tube, Selly Oak.
Birm. Carbon Wks., Witton.
B'ham, City of, Trwys. Co., Central Ho., New-st. Eng. man., G. Conaty.
B'ham Elec. Ftgs. Co., Dunton Wks., Deritend Bridge.
B'ham. Eng. Co., Ltd., mach. tools, Hooper-st., Spring Hill.
B'ham Guild of Handicraft, Ltd., ftgs. mkrs., 45, Gt. Charles-st.
Birm. Installation Co., elec. engrs., Coleshill-st. Elec. Wks.
Birm. Lamp & Gasfittings Co., Ltd., name tablets, 257, Dudley-rd.
B'ham Lighting Co., ftgs. mkrs., 133–135, Conybere-st.
Bishop, H. W., dist. supt. Edison & Swan Co.
Bolton, T., & Sons, Ltd., cop. teleg. wire mfrs., Broad-st. Metal Wks.
Booth, Jas., & Co., Ltd., tube mfrs., Sheepcote-st. Tube & Rolling Mills.
Booth, S., & Co., elec. ftgs. mfrs., Cheapside Wks.
Bornand, Victor & Co., elec. engrs., Winchester House, Victoria-sq.
Bradbury & Co., elec. lt. ftgs., 39 & 40, Woodcock-st.
Brawn, T., & Co., Art Metal Wks., 64, Clement-st.
Breeden, J., & Co., Ltd., elec. lt. ftgs. mkrs., New Mill Works, Fazeley-st.
Brinkworth, W. H., electyper., &c., Caledonian Wks., Bell Barn-rd.
Briscoe, W. H., & Co., stmprs. & piercers, 32–33, Cox-st., St. Paul's-sq.
Brit. Insul. & Helsby Cables, Ltd., 19, Barwick-st.
Brit. Prometheus Co., Ltd., cook. & ht. app., Salop-st. Works, Highgate.
Brit. Teleph. Supply Co., 17, Bloomsbury-st.
Brit. Thomson-Houston Co., Ltd., King's-ct., Colmore-row.
Brook Elec. Wks. Co., accessories, Hockley Brook.
Brooke Tool Mfg. Co., Ltd., 179–181, Belgrave-rd.
Brookes, Ward & Co., Ltd., stampings, 5 & 6, Hampton-st.
Brooks, H. B., mfg. elec. engr., Granville Wks., Tennant-st.
Brown & Ward, Ltd., elec. & mech. engrs., Branston-st.

Birmingham (including Aston, Smethwick, &c.)—*continued.*

Burman, R. H., reflector mkr., &c., Windmill-st. Horse Fair.
Busby, E., & Son, wire mfrs., Excelsior Wire Wks., Dartmouth-st.
Butler & Spragg, Ltd., screw mfrs., Cambridge-st.
Canning, W., & Co., elec.-pltg. mach. mfrs., 133–137, Gt. Hampton-st.
Cardiff Tin Stmp. & En. Co., Ltd. (T. H. Starkey), Rosebery-bldgs., 83, John Bright-st.
Carpenter, T. R., ftgs. mfrs., 171–179, Bishop-st.
Carr, C., Ltd., elec. bell mfrs., Woodland Wks., Grove-lane, Smethwick.
Castle Rub. Co., Ltd., I. R. mfrs., 8, Triangle-chbrs., Union-pass.
Causer, W., M.I.M.E., cons. engr., 48, St. Paul's-sq.
Causer, W., & Co., hyd. & gen. engrs., 48, St. Paul's-sq.
Chamberlain & Hookham, Ltd., elec. engrs., New Bartholomew-st.
Chance Bros. & Co., Ltd., lthouse engrs., Smethwick.
Chaplin Bros., Ltd., dynamo brushes.
Chattock, R. A., M.I.E.E., city elec. engr.
Chatwin, Thos., engrs.' tool mkr., Gt. Tindal-st.
Chisholm, Gray & Co., Ltd., access., Fleet-st.
Churchill, Chas., & Co., Ltd., import. Am. mach., 2–10, Albert-st.
Clarke, A., & Co., elec. engrs., 274, Cooksey-rd.
Clifford, C., & Son, Ltd., wire drs., Fazeley-st.
Coleman, A., M.I.E.E., Prov. Supt., Nat. Teleph. Co., Telephone-bldgs., 19, Newhall-st.
Collins & Co., elec. engrs., 31½, Whittall-st.
Contractors Sup. & Equip. Co., try. tools, 12, Cherry-st.
Cooke, J., & Son, electrolier mfrs., 203, Lawley-st.
Cope & Timmins, Ltd., conduits, Icknield-sq.
Corp. Elec. Wks. Engr., R. A. Chattock, M.I.E.E.
County Chemical Co., Ltd., Bradford-st.
Cox, H. G., elecn., 365, Soho-rd., Handsworth.
Cranmer & Cheshire, elec. ftgs., 82, Vyse-st.
Credenda Conduits Co., 70, Scholefield-st.
Crompton & Co., Ltd., elec. engrs., 27, Paradise-st.
Cross & Co., ftgs., Apollo Wks., Blews-st.
Cross, G., & Sons, ltg. cond., 23, Grange-rd., Smethwick.
Cruickshank, R., Ltd., elecns., Camden-st.
Dalman, J. C., & Sons, elec. cstgs., River-st.
Damard Lacquer Co., 98, Bradford-st.
Davies, C. H., & Co., elec. access. mfrs., 160, Francis-st.
Davis, Smith & Co., ftgs., Star Wks., Bracebridge-st.
Dickinson, A., M.I.E.E., Central House, New-st.
Dickinson, A., & Co., civ. engrs., Central House, New-st.
Dix, H. W. W., A.M.I.E.E., Penrhos, Anderton Park-rd., Moseley.
Dodd & Dodd, cons. civil engrs., 37, Waterloo-st.
Donovan, G. O., M.I.E.E., elec. engr., 126, Chester-rd., Erdington.
Donovan & Co., elec. mfrs., 22, Barwick-st.

Birmingham (including Aston, Smethwick, &c.)—*continued.*

Dowling, F. N., el. engr., Swan-bldgs., Edmund-st.
Drake & Dauncey, elec. engrs., 45, Newhall-st.
Dugard Bros., rolled met. mfrs., Vulcan Mills.
Dunkley's, Ltd., elec. mot. cars, Market-st., Smithfield.
Earley & Co., elec. engrs., 16, Beaufort-rd.
Eaton, S., & Sons, elec. lt. ftgs. mfrs., 66–72, Barr-st., St. George's.
Edison & Swan U.E.L. Co., Ltd., International Exchange-bldg., Edmund-st.
Edwards, A. E. A., cons. mech. & elec. engr., 105, Colmore-row.
Edwards & Barnes, stpers. & elec. ftgs. mfrs., 237, Broad-st.
Edwards & Shaw, cons. engrs., 105, Colmore-row.
Efandem Co., exprt. elecns., 244/246A, Corporation-st.
Elec. Ignition Co., Ltd., elec. appar., Sampson-rd.
Elec. & Ordnance Accessories Co., Ltd., Chestonrd., Aston.
Elecl. Ftgs. Mfrs. Assoc., 112, Edmund-st.
Elecl. Power Eng. Co., Mary-st., St. Paul's.
Elecl. Trades Supply, Ltd., Great Charles-st.
Eley, C. V. A., elec. engr., 2, Victoria-sq.
Elliott's Metal Co., Ltd., tube mfrs., &c., Selly Oak Wks.
Ellis & Ward, elec. engrs., 75, Edmund-st.
Ellison, G., mfg. elec. engr., 17 & 18, Warstone-la.
Elwell, John, iron & steel mfr., Sherborne-st.
Engholm, A. Goldie, elec. supplies & pumps, 30, Church-st.
Evans, Ed. A., e. l. & p. trans. engr., Willows-rd.
Evans, J. W., & Son, stampings, 54 & 55, Albion-st.
Evered & Co., Ltd., electroliers, Surrey Wks., Smethwick.
Everitt, Allen, & Sons, Ltd., tubg. mfrs., Kingston Metal Wks., Smethwick, nr.
Fletcher, Sons & Udal, met. workers, 51–53, Edgbaston-st.
Ford & Margrett, slate, Camp Hill Wks.
Foster, J., elec. engr., City Meat Market.
Foster, R., engr., Corp. Elecy. Wks., Aston Manor.
France, E., elec. lt. & bells, Cannon-passage.
Freeman, G. H., & Co., elec. & mech. engrs., Castle Wks., Fisher-st.
Gadd, T., Ross Rivet Wks., Rowley Regis, nr.
Gardner, R., & Co., elec. lt. ftgs. mkrs., 66, Granville-st.
General Elec. Co., Ltd., elec. lt. ftgs., 42, High-st.; & Witton.
Gilman, F., elec. machy. dlr., High Park-rd., Smethwick.
Glanvill, J. C., elec. bell ftr., &c., 13, Ruston-st.
Gott, A. E., A.M.I.E.E., 30, Cecil-rd., Gravelly Hill.
Green, W. J. S., elecn., 214, Birchfield-rd.
Grice, Grice & Son, Ltd., tube mfrs., Nile-st.
Guest, Keen & Nettlefolds, Ltd., engrs., London Works.
Hall-st. Metal Rolling Co., Ltd., German silv. & wire mfrs., Hall-st. Wks.
Hall, T. B., & Jones, cons. elec. engrs., 115 & 117, Colmore-row.

Birmingham (including Aston, Smethwick, &c.)—*continued.*

Hall & Webb, elecns., Midland Arcade-chbrs., 8, New-st.
Handley & Shanks, elec. engrs., 40, Gt. Charles-st.
Handsworth U.D.C. Elecy. Wks. Engr., F. A. Nixon.
Hanson, G. H., & Son, elec. engrs., 17, Bloomsbury-st.
Harcourts, Ltd., pushes, 223, Moseley-st.
Hardman, Powell & Co., art. ftgs. mfrs., King Edward's-rd.
Harper, H., ftgs. mkr., Witton-rd., Aston.
Harpin, J. H., & Co., inst. contrs., 47, Temple-row.
Harris, F. W., metal merch., 132, Hurst-st.
Harris, A. E., & Co., die sinkers, &c., 95, Camden-st.
Harris, A., & Sons, Ltd., elec. lt. contrs., 152, Bristol-st.
Harris, Philip, & Co., Ltd., mfg. chem., 144 & 146, Edmund-st.
Hart Accum. Co., Ltd., Princes-chbrs., Corporation-st.
Hart, Son, Peard & Co., Ltd., elec. lt. ftgs., Grosvenor Wks.
Hartley, J. E., & Son, dynamo makers, &c., 13, St. Paul's-sq.
Haseler, C., & Son, elec. ftgs. mfrs., 94, Bridge-st. W.
Hawkes, O. C., Ltd., elec. stores, Globe Wks., Bromsgrove-st.
Hawkins & Co., Ltd., screw mfrs., &c., 33A, Cheapside.
Hawkins, T. P., & Son, wire wrs., 27, Dale End.
Headley, F. H., elec. engr., 65, Stirling-rd.
Heath, R. S., D.SC., prof. of math., The University.
Heaton & Dugard, wire mfrs., Shadwell-st. Mills.
Heckford, A. E., met. & wires, B'ham Metal Wks.
Hill, E., elec. bell & teleph. contr., Reliance Wks., Steelhouse-la.
Hinks, Jas., & Son, Ltd., elec. lt. ftgs., Gt. Hampton-st.
Hirsch, Dr. P., elec. engr., Veritys Ltd., Aston.
Holden, S. H., M.I.E.E., Chamberlain & Hookham, Ltd.
Holloway, F. E., ins. wire mfr., 35, Summerfield-cres.
Hookham, H. J., & Sons, metal wkrs., 174 & 175, Charles Henry-st.
Hudson, Edmunds & Co., Ltd., tube & met. mfrs., Sheepcote-st.
Hughes, T. V., cons. elec. engr., 130, Edmund-st.
Hughes Butterfield Bros., accumulators, Albert-rd., Stechford.
Hughes, J. & J., met. merch., Albion Metal Wks., Woodcock-st.
Hunt, J. A. H., elec. lt. ftgs., 233, Bradford-st.
Hunt & Mitton, brass fin. & fdrs., 13, Oozells-st.
Imperial Enamel Co., Ltd., cone & reflec. mkrs., 225–230, Watery-la.
Imperial Tube Co., Abberley-st.
Improved Plug Co., wall plugs, 75, Edmund-st.
India Rubber, G. P. & Teleg. Works Co., Ltd., 15, Martineau-st.
Ingram & Kemp, Ltd., elec. lt. ftgs. mfrs., 209, Newtown-row.

Birmingham (including Aston, Smethwick, &c.)—*continued.*

Inniss & Riddle, elec. & mech. engrs., City-chbrs., New-st.

Jeffries, J., A.M.I.E.E., elec. engr., 29, Court-rd., Balsall Heath.

Jesson, Birkett & Co., Ltd., art met. wkrs., 7, Mary Ann-st.

Jevons, S., Ltd., elec. contrs., Constitution Hill.

Jewsbury, J., & Co., art met. wkrs., 71, Broad-st.

Johnson, E., & Co., cott. waste cordage, 20, Mary Ann-st.

Jones, E. P., elec. ltg. sectional engr., P.O. Teleg. Dept., 5, Pinfold-st.

Jones & Foster, brass fdrs., 39, Bloomsbury-st.

Jones, George, Ltd., mech. & el. engrs., 90, Lionel-st.

Joyner, Charles, & Co., Ltd., electr. mfrs., Icknield-sq., Monument-rd.

Jutson & Sons, chem. mfrs., Liverpool-st.

Kaiser, J. M., Ltd., inst. contrs., 57, Dale End.

Kapp, G., M.I.C.E., M.I.E.E., University.

Keay, E. C. & J., construc. engrs., Corporation-st.

Keeling, A. D., metal mfr., Warstone Metal Wks.

Keep Bros., elecl. exporters, 35 & 36, Gt. Charles-st.

Kemp, J. P., A.M.I.E.E., res. engr., Summer Lane Elecy. Wks.

Kemp, A., & Son, cop. & silv. wire, Tenby-st. N.

Kensington Stmpg. Co., Ltd., elec. ftgs., Kensington-st., Aston.

Knight, O. C., elec. engr., 54, Barwick-st.

Lancs. Dynamo & Motor Co., Ltd., 3, New-st.

Lancaster, Jas., & Son, elec. inst. mkrs., 275, Broad-st.

Lanchester Motor Co., Ltd., elec. engrs., Radix Works, Montgomery-st.

Lander & Larsson, met. merch., 164, Edmund-st.

Latch & Batchelor, Ltd., wire rope mfrs., Hay Mills, nr.

Lea, Henry, & Son, cons. & elec. engrs., 38, Bennett's Hill.

Lea & Perrins, elec. lt. ftgs. mfrs., Midland Wks., Bracebridge-st.

Leyland & Birm. Rubber Co., Ltd., drvg.-band mfrs., 123 & 124, New-st.

Light & Pr. Ftgs. Co., Ltd., 25, City Arcade.

Lister, J. Fraser, director, Veritys, Ltd., Aston.

Lloyd, R., & Co., stocks & dies, 135–139, Steelhouse-la.

Loach & Clarke, elec. lt. ftgs. mkrs., 20–25, Essington-st.

Local Section of the I.E.E., Winchester Ho., Victoria-sq. H. B. Matthews, hon. sec.

Lockerbie & Wilkinson (Birmingham), Ltd., fittings, 2, Exeter-st.

Lodge, Prof. Sir O., D.SC., LL.D., F.R.S., M.I.E.E., University.

Lodge Bros. & Co., patent elec. ignition, 14, New-st.

Ludlow, H. W., elec. engr., 161, Rolfe-st., Smethwick, nr.

Birmingham (including Aston, Smethwick, &c.)—*continued.*

Lycett, J. A., dis. supt. Brit. Elec. Trac. Co., Ltd., Downing-st., Smethwick.

McGeoch, Wm., & Co., Ltd., elec. ftgs., Warwick Wks., 46, Coventry-rd.

McLean, J. Hardie, chf. engr., Midland Elec. Corp. for Power Dist., Ltd., 21, Waterloo-st.

Magneto Co., Ltd., magneto mfrs., Phillip-st., Aston.

Mahood, S. A., A.M.I.E.E., res. engr., B'ham & Midland Trys., Ltd., Smethwick.

Mander & Co., elec. engrs., 258, Villa Cross, Handsworth.

Marris, G., & Son, Ltd., brass stampings, Browning-st.

Marsh, Son & Co., Ltd., elec. sup., Up. Priory.

Martin, A. E., elec. engr., 475, Moseley-rd.

Martin, W. W., elec. engr., 84, Trinity-rd., Birchfields.

Martineau, Beames & Madeley, Ltd., brass fdrs., 58–62, Holloway Head.

Mason, B., & Co., elec. lt. ftgs., Wharf-st., Aston.

Mather & Platt, Ltd., engrs. & contrs., Colmore Ho., 21, Waterloo-st.

Messenger & Sons, electroliers, 19 & 20, Broad-st.

Metallic Seamless Tube Co., Ltd., Wiggin-st.

Metz, P., elec. fire alarms, 29, Newhall Hill.

Midland Agencies, Ltd., engrs. & elec. contrs., 42, Summer-row.

Midland Elec. Corp. for Power Dis., Ltd., Colmore House, Waterloo-st. Chf. engr., J. Hardie McLean, M.I.E.E.

Midland Elec. Mfg. Co., Ltd., mfrs. switch gear, Stafford Wks., Conybere-st.

Midland Elecl. Sup. Co., 475, Moseley-rd.

Midland Eng. Co., Ltd., mech. & elec. engrs., 2, Victoria-sq.

Midland Ignition Co., Lichfield-rd., Aston Manor.

Midland Rly. Car. & Wag. Co., Ltd., Midland Wks.

Midland Wire Cordage Co. (Davison's), Orchard Wks., Vincent-st., Balsall-heath.

Moffett & Rosher, cons. & inspect. engrs., Union-chbrs., Temple-row.

Mole, M., & Son, stampers & prcers., 52, Charlotte-st.

Moore, E. S. W., A.M.I.C.E., cons. engr., Central House, New-st.

Morris, W. R., elec. engr., Faraday Wks., Glovers-rd., Small Heath.

Morris, T., Ltd., mfg. elecns., 172, Hockley Hill.

Morton, A. H., A.M.I.E.E., cons. engr., 81, Francis-rd., Five Ways.

Mott, I. R., & Co., Ltd., elec. bell push mkrs., 18A, Dale End.

Mudies Elecl. Co., elec. engrs., 126, Cambridge-st.

National Elec. Co., elec. engrs., 60, Newhall-st.

National Telephone Co., Ltd., 19, Newhall-st. Supt., A. Coleman.

Nixon, F. A., A.M.I.C.E., A.I.E.E., engr., Elec. Ltg. Sta., Handsworth.

Norfolk Elec. Co., Ltd., Norfolk House, Cannon-st.

Offord & Co., elec. engrs., 97 & 98, Woodcock-st.

Birmingham (including Aston, Smethwick, &c.)—*continued.*

Oldaker, W., elec. lt. ftgs. mkr., Trinity-st., Smethwick.
Osborne, Marshall & Co., elec. engrs., 55, Newhall-st.
Osler, F. & C., Ltd., electrolrs., 230, Broad-st.
Parker, J., casings, &c., Steam Joinery Wks., 109, Conybere-st.
Partridges, Ltd., nickel platers, &c., 128, Northwood-st.
Patent Rivet Co., Ltd., mkrs. of bolts, &c., Bridge-st., Smethwick, nr.
Payne, E. J., & Son, pt. agts., 104, Colmore-row.
Payne & Griffiths, mech. engrs., Ladywood-rd.
Perfecta Seamless Steel Tube & Conduit Co., Ltd., Plume-st.
Periam, Herbert W., Ltd., Bolt & Rivet Wks., Floodgate-st.
Perry, T., & Son, file & magnet mfrs., Herbert-rd., Small Heath.
Peyton & Peyton, Ltd., ftgs., Bordesley Wks.
Phœnix Bolt & Nut Co., ftgs. mkrs., Downing-st., Handsworth.
Piercy & Co., steam eng. maker, 53–54, Broad-st.
Piggott, Thomas, & Co., Ltd., steel tubes, Western-rd., Springhill.
Player & Mitchell, elec. ftgs. mfrs., Cambridge-st.
Player, W. & J., mech. engrs., Smithfield Wks., Sherlock-st.
Pope, T., & Co., name plates, 109 & 110, Livery-st.
Powells, Ltd., wire mfrs., Vauxhall.
Power, F. A., & Son, teleg. & teleph. wire mfrs., Midland Wire Mills, Saltley.
Premier Elec. Heaters, Ltd., Ashley-st.
Preston Elec. Co., Ltd., elec. engrs., Seymour-st., Belgrave-rd.
Pritchard, Green & Co., cons. engrs.
Probert, W., & Son, brass fdrs., Hockley.
Purser, G. & W., elec. bell mfrs., Trafalgar Wks., Palmer-st.
Rainsford & Lynes, Ltd., elec. lt. engrs., 113, Emily-st.
Rapid Magnetting Mach. Co., Ltd., 18, The Crescent.
Ratcliff, J., & Sons, solder mfrs., Pritchett-st.
Redfern, E. M., Ltd., elec. engrs., 9, Ethel-st., New-st.
Reynolds & Bradwell, elec. engrs., 134, Edmund-st.
Rhodes, J. F., mag. mfr., 161, Newhall-st.
Richardson, R. J., elec. lt. contr., Baskerville-pl., Broad-st.
Rippingille Mfg. Co., Ltd., ftgs. mfrs., Plume-st., Aston.
Robinson & Hands Elecl. Co., Ltd., ftgs. mfrs., 54, Barwick-st.
Rogers Bros., mica & talc dealers, 221, Bradford-st.
Ryley, J. A., accum. mkr., 23½, Martineau-st.
Ryman, F., & Co., mfg. elec. engrs., Cox-st., St. Paul's-sq.
Sadler, M., mfg. elecn., 19, Aston-st.
Shanks, D., elec. engr., 40, Gt. Charles-st.
Shaw, W., cons. elec. engr., 105, Colmore-row.

Birmingham (including Aston, Smethwick, &c.)—*continued.*

Shorthouse, J., & Sons, mfg. chmts., 48, Gt. Charles-st.
Silvester, Harry, B.SC., F.I.S., metall. chem., Paradise-bldgs., Paradise-st.
Simplex Conduits, Ltd., Garrison-lane. Works: Maxstoke-st.
Skelton, Wm., & Co., lacquers, Hay Mills.
Smart, W. Chas., A.I.E.E., elec. engr., 29, Prospect-rd., Moseley.
Smethwick Tech. School. *See* SCHOOLS.
Smith, Wm., elec. engr., Municipal Tech. School.
Smith, J. F., & Co., elec. engrs., 10, Edmund-st.
Solenoid Regulator Co., mfg. elec. engrs., Geoffrey-bldgs., Severn-st., John Bright-st.
S. Staffs. Trmwys. (Lessee) Co., Ltd., Central Ho., New-st. Engr., H. Hartley.
Southall Bros. & Barclay, elec. app. mkrs., Broad-st.
Soutter, Wm., & Sons, Ltd., ftgs., Farm-st.
Sparkes, T., elec. engr., 205, Rolfe-st., Smethwick.
Sperryn & Co., Ltd., access., Hospital-st.
Staffs Tube Co., Ltd., 134, Edmund-st.
Steel Conduit Co., Ltd., conduits, Witton.
Stevens, Jas., & Son, globe mkrs., Victoria Glass Wks., Dartmouth-st.
Stokes, A., & Co., screws, &c., Green-st., Deritend.
Sumpner, Dr. W. E., D.SC., M.I.E.E., prin. Mun. Tech. Schools.
Sunbeam Lamp Co., Ltd., Burlington-chbrs., New-st.
Sutton & Ash, iron & steel merch., Snow-hill.
Swindell, H. C., elecn., 144, Tower-rd., Aston.
Swinnerton, G., & Son, ltng. cond., 108, Shirland-rd., Smethwick.
Switchgear Co., Ltd., elec. lt. contrs., Cornwall-bldgs., Newhall-st.
Tangyes, Ltd., elec. engrs., Cornwall Wks., Soho.
Tann, R. F. & C., elec. engrs., 95, Lee Bank-rd.
Tayler, D. F., & Co., Ltd., wire drs., New Hall Wks.
Taylor, E. D., elec. lt. ftgs. dlr., 6, Rosebery-bldgs., John Bright-st.
Taylor Bros., elecrs., Cooksey-rd., Small Heath.
Taylor & Challen, Ltd., engrs., 60 & 62, Constitution Hill.
Terry, H., elec. engr., 78–80, Carlton House, 28, High-st.
Thornbery, W. H., cons., mech. & elec. engr., 32, Paradise-st.
Threlfall, R., M.I.E.E., cons. elec. chem., Oakhurst, Church-rd.
Thursfield, C. J., & Co., elec. lt. ftgs., Cecil Wks., Clement-st. Parade.
Tomey, J., & Sons, Ltd., glass tubing mfrs., Aston.
Tonks, Ltd., art met. workers, 201, Moseley-st.
Tucker, J. H., & Co., elec. ftgs., King's-rd., Hay-Mills.
Turnbull, J., elec. engr., 3, New-st.
Turner, A. W., elec. sfty. lamp dlr., Cobden-bldgs.
Utting, W., & Co., elec. engrs., 91, Albert-rd., Handsworth.
Valor Co., Ltd., stampings, Rocky-lane, Aston.

Birmingham (including Aston, Smethwick, &c.)—*continued.*

Vaudrey, J. C., M.I.C.E., M.I.E.E., elec. engr., Grassdale, Westfield-rd., Edgbaston.
Vaughton, W. S., elec. engr., 38, Barwick-st.
Vaughton Bros., met. stmprs., Livery-st.
Veritys, Ltd., elec. manufrs., Plume & Victoria Wks., Aston.
Vernon & Guest, engrs., Alma Wks., Soho, nr.
Vickers, T., C.E., cons. try. engr., 20, Cecil-rd., Erdington.
Vickers & Co., engrs. stores, Grenville-bldgs.
Vivian, H. H., & Co., Ltd., wire mfrs., 43 & 44, George-st.-parade.
Vyle, G. C., elec. engr., Premier Wks., Percy-rd., Greet.
Wakefield, J., & Sons, Ltd., elec. ftgs., Theodore-st.
Walker Bros., elec. engrs., Upper Priory.
Walsall Elec. Co., Ltd., elec. lt. contrs., 12, Burlington-chbrs., New-st.
Walsh, John Walsh, globe mfr. Works: Lodge-rd.
Walters & Co., elec. lt. engrs., Ocean-chbrs., Waterloo-st.
Wandsworth Elec. Mfg. Co., Ltd., Ludgate Hill.
Watson, A., & Co., ignition coils, Edward-st., Parade.
Watt, J., & Co., engrs., Soho Foundry.
Wattis, G. & F. E., elec. clock mkrs., Lr. Temple-st.
Webster, S. M., elec. engr., 421, Victoria-rd., Aston.
Weldless Steel Tube Co., Ltd., 303 & 304, Icknield Port-rd.
Westwood, C., bullion dlr., 53, Great Hampton-st.
White, T., & Sons, stl. wire mkrs., 5, Hertford-st., Balsall-heath.
Whitehouse, W. H., M.I.E.E., cons. elec. engr., Charlcote, Station-rd., Gravelly Hill.
Whitehouse, Wm., & Co., Ltd., elec. lt. ftgs. mfrs., Brueton-st.
Wholesale Traders' Assocn., for protec. & prom. of Hardware, Furn. & Met. Industries, Ltd., 26, Corporation-st.
Wiggin, H., & Co., Ltd., nickel rfrs., 55, George-st. Parade.
Wigley, P., cons. engr., 121, Colmore-row.
Wild, M. B., & Co., Ltd., elec. & mech. engrs., Argyle-st., Nechells.
Wilkins & Wright, met. wkrs., 50, Kenyon-st.
Wiseman, Alfred, Ltd., elec. trmy. contrs., 89, Glover-st.
Witton Kramer Electric Tool & Hoist Co., Witton.
Woodward, H., & Co., Ltd., elec. pltrs., 21, Paradise-st.
Wootton & Morrall, elec. lt. ftgs., Parade Chandelier Wks.
Wright, J. & E., teleg. cable mfrs., Universe Wks., Garrison-st.
Wynn, Timmins & Co., Ltd., tool mfrs., Century Wks., Commercial-st.
Yarwood, G., & Co., elec. engrs., 49, George-st., Balsall Heath.
Yates, J., & Co., Ltd., try. & rlwy. tools, Aston.
Young, Alexander (London), Ltd., exprtrs. elec. mat., 160, Newhall-st.

Birmingham (including Aston, Smethwick, &c.)—*continued.*

Young, B., & Co., elec. engrs., Leek-st.
Youngs, engs., Ryland-st.

Bishop Auckland.

Cleveland & Durham Co. E. P., Ltd. Man., A. B. Gridley.
Harburn, Arthur, Ltd., mfg. elec. engrs., 70, Newgate-st.
Thompson, E., elec. engr., 12, Newgate-st.

Blackburn.

Barton, Thomas, elec. engr., Ainsworth-st.
Briscoe, C. T., & Son, elec. engrs., Simmons-st.
Chew, J., & Co., Brookhouse Brass & Copper Wks., & Albion Wks.
Corp. Elec. Sup. Engr., P. P. Wheelwright, M.I.E.E.
Corp. Trwys. Dept. Gen. mgr., J. H. Cowell.
Garstang, H., elec. engr., 69, Darwen-st.
Harrison, R. W., & Co., packing mfrs., Mill-la.
Howe Elec. Eng. Co., Ltd., 24, Preston New-rd.
Lonsdale Bros., Ltd., blr. coverers, Pump-st.
Mills, S. J. A., A.M.I.M.E., A.M.I.E.E., cons. engr., Strawberry Bank.
Nat. Telephone Co., Ltd., 14, Astley Gate. C. Remington, M.I.E.E., dist. man.
Parkinson, T., ltng. cond. mfr., Canterbury-st.
Rawlinson, S., & Sons, cable drms., Audley Range & Baker-st.
Remington, C., M.I.E.E., Nat. Teleph. Co., 14, Astley Gate.
Shaw, G. H., & Son, elec. engrs., Town Hall-st.
Thompson, W., elec. contr., 57, Victoria-st.
Wheelwright, P. P., engr., Corp. Elec. Sup.
Winter, T., & Co., Ltd., engrs., Perseverance Wks., Byron-st.
Yates & Thom, Ltd., engrs., Canal Eng. & Boiler Wks.

Blackpool.

Blackpool & Fleetwood Elec. Tramroad Co. Trwys. man., J. Cameron.
B., St. Anne's & Lytham Trwys., South Shore. Man., H. W. Laing.
Challoner, T., & Sons, wiring contrs., Parker-st.
Chew, W., M.I.E.E., Trafalgar House, Lytham-rd.
Clark, W. A., elec. engr. & contr., 99, Talbot-rd.
Corp. Elec. Supply & Elec. Trwys. Engr., C. Furness.
Cotton Bros., wiring contrs., Back Church-st.
Dagger, R., assist. engr., Corp. Elecy. Wks.
Donoghue, E., elec. engr., Corp. Elecy. Wks.
Field, F., res. trwy. engr., Corp.
Fielding, J. W., & Co., elec. engrs. & contrs., 31, Birley-st.
Furness, C., M.I.E.E., M.I.MECH.E., boro' elec. & trwy. engr.
Heyes, H., wiring contr., Cedar-st.
Hodge, G., inst. contr., Hill-st.
Morrison, —, elec. engr., 4, Birley-st.
Parkinson, W. W., Corp. Elec. Wks.
Roebuck, J., elec. engr., 5, Clifton-st.
Shanahan, H. F., elec. engr., Corp. Elecy. Wks.

Blackpool—*continued.*

Sudall & Heap, inst. contrs., Dean-st., South Shore.
Thomas, H., elec. engr., Corp. Elec. Wks.
Tranter, J., local mgr. Nat. Teleph. Co., Ltd.

Blaenau-Festiniog.

Yale Elec. Power Co., Ltd. Engr., T. P. O. Yale.

Blockley.

B. Elec. Supply Co. Engr., E. Humphries.

Blyth.

Northern Counties Elec. Sup. Co. Engr., C. W. Fairweather.

Bolton.

Bennis, Ed., & Co., Ltd., stokers, Little Hulton.
Corp. Elec. Supply & Trwy. Engr., A. A. Day, A.M.I.C.E., M.I.E.E.
Entwisle & Gass, Ltd., elec. engrs., Atlas Fdry., Nelson-st.
Francis, T., & Sons, elecl. contrs., Hampden-st.
Haley, A. C., Nat. Telephone Co., Ltd.
Hick, Hargreaves & Co., Ltd., stm. eng. & blr. mkrs., Soho Iron Wks.
Howorth, J., & Co., Ltd., htg. & vent. engrs., Victoria Wks., Farnworth.
Locke, T. A., elec. engr., 7, Crown-st.
Mitchell, T., & Sons, Ltd., elec. machy. dlrs.
Morris, J., elec. engr., Knowsley-st.
Musgrave, J., & Sons, Ltd., engrs., Globe Wks.
Philipson & Co., trwy. guard mkrs., Astley Bridge.
Platt & Bleasdale, elec. lt. & p. engrs., Victoria-sq.
Ryder, T., & Son, lathe, &c., Turner Bridge.
Saunders, Wm., elecn., 205, St. Georges-rd.
Shore & Co., elec. engrs., Mawdsley-st.
Smethurst, Wm., elec. engr., 18, Eckersley-rd.
Wadsworth, Wm., & Sons, elec. lift mkrs., School Hill.
Walmsley, T., & Sons, iron & stl. mfrs., Atlas Forge.
Wood, J. & E., eng. mkrs., Victoria Fdry.

Bonnybridge.

Scottish Central Elec. Power Co. Chf. engr., E. C. Churchward.

Bo'ness.

Town Coun. Elecy. Wks. Engr., H. G. Young.

Boston.

Clarke, G. E., boro' surveyor & elec. engr.

Bournemouth.

Aish's Stores, Ltd., elec. lt. engrs., 89 & 91, Old Christchurch-rd.
Andrews, Hy. Geo., A.M.I.E.E., elec. engr., 115, Christchurch-rd.
Bacon & Curtis, Ltd., elec. lt. app. mfrs., 9, Regent's-ter.
Bayley & Sons, elec. app. mkrs., Dene House, Poole-hill.

Bournemouth—*continued.*

Bournemouth & Poole Elecy. Supply Co., Ltd., Verulam House. Engr., E. Ll. Ingram, M.I.E.E.
Bournemouth Science, Art & Tech. School, Poole-hill.
Bridge, G. E., & Co., elec. med. app., Old Christchurch-rd.
Bryant, E. G., elec. engr., Delphi-chbrs., Old Christchurch-rd.
Bulfin, I., B.A., A.M.I.C.E., M.I.M.E., M.I.E.E., boro' elec. engr.
Chadwick & Roberts, elec. engrs., 8, Wharncliffe-bldgs., Boscombe.
Cooper, C., & Co., elec. engrs., Albert-rd.
Corp. Trams. Gen. man., C. W. Hill; chf. asst. & elec. engr., I. Bulfin, B.A., A.M.I.C.E., M.I.M.E., M.I.E.E.
Dales, C., optn. & elecn., Westbourne.
Fellowes, H., & Co., elec. l. & p. engrs., 3, Grosvenor-bldgs., Westbourne.
Ingram, E. Ll., chf. engr., B. & P. Elec. Sup. Co., Ltd., Verulam House.
Kitcher, A. E., inst. contr., St. Swithun's-rd.
Lacey, F. W., M.I.C.E., M.I.E.E., F.R.I.B.A., boro' & trwy. engr., Municipal-bldgs.
McGregor, W., M.I.E.E., cons. telg. eng., "Kohima," 150, Richmond Park-rd.
Maxfield, W. B., pat. agt., Parkstone-ave., Parkstone.
Norie, J. R. D., elec. engr. & mgr., H. Fellowes & Co., Seamoor-rd., Westbourne.
Primavesi Bros., elecns.
Scott & Scott, elec. lt. contrs., Poole-rd., Westbourne.
Sharpe, J. W., elecn., Woodroffe, Portarlington-rd.
Shears & Son, East Central Works.
Spreadbury, W. H., inst. contr., St. Michael's-rd.
Street & Sons, inst. contrs., Christchurch-rd., Boscombe.
Wills, C., & Sons, elec. lt. & bell ftrs., Alumhurst-rd.

Bradford.

Andrew, W., elecn., 6, George Hotel-yard.
Beckenbach & Co., mach. agts., 18, Chapel-st.
Beecroft & Wightman, Ltd., wood casings, Harris-st.
Bell, C., elec. & mech. engr., Bath-st., Needs-rd.
Brad., City of, Tech. College.
Bush, E., & Co., elecns., 26, Sunbridge-rd.
Charnock, Prof. G. F., A.M.I.C.E., M.I.M.E., Head of Eng. Dept., Brad. Tech. College.
Cole, Marchent & Morley, Ltd., eng. mkrs.
Collinson Bros., elec. engrs., 3, Millergate.
Corp. Elec. Supply & Trwys. Engr., T. Roles, A.M.I.E.E.; trwys. man., C. J. Spencer, M.I.E.E.
Cresswell's Asbestos Co., Ltd., asbes. mfrs., Wellington Mills.
Croft, E., elec. engr., Street House, Dudley Hill.
Croft & Perkins, Ltd., ins. couplings, &c., Thornbury.
Crust, R., inst. contr., 14, Booth-st.
Dawson, J. W., A.M.I.E.E., assistant electrical engineer, Tramways Dept., Hall Ings.

Bradford—*continued.*

India Rubber, G. P. & Teleg. Wks. Co., Ltd., 1, Tanfield-bldgs., Hustlergate.
Johnson Bros., elecns., Idle-rd.
Jones, H. A., elec. engr., Myrtle House, Undercliffe.
Jones, W., works supt., Corp. Elec. Dept.
Lambert, R., switch blocks, &c., Mansfield-rd. Cabinet Wks., Oak-la.
Müller, Chas. A., elec. agt., 10, Arcade, Westgate.
Newby, Geo., elec. engr., 51, Tyrell-st.
Newton, Bean & Mitchell, stm. eng. mkrs., Dudley Hill.
Overend & Jones, Burnett-st.
Phœnix Dynamo Mfg. Co., Ltd., Thornbury Wks.
Pohl, Dr. R., elec. engr., Thornbury Wks.
Pratt, C., & Sons, elec. light contrs., North Parade.
Pullan, C., elec. engr. & contr., 51 & 52, King's Arcade, Market-st.
Rigby, J., & Sons, Ltd., wire mfrs., Parkhouse Mill, Low Moor.
Roberts Bros., elec. engrs. & contrs., 3, Nutter-pl., North-parade.
Roles, T., A.M.I.E.E., city elec. engr. & mgr.
Smith & Croft, elec. engrs. & contrs., 3, Colonnade, Westgate.
Spencer, C. J., A.M.I.E.E., gen. mgr., Hall Ings.
Steinthal, W. P., M.SC., A.M.I.E.E., 41, Piccadilly.
Steinthal, G. A., & Boydell, Ltd., elec. engrs., 41, Piccadilly.
Thompson, W. P., & Co., elec. pat. agts., 77, Market-st., Bradford.
Thornton, N., elec. lt. contr., Harrogate-rd., Greengates.
Thornton & Crebbin, Hammerton-st. Ironworks.
Thwaites Bros., Ltd., eng. & fan mkrs., Vulcan Ironwks.
United States Metallic Packing Co., Ltd., Thornton-rd.
Vaux, W., trwys. engr. & contr., 23, Bank-st.-chbrs.
Waugh, J., C.E., pat. agent, Sunbridge-chbrs.
Western U. Teleg. Co., 10, Forster-sq.
Whitaker, C., & Co., elec. engrs., Canal-rd
Wilson-Wolf Eng. Co., Ltd., Thornton-rd.
Yorks Cable Co., Joseph-st.

Bradninch.

B. & Dis. Elec. Sup. Co., Ltd., Kensham.

Bray.

Corp. Elec. Wks. Chf. engr., W. J. U. Sowter, M.I.E.E.

Brechin.

Edwards, J., elec. lt. contr., 40, Union-st.
Ferguson & Carver, elec. lt. contrs., 28, Swan-st.
Kinnear, J., & Son, elec. lt. contrs., 27, Market-st.
Lammond, J., & Son, elec. lt. contrs., 32, Market-st.
N. of Scot. Elec. Lt. & Pr. Co., Ltd.

Brecon.

Nott, J. E., & Co., Ltd., engrs., High-st.
Saunders, J. B., & Co., elec. engrs.

Bridgend.

Hurst, Nelson & Co., Ltd., elec. cars, Wagon Wks.
Price, Friend & Co., elec. contrs., Stiles Brewery-yard.
Singer & Co., elec. engrs. & contrs., Wyndham-st.
Thomas, T., res. engr., D.C. Elecy. Wks.
U.D.C. Elecy. Wks. Elec. engr., T. Thomas.

Bridgwater.

B. & Dist. Elec. Sup. & Trac. Co., Ltd. Engr., H. Walker, A.M.I.E.E.

Bridlington.

Beckett, A. J., engr., Corp. Elecy. Wks.
Brid. Elec. Eng. Co., Ltd., 30, Chapel-st.
Corp. Elec. Wks. Engr., A. J. Beckett.

Brierfield.

U.D.C. Elecy. Wks. Cons. engr., D. Helme Nelson.

Brierley Hill.

Dudley, Stourbridge & Dis. Elec. T. Co., Ltd. T. Satterthwaite, engr.

Brighouse.

Aspinall, A., engr. & mgr., Corp. Elec. Wks.
Brearley, Ralph, wire mfr., Woodland Wire Mills.
Corp. Elec. Wks. A. Aspinall, engr.
Lawson, J., & Sons, elec. engrs., Commercial-st.
Lister, T., & Co., Brassfounders, Ltd.
Ramsden, Camm & Co., Ltd., teleg. wire mfrs.
Reside & Co., Ltd., elec. engrs.
Wilson & Briggs, elec. sup. dlrs., 3, Town Hall-bldgs.
Woodhouse & Mitchell, Ltd., stm. eng. mkrs.

Brighton.

Adams Bros., elecns., 11 & 12, Trafalgar-st.
Banfield, Sons & Cole, elec. bell ftrs., 127, Western-rd., Hove.
Barnsley, E., & Co., elecns., 7, Queen's-rd.
Bedford, W. H., & Sons, elec. engrs., 28, St. George's-rd.
Benford, E. G., elec. l. contr., 194, Western-rd.
Bhone, G. W., elec. engr., 10, Temple-st.
Bostel Bros., Ltd., elec. engrs., 18 & 19, Duke-st.
Boxell, F., elec. engr., 82, Gloucester-rd.
Brighton & Rottingdean Seashore Elec. Tramrd. Co., Madeira-rd. Engr., M. Volk. *Not working.*
Cardwell, C., elec. engr., 35, Prestonville-rd.
Christie, John, M.I.E.E., engr. & mgr. Corp. Elec. Wks.
Collins, T., supt. Postal Teleg. Office.
Coote, P., cons. elec. engr., 3, North-st., Quadrant.
Corp. Electricity Wks. & Trwys., North-rd. Engr., J. Christie; trwy. engr., W. Marsh.
Cox & Sons, elec. engrs., 80A, Preston-rd.
Davis, H. C., & Son, elec. engrs., 39, St. James-st.

Brighton—*continued.*

Farncombe, I., elec. ltg. contr., 84, London-rd.
Fellingham, A. E., elec. engr., 115, North-st.
Fileman, M., elec. engr., 99, Queen's-rd.
Gadsby, D. J., asst. engr., Hove Light Co., Hove.
Galliers, H. J., elecn., 32, St. James-st.
George, S., elec. engr., 1A, Sussex-rd., Hove.
Gooding & Taylor, elec. engr., 43, Up. Russell-st.
Gott, John, M.I.E.E., 6, Lorna-rd., Hove.
Graham, C. H., elec. lt. ftgs. mfr., 26, Foundry-st.
Ham, C., elec. bell ftr., 212, Church-rd., Hove.
Hanningtons Ltd., elec. lt. engrs., 171/172, North-st.
Hawker, H., elec. engr., 37, Gloucester-rd.
Hawkes & Walton, elec. engrs., 10, Castle-sq.
Hewett, A. E., elec. engr., Mautby Hill, Osborne-rd., Preston.
Hignett, G., & Co., elec. engrs., 13, Boyces-st.
Holford & Co., elecns., 86, Church-rd., Hove.
Homewood, G. E., elec. engr., 51, Beaconsfield-rd.
Hounsell, J., & Son, elec. bell ftrs., 3, Southover-st.
Hove Elec. Light Co., Ltd., Davigdor-rd. Engr., C. Bottomley Smith, M.I.E.E.
Johnstone's, elec. contrs., 36, Kensington-gdns.
Kerridge, C. J., elec. engr., 4, New Town-rd.
Long, E., & Sons, elec. bell mfrs., 13 & 14, Sydney-st.
Moorhouse, C. F., dis. mgr., Nat. Teleph. Co.
Municipal Technical College.
New Rottingdean Elecy. Co., Ltd. Engr., J. W. Brown.
Norrish, G., elec. engr., 27, London-rd.
Packham & Son, elec. engrs., 144, Western-rd.
Page & Miles, Ltd., elec. engrs., 60, Western-rd.
Porcher, H., elec. engr., 19, Clyde-rd.
Reason Mfg. Co., Ltd., engrs., Lewes-rd.
Reed, C. G., & Sons, Ltd., elec. lt. engrs., 26, North-st.
Sayers, J., & Sons, elec. engrs., 94, North-rd.
Shrivell, W., elec. engr., 50, George-st.
Smith, C. B., res. engr., H. E. Light Co., Ltd., Hove.
Smith, G. W., elec. bell ftr., 15, Middle-st.
Smith, J., & Son, elec. engrs., 33 & 34, North-rd.
Smithers, T., elecn., 33, Borough-st.
Sparks, J. C., inst. contr., 51, Waldegrave-rd.
Turner, F., elec. engr., 61, Western-rd.
Valler, A. W., & Co., inst. contrs., 4, Sydney-st.
Volk, Magnus, elec. engr., Madeira-rd.
Walton, F., elec. engr., 10, Castle-sq.
Weller, T., elec. bell ftr., 11, Westhill-rd.
Williams, F. R., elec. engr., Brunswick House, 1, New Church-rd., Hove.

Bristol.

Bacon, W., dis. rep. Siemens Bros. Dyn. Wks., Ltd., 32, Bridge-st.
Belsten, A. E., elec. & gen. engr., 165, Stapleton-rd.
Blackburn, C., & Son, elec. inst., 75, Redcliff-st.
Braby, F., & Co., Ltd., spelter, Ashton Gate Wks.
Bracher, F. & W., elec. install., Redcliff-st.
Brecknell, Munro & Rogers, Ltd., engrs., Thrissell-st., & Lawrence Hill.

Bristol—*continued.*

Bristol Trwys. & Carr. Co., Ltd., Clare-st. House. Wks.: Counterslip. Engr., Sir J. C. Robinson; res. engr., G. T. C. Edwards.
Bubb, J. T., elec. lt. engr., St. James's-churchyard.
Buchanan & Curwen, elec. engrs., Queen Anne's-bldg., Baldwin-st.
Cashmore & Co., Ltd., lead mfrs., Victoria-st.
Chattock, A. P., M.I.E.E., prof. of phys., University College.
Cleave, W. H. R., supplies, 6, Bristol-bdge.
Collins, W., A.M.I.C.E., M.I.E.E., res. engr., Crompton & Co., Ltd., 28, Ba[illegible]in-st.
Cook, Ernest H., cons. elecn., Clifton Laboratory, 27, Berkeley-sq.
Corp. Elec. Supply. Wks.: Temple Back & Avonbank. H. Faraday Proctor, M.I.C.E., M.I.E.E., engineer.
Crompton & Co., Ltd., elec. engrs. & contrs., Scottish Widows'-bldgs., 28, Baldwin-st.
Cryselco, Ltd., incand. lmp. mfrs., 7, St. Stephen's-ave.
Dowson, A., dis. rep. Veritys, Ltd., 59, Victoria-st.
Edwards, G. T. C., Bristol Trwys. & Carriage Co., Ltd.
Edwards, J. H., elec. engr., 2, Fernbank-rd.
Etchells, W. G., mfrs. agt., 22, Manor Par Redland.
Ewing, J. G. A., Nat. Teleph. Co.
Ferris & Co., Ltd., scien. app. mkrs., Union-st.
Francis, T. E., install. contr., 64, Colston-rd.
Francis & Ward, teleg. street tents, 92, Thomas-st.
Gardiner, Sons & Co., Ltd., elec. agts., Nelson-st.
Husbands & Sons, scien. instr. mkrs., 8, St. Augustine's-parade.
India Rubber, G. P. & Teleg. Wks. Co., Ltd., 22, Victoria-st.
Jennings, C., & Co., conduits, Pennywell-rd.
Jolin, P., & Co., elec. engrs., &c., 25, Temple-st.
Kear, S., elec. l. & p. engr., Red Cross-st.
King & Co., ltg. & teleph. engrs., Park-row.
Lee, A., & Bros., Ltd., marble & slate slabs, Cumberland-rd.
Llewellin's Machine Co., gear & wheel cutters, 15, King-sq.
Lysaght, J., Ltd., galv. iron mfrs., St. Vincent's Iron Wks.
Mendham, W. P., elec. engr., 24, Tyndall-ave.
Merchant Venturers' Technical College.
Mitchell, J. B., & Sons, elec. engrs., 4, Narrow Wine-st.
Munro, John, M.I.M.E., prof. of mech. eng., Merch. Vent. Tech. College.
Palmer, F. H., & Co., elec. engrs., 21, Lr. Park-row.
Parfitt, G. J. T., A.M.I.E.E., elec. engr., Keynsham.
Parfitt, Webber & Co., install. contrs., Denmark-st.
Pass, C., & Son, Ltd., met. merchs., Bedminster Smelting Wks.
Pearson, H., install. contr., 4, Cotham Vale-rd.
Perkins, A., dis. mgr. Nat. Teleph. Co., Telephone-ave.

Bristol—*continued.*

Price, P., & Co., inst. contrs., 115, Lawrence Hill.
Price, Powell & Co., Insulators, Batt. Jars, &c., Potteries, Thomas-st., Temple.
Proctor, H. Faraday, M.I.C.E., M.I.E.E., city elec. engr., Temple Back.
Robinson, J., mech. & elec. engr., Regent-st., Kingswood, nr.
Rogers, A., supt. Western Union Teleg. Co.
Rogers, H. I., elec. engr., Thrissell-st.
Rouch, A. E., cons. elec. engr., 2, Merchants-rd., Clifton.
Rouch & Penny, elec. engrs., 17, Prince-st.
Russell, J., & Co., Ltd., tube mfrs., Colston-st.
Salanson, H., & Co., elec. & scien. instr. mkrs., 20, High-st.
Sheldon Bush & Patent Shot Co., lead smelters, &c., Cheese-la.
Siemens Bros. Dynamo Wks., Ltd., 32, Bridge-st.
Simplex Conduits, Ltd., 11, Denmark-st.
Sphere Electrical Co., 3, Unity-st., College-green.
Strachan & Henshaw, Ltd , mech. & elec. engrs., Whitehall Iron Wks., Whitehall.
Sully, H. T., M.I.E.E., cons. elec. & mech. engr., Scottish Widows-bldgs.
Tasker, W. A., & Sons, 4, Dean-st., Portland-sq.
Thomas-Davies, G., A.M.I.E.E., elec. engr., Bank-chbrs., Regent-st., Clifton.
Tremain, F., M.I.E.E., supt. teleg. engr., P.O.
Unity Motor Elec. & Gen. Eng. Co., Ltd., 52, Queen-st.
University College, Dept. of Elec. Eng.
Vaughan, J. M., inst. contr., 9, Triangle South.
Veritys, Ltd., elec. engrs., 59, Victoria-st.
Wertheimer, Prof. J., prin. Merchant Venturers' Tech. College.
Western U. Teleg. Co., Baldwin-st.
Willway, J. S., & Sons, Ltd., elecns., St. Augustine's.
Wilson, A., dep. city elec. engr.
Winter, J. H., & Co., install. contrs., Narrow Wine-st.

Broadstairs.

Dodd, F. K., elec. bell ftr., York-st.
Forde, J. A., engr. & mgr., Power Sta., St. Peter's.

Bromley (Kent).

Bromley (Kent) E. L. & P. Co., Ltd., 1, West-st. Engr., R. R. Barker.
Crouch, J. M., elec. ftgs., Mason's Hill.
Weeks, G., & Sons, elec. bell & teleph. ftrs., High-st.

Broughty Ferry.

Town Council Elec. Wks. Engr., J. L. Turnbull.

Broxburn, N.B.

B. & Uphall Light. Committee. Engr., W. Sanderson.

Brynamman.

B. & Dist. Elec. Sup. Co., Ltd. Engr., Thos. Williams.

Buckfastleigh.

B. Elec. Sup. Co. Res. engr., S. A. Kirby; elecn., A. McKenzie.

Buckingham.

Buckingham Elec. Light. Gillies & Hornidge, engrs.

Burgess Hill.

B. H. & Dis. Elec. Sup. Co., Ltd., Rly. Approach.
Lanaway, R. S., elec. bell mfr., Church-r l.

Burnley.

Batty & Co., elec. engrs., Market-st.
Beattie, R. B., elec. contr., 7, Standish-st.
Button, F. S., consult. engr., Inglewood, Scott Park.
Calverley & Co., elec. engrs., 102, Manchester-rd.
Corp. Elec. Supply & Trwys. Wks.: Aqueduct-st. Engr., Jas. E. Starkie, A.M.I.E.E., A.M.I.M.E.
Mozley, H., gen. mgr. Corp. Trwys.
Proctor, J., Ltd., stoker mkrs., Hammerton-st. Iron Wks.
Rawlinson, J., elec. engr.
Simpson Bros., elec. engrs., Hapton, nr.
Starkie, J. E., A.M.I.E.E., boro' elec. engr.
Thornton, F., & Co., elec. contr., 6, Howe-st.

Burslem.

Barnett & Hyde, elec. engrs., Waterloo-rd.
Corp. Elec. Wks. Res. elec. engr., Ashton Bremner, M.I.E.E.
Doulton & Co., Ltd., stoneware for elec. purposes.
Evans & Son, elec. engrs., Swan-sq.
Macintyre, J., & Co., Ltd., porc. ftgs., Washington China Wks.

Burton-on-Trent.

Albion Clay Co., Ltd., pipes, &c., Woodville.
Barnett & Soans, elec. engrs., Station-st.
Bindleys, Ltd., elec. engrs. & contrs., High-st.
Corp. Elec. Supply & Trwys., Wetmore-rd. Engr., P. J. Pringle, M.I.E.E., M.I.M.E.
Gilbert, W. C., elec. contr., Shobnall-st.
Gough & Felgate, elec. bell ftrs., Uxbridge-st.
Hall, T., assist. elec. engr., Corp. Elec. Sta.
Livens, C. M., install. contr., 172, High-st.
Mellor, S., A.M.I.E.E., Corp. Elec. Wks.
Pringle, P. J., M.I.E.E., M.I.M.E., Corp. elec. engr. & trwys. mgr., Guild-st.
Richards, John, elec. engr., High-st.
Richardson, J. T. H., shade mfr., Hatton.
Toulmin, J., A.M.I.E.E., mgr. & engr., B. & Ashby Light Rly., Swadlincote.
Woodward, James, Ltd., cable conduit mkrs., Swadlincote, nr.
Wragg, T., & Son, Ltd., cable conduits, Swadlincote, nr.

Bury.

Ashworth & Parker, high speed stm. eng.
Booth, J. G., elec. engr., 132, Rochdale-rd.
Clough, W., mgr. Corp. Trys.

Bury—*continued.*

Cornall, T., elec. l. contr., Haymarket-st.
Corp. Elec. Sup. & Trwys. Wks.: Rochdale-rd. S. J. Watson, M.I.E.E., engr.
Downham, J., elec. l. contr., Fleet-st.
Halliwell, A., elec. lt. contr., Bolton-st.
Hill, Jas., & Sons, elec. lt. contrs., Bolton-st.
Municipal Tech. School.
Watson, S. J., M.I.E.E., res. engr., Corp. Elec. Wks.

Bury St. Edmunds.

Angold, S. A., inst. contr.
Bates, R. J., & Co., inst. contrs., 33, Abbeygate-st.
Corporation Elec. Wks. Engr., S. E. Day.
Day, S. E., boro' elec. engr.
Northgate Ironworks Co., castings.
Pudney, C. C., & Co., elec. engrs., 11, Guildhall-st.

Buxton.

Bradburne, E. S., A.M.I.E.E., elec. & mech. engr., Alison, Temple-rd.
Leeming, W. J., chf. elec. engr., U.D.C.
Sanders, W. R., inst. contr., Rutland-chbrs., Spring-gdns.
Urban Dist. Coun. Elec. Wks. W. J. Leeming, A.M.I.E.E., engr.

Camborne.

Bickford, Smith & Co., Ltd., elec. fuses & firing app., Tuckingmill.
C., Redruth & Illogan Trwys. Urban E. S. Co., Ltd. Engr., L. A. Hards, A.I.E.E.
Dovey, C. H., elec. bell ftr.
Libby, J., elec. bell ftr.
Tyack, W. J. & C., Ltd., elec. bell ftrs. & teleph. erectors.
Urban Elec. Sup. Co., Ltd. Engr., L. A. Hards, A.I.E.E.

Cambridge.

Allin, P. H., & Sons, 50, Burleigh-st.
Baily, Grundy & Barrett, Ltd., elec. engrs., 2, St. Mary's Passage.
Barrett, A., A.I.E.E., con. elec. engr., 6, Mortimer-rd.
Cambridge Electric Supply Co., Ltd. Engr., R. C. Pierce, A.M.I.E.E.
Cambridge Scient. Instrument Co., Ltd., Chesterton-rd.
Cambridge University Engineering Laboratory.
Crampton & Co., elec. engrs., Llandaff-chbrs., Regent-st.
Everitt, A. E., elec. engr., 5, Free School-la.
Everitt, M., elec. engr., 5, Free School-la.
Headley & Edwards, elec. bell ftrs., Corn Exchange-st.
Hopkinson, Prof. B., M.A., M.I.C.E., M.I.E.E., Eng. Laboratory,
Lamb, C. G., M.A., B.SC., A.M.I.E.E., Eng. Laboratory, University.
Peace, J. B., M.A., A.I.E.E., Eng. Laboratory.
Pye, W. G., & Co., elec. instr. mkrs., Mill-lane.
Thomson, Sir J. J., M.A., F.R.S., Hon. M.I.E.E., prof. of phys., The University.

Cambridge—*continued.*

University of Cambridge.
Wood, E. J., local mgr. & elec. engr., N. Teleph. Co., Ltd., 12, Market-pl.

Cambuslang.

Hird, W. B., M.I.E.E., Sandon, Prospect-ave.
Lanark C. C. Elecy. Wks. Engr., A. J. Abraham, A.M.I.E.E.

Canterbury.

Attwaters, W., inst. contr., St. George's-la.
Corp. Elec. Wks. C. A. Blascheck, A.M.I.E.E., city elec. engr.
Philpot, E. J., & Son, elec. engrs., 34, St. George's-st.

Cardiff.

A. E. G. Elec. Co., Ltd., elec. contrs. & mfrs., Western Mail-chbrs.
Andrews, S., & Son, elec. engrs., City-rd.
Bedford & Co., elec. engrs., 41, St. Mary-st.
Bevan, H., elec. bell ftr., 99, Frederick-st.
Bowden, G. Harland, & Co., elec. pr. engrs., 60 & 62, Merchants Exchange, Bute Docks.
Brewer Bros. & Co., elec. contrs., 5, Quay-st.
Brit. Ins. & Helsby Cables, Ltd., 1 & 2, Western Mail-chbrs.
Brit. Westinghouse Elec. & Mfg. Co., Ltd., St. Mary-st.
Brotherton Tubes & Conduits, Ltd., 20, W. Bute-st.
Chamen, W. A., M.I.E.E., M.I.M.E., elecl. engr., Royal-chbrs., Park-pl.
Chorley, I. J., & Co., elec. engrs., Tudor-lane.
Clarke, Chapman & Co., Ltd., mfg. elec. engrs., 21, Mount Stuart-sq.
Clay Bros. & Co., elec. engrs., Western Mail-chbrs.
Cooke, W., & Co., elec. engrs., Queen-st. Arcade.
Cooper, R. G., A.M.I.E.E., elec. engr., 6, Dogo-st.
Corp. Elec. Wks. & Trwys. Engr., A. Ellis, M.I.M.E., M.I.E.E.
Cross Bros., elec. bell ftrs., 21, Working-st.
Cryselco, Ltd., incand. lmp. mfrs., 7 & 8, Western Mail-chbrs.
Dawnay, A. D., cons. engr., Wales & W. of Eng.
Girder Wks., East Moors.
Day, J., elec. engr., Park-pl.
Dick, Kerr & Co., Ltd., trmwy. engrs., Royal-chbrs., Park-pl.
Edison & Swan U. E. L. Co., Ltd., Westgate-st.
Edwards & Armstrong, elec. engrs., 53, Queen-st.
Elliott, A. C., D.SC., prof. of eng., University Coll. of S. Wales & Mon.
Ellis, A., city elec. engr. & mgr., Corp. Elec. Wks.
Evans, D. Ll., engr. & merch., 120, Bute-st.
Ferrier & Hillestrom, mfrs. agts., 119A, Exchange-bldgs.
Fifoot, S. C., elec. engr., 37, St. Mary-st.
General Elec. Co., Ltd., elec. supplies mfrs., Womanby-sq.
Gould, H. T., A.M.I.MECH.E., mech. engr., 17, Quay-st.

Cardiff—*continued.*

Green, R., & Co., elec. app., 142, Bute Docks.
Haggie, R., Hood & Son, Ltd., wire rope, Burt-st. Docks.
Harpur, W., M.I.C.E., city engr., City Hall.
Haslam & Schontheil, Ltd., elec. engrs., Western Mail-chbrs.
Hatcher, E., & Co., elec. lt. contrs., 65, Charles-st.
How, Horace D. B., elec. engr., Alpha Wks., Taffswell.
Huggins, Ed., elec. engr., 55, City-rd.
Hunter & Swan, Ltd., elec. & mech. engrs., 31, Queen-st.
India Rubber, G. P. & Teleg. Wks. Co., Ltd., Pierhead-chbrs., Bute Docks.
Lancs. Dynamo & Motor Co., Ltd., elec. engrs., Prudential-bldgs., St. Mary-st.
Lewis & Fletcher, cons. elec. engrs., Prudential-bldgs., St. Mary-st.
Loveridge, Ltd., elec. bell ftrs., &c., Docks.
McKenzie, Holland & Westinghouse Power Signal Co., rly. sig. mfrs., 18, Bank-bldgs., St. Mary-st.
Madge, F., inst. contr., 42, Inverness-pl.
Mansel-Jones, S., elec. engr., 7 & 8, Western Mail-chbrs.
Mather & Platt, Ltd., engrs. & contrs., 31, High-st.
Matthew, G. W., & Co., elec. lt. contrs., Castle-st.
Moore, Griffiths & Co., elec. engrs., 53, Queen-st.
Morgan, J., elec. engr., 6, Church-rd., Whitchurch, nr.
Nance, H., elec. mfrs. agt., 4, Church-st.
Nance, R., A.I.E.E., elec. contr., 2, Dock-chbrs., Bute-st. Docks.
New, C. G. M., dep. elec. engr., Corp.
Newman, C. W. D., A.M.I.E.E., Marine Engineering Academy, Barry Dock, Glam.
Paxton, A., & Co., elec. sup., Arcade-chbrs., St. John's-st.
Pellew, P., elec. engr., St. Mary-st.
Pierce & Co., elec. engrs., Alexander-st.
Price, H., teleg. engr., Eng. Dept., Post. Teleg.
Proger, J. G., & Sons, elec. engrs., Trinity-st.
Rees, B., elec. & mech. engr., Albert-chbrs., High-st.
Rose & Co., engrs. & elec. lt. contrs., James-st.
Saunders, J. B., & Co., elec. engrs., Bute-st.
Scott, E., & Mountain, Ltd., elec. engrs., 8, Working-st.
Scott & Leggat, cons. engrs., 102, St. Mary-st.
Sibbering, G. T., engr., Taff Vale Rly. Co.
S. Wales Elec. P. Distrib. Co., Royal-chbrs., Queen-st.
Southey, G., elec. insp., 156, Richmond-rd.
Stirling Boiler Co., Ltd., 65, Pen-y-Wain-rd., Roath Park.
University College of South Wales & Mon.
Williams, W. E. O., elec. engr., 29, W. Bute-st.
Williams, J., & Sons (Cardiff), Ltd., iron fdrs., 9–17, Queen-st.; & Globe Fdry.
Williams, W. E. O., & Co., elec. & mech. engrs., 29, W. Bute-st.

Carlisle.

C. Elec. Plating Co., Devonshire Walk.
City of Carlisle Elec. Trwys. Co., Ltd., 1, Warwick-rd. J. McNee, mgr.; J. B. Wilson, engr.
Corp. Elec. Lt. & P. Sta. City engr., S. T. Allen.
Cowans, Sheldon & Co., Ltd., elec. cranes.
Elecl. Illum. Co., elec. engrs., Lowther Arcade.
Hill, R. M., & Sons, wiring contrs., Castle-st.
Municipal Tech. Inst. *See* SCHOOLS.
Tyer & Co., Ltd., rlwy. signal teleg. instr. mfrs., Metcalfe-st.

Carlow.

Alexander's Elecy. Works. G. M. Harriss, chief engr.; O. St. J. McKee, res. engr.
McKee, O. St. J., res. elec. engr., Alexander's Elecy. Wks.

Carnarvon.

Arvon Elec. Co., engrs. & contrs., 28, New-st.
Corp. Elecy. Wks. Engr., D. O. Evans, M.I.E.E.
Hayes, J., A.M.I.C.E., M.I.MECH.E., constg. & elec. engr., 12, Market-st.
Wynne, R., elec. lt. engr., Corp. Gas Office.

Chagford.

Chagford & Devon Elec. Light Co., Ltd. Elec. engr., G. H. Reed.

Chatham.

Barnes, H., elec. lt. engr., 112, High-st.
Chapman, A., & Co., elec. lt. engr., Temple-ter.
C. & Dist. Light Rly. Co. Engr., W. Jensen; man., H. Gordon Davies.
Elec. & Autom. Eng. Co., elec. & mech. engrs, George-st.
Jensen, W., engr., C. & Dist. Light Rly. Co.
Linay, J. C., mfg. elecn., High-st.
Royal Engineers Institute, Old Brompton.
Wright, W. T., inst. contr., George-st.

Chelmsford.

Christy Bros. & Co., Ltd., elec. engrs. & contrs.
Crompton, Claude, A.M.I.E.E., Arc Works.
Crompton & Co., Ltd., elec. engrs. & contrs., Arc Wks.
Dennis, F. H., A M.I.E.E., elec. lt. engr. & contr., High-st.
Elec. Sup. Corp., Ltd. Engr., J. Eustace, A.M.I.E.E.
Hodgson, A. J., works manager, Crompton & Co., Ltd.
Pochin, E. A. N., elec. engr., Westbrooke.

Cheltenham.

Bache, W. J., M.I.E.E., boro' elec. engr.
Bastin, F. H., inst. contr., 35, Albert-st., St. Paul's.
Cavendish House Co., Ltd., inst. contrs., Promenade.
C. & Dist. Trwys. Engr. & man., H. J. McCormick.
Corp. Elec. Wks. W. J. Bache, M.I.E.E., engr.

Cheltenham—*continued.*

Hartnell, H. W., A.M.I.E.E., mains supt., Corp. Elec. Wks.
McCormick, H. J., engr. C. & Dist. Trwys.
Marshall, R. E. & C., Ltd., instn. contrs., 5, Clarence-st.
Norton, H. G., & Co., inst. contrs., 417, High-st.
Organ, R., install. contr., Winchcombe-st.
Robb, J. M., sta. supt., Elec. Wks.
Sanders & Co., motor car engrs., 22, Clarence-st.
Steel, H. E., Ltd., inst. contrs., 105, High-st.
Strang, R., & Sons, inst. contrs., 17, Montpellier Walk.

Chepstow.

C. Elec. Ltg. & P. Co., Ltd., Nelson-st. Engr., G. L. Coventon.
Jones, T. S. & J. D., elecns., 15, Beaufort-sq.

Chertsey.

Hamilton, J., & Son, elec. engrs., Guildford-st.

Chesham.

C. Elec. Lt. & Pr. Co., Ltd. Engr. & mgr., R. J. Jocelyn Swan, A.M.I.E.E.

Chester.

Andrew, J. R., A.I.E.E., teleg. engr., L. & N. W. Rly. Co.
Bates, T. Ashton, dis. mgr. Nat. Teleph. Co., Ltd., Telephone-bldgs.
Britton, S. E., city elec. engr.
Brook, Hirst & Co., Ltd., mfrs. elec. switchgear, Northgate Electrical Works, Newry Park.
C. School of Science & Art. *See* SCHOOLS.
Corp. Elec. Wks. & Trwys. S. E. Britton, M.I.M.E., M.I.E.E., engr.
Dee Oil Co., Ltd., oil mfrs., Saltney.
Hunt, L. J., M.I.E.E., elec. engr., Sandycroft Fdy. Co.
Jones, F. J., & Son, elec. engrs., 134, Foregate-st.
Llandrindod Wells Electric Light & Power Co., Ltd., 20, Old Bank-bldgs.
McMichael, J. A., B.A., B.SC., principal lect. on magn. & elec., School of Science & Art Tech. Schools, Grosvenor Museum.
Sandycroft Fdry. Co., Ltd., elec. machy. mkrs.
Woodfin, F., & Co., elec. contrs., 138, Northgate-st.

Chesterfield.

Acland, R. L., M.I.E.E., boro' elec. engr. & trwys. mgr.
Alvey & Bower, elec. engrs. & contrs.
Corp. Elec. Wks. & Trams. R. L. Acland, engr.
Markham & Co., Broad Oak Iron Works.
Morris, E., elec. engr. & contr.
Patent Electric Shot-Firing Co., elec. bell ftrs., &c., Sheffield-rd.
Staveley Coal & Iron Co., Ltd., iron pipes for cables.
Urton, W., elec. & mech. engr., West Bars.
Wright, E., & Co., Ltd., stoneware mfrs., Wheatbridge Potteries.

Chester-le-Street.

Armstrong, G. H., A.I.E.E., elec. engr.

Chichester.

C. E. L. & P. Co., Ltd. Res. engr., R. V. Weare.
Jay, T. E., elec. engr., 7 & 8, East-st.
Strange & Sons, Ltd., elec. lt. & pr. contrs., 34, London-rd.

Chislehurst.

C. Elec. Sup. Co., Ltd. Res. engr., A. E. Darlington.
Darlington, A. E., res. engr., C. Elec. Sup. Co., Ltd.

Chipping Norton.

C. N. & Dist. Elec. L. & P. Co., Ltd.

Christchurch.

Bournemouth & P. Elecy. Sup. Co., Ltd. Res. engr., C. McCausland; asst., A. M. Johnson.

Church Stretton.

C. S. Elec. Sup. Co., Ltd. Engr., G. Payne.
Payne, G., res. engr., Elecy. Wks.

Cinderford.

Electric Blasting Apparatus Co.

Clacton-on-Sea.

Fitch, F., elecn., Rosemary-rd.
Lewellen, F. W., & Co., elec. lt. contrs.
Mayfield, J. T., & Co., elec. engrs., Pier-ave.
U.D.C. Elecy. Wks. Engr., H. W. Everitt.

Cleckheaton.

Birkett, F. W., & Sons, elec. engrs.
Crossley, G., Ltd., pulley mkrs., Albion Iron Wks.
Haley, S., & Son, Ltd., wire drs., Pyenot Hall Mills.
Hirst, C., & Sons, Ltd., wire mfrs., Exchange Mill.
Law, S., & Sons, Ltd., wire drs., Moorland Mills.
Phelon & Moore, elec. engrs., Valley-rd.
Pickersgill, A., engr., U.D.C. Elec. Wks. & Trwys.
Smith, E. A., & Co., Ltd., wire mfrs., Phœnix Wks.
Thornton, Robt., staple & wire mkr., Paragon Wks.
U.D.C. Elec. Wks. Engr., A. Pickersgill, A.M.I.E.E.

Cleethorpes.

Barnes, S. E., A.I.E.E., elec. engr., Poplar-rd.
Gt. Grimsby St. Trwys. Co. Mgr., H. L. White; res engr., H. Orme White

Coatbridge.

Coatbridge & Airdrie Electric Sup. Co., Ltd. Man. engr., W. D. Morgan.
C. Tech. School. *See* SCHOOLS.

Colchester.

Blomfield & Co., elec. engrs., St. Botolph's-st.
Britannia Eng. Co., Ltd., tools.
Corp. Elec. Wks. A. R. Sillar, M.I.E.E., M.I.M.E., engr.
Davey, Paxman & Co., Ltd., mech. engrs., Standard Iron Wks.
Joslins, Ltd., elec. contrs., 108, 109 & 145, High-st.
Kuner, J. A., elec. engr., Crouch-st.
Mumford, A. G., Ltd., gen. engrs., Culver-st.
Peacock, F., elec. lt. contr., 59, Station-rd.
Sillar, A. R., M.I.E.E., M.I.MECH.E., boro' elec. engs.
Williams & Co., elec. lt. contrs. & bell ftrs., High-st.

Colne.

Colne & Trawden Light Rlys. Co. Man. & engr., Marten Turner.
Corp. Elec. Works. A. G. Cooper, A.M.I.E.E., engr.
Smith, Harold, elec. engr., Netherheys.
Turner, M., elec. engr. & gen. mgr., C. & T. Light Rlys. Co.
Varley, W, & Sons, inst. contrs., Market-st.
Wildman & Co., elec. access. dlrs., Market-st.

Colwick.

Sands, G., & Son, elec. & gen. engrs.

Colwyn Bay.

Llandudno & Colwyn Bay Elec. Rly., Ltd., Rhos-on-Sea, nr. Engr., W. H. Moorhouse.
U.D.C. Elec. Wks. Engr. & mgr., A. R. Tudman, A.M.I.E.E.

Consett.

Cleveland & Durham Co. Elec. Pr., Ltd. Res. engr., F. H. McLoughlin.

Cork.

Anglin, A. H., M.A., prof. of math., Queen's Coll.
Atkins, R. A., J.P., local director Nat. Teleph. Co., 91, South Mall.
Cork Electric Trwys. & Ltg. Co., Ltd. Engr. & mgr., H. H. Nalder; trac. man., H. G. Whiting.
Crawford Mun. Technical Inst.
Nalder, H. H., A.I.E.E., engr. & mgr., Cork Elec. Trwys. & Ltg. Co., Ltd.
Percival, A., elec. engr., Lady's Well Brewery.
Percival, G., elec. engr., 30, Old Georges-st.
Porte, F. C., elec. engr., 27, Marlborough-st.
Porte, F. C., & Co., E. L. contrs., 27, Marlborough-st.
University College.

Cosham.

Portsdown & Horndean Light Rly. Engr. & mgr., J. Fereday Glenn.

Coventry.

Bluemel, C.W., & Bros., accumulators, Wolston, nr
Burbury & Co., elec. l. & p. contrs., 2, Earl-st.
Burdett, H. J., elec. l. & p. contr., 32, Earl-st.

Coventry—*continued.*

Corp. Elec. Wks. G. Tough, engr. & mgr.
Coventry Elec. Trwys. Co., Priestley's Bridge. Man. & engr., T. R. Whitehead.
Herbert, A., Ltd., machine tools, Butts.
Johnson, Hurley & Martin, Ltd., engine mfrs., Gosford-st.
Kalker, E., & Co., ins. wires, Much Park-st.
Lee, F., & Co., jewel hole mkrs., Dover-st.
Matterson, Huxley & Nutson, Ltd., elec. bell ftrs., Cross Cheaping.
Mewburn, J., dis. mgr., Nat. Teleph. Co., Bankchbrs., Little Park-st.
Morris & Lister, Ltd., mfg. elec. engrs., Carlton Wks., Lockhurst-la.
Raden, H. W. van, woven glass accum., 2, Regent-st.
Reynolds, T., & Co., elec. engrs., 19, High-st.
Standard Motor Co., Ltd., Bishopsgate Green, Foleshill-rd.
Templer & Ranoe, Ltd., valves, Foleshill-rd.
Tough, G., engr. & mgr., Corp. Elec. Wks.
Van Raden & Co., Ltd., engrs., 567, Foleshill-rd.
Victoria Garage & Elec. Co., Ltd., 68, S. John-st.
Webster & Bennett, Ltd., mach. tools, Atlas Wks.
Whitehead, T. Ross, res. engr. & mgr. Coventry Elec. Trwys. Co.
Winslow, I. E., cons. engr., Coventry Elec. Trys. Co.
Wyleys, Ltd., scien. app. mkrs., Wheatley-st.

Cowes.

Atkey, Pascall & Son, Ltd., elec. lt. engrs., 29 & 30, High-st., West.
I. of W. Elec. Lt. & Pr. Co. Engr., F. T. Crowe.
Sparks, H. H., elec. engr., 24, High-st.

Crawley.

Bannister, W. W., & Co., elec. & gen. engrs.

Crewe.

Carrington & Button, elec. lt. contrs., 9, High-st.
Corp. Elec. Wks. Boro' elec. engr., H. H. Denton, M.I.E.E.
Milton, A., inst. contr., 18, High-st.
Thompson, A. M., M.I.C.E., M.I.E.E., L. & N. W. Rly.

Cromer.

Randall, R. L., elecn., 21, Mount-st.
Rogers, F. W., elec. bell mfr., New-st.
U.D.C. Elec. Wks. Engr., C. W. Bentley.

Crook.

Bankfoot Power Co., Ltd., Bankfoot, nr.

Croydon.

Bishop, W. J., & Co., elec. engrs., Faraday Wks., Gladstone-rd.
Corp. Elec. Wks. & Trwys. Ch. engr., Alex C. Cramb, M.I.E.E.
Hammond & Hussey, Ltd., elec. bell ftrs., 23 & 25, High-st.
London Elec. Firm, elec. & mech. engrs., George-st.
Wenham & Waters, Ltd., engrs., Paragon Wks.

Cumnock, N.B.

McCartney, Geo., & Co., elec. switchgear mfrs., Burnside Wks.

Dagenham.

Mica Plate Co., Ltd., insul. materials, Ajax Wks.

Dalkeith.

Elecy. Works. Res. engr., J. A. Gow Russell.

Darlaston.

Horton & Son, Ltd., mech. & elec. engrs., New Alma Wks., Station-st.
Simpson, James, & Sons, bolt mfrs.
South Staffordshire Tramway (Lessee) Co., Ltd., Tramways Depôt. H. Hartley, res. engr.

Darlington.

Corp. Elec. Wks. & Trwys. J. R. P. Lunn, engr.
Cox-Walkers, Ltd., elec. engrs., contrs. & mfrs.
Darlington Forge Co., Ltd., steel castings, &c.
Dove, W. E., & Co., Ltd., elec. engrs., Bondgate.
Engineering Instruments, Ltd., Skerne Wks.
Lawson, J., elec. contr., 24, High-row.
Lunn, J. R. P., engr. & mgr. Elec. & Trwys. Dept.
Rennison, J. C., elec. bell ftr., Bondgate.

Dartford.

Pember, J. D., engr., U.D.C. Elec. Wks.
Phillips, A., & Co., elecns., 78, High-st.
U.D.C. Elec. Wks. Engr., J. D. Pember.

Dartmouth.

Simpson, Strickland & Co., Ltd., eng. mkrs.
Smith, G. E. J., engr., Urban Elec. Supply Co., Ltd.
Urban Elec. Supply Co., Ltd. Engr., G. E. J. Smith, A.M.I.E.E.

Darwen.

Corp. Elec. Wks. C. Garnett, A.M.I.E.E., engr.
Fairhurst, W. V. F., elec. engr. & contr.
Garnett, C., A.M.I.E.E., boro' elec. engr.
Municipal Tech. School. *See* SCHOOLS.
Smith-Saville, R. W., A.M.I.C.E. & E.E, engr. & gen. man., Corp. Trwys.

Daventry.

Reynolds Bros., elec. engrs., Tudor Wks.

Deal.

Frost & Tapper, elecns., 54, High-st.

Derby.

Bassano & Sons, mfg. elec. engrs., 155, Bridge-st.
Bemrose, H. C., elec. engr., 19, Vicarage-ave.
Bourne, Joseph, & Son, batt. jar & insulator mfrs., Denby Pottery.
Broom, G. H., A.I.E.E., elec. engr., Tech. Coll.
Butterley Co., engrs. & contrs., Butterley Iron Wks.
Corp. Elec. Supply. T. P. Wilmshurst, M.I.E.E., engr.

Derby—*continued.*

Davis, J., & Son (Derby), Ltd., elec. lt. & power engrs., All Saints' Wks.
Derby Elecl. Co., Ltd., Woods-la.
Fletcher, G., & Co., mech. engrs., &c., Masson & Atlas Wks.
Goodchild, W. C., Elec. Dept., Midland Rly.
Handyside, Andrew, & Co., Ltd., engrs., Britannia Iron Wks.
Haslam, Furze & Co., elec. engrs., St. Helen's-st.
Hulme & Son, elecns., 8 & 9, Sadler Gate.
Ley's Malleable Castgs. Co., Ltd., Vulcan Irn. Wks.
Newton Bros., dynamos & motors, Market-pl. & Alfreton-rd.
Rickard, W., Ltd., wire mfrs., &c., Ashbourne-rd. Mills.
Rolls-Royce, Ltd., motor car mfrs., Omaston-rd.
Sayers, J., M.I.E.E., elec. engr. & teleg. supt., Midland Rly.
Smith Bros., lamp post mfrs., Abbey-st.
Smith, J., & Co. (Derby), Ltd., brass finishers, Cotton-lane.
Unsworth, G. B., & Sons, Ltd., wire mfrs., Green-lane Mills.
Walley, J., engr. & boltr. mkr., St. Mary's Bridge Wks.
Wilmshurst, T. P., M.I.E.E., boro' elec. engr.

Devizes.

Sloper, C., & Son, elec. bell & telep. ftrs., 11, 12, 14 & 15, Brittox.

Devonport.

Corp. Elec. Wks. & Trams. Engr., J. W. Spark.
D. & Dist. Trwy. Co. Manager, C. W. Durnford.
Devonport Mun. Science, Art & Tech. School. *See* SCHOOLS.
Plymouth, Stonehouse & Devonport Trwy. Co. Mgr., G. Moreton.
Sale, D., elec. engr., 63, Fore-st.
Spark, J. W., boro' elec. engr.

Dewsbury.

Brown, J., & Co., Ltd., acids, &c., Savile Town.
Campion, R. H., A.M.I.E.E., engr., Corp.
Corp. Elec. Wks. & Trams. R. H. Campion, engr.
Foggo, J. T., elec. lt. contr., Halifax-rd.
Hirst, A., & Son, Ltd., elec. engrs., Crescent Wks.
Hood, G. J., elec. engr. & contr., Arcade.
Pelapone Eng. Co., Ltd., oil eng. mkrs., Carr Bridge Wks.

Diss.

Suffolk Elec. Supply Co., Ltd. Engr., N. Prentice.

Dollar, N.B.

Elec. Sup. Corp., Ltd. Engr., K. M. Scott-Moncrieff.

Doncaster.

Child, J. P., elec. engr., 16, Baxter-ave.
Corp. Elec. Wks. & Trwys. E. S. Rayner, engr.
D. Elecl. Co., Ltd., engrs. & contrs., Printing Office-st.
Fisher, C. V., elec. & motor engr., 11, High-st.
Moore, E., inst. contr.
Postlethwaite & Stacey, inst. contrs., Printing Office-st.
Rayner, E. S., A.M.I.E.E., boro' elec. engr. & trwys. mgr.
Rhodes, A. L., elec. engr. & mg. dir. Rhodes Motors, Ltd.
Rhodes Motors, Ltd., motors, Riverside Works.

Dorking.

D. Elecy. Sup. Res. engr., Hy. Joseph, A.M.I.E.E.

Douglas (Isle of Man).

Cawte, G. R., elecn., 13, Strand-st.
Corlett, W. J., elecn., 21 & 23, Nelson-st.
D. Southern Elec. Trwys. Engr. & man., Reg. Orton.
Edmondson, F., A.M.I.E.E., engr. & mgr., Manx Elec. Rly. Co., 1, Strathallan-cres.
Gillmore, G., elec. engr., Athol-st.
Knox, W., & Sons, engrs., Bridge.
Manx Elec. Rly., 1, Strathallan-cres. Mgr. & engr., F. Edmondson, A.M.I.E.E.
Snaefell Mountain Rly. Mgr. & engr., F. Edmondson.
Todhunter & Elliot, Ltd., iron & elecns., Duke-st.

Dover.

Ashby, C. F., dis. mgr., Nat. Teleph. Co., Ltd., 11, Bench-st.
Corp. Elec. Wks. Engr., L. W. Woodman, M.I.E.E.
Corp. Trams. Gen. mgr., E. Carden.
D. School of Science, Art & Tech. *See* SCHOOLS.
Harpur, R. C., elec. engr., Corporation.
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Galway.

Anderson, A., prof. nat. philos., Queen's College.
Perry, J., M.E., M.I.C.E., cons. engr., Count Court Ho.
Queen's College. *See* SCHOOLS, &c.

Gateshead.

Aldrich, F., elec. engr., High-st.
Carmichael, O., elec. engr., High West-st.
Clarke, Chapman & Co., Ltd., mfg. elec. engrs., Victoria Wks.
Combination Met. Pack. Co., Ltd., Hillgate.
Corking, J. T., electn., Jackson-st.
Co. of Durham Elec. Pr. Dist. Co. Gen. mgr., A. S. Esslemont.
Dixon & Corbitt & R. S. Newall & Co., Ltd., lightning conductor mfrs.
Edmundson, H. W., elec. lt. engr., 22, St. Albans-ter.
Edmundson, J. W., elec. lt. engr. (Sunbeam Lamp Co., Ltd.).
Gateshead & Dis. Trwys. Co., Tramway Depôt, Sunderland-rd.
Grainger, T. J., A.I.E.E., 8, Ashgrove-ter.
Haggie Bros., Ltd., lightning conductor mfrs.
Mason, C. H., Wilson & Co., Ltd., elec. engrs., 18–25, West-st.
Money, George W., A.M.I.E.E., 2, Avondale-ter.
Mountain, W. C., M.I.MECH.E., M.I.E.E., M.I.M.E., elec. engr., Close Wks.
Ritson, T., mech. & elec. engr., Redheugh Bridge-rd.
Ritson & Co., elec. l. contrs., Redheugh Bridge-rd.
Scott, Ernest, & Mountain, Ltd., mfg. elec. engrs., Close Wks.
Sunbeam Lamp Co., Ltd., incandescent lamp mkrs.
Tyne Wire Drawing Co., Ltd., South Shore.
Woodeson, W. A., elec. & mech. engr., 14, Bewick-rd.

Gillingham.

Corp. Elec. Dept., Gillingham-rd. Engr., A. D. Chalmers, A.M.I.E.E., A.M.I.MECH.E.
Smith, A. F., elec. sundries, 58–68, Duncan-rd.

Glasgow.

A. E. G. Elec. Co., Ltd., elec. contrs. & mfrs., Baltic-chbrs., Wellington-st.
Adam, J. M., & Co., mfrs. pneumatic conveyers, &c., Ibrox Wks.
Albion Motor Car Co., Ltd., motor car bldrs., Scotstoun.
Alexander, D., M.I.E.E., rep. for mfrs., elec. plant & mat., 43, Mains-st., Waterloo-st.
Alexander, W. P., Pringle & Co., lubricants, 104, W. Campbell-st.
Allan, Wm., A.M.I.E.E., 50, Melville-st., Pollokshields.
Allan, James, sen., & Son, mfrs. elec. lmp. pillars, Elmbank Foundry.
Allan, Whyte & Co., wire rope mfrs., Rutherglen.
Allen, W. H., Sons & Co., Ltd., elec. & mech. engrs., Maryland-st., Govan.

Glasgow—*continued.*

Alley & MacLellan, Ltd., mech. engrs., Sentinel Wks., Polmadie-rd.

Anderson, A., inst. contr., 24, Regent Moray-st.

Anderson, Wm., inst. contr., 118, Douglas-st.

Anderson, A., & Co., engrs. & elecn's furnishers, 10, Crookston-st., S. S.

Anderson, J. & A., elec. sup., 231, St. Vincent-st.

Anderson & Munro, elec. contrs., 136, Bothwell-st.

Anderston Foundry Co., Ltd., high-spd. eng.

Andrews & Co., elecns., 198A, St. Vincent-st.

Anslow, Frank, elec. engr., 19, Havelock-st., Dowanhill.

Arnot, Wm., M.I.C.E., M.I.E.E., M.I.M.E., cons. elec. engr., 163, Hope-st.

Arthur, Allan & Ure, elec. engrs. & contrs., 192A, St. Vincent-st.

Babcock & Wilcox, Ltd., engrs., 29, St. Vincent-pl.

Bagot, H. W., A.M.I.E.E., c/o Claud Hamilton, Ltd., 247, St. Vincent-st.

Baird, T., elec. & scien. instr. mkr., 34, Queen-st.

Baird, J., Ltd., mkrs. elec. lt. shades, 99, Milton-st., Port Dundas.

Baird & Tatlock, chem. gl. & app. mfrs., 45, Renfrew-st.

Ballantyne, J. H., & Co., elec. engrs., 80, Hyndhead-rd.

Barr & Stroud, rangefinders, Anniesland.

Barrett, H. G., & Co., elec. agts., 182, W. George-st.

Beardmore, Wm., & Co., Ltd., gas eng. mkrs., Parkhead Wks.

Bennett, W., elec. engr., 118, York Drive, Hyndland.

Bennett & Rutherford, elec. contrs., 217, St. Vincent-st.

Bigge, D. Selby, & Co., elec. pow. engrs., 53, Bothwell-st

Blyth, J., prof. nat. philos., Glasgow & W. Scotland Tech. Coll.

Bolton & Sons, elecns., 153, Hope-st.

Bottomley, J. T., elec. cons. engr., 13, University-gdns.

Bottomley & Liddle, pat. agts., 154, St. Vincent-st.

Bowden, G. Harland, & Co., elec. pr. engrs., Baltic-chbrs., 50, Wellington-st.

Bowman, J., & Co., elec. cranes, Johnstone, nr.

Braby, F., & Co., Ltd., galvansrs., Petershill-rd.

Brash & Russell, elec. & gen. engrs., 9, Springfield-rd.

Breeze, G. B., elecn., 182, Trongate.

Brit. Elec. Plant Co., Ltd., 144, St. Vincent-st.

British Insulated & Helsby Cables, Ltd., 177, West George-st.

Brit. Thomson-Houston Co., Ltd., mfg. elec. engrs., 91, Wellington-st.

Brit. Westinghouse Elec. & Mfg. Co., mfg. elecns., 65, Renfield-st.

Brotherton Tubes & Conduits, Ltd., 198A, St. Vincent-st.

Broughton Copper Co., Ltd., 49-51, Oswald-st.

Brown, R. F., elec. engr., 4, Woodcroft-ter., Jordanhill.

Glasgow—*continued.*

Brown, Alex., & Co., engrs. & elecns., 233, St. Vincent-st.

Brown & Co., cabinet wk., 73-85, McAlpine-st.

Brown, Wm., Sons & Co., Ltd., engrs. & fdrs., Kinning Park.

Browne, G. Massiot, & Co., carbons & reflectors, 108, Argyle-st.

Brownlee, A., & Co., elec. ship. lmp. mkrs., 33 & 34, Anderston Quay.

Bruce, A., & Co., teleg. poles, 53, Bothwell-st.

Brunton, S. L., M.I.C.E., M.I.E.E., engr., Sentinel Works, Polmadie.

Brush Elec. Eng. Co., Ltd., mfg. elec. engrs., 12, Renfield-st.

Bryden, J., & Son, inst. contrs., 63, W. Regent-st.

Bryden, Wm., & Son, elec. lt. engrs., 206, Bath-st.

Burnet, L., & Co., engrs. & boiler mkrs., Moore Prk. Boiler Wks.; & Burnet's Siding, Govan.

Bytheway, P. C., Engineering Dept., G.P.O.

Caledonian Wire Works, wire wkrs., 28, Thistle-st.

Cannington, Shaw & Co., Ltd., battery jars, 14, West Campbell-st.

Carlaw, David, & Sons, speed indicator mkrs., 11, Finnieston-st.

Carruthers, J. H., & Co., Ltd., pumps, Polmadie Iron Wks., Polmadie.

Cartmell, J. M., dlr. 2nd hnd. elec. mach.

Cartwright, J. T., carbons, 50, Wellington-st.

Castle Rub. Co., Ltd., I.R. mfrs., 30, Renfield-st.

Chalmers, W., elec. lt. & pr. contr., 142, Bath-st.

Charters, J., elec. engr., 261, West George-st.

Christie, Geo., Ltd., brass wire drwrs., Govan.

Christie, W., & Co., carbon brushes, 50, Wellington-st.

Churchill, Chas., & Co., Ltd., import. Am. mach., 9-11, Wellington-st.

Clark, T., elecn., 62, Roselea Drive, Dennistoun.

Clark, A. W., & Co., agents, 8½, Douglas-st.

Clark, M., & Willmott, elec. ftgs., 217, St. Vincent-st.

Clarke, Chapman & Co., mfg. elec. engrs., 81, St. Vincent-st.

Clarkson Bros., Ltd., elec. & gen. engrs., 8 & 12, Little Hamilton-st.

Clyde Model Dock Yard & Eng. Depôt, Argyll-arcade.

Colquhoun, T. M., & Co., inst. contrs., 153, Canning-st., Bridgeton.

Cooper, M. K., & Co., cons. elec. engrs., 27, Oswald-st.

Corp. Elec. Supply, 75, Waterloo-st. Engr., W. W. Lackie.

Corp. Trams. Gen. man., J. Dalrymple; engr., J. Ferguson, A.M.I.E.E.

Couldwell, A., elec. engr., 3, Leyden-st.

Coulson, W. A., M.I.E.E., 47, Broad-st., Mile End.

Couper, J., & Sons, globe mfrs., City Glass Works.

Coutts & Co., elec. engrs., 140, Bath-st.

Craig, J. H., M.I.E.E., Baltic-chbrs., Wellington-st.

Craigpark Electric Cable Co., Ltd., insulated wires, Springburn.

Creed & Co., teleg. instr. mkrs., 156, St. Vincent-st.

Croggon & Co., Ltd., elec. bells, 7, John-st.

Glasgow—*continued.*

Crombie, Jas., sup. E. Teleg. Co., 5, Royal Bank-pl.
Crompton & Co., Ltd., elec. engrs., 50, Wellington-st.
Crowley, J., & Co., Ltd., cstgs., 79, W. Regent-st.
Cruikshank & Fairweather, Ltd., pat. agts., 62, St. Vincent-st.
Cryselco, Ltd., incand. lmp. mfrs., 182, W. George-st.
Davison, Alex., elecn., 47, London-st.
Dempster, Moore & Co., Ltd., tools, 49, Robertson-st.
Dick, Kerr & Co., Ltd., tramway engrs. & contrs., 175, W. George-st.
Dick, R. & J., G. P. dr. band mfrs.
Dixon, J., elec. & mech. engr., 219, S. Vincent-st.
Dixon, W., M.I.E.E., 30, Kelvinside-gdns.
Dixon, W., & Co., elec. engrs., 38, Bath-st.
Dobbie, J. Thos., elec. engr., 58, Pollok-st.
Dobbie, McInnes, Ltd., elec. & eng. instr. mfrs., 57, Bothwell-st.
Dobie, J., & Co., 75, Sauchiehall-st.
Donachie, J. A., engr., C. V. E. P. Co., 53, Bothwell-st.
Donald, J. T., & Co., Ltd., mfrs. air propellers, 35, M'Alpine-st.
Dorman & Smith, mfg. elec. engrs., 198A, St. Vincent-st.
Doulton & Co., Ltd., stoneware for elec. purposes.
Drake & Gorham, Ltd., elec. engrs., Baltic-chbrs., 50, Wellington-st.
Drysdale & Co., Ltd., Bon Accord Engine Wks.
Duff, W., & Co., blr. cov., 60, Elliott-st.
Eadie, J., & Sons, tubes, Clydesdale Tube Wks., Rutherglen.
Edison & Swan U.E.L. Co., Ltd., 153, W. George-st.
Edmiston, Brown & Co., mech. & elec. engrs., 224, St. Vincent-st.
Edward, G., & Co., mech. mfrs., Hercules Ir. Wks., Johnstone, nr.
Elec. Control, Ltd., elec. engrs. & mfrs., 177, Reid-st., Bridgeton.
Elecl. Contrs. Assoc., Incorp., 168, St. Vincent-st. Sec., J. M. Davies, jun.
Espie, James, elec. engr., 70, Douglas-st.
Ewing, J. L., & Co., elec. engrs. & contrs., 156, St. Vincent-st.
Falk, Stadelmann & Co., Ltd., mfg. elec. engrs., 74/8, Gt. Clyde-st.
Falkirk Iron Co., castings, 32–34, Bothwell-st.
Ferguson, J., M.I.E.E., elec. instr. mkr., 61, Pollok-st., Pollokshaws.
Ferguson, J., A.I.E.E., chf. engr., Corp. Trys.
Ferrie & Co., elecns., 193 & 195, Crow-rd., Partick.
Finlay, J., & Co., Ltd., elec. lt. engrs. & contrs., 18, Renfield-st.
Fitzpatrick, H. D., patent agt., 100, Wellington-st.
Fitzsimons, H., elec. engr., 9, Stanley-st., Govan.
Fixare Lamp Co., Ltd., 49, Virginia-st.
Fraser & Borthwick, inst. contrs., 91 & 93, Waterloo-st.

Glasgow—*continued.*

Fullerton, R. & J., mfrs.' representatives, 116, Hope-st.
Fulton, T. C., cons. elec. engr., 44, West George-st.
Fyfe, Wilson & Co., elec. agts., 145, Bath-st.
Gardiner & Co., elec. bell ftrs., 53, St. Vincent-st.
Garroway, R. & J., mfg. chem., 58, Buchanan-st.
Garty, Bone & Co., elec. engrs., Anderston Elec. Wks., 61, Bishop-st., Anderston.
General Elec. Co., Ltd., elec. lt. ftgs., 71, Waterloo-st.
Gerrard, Alex., A.M.I.E.E., elec. engr., 5, Leslie-st., Pollokshields.
Gibson, G. A., M.A., F.R.S.E., Glasgow & W. of Scot. Tech. Coll.
Gibson, G. H., A.M.I.E.E., elec. engr., 246, Bath-st.
Glasgow Alum & Ammonia Co., Ltd., mfg. chem.
Glasgow Patents Co., Ltd., makers feed filter.
Glasgow Rly. Engineering Co., Govan.
Glasgow & W. Scot. Tech. College.
Glenboig Union Fire Clay Co., Ltd., st. boxes for elec. mains, 48, W. Regent-st.
Glover, W. T., & Co., Ltd., cables, 196, St. Vincent-st.
Goodwin, R., elec. engr., 58, Renfield-st.
Gordon, J., inst. contr., 12, Cathedral-st.
Govan Corp. Elec. Wks. Engr., T. C. Parsons, M.I.E.E.
Graham, Wm., elecn., 3, Wilson-st., Hillhead.
Gray, J., & Co., elec. agts., 212, St. Vincent-st.
Green, A., Henderson & Co., elec. lt. contrs., 34, Ann-st.
Green, E., & Son, Ltd., fuel economiser mkrs.
Grindlay, Ross & Co., inst. contrs., 278, St. Vincent-st.
Haddow, W. M., M.I.E.E., 9, Bank-st., Hillhead.
Haddow & Co., elec. engrs., 107, Douglas-st.
Haggie, R., Hood & Son, Ltd., wire rope, 93, Hope-st.
Hamilton Bros., elec. & mech. engrs., 19, Waterloo-st.
Hamilton, Claud, Ltd., elec. lt. contrs., 247, St. Vincent-st.
Hamilton & Co., inst. contrs., 230, Berkley-st.
Harrower, P., export. elec. plant, 134, Bath-st.
Harvie, W., & Co., Ltd., elec. lt. engrs., 24, McAlpine-st.
Hendry, J., Laminated Leather Wks., Bridgeton.
Hendry Bros., spd. indic., 28–32, Robertson-st.
Herriot, W. S., elec. engr., 1, Anfield-rd., Partick.
Holden & Brooke, Ltd., injec. mfrs., 62, Robertson-st.
Holland House Elec. Co., Ltd., mkrs. elec. ftgs., 9, Holland-pl., & 121A, St. Vincent-st.
Holman Flame Lamp Co., 101, St. Vincent-st.
Holmes, J. H., & Co., elec. lt. engrs., 19, Waterloo-st.
Holmes, J. R., & Co., teleg. engrs., "Baltic," 50, Wellington-st.
Houston, J., elec. engr., 30, Earl-st., Scotstoun.
Howden, Jas., & Co., high sp. eng., Scotland-st.
Hunt, E., & Co., pat. agts., 121, W. George-st.
Hunter & Jack, elec. lt. engrs., 101, St. Vincent-st.

Glasgow—*continued.*

Hurlet & Campsie Alum Co., mfg. chem., 115, Wellington-st.
Hurst, Nelson & Co., Ltd., elec. cars, 40, W. Nile-st.
Hutcheson, A., elec. engr., 211, W. Campbell-st.
Hutcheson, J., elec. engr., 211, W. Campbell-st.
India Rubber, G. P. & Teleg. Wks. Co., Ltd., 2, Royal Exchange-sq.
Inst. of Engrs. & Shipbldrs. in Sctld., Elmbankcres.
Iron & Steel Fencing & Buildings Co., Baltic-chbrs., 50, Wellington-st.
Irvine Chemical Co., Ltd., 204, St. Vincent-st.
Irwell & Eastern Rubber Co., Ltd., 25, Hope-st.
Jack, W., LL.D., D.SC., prof. math., University.
Jamieson, J., agt., 212A, St. Vincent-st.
Jamieson, Prof. A., elec. eng. taught, 16, Rosslynter., Kelvinside.
Johnston, A. W., A.M.I.E.E., cons. elecn., Clunrinnes, Auchinairn.
Johnston, J. J. H., M.A., A.M.I.E.E., A.AM.I.E.E., elec. engr., Oakfield, Lenzie, nr.
Johnston, Park & Co., elec. engrs. & contrs., 15, Oswald-st.
Jones, A. W., A.M.I.E.E., elec. engr., c/o Spence & Ionides, 14, St. Vincent-pl.
Joyner, C., & Co., Ltd., ftgs., 130, W. Regent-st.
Judd, E. H., elec. & mech. engr., 68, Gordon-st.
Kelso & Co., mfg. elecns., 1008, Pollokshaws-rd.
Kelvin & James White, Ltd., elec. instr. mkrs., 18, Cambridge-st.
Kemp, Wm., & Co., elcc. engrs, mfrs. elec. lt. ftgs., 159, Buchanan-st.
Ker, W. A., cons. engr., 124, St. Vincent-st.
Kerr, Thomas, elec. bell ftr., 75, Norfolk-la.
Key, Wm., ven. & htg. engr., 109, Hope-st.
Kilmalcolm Elcc. Ltg. Co., Ltd., 163, Hope-st.
King, F. A., elec. engr., 205, Byars-rd.
Lackie, W. W., M.I.C.E., M.I.E.E., engr., Corp. Elcc. Wks., 75, Waterloo-st.
Lancashire Dynamo & Motor Co., Ltd., Caledonian-chbrs., 87, Union-st.
Land, T., & Son, conduits, 73, Robertson-st.
Lang, J., & Sons, mkrs. lathes & tools, Johnstone.
Law, J. & A., arc lamp posts, Rae-st.
Leggat, J. F., & Co., elcc. & gen. engrs., 20, Lanark-st., Dobbies-loan.
Lester, W., & Co., elec. agts., 11, West Regent-st.
Leyland & Birm. Rubber Co., Ltd., insulating materials, 49, Queen-st.
Liddle, J., pat. agt., 154, St. Vincent-st.
Lindsay, A., elecn., 242, Whitehill-st., Dennistoun.
Lindsay Burnet & Co., boilers, Moore Pk. Boiler Wks., Govan.
Linwood Mach. Tool Co., 83, John-st., Govan.
Livingston, R. D., & Co., elec. engrs. & contrs, 3 & 5, Buchanan-ct., Eglinton-st.
Local Section I.E.E. J. E. Sayers, hon. sec., 190, West George-st.
Lockie, J. R., elec. contr., 118, Mains-st.
Loudon Bros., tool mkrs., 39, West Campbell-st.
Loudon & Clark, elec. agts., 68, Gordon-st.
Lowdon Bros. & Co., mfg. elecns., 150, Holm-st.
Lowson, J., M.I.E.E, elecn., 10, W. Campbell-st.

Glasgow—*continued.*

Lyle, J., mfg. elecn., 37, S. Portland-st.
McAulay, Wm., A.M.I.E.E., Ashfield, Pollokshields.
McCall, T., & Co., inst. contrs., 116A, Mains-st.
McCulloch, M., & Co., lamp pillars, 168, Gallowgate.
Macdonald, J., & Co., Bridge Turbine Wks., Pollokshaws.
McDowall, Steven & Co., Ltd., Imp. post mfrs., Milton Iron Wks.
McFarlane, J., elec. ftgs., 154, St. Vincent-lane.
Macfarlane Bros., reflectors, Roxburgh Wks., Scotstoun.
Macfarlane, W., & Co., mfrs. irn. elec. lt. pillars, Saracen Fdry.
Macfee, J., gen. mgr. P.O. Teleph.
McGeoch, L. A., elec. engr., 28, W. Campbell-st.
McGeoch, W., & Co., Ltd., mfg. elecns., W. Campbell-st.
M'Gibbon, D., elec. engr., 4, Ashton-place, Byres-rd., Partick.
M'Haffie & Co., elec. ship & st. lamps, 13, Margaret-st., High John-st.
Mackay, G. F., elec. engr., 40, Queensborough-gdns., Hyndland.
Mackenzie, J. D., A.I.E.E., mgr. National Electric Signs Co., Ltd., 112, Bath-st.
Maclay, W., elecn., Thornwood, Langside.
McLellan, R., elecn., 133, Sauchiehall-la.
MacLellan, A., & Co., elec. engrs. & contrs., 63, Waterloo-st.
McLellan, G., & Co., I.R. mfrs., Maryhill-rd.
MacLellan, P. & W., Ltd., engrs., 129, Trongate.
McLucas, D., & Co., elec. engrs., 128, Sauchiehall-lane.
McWhirter, Wm., & Son, elec. engrs., 212, Holm-st.
Malcolm & Allan, Ltd., elec. engrs., 499, Eglinton-st.
Martin, D., A.M.I.E.E., elec. engr., 12, Waterloo-st.
Martin, P. M., mfg. elecn., 29, Waterloo-st.
Martin, W. C., & Co., elec. engrs., 10, West Campbell-st.
Mather & Platt, Ltd., engrs. & contrs., 124, St. Vincent-st.
Mathieson, Alex., & Sons, Ltd., Saracen Tool Wks.
Mavor & Coulson, Ltd., engrs. & elecns., 47, Broad-st., Mile-end.
Mayer, A., elecn., Cathkin-rd., Langside.
Mechan & Sons, Ltd., elcc. & gen. engrs., Scotstoun Iron Wks.
Meighan, J., & Son, elec. l. contrs., 328-332, Abercromby-st., Calton.
Meiklejohn, J. B., inst. contr., 115 & 115A, Bath-st.
Miller, J., Son & Co., mfg. chem., 79, W. Nile-st.
Milne, F. E. & A., cons. elec. & mech. engrs., 136, Wellington-st.
Milne, Jas., & Son, Ltd., elec. lt. ftgs., 111, St. Vincent-st.
Mirrlees Watson Co., Ltd., condens. plnt., Scotland-st.
Moffat Bros., elec. ftgs., 49, W. Campbell-st.
Morgan, G., elec. engr., 262, Nithsdale-rd.
Morley Elcc. Eng. Co., Ltd., 217, St. Vincent-st.

Glasgow—*continued.*

Morris, D. H., elec. engr., Lowdon Bros. & Co., 152, Holm-st.
Morris, Warden & Co., engrs., 68, Gordon-st.
Morrison, W. G., & Co., dlrs. in supplies, 58, W. Regent-st.
Muir, E., elec. engr., Glasgow Athenæum, St. George's-pl.
Muir, R. W., high speed eng. mkr., 97, St. James-rd.
Muirhead, J., forge master, Cart Forge.
Munro, Wm., elec. lt. ftgs., 185, Trongate.
Munro & Mackintosh, Richter's carbons, 103, Bath-st.
Murray, T. B., B.SC., M.I.E.E., Albion Motor Car Co., Ltd., Scotstoun.
Murray, R. C., & Co., elec. ship lmp. mkrs., 7, Carlton-crt.
Nat. Elec. Signs Co., Ltd., elec. engrs., 112, Bath-st.
Neilson, R. M., cons. engr. & pt. agt., 45, Hope-st.
Nelson, R., elec. engr., 52, Main-st., Bridgeton Cross.
Nielson, J. F., elec. engr., J. Brown & Co., Ltd., Clydebank.
Nobel's Explosives Co., Ltd., mfrs. elec. fuses, 195, W. George-st.
N. Brit. Wire Mfg. Co., dyn. brushes, 71, W. Nile-st.
Norton & Gregory, Ltd., math. inst. mkrs, 34, Robertson-st.
Oldfield, J., & Sons, Ltd., leather bltng., 8 & 20, Dixon-st. & Fox-st.
Osborne & Hunter, elec. contrs. & engrs., 108A, West Regent-st.
Page, A., asst. engr., Corp. Elec. Dept.
Parsons, T. C., M.I.E.E., engr., Govan Town Council Elec. Wks.
Partick Town Council Elec. Wks. Engr., Wm. Sillery, A.M.I.E.E.
Pat. Process Wire Weaving Co., Bridgeton.
Paterson, Bell & Co., Ltd., cons. & elec. engrs., 47, Waterloo-st.
Paterson, W., & Son, elec. bell con., 1, Bothwell Circus.
Penman & Co., Ltd., boiler mkrs., Strathclyde-st.
Physical Society of Glasgow University.
Pollock, Whyte & Waddell, gas engines, Johnstone, nr.
Port-Dundas Pottery Co., Ltd., elec. apparatus, Port-Dundas.
P.O. Telephone Dept., 65, Renfield-st.
Potter & Co., elec. power contrs., 196A, St. Vincent-st.
Power Appliances Co., elec. ftgs. mfrs., 189, Hope-st.
Poynter, J., & Son Macdonalds, mfg. chem., 72, Gt. Clyde-st.
Prentice, J., res. engr., Kelvinside.
Primrose & Primrose, elec. engrs., 145, Bath-st.
Rae Bros., elec. & scien. instr., 77, Renfield-st.
Reid, D., M.I.E.E., 18, Cambridge-st.
Renfrew, R. S., elecn., 136 & 140, North-st.
Rennie's Steel Casting Co., steel cstgs., Tollcross.

Glasgow—*continued*

Richmond, D., & Co., Ltd., iron tube mfrs., City Tube Works, 35, Rose-st.
Riddell, Wm., & Co., wire drawers, 636, Springfield-rd.
River Plate Tel. Co., Ltd., 142, St. Vincent-st.
Robertson & Adams, cons. engrs. & elecns., 52, St. Enoch's-sq.
Robertson & Co., mkrs. elec. spec., 95, Bath-st.
Robertson, H. Y., & Co., elec. contrs., 12, Harvie-st.
Robertson, J. C., & Co., elecns., 10, Wemyss-pl.
Ross & Co., elec. bells, 62, Robertson-st.
Ross & Morrison, elecns., 9, Killermont-st.
Ross, R. G., & Son, gears, Greenhead.
Rowden, W. T., B.SC., cons. engr., Glasgow & W. Scot. Tech. Coll.
Rudd, J. A., & Co., elec. engrs., 68, Gordon-st.
Rutherford, A., A.M.I.E.E., 353, West Prince's-st.
Rutherford, G., elec. engr., 104, Clarence Drive.
Sayers, W. B., M.I.E.E., cons. elec. engr., 189, St. Vincent-st.
Sayers, J. E., & Caldwell, cons. engrs. & elecns., 190, W. George-st.
Scharina, W. E. H., M.I.E.E., 163, Hope-st.
Schonfield, A., & Co., elec. l. & p. engrs., 21, Hope-st.
Scott, Wm., elec. engr., 76, Stratford-st.
Scott, W., elec. engr., 196, St. Vincent-st.
Scottish Indiarubber Co., elec. cables, 9, Howard-st.
Selkirk, D. B., & Co., elec. med. appar., 100, Bath-st.
Sexton, A. H., professor metall., Glasgow & W. Scot. Tech. Coll.
Seys, P. G., dis. rep., Simplex Conduits, Ltd., 72A, Waterloo-st.
Shanks, T., & Co., tool mkrs., Johnstone, nr.
Shaw, J., & Co., iron fdrs., Maryhill Iron Works.
Short, J., & Co., lightning conduc., 46, E. Crawford-st.
Sillery, W., burgh elec. engr., Partick.
Simplex Conduits, Ltd., 72A, Waterloo-st.
Smillie, S., mech. engr., Havelock Copper Wks., 71, Lancefield-st.
Smith, A. C. I., elecn., 12, York-st.
Smith, W. A. C., bells, switches, &c., 326, Argyle-st.
Smith, A., & Son, I. R. & cable agts., 9, Howard-st.
Smith & Christie, incand. lamps, 115–127, James-st., Bridgeton.
Somerville, Jas., inst. contr., 27 & 29, Helen-st., Govan.
Spence & Ionides, cons. engr., 14, St. Vincent-pl.
Spence, J. H., & Son, elec. l. & p. contrs., 93, Elcho-st.
Springfield Steel Co., stl. cstgs., 777, London-rd.
Stark, A. Kennedy, & Co., elec. engrs., 163, W. Nile-st.
Starr, D. A., gen. mgr., Clyde V. Elec. P. Co., 53, Bothwell-st.
Steel, R., & Co., elec. engrs., 12, Renfield-st.
Sterne, L., & Co., Ltd., emery wheels, Crown Iron Works.

Glasgow—*continued.*

Steven & Struthers, mkrs. eng. gov., Anderston Brass Fdry.
Stevenson, W., teleg. supt., Caledonian Rly.
Stevenson & McGuffie, cons. engrs., Caledonian-chbrs., 87, Union-st.
Stewart, D., sup. engr., Postal Telegraphs.
Stewart, W. M., cons. elec. engr., 55, W. Regent-st.
Stewart, C. & A., gauge mkrs., 14, Victoria-st.
Stewart, D., & Co. (1902), Ltd., mfrs. dynamos, London-rd. Iron Works.
Stewart & McDonald, elec. engrs., 245, Buchan-st.
Stewart, W. W., & Co., lightning conduc., 365, Scotland-st.
Stewarts & Lloyds, Ltd., tube mfrs., 41, Oswald-st.
Stirling Boiler Co., Ltd., water tube blrs., 45, Hope-st.
Strathclyde Elecy. Sup. Co., Ltd., 53, Bothwell-st. Gen. man., D. A. Starr.
Sykes, R., & Co., elec. lt. contrs., 12, Dixon-st.
Tayler Smith Electric Co., The, elec. lt. & pr. contrs., 233, St. Vincent-st.
Telford, M., elec. engr., 7, Moray-pl., Strathburn.
Telford, Grier & Mackay, Ltd., elec. engrs., 220–222, Broomielaw.
Thompson, R. B., & Co., gls. globe mkrs., 54, West Howard-st.
Thomson & Ramsay, cons. mech. & vent. engrs., 55, W. Regent-st.
Thomson, W. R. M., & Co., cons. engrs., 96, Buchanan-st.
Thomson-Knox Co., elecns., 109, Argyle-st.
Tidd, E. G., M.I.E.E., engr., 68, Gordon-st.
Tittensor, W. H., M.I.E.E., 19, Waterloo-st.
Tosh, D., & Son, lightning conduc., 77, Queen-st.
Tracey, H. J., mgr., Commercial Cable Co.
Trotter, J., elecn., 40, Gordon-st.
Tucker, J. H., & Co., elec. ftgs. mfrs., 221, St. Vincent-st.
Tullis, J., & Son, Ltd., St. Ann's Leather Wks., John-st., Bridgeton.
Turnbull, A., & Co., Ltd., blr. mntgs., Bishopbriggs.
Turnbull, J., jun., & Sons, turbines, Canal Basin Fdry, Dobbies Loan.
Underhill, W. R., & Co., elec. engrs., 79, Bath-st.
Union Elec. Co., Ltd., 12, Waterloo-st.
United Alkali Co., Ltd., mfg. chem.
United Wire Wks., Ltd., wire & dyno. brsh.
University, The.
Ure, R. A., A.M.I.E.E., elec. engr., 192A, St. Vincent-st.
Veritys, Ltd., elec. engrs., 40, Bath-st.
Walker, W., induc. coils, "Strathmar," Muirhouse of Drumclog, Milngavie, nr.
Wallace Bros., iron fdrs., &c., 284–290, Crownpoint-rd.
Wallace, Wilkie, & Newton, I. R., 5, York-st.
Wassell, G., elec. engr., 25, Centre-st.
Waterson's, elec. engrs., 39, Glassford-st.
Watson, H., A.M.I.E.E., elec. eng., 121A, St. Vincent-st.
Watson, A., & Co., elec. engrs, 36, George-st.

Glasgow—*continued.*

Watson, Gow & Co., Ltd., elec. cable pipes, Etna Fdry., Lilybank-rd.
Watson, Laidlaw & Co., fric. gear, Dundas-st., S.
Weir, G. & J., Ltd., feed pumps, Cathcart.
Welsh & Co., model mkrs., 67, McAlpine-st.
West of Scotland Trading Co., Ltd., elec. & mech. engrs., 140, W. George-st.
Western U. Teleg. Co., 4, Waterloo-st., & 113, Hope-st.
White, Jas., elec. engr., 1, Hamilton Drive, Pollokshields.
Whyte, R. A., & Co., lmp. mkrs., 140, Bath-st.
Wilson, D. T., elec. engr., 28, W. Campbell-st.
Wilson, W. R., B.SC., M.I.E.E., elec. engr., 142, Hyndhead-rd.
Wilson, J., & Son, lead presses, Vulcan Wks., Johnstone, nr.
Woodward & Co., elec. engrs., 147 & 149, Renfield-st.
Workman & Co., Ltd., engrs., Craigton Engineering Wks.
Wrench, Wm. G., elec. engr., 5, Oswald-st.
Wright, T., A.I.E.E., 136, Bothwell-st.
Wylie & Lochhead, Ltd., elec. ltg. contrs., 45, Buchanan-st.
Young, T., M.I.E.E., 203, W. George-st.
Yuille, Wm. C., & Co., overhead mat. for elec. trac., 60, Brown-st.

Glossop.

Oliver, W., & Sons, elecns., 85, High-st. W.
Urban Elec. Sup. Co. Res. engr., C. E. Knowles, A.I.E.E., A.M.I.C.E.

Gloucester.

Agricultural Elec. Discharge Co., Ltd., 3, Howard-st.
Beaven & Sons, Ltd., elec. engrs., Westgate-st.
Brain, Frank, A.M.I.C.E., elec. & mining engr. & elec. fuse mfr., Trafalgar House, Drybrook.
Burley, T., teleg. engr., Midland Rly.
Butt, J. M., & Co., lmp. pst. mfrs., Kingsholm Iron Wks.
Corp. Elec. Wks. Engr., F. H. Corson.
Corson, F. H., A.M.I.C.E., A.M.I.E.E., chf., Corp. Elec. Wks.
Elliott, C., dis. mgr., Nat. Teleph. Co., Ltd., 9, Berkeley-st.
Engineering Society Mun. Tech. Schools.
Fielding & Platt, Ltd., gas eng., Atlas Ir. Wks.
Harris & Son, install. contrs., Market-parade.
Hutton Bros., elec. engrs., St. Aldate-st.
Johnston, L., gen. mgr. & engr., Corp. Light Rlys.
Mitchell, L. C., & Co., inst. contrs., 15, St. Aldgate-st.
Moffatt & Co., wood csgs., Midland Mills.
Parsons, R. A., A.I.E.E., elec. engr., Eastwood, Kingsholm.
Parsons Bros., elec. engrs., 4, Queen-st.
Sessions & Sons, Ltd., slate mfrs.
Sisson, W., & Co., Ltd., engines.
Walton, W. A., A.M.I.E.E., elec. engr., London-rd.
Whiting, F. A., elec. engr., 5, Clarence-st.
Wyman, W. M., & Son, elec. engr., Commercial-rd.

Godalming.

Luck, J. M., electric bell fitter.
Urban Elec. S. Co., Ltd. Res. engr., R. S. Robertson.

Golborne.

Naylor Bros., brckts.

Goole.

Illingworth, Ingham & Co., Ltd., wood csgs., Albert-st.
North-Eastern Novelty Co., 20, Victoria-st.
Shackleton, J. F., & Son, conduits.

Goring.

Ellis, G. A., elec. engr.

Gorseinon.

Gorseinon Elec. Light Co., Ltd. Engr., D. Powell.

Gosport.

G. & Alverstoke E. L. Co., Ltd. Engr., J. Fereday Glenn.
Prov. Tys. Co., Ltd. Engr. & man., J. Fereday Glenn.

Grangemouth.

Grangemouth Gas Co., Ltd., elec. lt. engrs., Grange-st.

Grangetown.

Cleveland & Durham Co. Elec. Pr., Ltd. Man., A. B. Gridley.

Grantham.

Edmundson, J. E., A.M.I.E.E., res. engr., Urban Elec. Supply Co., Ltd.
Hornsby, R., & Sons, Ltd., oil & gas eng. mkrs., Spittlegate Iron Wks.
Howett, E., mfg. med. elecn., Welby-st.
Martin, Fitt, Thomas & Co., elec. lt. engrs., 7, High-st.
Smith & Clarke, elec. engrs., 10, Vine-st.
Urban Elec. Supply Co., Ltd. Res. engr., J. E. Edmundson, A.M.I.E.E.

Grassington.

G. Elec. Sup. Co., Ltd.

Gravesend.

Blandford, G., elec. engr., 5, Railway-pl.
Corp. Elec. Wks. Engr., C. F. McInnes, M.I.E.E.
Fowle Bros., elec. bell ftrs.
G. & Northfleet Elec. Trwys. Mgr., P. N. Gray.
Havord & Co., elec. engrs., 2, Wrotham-rd.
McInnes, C. F., boro' elec. engr.
Purcell, E., elec. apparatus mkr.
Smith, W. H., elec. bell ftr., 28, Queen-st.

Grays.

Davies, Parker & Co., dyn. oil mfrs.
U. D. C. Elec. Wks. Engr., E. D. Long, A.M.I.E.E.

Great Bridge.

Aird, Joseph, tubes for elec. conduc.

Great Grimsby.

Beckett, J. P., & Co., elec. & mech. engrs., Victoria-st.
Channon, A. S., chf. asst. engr., Corp. Elec. Wks.
Cole, John R., elec. bell mfr., 61, Freeman-st.
Corp. Elec. Wks. Engr., W. A. Vignoles, M.I.E.E.
Dolby, D. J., elec. engr., Victoria-st.
Duke, J., elec. bell ftr., 4, Bethlehem-st.
Easter & Dickinson, elec. engrs., Victoria-st.
Hall, E. A., elec. engr. & wiring contr., Old Market-pl.
Hyde, A. W., inst. contr., 73, Pasture-st.
Northern Elec. Co., elec. l. & p. contrs., 117, Cleethorpe-rd.
Robinson & Emerson, elec. engrs., 222, Victoria-st.
Vignoles, W. A., M.I.E.E., corp. engr.
White, H. L., trwys. mgr.

Greenock.

Aluminium Castings Co., Ltd., Ingleston Fdry.
Anderson, A., & Co., elec. l. & p. engrs., 16, Laird-st.
Connal, D. L., & Co., elec. l. & p. contrs., Hunter-pl.
Corp. Elec. Wks. Engr., J. A. Robertson, M.I.E.E.
G. & Glasgow Elec. Co., elec. pltrs., 14, Charles-st.
G. & Port Glasgow Trwys. Co. Man., G. W. King.
Hastie, J., & Co., Ltd., engrs., Nicholson-st.
Hurry Bros., elec. l. & p. contrs., 6, Sugarhouse-la.
Kilpatrick, J., & Son, elec. engrs. & contrs., 34, West Blackhall-st.
Lamb, A. R., dis. mgr. Nat. Teleph. Co.
Maccallum, J. M., elec. chem., 43, Union-st.
McMorland, J. & J., elec. l. contrs., 17, Brymner-st.
Robertson, J. A., M.I.E.E., burgh elec. engr.
Tosh, D., & Son, ltng. cond., 12, Houston-st.

Greystones, co. Wicklow.

Greystones Elec. L. & P. Co., Ltd. Engr, R. F. Fry.

Groeslon, R.S.O.

Jones, Inigo, & Co., slate turners, Tudor Slate Wks.

Guernsey.

Bird, A. G., engr. & mgr., Guernsey Railway Co., Ltd.
G. Elec. Light & Power Co., Ltd. Engr., C. Lakin-Smith, A.M.I.E.E.
G. Rly. Co. Engr. & man., A. G. Bird, A.M.I.E.E.
Guernsey (States of) Teleph. Dept., St. Peter Port.
Langlois, T., & Co., elec. engrs., 31, Bordage-st.
Maclean, R., engr. & mgr. G. (States of) Teleph. Dept.

Guildford.

Alderton, H. L., engr., G. Elec. S. Co., Ltd.
Bowden, Higlett & Co., elec. lt. contractors, Onslow-st.
Carling, Gill & Carling, Ltd., elec. engrs., 59 & 60, High-st.
Dickinson & Burne, Ltd., mech. engrs., Church Acre Wks.
Drummond Bros., Ltd., lathe & tool mkrs., Rhydes Hill, nr.
G. Elec. Supply Co., Ltd., Onslow-st. Engr., H. L. Alderton.
Phillips, H. F., & Co., mfg. elec. engrs., Guildford Elec. Wks.

Halifax.

Asquith, Wm., Ltd., mach. tool mkrs., High-rd. Wks.
Automatic Standard Screw Co.
Bentley, W., cons. mech. engr., Royal Insurance-bldgs., Crossley-st.
Binns, J. & A., iron & stl. wire, West Mount Wire Wks.
Booth, G., & Co., mech. tool mkrs., Arundel-st.
Campbell Gas Engine Co., Ltd., Kingston.
Corp. Elec. Wks. & Trams. W. M. Rogerson, M.I.E.E., engr.
Emmott, W., M.I.C.E., M.I.E.E., 35, Commercial-st.
Fleming, Birkby & Goodall, lthr. dr. bands, West Grove Mills.
Foster, E., & Son, Ltd., engrs., Cen. Brass Wks.
Gath Elec. Eng. Co., Horton-st.
Greenwood, T., engr., Waterside.
Hamer, J., & Co., mfg. elec. engrs., Broad-st.
Hardy, J. T., elec. engr., Abbey Walk, Coronation-rd.
Maud & Turner, engrs., Perseverance Wks., Gibbett-st.
Municipal Tech. College. *See* SCHOOLS.
Naylor, John, & Son, elec. bell ftrs., Cheapside.
Northern Electric Wire Co., The, Sedburgh Mills.
Rogerson, W. M., M.I.E.E., trys. gen. mgr. & boro' elec. engr.
Royston, J., Son & Co., Ltd., wire mfrs., Shroggs Mills.
Smith, B. G., elec. lifts, Stannary-st.
Smith, Frederick, & Co., Wire Manufacturers, Ltd., teleg. line wire, Caledonia Wks.
Smith & Wilshaw, lathes, Kingston Wks., Hopwood-la.
Stirk, J., & Sons, Ltd., mech. & elec. engrs., 7, Turney-st., Ovenden-rd.
Sunderland, R. F., elecn., 160, Gibbet-st.
Sunderland, J., & Co., elec. engrs., 183, Gibbet-st.
Sykes, E., elec. engr., 7, King Cross-st.
Whiteley Bros., insul. mat., Slitheroe Mills, Rishworth, nr.
Wilkinson, Wm., elec. engr., 22, Crosshills.
Wright & Wood, Ltd., dynamos, Pellon-lane.

Hamilton.

Colson, T. M., A.M.I.E.E., engr. & mgr., Elec. Wks.
Corp. Elec. Wks. (Edmundson's Elecy. Corp., Ltd.). Engr., T. M. Colson, A.M.I.E.E.

Hamilton—*continued.*

Lanarkshire Trwys. Co. Man. & engr., G. F. Moller, A.M.I.E.E.
Whitelaw, John T., dist. mgr. Nat. Tel. Co., Ltd.

Hampton Wick.

Burgoine, Alfred, Ltd., elec. launches, Riverside.
Gridley, H. J., elec. engr.
Holgate & Redwin, inst. contrs., 1, Malden-ter., High-st.
Scotcher & Sons, elec. engrs., High-st.

Hanley (including Etruria, Shelton, &c.).

Adams, W., dep. boro' elec. engr., 44, Stoke-rd.
Beck & Moss, Ltd., elec. platers, Faraday Wks.
Blackburn, Starling & Co., Ltd., elec. engrs., 72, Piccadilly.
Bullers, Ltd., porcelain mfrs., Fenton-rd.
Cauldon, Ltd., earthenware mfrs., Cauldon Place Wks., Shelton.
Clementson Bros., earthenware mfrs., Phœnix Wks., Broad-st.
Corp. Elec. Supply Engr., C. H. Yeaman; deputy engr., W. Adams.
Cowlishaw, Walker & Co., Ltd., clutches, Etruria.
Fenton, W., engr., Burton-pl.
Gosling & Gatensbury, engrs., Atlas Wks., Victoria-rd.
Grimwade, Ltd., earthenware mfrs., Winton Pottery, Stoke-rd.
Lobley, J., M.I.C.E., boro' engr. & surveyor.
Lockitt, W. H., earthenware mfr., Wellington Pottery, Commercial-rd.
Meadows, W. A., & Co., elec. engrs., Free Trade-bldgs., Percy-st.
Meakin, J. & G., Ltd., earthenware mfrs., Lichfield-st.
National Telephone Co., Ltd., Telephone-bldgs. A. E. Ruddock, dist. man.
Potteries Elec. Traction Co, Ltd. Engr. & mgr., W. Thom.
Ridgways, Ltd., earthenware mfrs., Bedford-rd., Shelton.
Shaw, A., tile mfr., Shelton Tile Wks.
Shore & Son, engrs., Albion Fdy., Etruria.
Smith, T., & Sons, engrs., Cannon-st.
Taylor, Tunnicliff & Co., Ltd., earthenware for elec. purposes, Eastwood.
Teeton, H. W., elec. engr., 19A, Lichfield-st.
Twyfords, Ltd., earthenware mfrs., Cliffe Vale Wks., Shelton.
Warners & Son, mfg. engrs., George-st.
Yeaman, C. H., borough elec. engr., 85, Park-rd.

Harpenden.

Brit. Elec. Calibrated Fuse Co.
Wilkinson, F. A., M.I.E.E., M.I.M.E., elec. engr.

Harrogate.

Barker, G., elec. engr., Albert-st.
Beanland, F., A.I.E.E., "Bega."

Harrogate—*continued.*

Corp. Elec. Supply Wks., Ripon-rd. G. Wilkinson, M.I.M.E., M.I.E.E., engr.
Falshaw, R., elec. engr., Albert-chbrs., Albert-st.
H. Tech. School. *See* SCHOOLS.
Lappin, A., testing supt., Corp. Elec. Dept., 33, Swan-rd.
McCourt, R., A.M.I.E.E., mains supt., Corp. Elec. Dept.
McLean, N., chf. asst., Elec. Sta.
Newby, G., elec. engr., Imperial-chbrs., James-st.
Newman, K. C. H., A.M.I.E.E., A.M.MECH.E., elec. contr., Broadbank-chbrs., 16, Oxford-st.
Strafford, H., & Son, elec. engrs., 68, Mayfield-grove.
Wilkinson, Geo., M.I.E.E., M.I.M.E., corp. engr., 35, Swan-rd., & Beech Mount.
Wray, T., elec. engr., Petergate, James-st.

Harrow.

Cole, Wm., install. contr., 20, Greenhill-par.
H. Elec. Lt. & Pr. Co., Ltd., West-st. Engr., J. A. B. Horsley, A.M.I.E.E.

Hartlepool.

Gen. Elec. Trwys. Co., Ltd. Engr., W. H. Bettison.
Richardsons, Westgarth & Co., Ltd., elec. engrs.

West Hartlepool.

Barker, E. D., install. contr., Lynn-st.
Central Marine Eng. Wks., marine engrs.
Corp. Elec. Wks. H. F. Friederichs, M.I.C.E., boro' elec. engr.
Hunter, W., elecn., 21, Charles-st.
Kirtley & Dunford, elec. & mech. engrs., 14A, Tower-st.
Pounder, P. E., install. contr., 43, Milton-rd.
Prescott, G. H., & Co., elec. & mech. engrs., 71, Carlton-st.

Haslingden.

Anderton & Halstead, Ltd., cable mfrs'. sundries.
Corp. Elec. Trms.

Hastings.

Armstrong, E., Nat. Teleph. Co., 52, Cambridge-rd.
Blackman, A., engr., 23, High-st.
Bruce, F., A.I.E.E., 40, Havelock-rd.
Climpson, W. S., wiring contr., 162, Queen's-rd.
Coleman, C., elecn., Corp. Elec. Dept.
Corp. Elec. Dept. R. F. Ferguson, M.I.E.E., M.I.MECH.E., elec. engr.
Edwards, W. V., A.M.I.E.E., elec. engr., H. & Dist. Elec. Trys. Co., Ltd.
Elgar, H. T., wiring contr., 19, Middle-st.
Ferguson, R. F., M.I.E.E., M.I.MECH.E., boro' elec. engr.
H. & Dist. Elec. Trys. Engr. & man., T. B. Holliday, A.M.I.E.E.
Ticehurst, F. G., cons. engr., Langton House, Battle.

Haverfordwest.

Dutton, S., supt. Teleg. Dept., Relay Sta.

Hawick.

Angwin, V. E., elec. engr.
Urban Elec. Supply Co., Ltd. Engr., A. N. Ryc, A.M.I.E.E.

Hayes (Middlesex).

Brit. Elec. Transformer Co., Ltd., engrs. & contractors.
Lee, A., & Bros., Ltd., marb. & slate.

Hayle.

Hayle Gas Co., Ltd., elec. lt. contrs.

Hayward's Heath.

Knight, A. W., elecn., Cuckfield Iron Wks., Market-pl.

Hebden Bridge.

Blackburn, R. S., & Co., elec. engrs., Commercial-st.
Harwood, W., elec. engr., Crown-st.
Hughes, Fawcett & Co., mach. tool mkrs.
Lumb, A., Lr. Rough Head.
U.D.C. Elecy. Wks. Engr., J. W. Garside.
Walton, D., dyn. mkr., Eaves Bottom Elecl. Wks.

Heckmondwike.

Corp. Elec. Wks. & Trams. G. H. Carter, A.I.E.E., engr.
Dutton, F., elec. lt. contr., 9, Croft-st.

Hednesford.

Bumsted & Chandler, Ltd., st. eng. mfrs., Cannock Chase Fdry.
Williamson, R. S., elec. engr., Cannock & Rugeley Coal Co.

Helensburgh.

Maclean, M., elec. engr., Hanover-st.

Helsby.

British Insulated & Helsby Cables, Ltd.

Hendon.

H. Elec. Sup. Co., Ltd. Res. elec. engr. & mgr., B. G. Drummond.

Hereford.

Barber, H. S., elec. bell ftr., 41, Bridge-st.
Corp. Elec. Wks. W. T. Kerr, engr.
Edwards & Armstrong, elec. engrs.
Harding Bros., elec. engrs., Commercial-st.
Kerr, W. T., res. engr., Corp. Elec. Wks.
Walker & Vickery, elec. engrs., Widemarsh-st.
Woolard & Co., elec. engrs., Hightown.
Workman & Son, elec. lt. contrs., Hightown.

Herne Bay.

Edwards, E., elecn., West Cliff.
Welby, C. W., elec. bell ftr.

Hertford.

Ekins & Co., Ltd., elec. engrs., G.N. Wks.
N. Met. Elec. Pr. Dist. Co., Ltd. Engr., J. M. Bowman.

Heston (Middlesex).

H. & Isleworth U.D.C. Elec. Wks. Engr. & mgr., P. E. Rycroft, A.M.I.E.E.

Heswall.

H. Dist. Power Co., Ltd.

Hexham.

H. & Dist. Elec. Sup. Co., Ltd. Engr., G. O. Laing.

Heywood.

Corp. Elec. Wks. J. Stott, res. elec. engr.

High Barnet.

N. Met. Elec. Pr. Dist. Co., Ltd. Engr., H. B. Sale.

High Wycombe.

Brandreth, W. E., engr. & mgr., W. (Borough) E. L. & P. Co., Ltd.
Broom & Wade, Ltd., mech. & elec. engrs.
Davenport Vernon & Co., Ltd., elec. lt. ftrs., High-st.
Wycombe (Boro') E. L. & P. Co., Ltd. Engr., W. E. Brandreth.

Hindhead.

H. & Dist. E. L. Co., Ltd. Engr., T. Reader.

Hitchin.

King, P. T., inst. contr.
Laverty, G., res. engr. & mgr., Elecy. Wks.
Slater, Batty & Co., elec. contrs.

Holsworthy.

H. Elec. Sup. Co., Ltd. Engr., W. H. Miller.

Holyhead.

U.D.C. Elecy. Wks. Res. engr., P. Williams.

Horley.

Eade & Sons, elec. bell & teleph. ftrs., Balcombe-rd.

Horsham.

Sendall, W. F., & Co., inst. contrs., 18, East-st.
U.D.C. Elecy. Wks. Engr., J. B. Morgan.

Hoylake.

U.D.C. Elec. Wks. Engr., C. J. Turner, A.M.I.E.E.

Huddersfield.

Armitage, T. A., elec. engr., 44, Buxton-rd.
Barron, C. A., & Lewin, patent agts., 32, John William-st.
Bould, E., & Son, elec. contrs., 36, Westgate.
Bower, W. R., A.R.C.S. (London), lect. on elec. eng., Technical College.
Broadbent, T., & Sons, Ltd., crane mkrs., Queen-st. S.
Broadbent, T. W., Ltd., elec. engrs., East Parade.
Brook, E., Ltd., elec. engrs., Colne-rd.
Brown, D., & Sons, raw hide gears, Park Works, Lockwood.
Cooke, J., concrete for eng. beds, Folly Hall.
Corp. Elec. Supply, St. Andrew's-rd. A. B. Mountain, M.I.E.E., engr.
Corp. Elec. Trams. Engr., R. H. Wilkinson.
Davies, F. W., A.M.I.E.E., elec. engr., Victoria Elec. Wks., East Parade.
Dyson, J. E., elec. engr., Shambles-lane.
Graham, J. W. & R., elecns., &c., St. George's-sq.
Holmes, W. C., & Co., elec. lt. engrs., Turnbridge.
Honley U.D.C. Elec. Wks. H. Marsden, elec. engr.
Hopkinson Engine Co., oil & gas eng. mkrs.
Hopkinson, J., & Co., Ltd., gauge mkrs., Britannia Wks.
Learoyd, V. B., cons. engr., 32, Byram-arcade.
Littlewood, Beaumont, & Co., dynamos, Thirston Ironwks., Honley.
Liversidge, E., elec. engr., 4, King's Head-bldgs., Cloth Hall-st.
Marchant, G. M., valves & lubr., Albert-st.
Marsden, J., & Co., elec. engrs., Market-pl.
Mitchell, J., & Sons, elec. & mech. engrs., Brockholes, nr.
Mountain, A. B., boro' elec. engr. & cons. engr., St. Andrew's-rd.
Patent Conveyor Co., Ltd., Fitzwilliam-st.
Robinson, J., & Co., Ltd., mfg. chem.
Schofield & Taylor, engrs., Turnbridge.
Shaw, J., & Son, Ltd., stm. valve mfrs., Albert Wks.
Sunderland Bros., elec. engrs., Halifax Old-rd.
Sykes, Jos., Bros., mech. engrs., Acre Mills, Lindley.
Sykes, J., & Sons, Ltd., engrs., Turnbridge.
Sykes & Sugden, Ltd., elec. engrs., Spring-pl. Wks., Springwood-st.
Taylor, F. W., elec. engr., Milnsbridge, nr.
Taylor, J. H., & Son, inst. contrs., Macauley-st.
Technical College.
Whiteley, Wm., & Sons, Ltd., dynamos, Prospect Iron Wks., Lockwood.
Wicker, G. J. M., loc. mgr., Nat. Teleph. Co.
Wilkinson, R. H., mgr. & engr., Corp. Trwys.

Hull.

Beecroft & Wightman, Ltd., wood casings, Humber Sawmills, Burleigh-st.
Bell, H., M.I.E.E., chf. engr., Corp. Elec. Wks.
Brown, Hedley O., & Co., lubricants, Victoria Oil Wks., Soap Ho. Wlif.

Hull—*continued.*

Castle & Co., compass mkrs., English-st.
Coote, A. W., sup. Edison & Swan Co., 3, Anne-st.
Corp. Elec. L. & P. Wks. Engr., H. Bell, M.I.E.E.
Corp. Trams. Engr., J. Wilkinson, M.I.E.E., M.I.M.E.; man., W. J. McCombe.
Edison & Swan U. E. L. Co., Ltd., 1, Anne-st.
Haggie, R., Hood & Son, Ltd., wire rope, Victoria Pier.
Hare, H., & Co., elecl. slates, Park-rd.
Harrison, A. J., A.M.I.E.E., elec. engr., 25, Margaret-st.
Harrison, W. L., inst. contr., 30 & 31, George-st.
Holden, T., elec. engr., 135, Belvoir-st., Princes-ave.
Humber Elecl. Eng. Co., elec. engrs. & contrs., 68, Brook-st.
Hyde, H., elec. engr., 48, Spring Bank.
Irwell & Eastern Rubber Co., Ltd., 58, Qeeen-st.
Jones, W., A.M.I.E.E., Elec. Wks.
Kenningham, R. H., inst. contr., 9, Beverley-rd.
King & Co., Ltd., inst. contrs., S. Church Side.
Lusby, A. J., 11, Haye's-ave., Ella-st.
Major & Co., Ltd., insul. mat., Sculcoates.
Maxted, Knott & Coles, cons. engrs., Burnett-ave.
Muse, T., elec. app. mkr., 1, S. View, Newington.
Nat. Teleph. Co., Ltd., Telephone-bldgs., Mytongate.
Neale, G. A., teleg. engr., H. & B. Rly. Co.
Nicholson, J. H., elec. engr., 69, Wright-st.
Parsons, E. M., elecn., 67, King Edward-st.
Priestman Bros., Ltd., pet. eng. mfrs., Holderness Fdry.
Rose, Downs & Thompson, Ltd., mech. engrs., Old Foundry, Cannon-st.
Shaw, A., inst. contr., 16, Story-st.
Slade, F. T., elec. & motor engr., 141, Anlaby-rd.
Taylor, W., & Co., elec. engrs., 13, Lowgate.
Wade, R., Sons & Co., Ltd., teleg. poles, Garrison-side.
White, A. E., city engr., Town Hall.
Wilkinson, J., M.I.E.E., elec. engr., City Trams.
Willatt, W. H., elec. engr., Reckitt & Sons, Ltd.

Hurst (Lancs.).

Garside, E., engr., U.D.C. Trwys.

Hythe.

Folkestone Elec. Sup. Co., Ltd. Man. engr., T. Hesketh, M.I.E.E.; res. engr., A. C. Wampach.
Pain, J., wiring contr., 62, High-st.
Scholey, V. C., wiring contr., 94, High-st.

Ilford.

Ajax Elec. Eng. Co., 291, High-rd.
Light Electric Motor Co., Ltd., mfg. elec. engrs., Seven Kings Electric Works.
Newmans, elec. contrs., 4, Cranbrook-rd.
Porter, E. C., inst. contr., 221, High-rd.
U.D.C. Elec. Wks. & Trwys. Engr., A. H. Shaw, M.I.E.E., A.M.I.M.E.
Ward, J., A.M.I.E.E., elec. lt. contr. & mfg. med. elecn., Hope Wks.

Ilfracombe.

I. E. L. & P. Co., Ltd. Engr., H. J. Stewart, A.M.I.E.E.

Ilkeston.

Corp. Elec. Wks. & Trams.
Derbyshire & Notts Elec. Pow. Co. Engr. & man., A. E. Loos; res. engr., R. D. Spurr.
Ridpath & Wells, elec. engrs. & contrs., 20, Bath-st.

Ingleton.

I. Elec. Ltg. & Pr. Co. Engr., D. Tattersall.

Inverkeithing.

Caldwell & Co. Ltd., elec. lt. engrs.

Inverness.

N. of Scot. E. L. & P. Co. Engr., E. J. Williams.

Ipswich.

Ayton, F., chf. engr. & mgr., Corp. Elec. Sup. & Trys. Depts.
Chapman, A. B., elec. engr., Corder-rd.
Corp. Elec. Sup. & Trams. Engr. & mgr., F. Ayton, A.M.I.E.E.
Crisp & Smith, elec. bell ftrs., Orwell-pl.
Hillyard, F. A., install. contr., 79, Princes-st.
Kettle, H. G., & Co., elec. lt. contrs., 24, Lr. Brook-st.
Mann, Egerton & Co., Ltd., install. contrs., 39, Princes-st.
Martin & Newby, elec. bell ftrs., 2, Fore-st.
Notcutt, S. A., elecn., Constitution Hill.
Orton, J., & Co., elec. bell ftrs., 43, Butter-mkt.
Ransomes & Rapier, elec. cranes, Waterside Iron Wks.
Ransomes, Sims & Jefferies, Ltd., mech. engrs., Orwell Wks.
Reavell & Co., Ltd., stm. & oil eng. bldrs.
Smyth Bros., elec. bell ftrs., 56, Fore-st.
Stearn, A., & Son, elec. bell ftrs., 21, Upper Brook-st.
Turner, E. R. & F., Ltd., stm. eng. & boilers.
Warner, H., & Sons, engrs., Lion-st.

Ironbridge.

Parker, Thos., J.P., F.R.S.E. M.I.C.E., M.I.E.E., M.I.M.E., cons. elec. engr., Severn House.

Jarrow.

Co. of Durham Elec. Pr. Dist. Co. Gen. mgr., A. S. Esslemont.
Macro, A. J., chf. elec. engr., Palmer's Shipbuilding Works.

Jedburgh.

Elec. Sup. Corp., Ltd. Engr., K. A. Scott-Moncrieff.

Jersey.

Eady, H., dis. mgr., Nat. Teleph. Co., St. Helier.

Johnstone.

Davie & Horne, feed water htrs., Johnstone Eng. Wks.

Keighley.

Corp. Elec. Wks., Coney-la. Engr., J. M. Smyth, A.M.I.C.E., M.I.E.E.
Dean, Smith & Grace, Worth Valley Tool Wks., Parkside.
Grace & Sutcliffe, elec. & automobile engrs., Cavendish-st.
Keighley Electrical Eng. Co., Ltd., Vulcan Wks.
Smith, T. E., & Co., Ltd., elec. contrs., Cavendish-st.
Smyth, J. M., A.M.I.C.E., M.I.E.E., boro' elec. & try. engr.
Spencer, H., & Sons, elec. engrs., Lawkholme-la.
Standard Elecl. Co., fan motors.
Sunderland, J., gear wheels, Fleece Mills.
Ward, Haggas & Smith, mach. tools, Eastwood Wks.
Wilkinson, G., & Sons, tool mkrs., Bradford-rd.

Kendal.

Corp. Elec. Wks. Engr., J. A. T. Barnes.
Gilkes, Gilbert, & Co., Ltd., turbine mfrs., Canal Iron Wks.

Keswick.

K. Elec. L. Co., Ltd. Engr., Wm. Jackson.

Kettering.

Barnett & Soans, elec. contrs., West-st.
Hodge, H. P., inst. contr., Lower-st.
Lea & Warren, elec. engrs., Glenroy Works.
Thompson & Co., inst. contrs., Wellington-st.
U.D.C. Elec. Wks. Engr., W. A. Walker.
Walker, W. A., engr., U.D.C. Elecy. Wks.

Keynsham.

K. Elec. Lt. & Pr. Co., Ltd. Engr., G. J. T. Parfitt.

Kidderminster.

Charlton, A., man. engr., K. & Dist. Elec. Ltg. & T. Co., Ltd.
Hughes, W. M., elec. engr., New-rd.
K. & Dist. E. L. & T. Co., Ltd. Engr., A. Charlton.
K. & Stourport Elec. Trwy. Co. Engr. & man., A. Charlton.
Law, G., elec. tramway contr.

Kildare.

Elec. Wks. Res. engr., W. A. Cooney.

Killarney.

Kerry Electric Supply Co., Ltd. Engr., Valentine Ryan.

Kilmacolm.

K. Elec. Ltg. Co., Ltd. Engr., J. Brown, A.M.I.E.E.

Kilmarnock.

Burbidge, A. H., engr. & tram man., Corp. Elecy. Wks.
Corp. Elec. Wks. & Trams. Engr., A. H. Burbidge, A.M.I.E.E., A.M.I.M.E.
Dick, Kerr & Co., Ltd., trwy. engrs. & contrs.
Dow, W., & Son, inst. contrs., St. Marnock-st.
Glenfield & Kennedy, Ltd., iron fdrs. & engrs.
McDonald, G. A., dis. mgr. Nat. Teleph. Co., Cross.
Stewart, T., & Sons, Ltd., elec. bell ftrs., Cross.

King's Lynn.

Corp. Elec. Wks. J. Pilling, M.I.E.E., engr.
Dodman, A., & Co., Ltd., engrs., Highgate Fdry.
Johnson, B. W., inst. contr., Railway-rd.
Johnson, W. H., & Son, motor car engrs., St. James-st.
Lock, W. B., elecn., 15 & 16, Norfolk-st.
Pilling, J., M.I.E.E., boro' elec. engr.
Savage Bros., Ltd., engrs.
Ward, H. E., elec. lt. contr., 3, Paradise Parade.

Kinghorn.

Kinghorn Gas Light Co., Ltd., elec. light contrs.

Kingston-on-Thames.

Adams, W., elecn., Ashdown-rd.
Burgoine, A., Ltd., elec. launches.
Button, T., elecn., London-rd.
Corp. Elec. Supply, Down Hall-rd. J. E. Edgcome, M.I.M.E., M.I.E.E., engr.
Cullen, F. G., elecn., 2, Alfred-rd.
Edgcome, J. E., M.I.M.E., M.I.E.E., boro' elec. engr., Corp. E. Lt. Sta.
Jones & Bache, elecns., Tregaron, Gloucester-rd.
Limpus & Co., elec. engrs., Kingston Hill.
Merredew Bros., elecns., 74, London-rd.
Offer & Sons, elecns., Church-st.
Prestwich & Burt, Ltd., elec. & mech. engrs., South-la.
Prime, A., elecn., Willoughby-rd.
Spragg, W. C., elecn., Bockhampton-rd.
Summers, J., & Son, elec. ftgs. dlrs., 169, London-rd.
Windybank & Ballard, elecns., Albert-rd.
Wright, J., elecn., 3, Surbiton-pk.-ter.

Kingussie.

Grant, J. M., teleph. contr.

Kirkcaldy.

Bryson, R., elec. lt. contr., 130, High-st.
Corp. Elec. Wks. & Trams. Engr., O. F. Francis, M.I.E.E.
Francis, O. F., M.I.E.E., city elec. engr.
Melville, O., elec. engr., 310, High-st., Redburn Wynd.
Storrie, J. H., dis. mgr., Nat. Teleph. Co., 211, High-st.

Lanark.

Hunter, David, elec. engr.

Lancaster.

Abbot & Co., wiring contrs., Brock-st.
Calvert & Heald, elec. engrs., Market-st.
Corp. Elec. Supply & Trwys. Engr., W. A. Tester, A.M.I.M.E., M.I.E.E.
Heap, S., elec. engr., 47, Regent-st.
Lancaster Elec. Ftgs. Co., 8, Gt. John-st.
Parkinson, J., elecn., Meadowside.
Seward, A., & Co., wiring contrs., Market-st.
Tester, W. A., A.M.I.M.E., A.M.I.C.E., boro' elec. & trwys. engr.
Wilson, R. P., wiring contr., King-st.

Landore.

Richards, D., elecn., 44, Wern-rd.

Larbert.

Falkirk & Dis. Trwys. Co., Larbert-rd.

Larne.

Fullerton, J., elec. sup. dlr., Main-st.
Larne Elec. Light Wks., Ltd. M. G. Smyth, A.M.I.E.E., engr. & mgr.
Smyth, M. G., engr. & man., Cen. Sta.

Launceston.

Rogers, R. B., A.M.I.C.E., cons. elec. engr., Hexworthy.

Leamington.

Brown & Parsons, Ltd., elec. engrs., 63, Parade.
Midland Elec. Lt. & Pr. Co., Ltd. P. Olver, A.M.I.E.E., chief engr. & mgr.
Parsons, W., & Co., inst. contrs., 66, Regent-st.

Leatherhead.

Blaker & Sons, elec. contrs.
L. & Dist. Elec. Co., Ltd. Engr., H. L. Dixon, A.M.I.E.E.
Mould's, Ltd., elec. contrs., High-st.

Leeds.

Ackroyd & Best, Ltd., miners' lmp., Morley, nr.
Anderson, C., elecn., Lane House, Hunslet.
Bailie, J. D., A.M.I.E.E., Prudential-bldgs., Park Row.
Baker Oil Separator Co., Ltd., Union Wks., Hunslet.
Barclay, W. J., elec. engr., Glenwood, Brookfield-rd., Headingley.
Bennett, M., & Co., elec. contrs., 43, Elford Grove, Roundhay-rd.
Benton, W. J., M.I.E.E., M.I.M.E., cons. engr., 1, Chestnut-ave., Hyde Pk.
Bigge, D. Selby, & Co., elec. pow. engrs., Standard-bldgs., City-sq.
Birch Bros., elec. engrs., 3, Brunswick-pl.
Booth, Joseph, & Bros., Ltd., elec. cranes, Union Fdry., Rodley, nr.
Borland, F. J., & Co., elec. & gen. engrs., Old Mills, Camp-rd.
Braime, T. F., & Co., Ltd., oil cans, Goodman-st., Hunslet.

Leeds—*continued.*

Bray, G., & Co., Ltd., diop. lntrns., Leicester-pl.
Brit. Thomson-Houston Co., Ltd., elec. engrs. Greek-st.-chbrs.
Brotherton Tubes & Conduits, Ltd., 104, Albion-st.
Buckton, J., & Co., Ltd., mach. tool mkrs., Meadow-rd.
Bulloch, W. M., elec. engr., 20, Calton-ter., Farsley, nr.
Burbridge, J., chief elec. engr., City Tramways.
Butler, J., & Co., elec. battery, Stanningley.
Campbells & Hunter, Ltd., mach. tool mkrs., Dolphin Fdry.
Carr, G. M., M.I.E.E., sup. engr., Postal Telegraphs.
Carr, O., elec. engr., Headingley.
Casperson Bros., elec. sup. contrs., 11 & 25, Upper Mill Hill, Boar-la.
Catton & Co., Ltd., stl. cstgs., Black Bull-st., Hunslet.
Churton, T. H., & Co., elec. engrs., Atlas Wks., Water-lane.
Clayton, Son & Co., Ltd., boiler mkrs., Moore-end, Hunslet.
Clegg, W. H., A.M.I.C.E.I., supt. Edison & Swan Co., 127, Albion-st.
Clegg, B. W., & Sons, pat. agts., 18, Belinda-st., Hunslet.
Cockburn High School. *See* Schools.
Collett, A. E., elecn., 1, Reginald-ter.
Commercial Elec. Co., 38, Leeds Exchange-chbrs., Briggate.
Corp. Elec. Ltg. Dept., 1, Whitehall-rd. Engr., H. Dickinson.
Corp. Elec. Trams. Elec. engr., J. Burbridge.
Cumberland Elecy. & Power Gas Co., 4, South-par.
Cuttriss, S. W., M.I.E.E., elec. engr., Prudential-bldgs., Park Row.
Denison, T., & Co., mech. engrs., Arrow Wks., West-st.
Dixon, S., & Son, Ltd., engrs., 31, Swinegate.
Drabble, W. T., elec. engr., West-st.
Edison & Swan U. E. L. Co., Ltd., 127, Albion-st.
Electric Circuit Breaker, Ltd., 72, Albion-st.
Elec. & Gen. Stores, 104, Albion-st.
Ellis, J., boro' elec. engr., Morley, nr.
Fawcett, D. L., elec. engr., 32, Sholebroke Mount.
Fisher, J. G., lub. mfr., 78, Harrogate-rd.
Flather & Co., Ltd., elec. engrs., Park Elec. Wks., Marshall-st., Holbeck.
Fowler, John, & Co., Ltd., mech. engrs.
Goodman, Prof. J., cons. engr., Yorks. Coll.
Graham, Morton & Co., engrs., Carlton-chbrs., Albion-st.
Green & Smith, elec. & mech. engrs., Low Hall Mills, Holbeck-la.
Green, T., & Son, Ltd., engineers, machinists.
Greenwood & Batley, Ltd., el. engrs., Albion Wks.
Hall, C. J., M.I.E.E., cons. elec. engr., 4, Woodland Park-rd., Headingley.
Harding, Richardson, Rhodes & Co., Ltd., spd. indic., Tower Wks.
Hargreaves, J. N., & Co., mfrs.' agts., 56, Royal Exchange-chbrs.

Leeds—*continued.*

Harrap, T., & Son, elec. engrs., Cardigan-rd.
Hartnell, Wilson & Co., Ltd., elec. engrs., Volt Wks., Kirkstall-rd.
Hathorn, Davey & Co., mech. engrs., Sun Fdry.
Headingley Motor & Eng. Co., Ltd., 18, St. Michael's-lane, Headingley.
Heaps, Arnold & Heaps, zinc merchs., Leeds Old Lead Wks.
Henry, J., pulley mkr., Manor-road Foundry.
Hepton, W., & Son, brass fdrs., Hunslet-lane.
Hill, H., elec. engr., Greenwood & Batley, Ltd.
Hinchcliffe, Green & Co., elec. contrs., Aire-st.
Hooghwinkel & Thursfield, cons. elec. engrs., 20, Park-la.
Horsfall Destructor Co., Ltd., engrs., Lord-st. Wks., Whitehall-rd.
Hudson, H. L., elec. engr., 25, High-st., Yeadon.
Hudswell, Clarke & Co., Ltd., pulley mkrs., Railway Fdry.
Hunslet Elecl. Pottery Co., Ltd., Balm-rd. Mills, Hunslet.
Illingworth, Ingham & Co., Ltd., casings, City Saw Mills.
Ingleby & Co., elec. engrs., Elland-rd.
Innes, A., elec. engr., 7, S. Parade.
Isherwood, W. H., & Co., mfg. elec. engrs., Carlton Mills.
Jeken, H. G., chf. asst. elec. engr., City Trwys.
Johnson, W., & Sons (Leeds), Ltd., engrs., Castleton Fdry., Armley.
Kaye, J., & Sons, Ltd., oil cans, Lock Wks.
Kershaw, A., elecn., St. Columba-st., Woodhouse-la.
Kingfisher (1118), Leeds, lubricator mkrs.
Kirby Banks Screw Co., Ltd., bolts, screws, Albert Screw Wks., Meadow-lane.
Kirkstall Forge Co., Ltd., iron mfrs.
Kitson & Co., mech. engrs., Airedale Fdry.
Leech & Sinkinson, Ltd., elec. wire cov. mat.
Leeds Electric Co., Ltd., elec. wire, 22, Park Cross-st.
Leeds Forge Co., Ltd., flat plates, &c.
Leeds Technical School, Cookridge-st. *See* Schools.
Lewis Motor Co., Ltd., 4, South Parade.
L'pool Elec. Cable Co., Cabinet-chbrs., Basinghall-st.
Local Section of the I.E.E. H. Dickinson, hon. sec., Corp. Elecy. Dept., Whitehall-rd.
Loxley & Co., Ltd., elec. supplies, Cabinet-chbrs., Basinghall-st.
McLaren, J. & H., engs., Midland Eng. Wks.
Mason, J. F., & Co., elec. engrs., 136A, Woodhouse-la.
Mathias, N., A.M.I.E.E., elec. engr., 199, Hyde Park-rd.
Metcalf, G. A., wks. mgr., T. Smith & Sons, Stm. & Elec. Crane Wks., Rodley, nr.
Milne, Jas., & Son, Ltd., elec. lt. engrs., 34, Wellington-st.
Moore, Haigh & Co., motor mfrs., Star Wks., Kirkstall-rd.

Leeds—*continued.*

Morley Corp. Elec. Wks, nr. Engr., J. E. Ellis, A.M.I.E.E.; elecn., H. C. Crisp.
Morley Elec. Eng. Co., Ltd., elec. engrs., Stanningley, nr.
Morten, W. V., dis. mgr., Nat. Teleph. Co.
Neville, V., & Co., elec. engrs. & contrs., 20, Park Cross-st.
Nicholson, J., & Sons, Ltd., sulph. acid, Hunslet.
Northern Machine Screws, Ltd., screws, &c., Hunslet Mills.
Northern Telephone Manufacturing Co.
Paris Accumulator Co., Ltd., 14, Park Cross-rd.
Parker, W. B., elec. engr., Standard & Eng. Co. (Leeds), Ltd., Bond-st.
Parkinson, F., elec. engr., Eldon Mount, Guiseley, nr.
Parkinson, F., & Co., elec. power engrs., Royal Insurance-bldgs., Park-row.
Parsons, C. A., & Co., mfg. elecns., Prudential-bldgs., Park-row.
Perkin & Co., Ltd., solder, paste, Lord-st. Wks., Whitehall-rd.
Pickard, F. Hattersley, & Co., elec. fans, Phœnix Eng. Wks., Meanwood-rd.
Pimp, C., elec. engr., Nydd.
Power, H., elec. goods.
Rawlinsons, Ltd., elec. lifts, Hope Wks., Kirkstall-rd.
Reynolds & Branson, Ltd., elec. app. mfrs., 14, Commercial-st.
Rhodes, F. W., elec. engr., Commercial-st., Morley.
Rhodes, Gill & Co., elec. engrs., Primitive-st.
Roberts, F. H., elecn., South-par., Pudsey.
Scattergood, B. P., M.I.E.E., 7 & 9, Cookridge-st.
Scriven & Co., mach. tool mkrs., Mill-st.
Scupham & Wood, Ltd., casg., Mill-st. Turn.-mls.
Shepherd & Watney, mech. & elec. engrs., Greek-st.-chbrs.
Shuttleworth, H., elec. contr., Cross-st., Briggate.
Simpkin, Wilkinson & Gibson, mfg. elec. engrs., 66, Kirkstall-rd.
Simpson, C., & Sons, metal merchs., 15, Park-row.
Smith, T. H., & Co., elec. engrs., 8, East-par.
Smith, Thos., & Sons, elec. crane, Steam & Elec. Crane Wks., Old Fdry., Rodley.
Snowdon, W., cons. mech. engr., 24, Basinghall-st.
Speke, J. W. & H., elecns., 177, Spencer-pl.
Standard Engineering Co., Leeds, Ltd., elec. engrs., 28, Bond-st.
Stirling Boiler Co., Ltd., water tube blrs., 10, E. Parade.
Taylor Bros. & Co., Ltd., engrs., Clarence Irn. & Stl. Wks.
Teale, L. H., & Co., elec. & gen. engrs., 38, Cookridge-st.
University of Leeds. *See* Schools.
Wallis & Watson, elec. engrs., Trinity-st.
Walsh, J. E., pt. agt., Royal Exchange-chbrs.
Watney, Thos. S., M.I.E.E., Greek-st.-chbrs.
Wharam, Wm., elec. engr., Brunswick-ter.
Whitaker, J. W., elec. engr., 26, Victoria-rd.
Whitehead Bros., elec. engrs., Farsley.
Whittaker Bros., gen. & elec. engrs., Horsforth.

Leeds—*continued.*

Wilson, G., & Co., Ltd., elec. sup. mkrs., Victoria-rd., Holbeck.
Winder, R. F., Belgrave Elec. Wks., 2, Cross Belgrave-st.
Wood, G., & Son, elec. engrs., King Charles' Croft.
Woodhouse, W. B., A.M.I.MECH.E., A.M.I.E.E., Yorks. Elec. Power Co., Thornhill, nr. Dewsbury.

Leek.

Richards, John, elec. engr., 60, St. Edward-st.
U.D.C. Elec. Wks. Engr., R. M. Carr, A.M.I.E.E.

Leicester.

Ashton, J., dis. mgr., Nat. Teleph. Co., Rutland-st.
Ball, A. E., elecn., 38, St. Saviour's-rd. East.
Barton, W. E., supt. engr., Corp. Elec. Wks., Aylestone.
Bates, W. & A., Ltd., I. R. mfrs., St. Mary's Mills.
Brooks, E. E., elecn., Technical School.
Clarke, T. A. W., Ltd., mech. & elec. engrs.
Coleman, G. T., elecn., 9, Cheapside.
Colson, A., M.I.E.E., elec. engr., Corp.
Corp. Elec. Wks. A. Colson, M.I.E.E., engr.
Cross, W., & Son, elecns., 159A, Belgrave Gate.
Ellistown Collieries Co., conduit mkrs., Ellistown.
Gent & Co., Ltd., mfg. elecns., Faraday Works.
Gent & Hurley, elec. lt. engrs., 24, Belvoir-st.
Gimson & Co. (Leicester), Ltd., gen. & elec. engrs. & boiler mkrs., Vulcan-st.
Grimsley, F. C., elecn., Dorothea Wks., Belgrave-rd.
Grimsley & Co., elec. engrs., Queen-st.
Hales, G. E., elec. engr. & contr., Wyvern.
Hollis Bros. & Co., timber importers.
Jarratt, J. T., lathe mkr., 57, Highcross-st.
Lester, J. E., elec. engr., 2, Cank-st.
Levi, W., mgr. Mid. Elec. Wire Co., Ltd.
McAlpin & Co., elec. lt. engrs., 44, Cank-st.
Mason & Brown, mfg. elecns., Volta Wks., 82, Rutland-st.
Mawbey, E. G., M.I.C.E., boro. & chf. trwys. engr.
Midland Electric Wire Co., Ltd.
Osborn, R. W., elec. & mech. engr., 4–6, York-rd., Welford-rd.
Price, L., loc. mgr., N. Teleph. Co.
Prismatic Shade Co., West Bridge.
Richardson, John, & Co., Leicester, Ltd., mfg. chem., Friar-lane.
Shardlow, C., & Co., Ltd., mech. & elec. engrs., St. Peter's-la.
Sharman Bros., model mkrs., 6, Free-school-lane.
Smith, T. R., A.M.I.E.E., trmy. engr., Corp. Trys.
Stewart, J. E. M., supt., Corp. Elec. L. Dept.
Taylor & Hubbard, elec. cranes, Kent-st.
Taylor, Taylor & Hobson, Ltd., sci. instr. mkrs., Stoughton-st. Wks.
Utley, C. J., & Co., elec. engrs., Overton & Quenby-rd.
Veasey, W. H., elec. contr., King-st.
Wadkin & Co., wood wrkg. machy., N. Evington Eng., Wks. London-st.

Leicester—*continued.*

Wainwright, G. A., electro-plater, Grape-st.
Wathes, T. H., & Co., Ltd., elec. engrs., Coronation-bldgs., High-st.
Webb, F., & Son, elec. engrs., 15, Cank-st.
Yates & Eagle, elec. & gas engrs., 7, St. Nicholas-st.

Leigh (Lancs.).

Anchor Cable Co., Ltd., cable mkrs.
Boond, S., elec. lt. contr., Town-chbrs., Market-st.
Boydell, W., & Sons, elec. engrs. & mfrs., Brown-st. Iron Wks.
Corp. Elec. Wks. Engr., A. T. Smith.
L. Tech. School. *See* SCHOOLS.
Roberts Bros., elec. lt. contrs.
Smith, A. T., boro' elec. engr.

Letchworth.

E. L. Plant. Res. elec. engr., A. W. E. Bulmore.

Lewes.

L. & Dist. Elec. Sup. Co., Ltd. Engr., C. F. Butler, A.M.I.E.E.
Wells, C. A., & Co., elec. engrs., Etna Iron Wks.

Limavady.

L. Pr. & Lt. Wks. Engr., A. Rankin; elecn. & prop., E. J. S. Ritter.
Rankin, A., engr., Pr. & Light Wks.
Ritter, E. J. S., elecn. & prop., Pr. & Lt. Wks.

Limerick.

Clifford, D., local mgr., Nat. Teleph. Co.
Corp. Elec. Wks. Boro' elec. engr., P. T. Macnamara.
Mun. Tech. Schools. *See* SCHOOLS.

Lincoln.

Bescoby, J. & J., cable drum carriage mfrs., Cranwell-st.
Clayton & Shuttleworth, Ltd., eng. mkrs., Stamp End Iron Wks.
Clegg, S., M.I.E.E., city elec. & trwy. engr., Corp. Elecy. Wks. & Trams.
Corp. Elecy. Wks. & Trams. Engr., S. Clegg, M.I.E.E.
Duckering, C., lamp post mfr., Rosemary-lane.
Gregory, W., & Son, wiring contrs., 28, Steep Hill.
Howard, G. A., wiring contr., 24, Silver-st.
Hutton, F. H., elecn., Vicar's-ct.
Kinetic Co., Ltd., elec. organ blowing, Waterside North.
Nevile, R. H. C., elecn., Wellingore.
Porter & Co., iron lmp. pst. mfrs., Gowts Bridge.
Rainforth, W., & Sons, Britannia Iron Wks.
Robey & Co., Ltd., steam eng. mfrs., Globe Wks.
Ruston, Proctor & Co., Ltd., mech. engrs., Sheaf Iron Works.
Smith, S. E., cons. elec. engr., Coulby House, Carholme-rd.
Smith's Electrical Co., mfrs. of elec. supplies, 271, Hight-st.
Whiting, J. L., inst. contr., 12, Arboretum-ave.

Liscard.

Whitworth, H., elec. engr., 19, Martin's-la.

Liverpool.

Acme Electrical Co., inst. contrs., 248, Stanley-rd., Bootle.
Acme Ventilating & Htg. Co., 39, Tarleton-st.
Adams, C., & Co., elecns., 15, Fraser-st.
Aitken, Wm., M.I.E.E., B. I. & Helsby Cables, Ltd.
Allen, W. H., Son & Co., Ltd., elec. & mech. engrs.
Anderson, Thos., Ltd., elec. engrs., 53, Derby-rd., Kirkdale.
Angus, George, & Co., Ltd., leather mfrs., Princes-bldgs., 81, Dale-st.
Archer & Sons, elec. bells, 73, Lord-st.
Aronsberg, C., & Co., elecns., 24, Manchester-st.
Barron, J., & Co., elec. ltg. contrs., 16, Fraser-st.
Bartlett, Wm., wks. mgr., B. I. & Helsby Cables, Ltd., Instrument Works.
Bates & Peard Annealing Furnace Co., Huyton.
Bath, H., & Son, agts. for Waclark Wire Co., A9–12, Exchange-bldgs.
Baxendale Bros., elec. sup., 96, Whitechapel.
Baxendale & Co., elec. access., Hood-st.
Beecroft & Wightman, Ltd., wood casing, Boundary-st., Commercial-rd.
Beswick, J. H., D. U. S. Cable Co., D6, Exchange-bldgs.
Bibby, J., Sons & Co. (Garston), Ltd., metal merchs., Garston Copper Wks., Garston.
Blackwell, Geo. G., Sons & Co., Ltd., mang. merchs., Garston; & The Albany, Old Hall-st.
Blossom, B. H., & Co., elec. engrs., 13 & 15, Harrington-st.
Bolton, W., supt. East Tel. Co., K13, Exchange-bldgs.
Boothroyd, H. T., Ltd., elec. & mech. engrs., Akenside-st., Bootle.
Bootle Corp. Elec. Wks. & Trams. Engr., T. D. Clothier.
Boron Battery Electrical Supply Co., carb. mfrs., 131, St. Domingo-rd.
Boult, J., elec. engr., 41, Wood-st.
Braby, F., & Co., Ltd., spelter, Havelock Wks., Pennington-rd., Litherland.
Bradford, F., A.M.I.E.E., elec. engr., 2, Hollygrove, Seaforth.
Brady, C. R., engr., Cheadle U.D.C. Trams.
British & Colonial Insulating Co., Ltd., Brown's-bldgs., Exchange.
British Insulated & Helsby Cables, Ltd., Milton-rd., Edge-lane.
British Tungsten Lamp Co., Ltd., Huyton Quarry, nr.
Bromall Patents Co., elec. sup., 512, S. Castle-st.
Brown, J. C., D.SC., LL.D., prof. chem., University.
Brown & Co., elec. engrs., 72, Renshaw-st.
Bruce, J., & Sons, ship teleg. mkrs., 25, S. Castle-st.
Bucknall, W. G., elec. engr., 121, Mount Pleasant.
Byrds Elecl. Co., elec. engrs., 2, Inner Temple, 24, Dale-st.
Campbell & Isherwood, Ltd., mfg. elec. engrs., Raleigh-st., Bootle.
Carnaby & Co., elecns., 9, St. James-pl.

Liverpool—*continued.*

Central Mun. Tech. School. *See* SCHOOLS.
Chadburn's (Ship) Telegraph Co., Ltd., teleg. instr. mfrs., Cyprus-rd., Bootle.
Clark, E. A., ftgs. mfr., 4 & 5, Stanley-st.
Clarke, W. H., elec. engr., Isawood, Chermside-rd., Aigburth.
Clarke, Chapman & Co., mfg. elec. engrs., Colonial Ho., Water-st.
Clothier, T. D., boro' elec. engr., Bootle.
Clough, A., A.M.I.C.E., res. elec. engr., Corp.
Collins & Price, elec. engrs., 28, Market-st., Hoylake & Moorfields.
Collis, W. H., deputy res. elec. engr., Corp.
Corp. Elec. Supply, Hatton Garden. Res. elec. engr., A. Clough, A.M.I.C.E.
Cottrell & Beszant, elec. lt. contrs., 5, Cases-st.
Coy, E. E., wholesale elec. sup., 77, St. John's-rd., Bootle.
Cozens-Hardy, E. H., M.I.E.E., M.I.M.E., The Hollies, Woolton.
Croggon & Co., Ltd., elec. bells, Colonial-chbrs., Temple-st.
Dargue, Griffiths & Co., Ltd., elec. engrs., 51, N. John-st.
Davey Elec. Co., Ltd., 112, Whitechapel.
Dee Oil Co., Ltd., oil mfrs., Colonial House, Water-st.
Ditton Oil Mills (1904), Ltd., Brown's-bldgs., Exchange.
Dodd & Oulton, Ltd., elec. ftgs. mfrs., 8, Stanley-st.
Downes & Davies, elec. factors & agts., 67, Stanley-st.
Eclipse Elecl. Co., elec. engrs., 77, St. John's-rd., Bootle.
Economic Elec. Co., Central-chbrs., 17A, S. Castle-st.
Edison & Swan U.E.L. Co., Ltd., Renshaw-st.
Elec. Ltg. & Eng. Co., mech. & elec. engrs., 137 & 139, Duke-st.
Elec. Sup. Co. of Vic., Ltd., 14, Dale-st.
Elec. Sup. Co. of W. Australia, Ltd., 14, Dale-st.
Elec. Contrs. Assoc., Incorp., W. M. Hird, hon. sec., 9, Redcross-st.
Elecl. Regulators & Economisers, Ltd., 51, N. John-st.; & 16, Cumberland-st.
Elliott's Met. Co., Ltd., tube mfrs., &c., 11, Irwell-st.
Evans, E. C., elecn., 23, Wellington-st., Waterloo.
Everitt & Co., mang. & carbon, 40, Chapel-st.
Eyre, W., & Neph., iron merch., 5, Tithebarn-st.
Eyton & Co., lead merch., Chester Whf., Mann Island.
Falkirk Iron Co., castings, 22–24, S. Castle-st.
Fawcett, Preston & Co., Ltd., mech. engrs., 17, York-st.
Films, Ltd., elec. & cinematograph specialists, 18 & 20, Manchester-st.
Forrester, E., & Co., elec. contrs., 8 & 10, Moorfields, & 20, Pall Mall.
Fort, J., oil mfr., 5, St. Domingo Vale.
Furze, J., superintend., Com. Cable Co., Exchange-bldgs.

Liverpool—*continued.*

Gibbs, J., & Son, ventilating fans, 72–78, Duke-st.
Gill, J. F., cons. engr., 25, Castle-st.
Glover, E. F., & Co., elec. engrs., 16, S. Castle-st.
Goodwin, G. S., & Co., consulting engrs., 19, James-st.
Goosseus, E., Pope & Co., Ltd., incand. lamps, 21, Manesty's-lane.
Griffiths, Knight & Co., paint for ins. purposes, 114, Ford-st., Vauxhall-rd.
Hansom, O., A.M.I.E.E., A.M.I.M.E., L. Dist. Ltg. Co., 16, Tithebarn-st.
Harford & Co., elec. engrs., 47, Tithebarn-st.
Healey, T., supt. Western U. Teleg. Co., 8, Rumford-st.
Hellon, F. B., & Co., elec. engrs., 57, Moorfields.
Henderson, T., & Co., engrs., 8, Trueman-st.
Herd, W. M., & Co., elec. engrs., 3, Redcross-st.
Hide, W. J., A.M.I.E.E., cons. elec. engr., 42, Produce Exchange-bldgs., 8, Victoria-st.
Hiorns, H. A., elecn., 6, Cockspur-st. W., Pall Mall.
Hodkinson, R., elec. sup. dealer, 19, S. John-st.
Holmes, A. B., M.I.C.E., M.I.E.E., cons. elec. engr., 36, Prince's-ave.
Horsfall, W. M., M.I.E.E., elec. & cons. engr., 14, Tithebarn-st.
Hosking & Callan, cons. engrs., 1, Thomas-st.
Howe Elec. Eng. Co., Ltd., elec. engrs., 18, James-st.
Hunter, J., & Co., elec. engrs., 11, Paradise-st.
India Rubber, G. P. & Teleg. Wks. Co., Ltd., 54, Castle-st.
Inst. Chem. Tech. Lab., Hackin's Hey, Dale-st.
Johnson, W. B., elec. engr. & patent agt., 4, Clayton-sq.
Johnson, J. H. & S., scient. app., 6–10, Whitechapel.
Johnson, R., Clapham & Morris, Ltd., 23, Cheapside.
Jones, P. L., wd. csg., Romeo-st., Canada Dock, Bootle.
Jones, Burton & Co., elec. engrs., 19, Castle-st.
Jones, T., & Co., elec. engrs., 82, Whitechapel.
Kellogg, E. H., & Co., dyn. oil, 8B, Rumford-pl.
Kent, J. H., elecn., 22, Gramby-st.
Kershaw, J. B. C., chem. & fuel expert, W. Lancs. Laboratory, 10, York-st., Waterloo.
Killick & Cochran, elec. engrs., 54 & 56, Fleet-st.
King, J. T., pat. agt., 4, Clayton-sq.-w.
Kuhe & Vogt, elec. engrs., 5, Chester-rd., Anfield.
Lamb, J. P., & Co., lightning conduc., 1, Park-la.
Lambert, J. A., & Co., elecns., 67, Gainsborough-rd., Wavertree.
Layborn, Daniel, & Co., met. merchs., Dutton-st.
Lee, L., & Son, elec. bell ftrs., 13, Gt. George-st.
Lewis, E., & Sons, tube mfrs., 56–58, S. John-st.
Liley, W., & Co., elec. engrs., Renshaw-bldgs., 18, Renshaw-st.
Lind & Co., Ltd., elec. sup. & mfrs. agts., 37, Moorfields.
L. Dist. Ltg. Co., 16, Tithebarn-st. Engr., O. Hansom.
L'pool Elec. Cable Co., Ltd., 292, Vauxhall-rd.
Liverpool Eng. & Condenser Co., Ltd., Perry.

Liverpool—*continued.*

Liverpool Eng. Soc., Royal Inst., Colquitt-st.
Liverpool Overhead Rly. Co., 24, North John-st. Engr., E. J. Neachell, M.I.MECH.E., M.I.E.E.
L'pool Research Lab., 131, St. Domingo-rd.
L'pool Silver & Copper Co., Ltd., 5, Fenwick-st.
L'pool University Physical Soc. *See* SCHOOLS.
Lloyd & Co., elec. engrs., 1B, King-st., Rock Ferry.
Mackintosh, C., & Co., Ltd., 58, Dale-st.
Magnetic Separator, Ltd., ironfdrs., elec. & mech. engrs., 36, Dale-st.
Malley, J. D., elecn., 15, Egerton-rd., Wavertree.
Marr, J. J., & Co., elec. engrs., 18, Moorfields.
Marsh, Son & Co., Ltd., mfg. elec. engrs., 101, Whitechapel.
Martin, H. S., elec. & cons. engr., 16, Cumberland-st.
Mathias & Foulds, elec. engrs., 12, Bevington Hill.
Miller, T. L., Wilson & Pegg, cons. engrs., 709, Tower-bldgs., Water-st.
Minton, R. R., & Co., paint mkrs., 39–71, Cheapside.
Morton, Francis, & Co., Ltd., lightning cond., Garston.
Motor Eng. Corp., 8, Fenwick-st.
Moulsdale, W. E., & Co., elec. engrs., 24, Chapel-st.
Musker, C. & A. (1901), Ltd., Tue Brook.
Myer, B. L., A.M.I.E.E., elec. engr., 36, Oxford-st.
Myer & Co., elec. engrs., 33, Mount-pleasant.
Naftel, P. H., inst. insp., Corp. Elec. Sup. Wks.
Nat. Rail. & Trwy. Appliances Co., Ltd., 12–18, Taylor-st.
Neville Mach. & Tool Co., Ltd., mach. mkrs., 7 & 9, James-st.
Newall, R. S., & Son, Ltd., cable mfrs., Hawthorn-rd., Bootle.
Northern Elec. & Ven. Co., Ltd., contrs., 49, Dale-st.
Owen, J., & Sons, Ltd., accu. boxes, Stanley Mills, Melrose-rd., Kirkdale.
Owens, Felix J. A., A.M.I.E.E., elec. engr., 16/20, Colquitt-st.
Palatine Eng. Co., 10, Blackstock-st.
Peace, J. R., & Co., acid-proof comp., Old Hall-st.
Perry, F., supt., Anglo-American Teleg. Co.
Pioneer Complete Furnishing Stores, inst. contrs., 9–19, Bold-st.
Pope's Elec. Lamp Co., Ltd., 21, Manesty's-la.
Prout, T. A., A.I.E.E., teleph. engr., 19, Courtenay-rd., Waterloo.
Pulford Bros., Ltd., engrs., 108, Whitechapel.
Putz, Curphey & Co., elec. sup. dlrs., 19 & 20, Strand-st.
Railway Signal Co., Ltd., Fazakerley.
Rankine Pat. Feed Water Filter Co., Ltd., mfrs., 14, Water-st.
Ray, J. W., & Co., elecns., 17, S. Castle-st.
Reddan & Bewlay, elec. sup., 40, Dale-st.
Rettie, C., jun., elec. contr., 75, Upper Hill-st.
Riddell, H. G., elecn., Cuthbert's-bldgs., Clayton-sq.
Rimmer, G. F., & Co., Ltd., elec. engrs., 3 & 5, Brownlow Hill.
Roberts, T., & Son, elecns., Juniper-st., Bank-hall.

Liverpool—*continued.*

Roberts, W., & Co., Garston, Ltd., Crown Copper Mills, Garston.
Robinson & Mulliner, cons. elec. engrs., 14, Tithebarn-st.
Robson, W., & Sons, elec. & gas engrs., 226, Westminster-rd.
Royston, E. R., & Co., pat. agts., 15, Water-st.
Runcorn Technical Inst. *See* SCHOOLS.
Samuel, W. H., & Co., lubric. mfrs., Leeds-st.
Scott, James, Ltd., elec. & mech. engrs., Knowsley Elecl. Wks., Bootle, nr.
Shone, R., & Co., elec. engrs., 24, Fenwick-st.
Simplex Gas Engine Starter, Ltd., 1, Hampden-bldgs., 11, South Castle-st.
Sloan & Lloyd Barnes, pat. agts., 34, Castle-st.
Smetham, A., ana. chem., 16, Brunswick-st.
Smith, F. W., elec. engr., 81A, Grieg-st.
Smith, G. A., elec. engr. & contr., 18, Regent-rd.
Standard Foundry Co., elec. fts. merch., 58 & 60, Paradise-st.
Stanwell, A., inst. contr., 50, Kirkdale-rd.
Stewarts & Lloyds, Ltd., tubes, 63, Paradise-st.
Sutton, C. A., & Co., elec. agts., 3A, Imperial-chbrs., 62, Dale-st.
Symes & Co., Ltd., dealers in app., 14, Hardmann-st.
Taylor, D., ins. material, 8, Brunswick-st.
Thomas & Strachan, manganese, 28, Chapel-st.
Thompson, W. J., mech. & elec. engr., 22, Hart-st., London-rd.
Thompson, W. P., & Co., elec. pat. agts., 6, Lord-st.
Treasure, J. B., & Co., gauge gl., 4–14, Vauxhall-rd.
United Alkali Co., Ltd., 30, James-st.
University. *See* SCHOOLS, &c.
Vauxhall Eng. Co., elec. & gen. engrs., 141, Vauxhall-rd.
Veritys Ltd., elec. engrs., 1, Hackin's Hey.
Vivian & Sons, copp. mfrs., 4, Crooked-lane.
Walker, D., Son & Co., Ltd., elecns., Bold-st.
Walsall Elec. Co., Ltd., Central-chbrs., S. Castle-st.
Ward, E., elec. & mech. engr., 1A, Pleasant View, Bootle.
Ward & Fulton, el. engrs., 4, Browne-st., Bootle.
Waring, S. G., & Sons, Ltd., elec. l. contrs., 40–46, Bold-st.
Warren, H. N., & Co., chem. & elecns., 131, St. Domingo-rd., Everton.
Warrington Wire Rope Works, Ltd., 13, Goree Piazzas.
Watkinson, Prof. W. H., M.ENG., M.I.C.E., M.I.E.E., &c., University.
Wells & Co., elec. engrs., 230, Smithdown-rd.
Western Union Teleg. Co., 8, Rumford-st.; & Cotton Exchange.
Whipple & Co., elec. engrs. & contrs., Cook-st.
Wilkinson, Heywood & Clark, Ltd., varnish, Caledonian Wks., Bootle.
Williams, O. & D., fitgs., 402, Scotland-rd.
Wilson, C. S., & Co., elec. engrs., 76A–82, Regent-rd.
Wilson, L. E., & Co., elec. engrs., 67, Stanley-st.

Liverpool—*continued.*

Wood, G. St. John, elec. engr., 37, Moorfields.
Woodhouse Bros., elec. engrs., 66, Scotland-rd.
Wright, F., cons. engr., 21, Water-st.

Liversedge.

Alma Mach. Tl. & Eng. Wks.
Goldston, R. C., res. engr., Yorks (Woollen Dis.) Elec. Trys., Ltd., Frost Hill.
Parkin, C., mfg. elec. engr., Huddersfield-rd.

Llandilo.

U.D.C. Elec. Wks. Engr., D. Pritchard Davies.

Llandrindod Wells.

Llandrindod Wells Elec. Lt. & Pr. Co., Ltd. Engr., B. Thomas.

Llandudno.

Hughes & Whiteley, elec. engrs., 2, Bk. Clement-st.
Lance, H. W., elec. engr., 16, Lloyd-st.
U.D.C. Elec. Wks. Engr., H. Morton.

Llanelly.

Elliott's Met. Co., Ltd., tube mfrs., &c., Burry Port, R.S.O.
Richmond, G. S., elec. engr.
Waddle Patent Fan & Eng. Co., Ltd., Llanmore Wks.

Llangollen.

L. & Dist. E. L. & P. Co., Ltd., Bridge-st. Engr., J. Lloyd Jones; elecn., P. E. Pace.

Londonderry.

Buncrana Elec. Sup. Co., B., nr. Sta. engr., J. K. Swan.
Corp. Elec. Sup., Strand-rd. R. V. Macrory, A.I.E.E., engr.
Macrory, R. V., A.I.E.E., city elec. engr.
Mun. Tech. School. *See* SCHOOLS.
Stewart, Jas., dis. mgr., Nat. Teleph. Co.

Long Eaton.

Ames, F. W., elec. l. & p. engr., 22, Market-pl.
Harrington Electric Light Co., Ltd., Harrington Mills. Engr., W. B. Smith.
U.D.C. Elecy. Wks. Engr., F. Worrall, A.M.I.C.E.

Longport.

Billington & Newton, elec. engrs.

Longton.

Corp. Elec. Wks. Engr., W. Langford.
Richards, John, elec. engr., 11, Commerce-st.

Loughborough.

Allen, W. H., engr., Corp. Elec. Wks.
Brush Elec. Eng. Co., Ltd., mfg. elec. engrs.
Coltman, H., & Sons, Ltd., engrs.
Coltman, W. W., & Co., boilers.
Corp. Elec. Wks. Engr., W. H. Allen.
Gadsby, F., elec. contr.
Gent & Hurley, elec. contrs.
Godfrey, J. T., & Co., engrs.
Hunter-Brown, P., A.M.I.E.E., B.E.E. Co., Ltd.
Jones, J., & Son, engrs.
Morris, Herbert & Bastert, Ltd., engrs.
Simpson & Webb, elec. contrs.
Steinitz, J. J., M.I.E.E., Brush E. E. Co., Ltd.

Louth.

Smith, C. A., elecn., 4, Eastgate.

Lowestoft.

Brooke, J. W., & Co., Ltd., elec. lift mkrs.
Bruce, G. A., M.I.E.E., boro' elec. engr., Corp. Elec. Wks.
Corp. Elec. Wks. & Trms. G. A. Bruce, M.I.E.E., engr. & mgr.
Durrant, W. H., contr. elecn, 53, Tonning-st.
Gunns, E. W., elec. l. & p. contr., 37, Oxford-rd.
Isted, F. W., elec. engr., 3, Claremont-rd., South.
Mann, Egerton & Co., Ltd., elec. engrs., 59, London-rd. N.
Morling & Cullum, elec. bell ftrs., High-st.
Murrin, W. G., elec. engr., 10, Pier-ter.
Parish & Co., elec. engrs. & contrs., 77, Clapham-rd.

Ludlow.

L. E. Light Co., Ltd., 14, Corve-st. Elec. engr., W. C. Hillman.

Luton.

Barrett, W. J., install. contr., 25, Park-sq.
Brown & Green, Ltd., elec. & gen. engrs., Windsor-st.
Cooke, W. H., A.M.I.E.E., chief elec. engr., Borough Council Elec. Wks.
Corp. Elec. Wks. & Trams. Engr., W. H. Cooke, A.M.I.E.E.
King, P. T., inst. contr., Manchester-st.
Shoolbred & Connell, inst. contrs., 11, Cheapside.
Wilson, J. H., dis. mgr. Nat. Teleph. Co., 3, Cheapside-chbrs.

Lydbrook.

Smith, H. W., & Co., elec. wires & cables.

Lymington.

George, A. E., elec. engr. & contr., 21, High-st.
L. Elec. Lt. & Pr. Co., Ltd. Glynn Salter, engr.

Lynmouth.

Jones, B., inst. contr., Castle Hill.
Lynton & Lynmouth Elec. Light Co., Ltd. Engr., P. T. Kimmins.

Macclesfield.

Wharfe, J., elec. engr., 37, Brock-st. West.

Macroom.

M. & Dist. Elec. Ltg. Synd.

Maidenhead.

Arundell, W. H., elec. engr., Market-st.
Batting, C., elec. engr., West-st.
Bloomfield, F. J., elec. engr., 71A, King-st.
Cooper, J. K., & Son, elec. engrs., Castle Hill.
Corp. Elec. Wks. Engr., C. O. Milton.
Hews, J., elec. engr., High-st.
Holman, James & Co., Ltd., elec. engrs., 92, Queen-st.
Milton, C. O., engr., Corp. Elec. Wks.
Ray Motor Co., elec. engrs., Boulter's Island.

Maidstone.

Corp. Elec. Trys., Mill-st. F. E. Saunders, gen. mgr.
Corp. Elec. Wks. E. E. Hoadley, M.I.E.E., engr.
Gardner, E. A., & Sons, Ltd., engrs. & fdrs., Brewer-st.
Haynes Bros., Ltd., elec. engrs., Gabriels Hill.
Hoadley, E. E., M.I.E.E., boro' elec. engr.
Jones, O. C., A.I.E.E., elec. engr., Mill-st.
Jones, Oswald, & Co., elec. engrs., 7, Mill-st.
Smith, S. C., dis. mgr., Nat. Teleph. Co., 40, Earl-st.
Stevens, W. A., Ltd., elec. engrs., St. Peter-st.
Woolley, A. H., elec. engr., Pudding-la.

Malton.

N. Cos. Elecy. Sup. Co., Ltd. Engr., C. W. Fairweather, M.I.E.E.; res. engr., J. Chandler.
Read, Jno., & Sons, dlrs. in elec. goods, Railway-st.

Malvern.

Santler, C., & Co., elec. engrs.
U.D.C. Elecy. Wks. Res. engr., W. J. R. Baker.

Manchester (including Salford, Pendleton, Blackley, &c.).

A. E. G. Elec. Co., Ltd., elec. contrs. & mfrs., Grosvenor-chbrs., 33, Blackfriars-st.
Adamson, D., A.M.I.E.E., Sunnybank, Haughton Green, nr.
Adamson, D., & Co., stm. eng. mfrs., Eng. Wks., Dukinfield.
Adamson, J., & Co., elec. cranes, Hyde.
Allman, P., & Co., elec. engrs., John Dalton-st.
Altrincham Elec. Supply, Ltd., Stamford New-rd., Altrincham. Engr., Geo. H. Fawcus; sta. supt., H. C. Caldwell, A.M.I.E.E.
Ammon, A. F., ins. varnishes, 52, Chapel-st., Blackfriars.
Anderson, W. T., A.M.I.E.E., 27, Queen's-ave., Old Trafford.
Andrews, W. O., elec. engr., 27, New Bailey-st., Salford.
Anglo-Italian Asbestos Co., Marsden-st.
Angus, G., & Co., Ltd., lthr. mfrs., 93, Bridge-st., Deansgate.
Archer, A., A.M.I.E.E., 30, Egerton-rd., Chorlton cum-Hardy.
Aronsberg, A., elecn. & optn., 12, Victoria-st.

Manchester (including Salford, Pendleton, Blackley, &c.)—*continued.*

Asbestos & Gen. Paint Co., Ltd., 34, Deansgate.
Ashton, H., elec. engr., 8 & 10, Bull's Head-yd.
Ashton, J., & Son, Ltd., lthr. belt., Gorton Tannery, nr.
Ashton & Johnson, elec. engrs., 133, Deansgate.
Atlas Engineering Co., mach. tool mkrs, Levenshulme.
Ayrton, W., & Co., engrs., &c., Gorebrook Iron Wks., Longsight.
Babcock & Wilcox, Ltd., engrs., 30, Cross-st.
Baerlein & Co., engrs., 12, Blackfriars-st., Salford.
Bailey, W. H., & Co., Ltd., record. instrs., Albion Wks., Salford.
Baker, Bauer & Co., elec. agents, 3, Garden-st., Withy-grove.
Barber & Coleman, Ltd., mech. & elec. engrs., 38, King-st. W.
Barlow & Chidlaw, Ltd., engrs. & cut gearing, Pendleton Gear Wks.
Barlow, H. C., & Co., met. fil. lamps, Ammon-bldgs., 52, Chapel-st., Salford.
Batchelor, J. H., elec. engr., 15, Stamford New-rd., Altrincham.
Bate, D. C., elec. agt., 40, Brazennose-st.
Batty, Wm., & Sons, Ltd., elec. clocks, 7 & 9, Market-st.
Baxendale & Co., elec. engrs., Miller-st.
Beckett, G. E., & Co., elecns., 79, Oxford-rd., C.-on-M.
Beech, W. D., elec. bell agt., 8, Chatham-bldgs.
Bell's Asbestos Northern Agency, 8A, S. Parade.
Bennett, G., inst. contr., 231, Bury New-rd.
Bennett, J. M., & Sons, elec. lt. casing mkrs., Hyde-rd., Ardwick.
Bentley, H. J., & Co., elecns., 17, Newton-st., Piccadilly.
Bentley, I., & Co., Ltd., oil refrs., Vinoleo Oil Wks., Trafford Park.
Bergtheil & Young, elec. engrs., 94, Market-st.
Berry Bros., elec. engrs., Birch-lane, Longsight.
Berry, Skinner & Co., mfg. el. engrs., 65, King-st.
Beyer, Peacock & Co., Ltd., engrs., tool mkrs., Gorton.
Bilsborough, J., elec. bell mfr., Alderley Edge.
Birch, G., & Co., engrs., Islington Tool Wks., Salford.
Bist, Alfred, & Co., Ltd., elec. & mech. engrs., 18, Tib-st.
Blagg, T. H., elecn., Paddock, W. Didsbury.
Blasberg Engineering Co., water coolers, 78, Cross-st.
Boddy, G. M., & Co., incand. elec. lamps, St. Peter's-sq.
Bolton, E., elec. engr., 8, Alan-rd., Withington.
Bolton, A., & Co., superheaters, 49, Deansgate.
Bowden, G. Harland, & Co., elec. pr. engrs., Royal London-bldgs., 196, Deansgate.
Bowker, A., elec. engr., 14, Osborne-st., Didsbury.
Bowker & Brown (1909), Ltd., elec. engrs., Bull's Head-yard.
Bowman, F. H., D.SC., F.R.S.E., M.I.E.E., 4, Albert-sq.

Manchester (including Salford, Pendleton, Blackley, &c.)—*continued.*

Brand, E., wire mach., 472, Moss-lane East.
Bremner, J. A., & Co., lubricant merch., Albert-st.
Bridge, D., & Co., engrs., Iron Wks., Castleton.
Briggs, Thos. (Manchester), Ltd., insulat. mat., 21, Major-st.
Brit. Ins. & Helsby Cables, Ltd., 2, Parsonage.
British Recovered Rubber Co., Ltd., Clayton, nr.
Brit. Thomson-Houston Co., Ltd., mfg. elec. engrs., Star Life-bldgs., 30, Cross-st.
Brit. Vulcanized Fibre, Ltd., 21, Major-st.
Broadhurst & Co., Ltd., I. R. mfrs., Bradford.
Brotherton Tubes & Conduits, Ltd., 24A, High-st.
Broughton Copper Co., Ltd., cop. merch.
Browett, Lindley & Co., Ltd., eng. & blr. mkrs., Sandon Eng. Wks., Patricroft.
Brown, A. G., elec. engr., 39, Blackfriars-st. West.
Brown, E. A., & Co., Collyhurst Wire Wks.
Brown, F. V., & Co., engrs., Guardian-bldgs., 3, Cross-st.
Bryce & Rumpff, chem. agts., 58, Fountain-st.
Budden, R. W., supt., Commercial Cable Co., 18, Moult-st.
Buffoline Noiseless Gear Co., Ltd., Chapel-st., Levenshulme, nr.
Burtles, Tate & Co., shade mkrs., Poland-st. Glass Wks.
Butterworth Bros., Ltd., Newton Heath Glass Wks.
Butterworth, W., & Son, elec. engrs., King-st. W.
Byrds Elecl. Co., elec. engrs., 7, Atlantic-chbrs., Brazennose-st.
Calderbank, H., mfrs'. agt., 78, King-st.
Caldwell, H. C., sta. supt., Altrincham Elec. Sup., Ltd., Broadheath & Altrincham.
Callaghan, J. T., elec. engr., Souper & Callaghan, Grosvenor-chbrs., Deansgate.
Cannington, Shaw & Co., Ltd., battery jars, 84, Silk-st.
Cardin, E., A.M.I.E.E., 108, Acomb-st.
Carlyle Bros. & Gumbrell, elec. contrs., 14, Cannon-st.
Carter, J., Sons & Co., Ltd., engrs., &c., New Bailey-st., Salford.
Casartelli, J., & Son, optn. & instr. mkrs., 43, Market-st.
Central Elec. Co., wholesale merchs., 26 & 28, Queen-st., Albert-sq.
Century Elec. Co., elec. engrs., 14, Brown-st.
Cheetham, H., patent agent, 18, St. Ann's-st.
Cheshire Lines Committee, Rly. Elec. Lt. Station.
Chloride Elec. Stor. Co., Ltd., Pendlebury.
Churchill, Chas., & Co., Ltd., import. Am. mach., 6, Oxford-st.
Clark, Sons & Co., I. R. felt mfrs., Failsworth.
Clarke, Chapman & Co., mfg. elec. engrs., 22, 23, Arcade-chbrs., St. Mary's Gate.
Clarke, R., & Co., pump mfrs., Union Iron Wks., Queen's-rd.
Clayton, F., & Co., ftgs. mfrs., 25, City-rd.
Colledge, Roy & Co., oil mfrs., Brown-st., Red Bank.
Collier, J., & Co., elec. engrs., King-st. West.
Commercial Electric Co., 2, Victoria-st.

Manchester (including Salford, Pendleton, Blackley, &c.)—*continued.*

Congdon & Muir, elec. lifts, 42, Deansgate.
Connolly Bros., Ltd., ins. wire & cable mkrs., Blackley Vale Mills, Blackley.
Cooke, E. J., leather, 2 & 4, Parsonage-st.
Copland, C. D., M.I.E.E., cons. elec. engr., 16, John Dalton-st.
Copland & Cardin, cons. elec. engrs., 16, John Dalton-st.
Corp. Elec. Trams. Engr., J. J. McMahon; man., J. M. McElroy.
Corp. Elec. Wks., Dickinson-st. Engr., S. L. Pearce, M.I.C.E., M.I.E.E., M.I.MECH.E., M.AM.I.E.E.
Coubrough, A. C., M.I.E.E., mgr. Elecl. Dept., Mather & Platt, Ld.
Coulson-Crawford, H., elec. engr., Victoria Bridge.
Cowans, Ltd., elecns., Springfield-la., Salford.
Cowburn Safety Valve Co., Ambrose-st., West Gorton.
Cramp, W., cons. elecn., Atlantic-chbrs., Brazennose-st.
Craven Bros., Ltd., engrs. & crane mkrs., Osborne-st., Rochdale-rd.
Crews & Handford, cons. elec. engrs., Clarence-chbrs., 4, Piccadilly.
Crompton & Co., Ltd., elec. engrs., 42, Deansgate.
Crookell, W., & Co., engrs., Water-st., Middleton.
Crossley Bros., Ltd., gas engs., Openshaw.
Crowley, J., & Co., Ltd., cstgs., 69, Corporation-st.
Cruse Controllable Superheater Co., 5, Blackfriars-st., Salford.
Cryselco, Ltd., incand. lmp. mfrs., 4, St. Mary's Parsonage.
Cunliffe & Croom, Ltd., mach. tool mkrs., Broughton Iron Wks.
Dalton Lacquer Mfg. Co., Ltd., 8, St. James's-sq.
Davenport, H., elec. engr., 517, Corn Exchange-bldgs.
Davenport, Sparrow & Co., elec. engrs., 44, Brazennose-st.
Davidson & Co., Ltd., elec. & gen. engrs., 37, Corporation-st.
Davies, W. H., lect. on mech. eng., Tech. School.
Davies, G., & Son, chart. pt. agts., 4, St. Anne's-sq.
Davies & Metcalfe, Ltd., injector mkrs., Romiley, nr.
Denton Elecl. Con. Co., Ltd., elec. & mech. engrs., 11, Ashton-rd., Denton.
Dick, Kerr & Co., Ltd., trmwy. engrs., Northern Assurance-bldgs., Albert-sq.
Dixon, H. B., prof. of chem., University.
Dixon, W. H. T., Cen. Sta., C.L.C. Rly. Co.
Dixon, W. F., & Co., raw hide gears, 60, Percival-st., C.-on-M.
Dobson, R. & H., elec. engrs., 39, Dean-rd., Salford.
Donovan & Co., Ltd., mech. & elec. engrs., Broughton Bridge Iron Wks., Salford.
Dorman & Smith, mfg. elec. engrs., Ordsal Elec. Wks., Salford.
Doulton & Co., Ltd., stnwr. for elec. purposes.
Drake & Gorham, Ltd., el. eng., 47, Spring-gdns.
Drennan, Glover & Cooper, 429-31, Corn Exchange-bldgs.

Manchester (including Salford, Pendleton, Blackley, &c.)—*continued.*

Dugdill, E. J., & Co., elec. contrs., Failsworth, nr.
Dugdill, J., & Co., ftgs. mkrs., Failsworth.
Dutton, E. K., & Co., cons. engrs., &c., Queen's-chbrs., 5, John Dalton-st.
Ebonestos Mfg. Co., 40, Brazennose-st.
Eckstein, A., M.I.E.E., elec. engr., 5, Chapel Walks, Cross-st.
Eckstein, Heap & Co., mfg. elec. engrs., 5, Chapel Walks.
Edison & Swan U. E. L. Co., Ltd., Marble-st.
Edmeston, A., & Sons, clutches, Springfield Engineering Wks., Patricroft.
Elec. & Ord. Access. Co., 196, Deansgate.
Elecl. Contracting Co., 40, Cannon-st.
Elecl. Industries Supply Co., engrs. & contrs, 2, Macdonald's-la., Corporation-st.
Elecl. Sundries Mfg. Co., 84, Ashton Old-rd.
Electrofons Co., elec. engrs., 26, Corporation-st.
Electromotors, Ltd., elec. motors, Openshaw.
Elliott's Met. Co., Ltd., tubes, 14, Brown-st.
Ellis, W. I., M.I.C.E., turb. mfr., 49, Deansgate.
Etchells, J. C., & Co., Ltd., elec. lift mkrs., 15, Cannel-st., Ancoats.
Evans, E. M., & Son, inst. contrs., 18A & 18B, Fountain-st.
Fardon, E. S., elecl. engr. & contr., 2, Swan-st.
Farmer, Sir J., & Sons, Ltd., engrs., Adelphi Ironwks., Salford.
Farrell, H. O., & Co., elec. engr., Moss Side.
Faulkner, A. H., inst. contr., 8, Market-pl.
Fawcus, G. H., sec. & mgr., A. Elec. Sup., Ltd., Altrincham.
Fazakerley, J., elec. engr., Victoria Sta.
Fenton, Horrocks & Co., Ltd., elec. & mech. engrs., 1, Berkshire-st., Miles Platting.
Fidler, J. T., inst. contr., 11, Stretford-rd., Hulme.
Fletcher, G. E., A.M.I.C.E., M.I.E.E., cons. elec. engr., 77, King-st.
Forest City Electric Co., comm. segments, Collier-st., Greengate, Salford.
Fowler, W. H., cons. engr., 53, New Bailey-st.
Frankenburg, I., & Sons, Ltd., elec. lt. cables, Salford.
Franks, A., mfg. elecn., 95 & 97, Deansgate.
Frith, Julius, M.SC., M.I.E.E., The Homestead, Victoria Park.
Gardner, T. H., cons. engr., Patricroft.
Gardner, L., & Sons, Ltd., Barton Hall Engine Wks., Patricroft.
Garnett, T., & Co., inst. contrs., 23, King-st., W.
Gee, W. W. H., B.SC., M.SC.TECH., A.M.I.E.E., School of Technology.
General Elec. Co., Ltd., elec. engrs., Victoria Bridge; & Peel Wks., Adelphi, Salford.
Giddings & Dacre, Ltd., elec. lt. ftgs. mfrs., Victoria Wks., Chapel-st., Salford.
Glover, W. T., & Co., Ltd., wire, Trafford Park.
Glyco Metal Co., Ltd., South Parade.
Goldsworthy, T., & Sons, Britannia Emery Mills, Hulme.
Goodwin, F. H., elec. engr., 7, Norbury-ave., Pendleton.

Manchester (including Salford, Pendleton, Blackley, &c.)—*continued.*

Gratrix, S., jun., & Bros., Ltd., elec. ftgs., Alport Wks., Quay-st., Deansgate.
Gt. Cen. Rlwy. (Elecl. Engr.'s Dept.), Guide Bridge.
Green, E., & Son, Ltd., fuel econ. mfrs.
Greenwood, T. S., elec. engr., 11, Lime-grove.
Gresham & Craven, Ltd., engrs., Ordsall-lane.
Grevener, J. & H., elec. engrs., 13, Norfolk-st.
Griffiths, G. N., inst. contr., Weston-grove, Heaton Chapel.
Grove Slate Co., Grove Wks., Bury New-rd.
Hall, P. B., A.M.I.E.E., elec. engr., 5, Chapel Walks, Cross-st.
Hanchett, G., Barratt & Co., elec. engrs., Lr. Gold-st., Croft-st., Pendleton.
Harris & Sons, elec. novelties, 4, Blue Boar-ct., Market-pl.
Hart Accumulator Co., Ltd., secondary batteries, Temple-chbrs., 33, Brazennose-st.
Heenan & Froude, Ltd., mech. engrs., Newton Heath Iron Wks., 4, Chapel Wlks.
"Hellewell" Rubber Co., 15/19, Corporation-st.
Henderson, J. H., elecn., 46B, Lancaster-ave., Fennel-st.
Herbert, E. G., Ltd., tool mkrs., Rosamond-st. E.
Hetherington, J., & Sons, gen. engrs., Ancoats.
Hewitt, J. M., cons. engr., Tower-chbrs., Brown-st.
Heys, W. E., M.I.E.E., 51, Deansgate Arcade.
Heywood, S. H., & Co., Ltd., E. L. & P. engrs., 37A, Fountain-st.
Higginbottom & Mannock, Ltd., elec. cranes, Crown Ironwks., W. Gorton.
High-Speed Braid. Mach. Co., Ltd., 7, Norfolk-st.
Hill, Geo., & Co., elec. engrs., Trafford Elec. Wks., Cornbrook.
Hodgkinson, James (Salford), Ltd., mech. stoker, Pendleton.
Holden & Brooke, Ltd., injec. mfrs., Sirius Wks., West Gorton.
Holmes, J. H., & Co., E. L. engrs., Examiner-bldgs.
Hopkinson, C., cons. elec. engr., 29, Princess-st.
Hopkinson, E., M.A., D.SC., M.I.C.E., M.I.E.E., Salford Iron Wks.
Horsfall & Lindford, elec. lift engrs., 2, Commercial-st., Knott Mill.
Howard Asphalt Troughing Co., Ltd., undergr. conduits, Trafford Park.
Hudson & Bowring, Ltd., trm. access., Temple-chbrs., 33, Brazennose-st.
Hughes, E., M.I.E.E., 35, Belfield-rd., Didsbury.
Hughes, W. W., A.M.I.E.E., Brit. Westinghouse Elec. & Mfg. Co., Ltd., Trafford Park.
Hurst, Nelson & Co., Ltd., elec. cars, Northern Assurance-bldgs., Albert-sq.
Hyde Tech. School, Hyde. *See* SCHOOLS.
Illingworth, Ingham & Co., Ltd., wood casing, 61, Whitworth-st. West.
I. R., G. P. & Tel. Wks. Co., Ltd., 16, John Dalton-st.
Irwell & Eastern Rubber Co., Ltd., Mill-st., Ordsal-lane, Salford.

Manchester (including Salford, Pendleton, Blackley, &c.)—*continued.*

Jackson, F., & Co., elec. app. mkrs., 14, Cross-st.
Jackson, H. A., & Co., mfg. elec. engrs., Caxton Wks, Salford.
Jackson, P. R., & Co., Ltd., engrs., Salford Rolling Mills.
Johnson, C. H., & Sons, Ltd., Manchester Wire Wks., Smedley-rd.
Johnson, R., Clapham & Morris, Ltd., dynamo brushes, 24–26, Lever-st.
Johnson, Richard, & Nephew, Ltd., wire drs., Bradford Iron Wks.
Jones & Horsfield, boiler cov., Denton, nr.
Kay, H., elec. supp. dlr., 13, Chapel-st., Salford.
Kelley, H., & Co., mech. engrs., 26, Pall Mall.
Kelly, A., cons. engr., 18, Exchange-st.
Kendal & Gent, Ltd., tool mkrs., Gorton.
Kendal, J. Lomax, & Co., Ltd., elec. engrs., 4, John Dalton-st., Deansgate.
Kenyon, W., & Sons, Ltd., cot. drvg. ropes, Chapel Field Ropery, Dukinfield.
Kerr, T. A., engr. & mgr., Trafford Power & Light Supply (1902), Ltd., Trafford Park.
Kerr, R. L., & Sons, engrs. & mach. merchs., 52, Bridge-st.
Kershaw, J., & Co., Ltd., elec. bell ftrs., Market-st.
Key Eng. Co., Ltd., elec. engrs., 38, Deansgate.
Kirkpatrick & Rastall, elec. engrs., Victoria Fdry., Barrack-st., Hulme.
Lacey, Sillar & Leigh, cons. engrs., 78, King-st.
Laidler, Ritchie & Co., Ltd., elec. engrs., Nutsford Vale Works, Longsight.
Lancs. Dynamo & Motor Co., Ltd., elec. engrs., Trafford Park.
Lancs. Elec. Pr. Co., 196, Deansgate. Engr., C. D. Taite, M.I.E.E.
Lancs. & Yorks. Private Teleph. Co., Ltd., Trevelyan-bldgs.
Lancaster & Tonge, Ltd., engrs., Pendleton.
Larmuth, T., & Co., Ltd., elec. mach. mkrs., Salford.
Lea Recorder Co., 28, Deansgate.
Leigh, F. A. C., cons. engr., 78, King-st.
Leyland & Birm. Rubber Co., Ltd., insulating materials, Tower-chbrs., 29, Brown-st.
Lightfoot Bros., elec. engrs., 15A, Cooper-st.
Lomax, C. J., engr., Corp., Gorton.
Lord & Chamberlain, elecns., 243, Hyde-rd., Gorton.
Lowcock, G. W., M.I.E.E., Gaythorn.
Lynde, F. C., cons. engr., St. Ann's-pass., King-st.
Mabbs, H. G., elec. engr. & agt., Canada-chbrs., Spring-gdns.
McCarthy, C. C., & Co., agts., 49, Deansgate.
McCowen, V. A. H., M.I.E.E., M.I.M.E., Corp. elec. engr., Salford.
Macintosh, C., & Co., Ltd., I.R. & cable mfrs., Cambridge-st.
MacMahon, J. J., engr., Corp. Elec. Trams.
Macpherson, Donald & Co., Ltd., colour & varnish mfrs., Knott Mill.
Madan, C. S., & Co., Ltd., injec. mfrs., Crowther-st., Salford.

Manchester (including Salford, Pendleton, Blackley, &c.)—*continued.*

Mallinson, A. B., A.M.I.E.E., elcc. engr., Rochebourne, Park-rd., Crumpsall.

Manchester Assoc. of Engrs., 29, Brown-st.

Manchester Municipal School of Technology.

Manch. Section of the I.E.E. Hon. sec., H. W. Wilson, 19, Brazennose-st.

Marks & Clerk, cons. engrs., pt. agts., 30, Cross-st.

Mason, W. F., Ltd., engrs., Mona Works, Levenshulme.

Mason, W. H., & Co., elec. engrs., 12, Broad-st., Pendleton.

Mather & Platt, Ld., engrs. & contrs., Salford Iron Wks.

Matthews, H., & Sons, cgs. & clts. mkrs., Stockport-rd.

Matthews & Yates, Ltd., elec. vent., Swinton.

Meldrum Bros., Ltd., engrs., Timperley.

Mercier, M., cons. elec. engr., 83, Camp-st., Broughton.

Metcalf, G., & Co., wire rlrs., &c., Virgil-st., Cornbrook.

Metzger, G. F., M.I.C.E., M.I.E.E., mech. & elec. engr., 22, Cooper-st.

Middleton Corp. Elcc. Wks. & Trams. Engr., S. Pauls, A.M.I.E.E.; elecn., S. P. Dodson.

Miller, T. L., Wilson & Pegg, cons. engrs., 19, Brazennose-st.

Mitchell's Emery Wheel Co., Mill-st., Bradford.

Moore, H., inst. contr., 8–10, Longford-bldgs., Oxford-rd.

Moore, J., elec. & gen. engr., 22, Arcade-chbrs., St. Marysgate.

Morris, H. N., & Co., acid mfrs., Gorton Brook Chem. Wks.

Moseley, D., & Sons, Ltd., I.R. mfrs., Chapelfield Wks., Ardwick.

Moss, J., elec. & mech. engr., 63, Darnley-st., Brooks Bar.

Mottershead & Co., med. batt., 7, Exchange-st.

Naylor, C. H. S., & Co., elcc. engrs., 49, Ducie-st., Piccadilly.

Needham, J., & Sons, tubes, 44, Brown-st.

North. Access. Co., Carr-st., Blackfriars-st.

Northern Steel & Hardware Co., Ltd., machy. merch. & agts., Bloom-st., Salford.

Oakley Steel Foundry Co., Ltd., Trafford Park.

O'Brien, J. O., M.I.M.E., patent agt., Bank-st.

O'Brien, R., & Co., elec. engrs. & contrs., 5, Brazennose-st.

Oldham, Ashton & Hyde Elec. Tramways, Ltd., Trmy. Depôt, Denton, nr. Engr., E. T. Todd.

Ormerod, J., & Sons, Ltd., lthr. dvg. bnd. mkrs., Castleton, nr.

Page, F. W., A.M.I.C.E., A.M.I.E.E., cons. elec. engr., Clarendon-chbrs., 14, St. Ann's-sq.

Palmer, Howe & Co., teleg. code expts., Princess-st.

Parmiter, Hope & Sugden, mfg. elec. engrs., Hulme.

Partington, W. E., & Co., elec. engrs., 19, Station-rd. Stores: 177, Stockport-rd., Levenshulme.

Pauls, S., engr., Middleton Corp. Elecy. Wks. & Trams.

Manchester (including Salford, Pendleton, Blackley, &c.)—*continued.*

Pearce, S. L., M.I.C.E., M.I.E.E., M.I.MECH.E., M.AM.I.E.E., engr., Corp. Elec. Wks., Dickinson-st.

Pearn, F., & Co., Ltd., gen. engrs., W. Gorton.

Pearson & Co., elec. contrs., 51, Mosley-st.

Pendlebury, H. L., F.C.S., anal. chem., 22, Blackfriars-st.

Percival, Vickers, & Co., Ltd., globes, Jersey-st.

Phœnix Motor Co., motor bldrs. & elec. engrs., Oakfield-rd., Altrincham.

Pochin, E. A., & Bro., mach.-cut gear., Trafford Park.

Pollock & Macnab, Ltd., tools, Brit. Mach. Tool Wks., Bredbury, nr.

Poole, T. G., elec. engr., c/o Veritys, Ltd., Hardman-st., Deansgate.

Preece, G. G. L., A.M.I.E.E., M.I.M.E., elec. engr., W. T. Glover & Co., Ltd., Trafford Park.

Princess Art Metal Wks. Co., 183, Princess-st.

Prockter & Kenyon, Ltd., mech. & elec. engrs., 30, Cross-st.

Putz, F. R., eng. sundries, 8 & 9, S. Parade.

Pyatt, J. V., & Co., inst. contr., 44, Salisbury-st., Moss Side.

Pybus Bros., elec. engrs., 7, Marriott's-ct.

Ratcliff, H. A., A.M.I.E.E., elec. engr., 15, Filey-rd., Fallowfield.

Renold, H., Ltd., dvg. chain mkrs., Brook-st.

Rhodes, W. G., D.SC., M.I.E.E., cons. elec. & mech. engr., Adelphi-chbrs., Brown-st.

Richards, Geo., & Co., Ltd., pulley mkrs., Broadheath, nr.

Richardson, A. W., arc lamps, Skew Bridge Works, Patricroft.

Richardson & Co., teleg. engrs., Nelson-st., Stretford-rd.

Ritchie, T. E., elec. engr., Royce, Ltd.

Roberts Bros., fuel econ. & mach. tool mkrs., Dukinfield.

Robinson, A. E. & H., & Co., eng. mfrs., Church-st., Beswick.

Robinson, J., & Co., ins. wire mach., Springfield Iron Wks., Salford.

Robisher, J., elecn., 60, Vine-st., Higher Openshaw.

Roper, W. L., elec. engr., Siemens Bros. Dynamo Works, Ltd., 196, Deansgate.

Rose, W., & Co., fire extg. app. mfrs., Salford.

Rosenberg, Dr. E., chf. elec. engr., Brit. West. Co., Trafford Pk.

Rowland, B. R., & Co., Ltd., boilers, Reddish, nr.

Roy, W. H., & Co., water cool. app., Tower-chbrs., 30, Spring-gdns.

Royce, Ltd., elec. engrs., Trafford Park.

Royles, Ltd., feed water htrs., Irlam, nr.

Royse, S. W., & Co., chem. merchs., 20, Albert-sq.

Russell & Wardrop, elec. engrs. & contrs., Pritchard-st., C.-on-M.

Rust, H., A.M.I.E.E., elec. engr., 238, Ashton Old-rd., Openshaw.

St. George's Iron Wks., Ltd., whls. & plys., Hulme.

Manchester (including Salford, Pendleton, Blackley, &c.)—*continued.*

Sale Elecl. Inst. Co., elec. engrs., 54, School-rd., Sale.

Sale U.D.C. Elec. Wks. Res. engr., C. J. Wood.

Salford Corp. Elec. Wks. & Trams. Engr., V. A. H. M'Cowen, M.I.E.E., M.I.MECH.E.; deputy, H. J. Hawkins, A.M.I.E.E.

Schaffer & Budenberg, Ltd., speed indicators, &c., Whitworth-st.

Scholes, G. H., & Co., elec. engrs. & contrs., Blantyre-st.

Schuster, A., Prof., M.I.E.E., Victoria Park.

Scott & Hodgson, Ltd., eng. mkrs., Guide Bridge.

Seddon, R., inst. contr., 296, Ashton New-rd.

Sewell & Varley, elec. engrs., 23, Lloyd-st.

Sharples, Hill & Co., elec. engrs. & contrs., 24, Brazennose-st.

Shaw, J., M.I.E.E., cons. elec. engr., 2, Parsonage, Blackfriars.

Simplex Conduits, Ltd., 16, Corporation-st.

Slacke, R. B., M.I.E.E., elec. engr., 38, Deansgate.

Slater Bros., elec. contrs., 25, Dickinson-st.

Sloan Elec. Co., Ltd., 16, John Dalton-st.

Small & Parkes, Ltd., Hendham Vale Works, Harpurhey.

Small Power Dynamo & Motor Co., Ltd., Old-la., Higher Openshaw.

Smart, A., & Co., asb. mfrs., Collyhurst.

Smith, W. J., elec. engr., 16, John Dalton-st.

Smith & Coventry, Ltd., lthe. & tl. mkrs., Ordsall-la., Salford.

Smith, Frederick, & Co., incorp. in the London Elec. Wire Co. & Smiths, Ltd., wire mfrs., Anaconda Wks., Salford.

Smith, F. W., & Co. (1907), Ltd., elec. engrs., 12, Tib-la., Cross-st.

Smith, Wm., & Co. (Pendleton), Ltd., domestic elecns., 243, Broad-st., Pendleton.

Smithson, H., elec. engr., 18, Park-ave., Alexandra Park.

Smithson, Sharpe & Co., mfg. elec. engrs., Sykes-st., Hulme.

Souper & Callaghan, mach. merch. & agts., 46, Grosvenor-chbrs., Deansgate.

Southgate, H. MacL., M.I.E.E., Trafford Park.

Spencer, J., & Co., cranes, &c., Chamber Iron Wks., Hollinwood.

Staniar, J., & Co., Manchester Wire Wks.

Statham, H., & Co., I. R. & G. P. mfrs., 9, 10 & 11, Corporation-st.

Steinthal, G. A., & Boydell, Ltd., elec. supp., 1B, Cooper-st.

Sterling Varnish Co., Brougham-st., Blackfriars-rd.

Stewarts & Lloyds, Ltd., tubes, 42, Deansgate.

Stirling Boiler Co., Ltd., water tube blrs., 17, St. Ann's-sq.

Stocks & Co., engrs. & exp., 37, Deansgate Arcade.

Stonier, F. & G. W., & Co., wire wkrs. & mfrs., Harris-st., Strangeways.

Storey, I., & Sons, met. merchs., Cornbrook.

Stott & Sons, cons. engrs., 60, Hawarth's-bldgs., Cross-st.

Manchester (including Salford, Pendleton, Blackley, &c.)—*continued.*

Sunbeam Lamp Co., Ltd., 10, Victoria-bldgs., St. Mary's Gate.

Sutcliffe Bros., bltg., &c., Grosvenor Wks., Godley.

Sutcliffe & Sutcliffe, bltg. mfrs., Magnet Wks.

Switchgear Co., Ltd., Wilfred-st., off Sherbourne-st., Salford.

Taffs, H., & Co., elec. engrs., 40, Brazennose-st.

Taite, C. D., M.I.E.E., engr. & mgr., Lancs. Elec. Pr. Co., 196, Deansgate.

Taylor, W., & Sons, inst. contrs., 209, Broad-st., Pendleton.

Tennants & Co., mfg. chem., 1, Booth-st.

Tetley & Co., elec. engrs., Falcon Wks., Bedford-st., Greengate, Salford.

Theermann, W. P., & Co., elec. engrs., Oxford-rd.

Thomas, B., elec. engr., Worsley-st., Hulme.

Till & Whitehead, Ltd., elec. ftgs. dlrs., 88, Chester-rd.

Tinker, Shenton & Co., Ltd., Hyde Boiler Wks., Hyde.

Tinkers, Ltd., boiler mkrs, Hyde.

Todd, E. T., engr., O. A. & H. Elec. Try., Denton

Traders Supply Co., elec. lamps, 40, South King-st.

Trafford Park Estates, Ltd., Trafford Park.

Trafford Power & Lt. Sup. (1902), Ltd., Trafford Park. Engr., T. A. Kerr.

Turner, C. L., cons. elec. & mech. engr., 49, Deansgate.

Turner, Atherton & Co., Ltd., elec. engrs., Denton.

Tweedales & Smalley, Ltd., machine mkrs., Castleton, nr.

Underwood (Manchester), Ltd., elec. sup, 34, Pall Mall.

United Electric Supply Co., Micklehurst, Mossley, nr.

Universal Elec. Supply Co., elec. sund., 60, Brook-st., C.-on-M.

Vaughan & Son, Ltd., cranes, West Gorton.

Veritys, Ltd., elec. engrs., 3, Hardman-st., Deansgate.

Victoria Univ. of Manchester. *See* SCHOOLS.

Vulcan Boiler & Gen. Insce. Co., Ltd., 67, King-st.

Wainwright Bros., elec. contrs., 27, Pritchard-st.

Walker, E. O., & Co., elec. engrs., Trevelyan-bldgs.

Wallwork, H. & Co., Ltd., dyn. cstgs., Roger-st.

Walters, Austin, & Son, mfg. elecns., 57, Lower Mosley-st.

Walton, W. R., con. elec. engr., Tower-chbrs., Brown-st.

Ward & Goldstone, elec. engrs., Sampson Wks., Springfield-la.

Wardle Engineering Co., Ltd., elec. & mech. engrs., 196, Deansgate.

Waring & Gillow, Ltd., elec. l. contrs., Deansgate.

Welch, F. B., & Co., gen. & elec. engrs., Manchester-chbrs., Market-st.; & 5, Deansgate.

Wells, M., & Co., lub. oils, Hardman-st. Oil Wks.

Western U. Teleg. Co., 31, Brown-st.

Wheeler, F., elec. engr., Moston Colliery, Newton Heath.

Wheeler, E. H., & Co., I. R. goods, &c., 8 & 9, S. Parade, Deansgate.

Manchester (including Salford, Pendleton, Blackley, &c.)—*continued.*

Whipp & Bourne, elec. engrs., Castleton, nr.
Whitmore, H. B., A.M.I.E.E., elec. engr., Brereton Cottage, Bramhall-la., nr. Stockport.
Wihl, Ed., & Co., ins. mat. mfrs., 17, Nicholas-st.
Wilson, J. G., pat. agt., 55, Market-st.
Wilson, J. R., elec. lt. engr., 20, Oxford-rd., Chorlton-on-Medlock.
Wilson, L. E., & Co., teleph. engrs., 20, Cross-st.
Wolstenholme, J., & Son, engrs., Albert Wks., Radcliffe, nr.
Wood & Newland, valuers, 42, Spring-gdns.
Wragge, G., Ltd., ltng. cond. mfrs., 152, 154, 156 & 165, Chapel-st., Salford.
Yates, A. E., elec. engr., 30, Brown-st.
Young, A. R., elec. engr., Caxton Works, Salford.

Mansfield.

Allen, Wm., A.M.I.E.E., chief asst. engr., Corp. Elecy. Wks.
Corp. Elec. Wks. & Tram Supply. E. Holcombe Hewlett, M.I.E.E., M.AM.I.E.E., engr. & mgr.
Cox & Childs, elec. l. & p. contrs.
Hewlett, E. Holcombe, M.I.E.E., Vole Way, Layton-ave.
Johnston, W. S., A.M.I.E.E., elec. engr., Hill Crest, Bath-la.
M. & Dist. Tys., Ltd., Sutton-rd. Engr. & man., C. R. Walker.
Mansfield Eng. Co., elec. l. & p. contrs.
Maude & Co., arc lamp-post makrs.
Meggitt, B., elec. l. & p. contr.
Sanderson & Robinson, Ltd., engrs. & fdrs.
Walker, C. R., engr. & man., M. & Dist. Tys., Ltd.
Woolley. J., elec. l. & p. contr.

Mardy.

M. E. Light Co., Ltd. Engr., E. Davies.

Margate.

Bowell, G. B., elec. clocks, Bank-bldgs., Northdown-rd.
Coles Bros., elec. engrs., High-st.
Isle of Thanet Elec. Tram. & Ltg. Co. Engr., J. A. Forde.
Kingston & Co., Ltd., elec. engrs. & contrs., 8, Trinity-sq.
Simpson, J. W., elec. engr., King-st.

Market Drayton.

M. D. Elec. Lt. & Pr. Co., Ltd. Engr., C. F. Bottomley.

Masham.

Mackwell, A., elec. lt. engr., Park-st.

Matlock.

Hall & Co., elec. bell & teleph. ftrs., Dale-rd.

Melrose, N.B.

Elecy. Sup. Corp., Ltd., Elecy. Wks.

Melton Mowbray.

M. M. Elec. Lt. Co., Ltd. Engr. & mgr., J. E. Edmundson, A.M.I.E.E.

Merthyr Tydvil.

Bowen, J., elec. engr., 30, Victoria-st.
Jenkins, T. A., elec. engr., Heolgerrig.
M. Elec. Tr. & Ltg. Co., Ltd. Man. engr., Lewis W. Dixon.

Methil, Fife.

Wemyss & District Tys. Co., Ltd. Engr., R. Richardson.

Mevagissey.

Mevagissey E. Sup. Co., Ltd. Engr., F. Johnson.

Mexborough.

Fisher, C. V., elec. engr., 1, West-st.
U.D.C. Elec. Wks. Engr., J. Senior, A.M.I.E.E.

Mickleham.

Leatherhead & Dist. E. Co., Ltd. Engr., H. L. Dixon, A.M.I.E.E.

Middlesbrough.

Anderston Foundry Co., Ltd., iron fdrs.
Baker Bros., inst. contrs., Corporation-rd.
Barzire Bros., elec. bell mkrs., 9 & 11, Corporation-rd.
Bell, J. T., & Co., elec. & eng. supplies, 22 & 24, East-st.
Brit. Thomson-Houston Co., Ltd., mfg. elec. engrs., Maritime-bldgs.
Brown, T., & Co., elec. lt. appar., Royal Exchange.
Cleveland & Durham Elec. Pr., Ltd., Hinton's-bldgs.
Corp. Elec. Works. H. M. Taylor, engr. & mgr.
Dodsworth, G., blr. mkr., Depôt-rd. Boiler Wks.
Dorman, Long & Co., Ltd., steel & iron mfrs.
Graham Bros, elec. engrs., Zetland-pl.
Hanson, Brown & Co., mfg. elec. engrs., New Exchange-bldgs.
Hodgson, R. D., inst. contr., Albert-rd.
Imperial Trwys. Co. Engr. & man., J. Clifton Robinson.
Ingham, W. P., engr. & gas prod. mfr., Royal Exchange.
Jarvis Bros., Ltd., elec. & gen. engrs., Bridge-st.
Liverpool Elec. Cable Co., Ltd., wires & cables, 2, Exchange-pl.
Lord, G. H., inst. contr., 128A, Linthorpe-rd.
Lord, W., inst. contr., Albert-rd.
Lugard, C. E., & Co., mfrs. clutches, Field's-bldgs.
Morrish, J. M., elec. lt. & p. engr., 26, Linthorpe-rd., Linthorpe.
North Eastern Co, iron & stl. mfrs.
Northern Cos. Elecy. Sup. Co., Ltd., Hinton's-bldgs. Mgr., C. W. Fairweather.

Middlesbrough—*continued.*

Richardsons, Westgarth & Co., Ltd., mar. & elec. engs. mkrs.
Rowan, N. C., elec. engr., C. & D. E. P., Ltd.
Sadler & Co., Ltd., mfg. chem., Cleveland Chemical Wks.
Sierwald, W., elecn., 73, Corporation-rd.
Sproates, H. G., inst. contr., 104, Linthorpe-rd.
Standard Elec. Co., inst. contrs., Boundary-rd.
Tattersall & Clarke, elec. engrs., Snowdon-rd.
Taylor, H. M., boro' elec. engr.
Warren, Beattie & Co., Ltd., elec. lt. & p. engrs., Lr. Commercial-st.

Milford-on-Sea.

M. Elec. Sup. Co. Engr., L. Nicholson.

Minehead.

M. Elec. Sup. Co., Ltd. Engr., B. W. Gothard.

Mirfield.

U.D.C. Elecy. Wks. Cons. engr., A. B. Mountain; elecn., Jno. Lomas.

Monkseaton.

Pigg, Jas., M.I.E.E., elec. engr., "Glendyn," Hawthorn-gdns.

Monmouth.

Corp. Elec. Wks. F. W. Windsor, res. engr.

Montrose.

N. of Scotland Elec. L. & P. Co., Ltd. Engr., F. Barritt Hills.

Morecambe.

Annetts, A. W., chf. asst. engr., Town Council.
Corp. Elec. Wks. Cons. engr., R. Wright.
Marsden & Maudsley, elec. contrs., New Queen-st.

Morpeth.

North. Cos. Elecy. Sup. Co., Ltd. Engr., W. H. Bibby.
Pentland, W., & Co., elec. engrs., Newgate-st.

Morriston (Glam.).

Evans Bros., Ltd., elec. engrs.

Motherwell.

Anderson, Boyes & Co., Ltd., Flemington Elec. Wks.
Anderson, Wm., & Son, elec. sup. dlrs., 52, Windmillhill-st.
Bryden, H. N., elec. engr., Orbiston-st.
Chambers, Scott & Co., Crane & Winch Wks.
Clyde Valley Elec. Pr. Co.
Colville, D., & Sons, Ltd., iron & stl. mfrs.
Corp. Elec. Wks. Engr., S. Williams.
Grieve, J., & Co., crane mfrs.
Hendry & Co., elec. engrs., Clyde Elec. Wks.
Horton & Ritchie, elec. sup. dlrs., 102, Brandon-st.

Motherwell—*continued.*

Lanarkshire Steel Co., Ltd., stl. mkrs.
Marshall, Fleming & Co., elec. crane mfrs., Dellburn Wks.
M. Iron & Steel Co., iron & steel mfrs.
Pott, Cassels & Williamson, elec. appar. mfrs.
Russell, G., & Co., Ltd., elec. cranes, Alpha Wks.
Williams, S., engr., Corp. Elec. Wks.

Musselburgh.

Brunton, W. N., & Son, wire mfrs., Wire Mills.
M. & Dist. E. L. & Trac. Co., Ltd. Engr., A. A. Watkins, A.M.I.E.E.

Neath.

Thomson, G. H., A.I.E.E., elec. engr. & mgr., R. D. C. Elecy. Wks.

Nelson.

Batty, J., & Co., elec. engrs., Leeds-rd.
Corp. Elec. Supply & Trams. Boro' elec. & trys. engr., D. Helme.

New Barnet.

Bygrave, W., elec. engr., E. Barnet-rd.
Foundry & Eng. Wks., castings, Plantaganet-rd.

New Brighton.

Chesters, A. E. & H., elec. engrs., 91A, Victoria-rd.

Newark.

Abbott & Co. (Newark), Ltd., arc lmp. winches.
Harrison, W. P. L., & Co., Beaumond Cross.
Howitt, J., & Sons, elecns. & engrs., St. Mark's Wks.; & 36, Stodman-st.
Nicholson, W. N., & Sons, Ltd., gen. engrs.
Tudsbury, Rd., & Sons, influence mach. mkrs., Edwinstowe.

Newburn.

Newcastle & Dist. E. L. Co. Engr., W. D. Hunter, M.I.E.E.

Newbury.

Plenty & Son, Ltd., engrs. & blr. mkrs., Eagle Iron Wks.
Urban Elec. Sup. Co., Ltd. Engr., H. W. Bush.

Newcastle-on-Tyne.

A. E. G. Elec. Co., Ltd., elec. contrs. & mfrs., Printing-ct.-bldgs., Akenside Hill.
Angus, George, & Co., Ltd., drvg. band mkrs., 46, Grainger-st., W., & 18, Lombard-st.
Armorduct Mfg. Co., Ltd., cond. & cable, 44, Blackett-st.
Armstrong College. *See* SCHOOLS.
Armstrong, Sir W. G., Whitworth & Co., Ltd., mech. engrs., &c., Elswick Wks.
Baker, G. R. S., elec. engrs., 52, Stowell-st.
Barnett, Rowland, elec. engr., 3, Hanover-sq.
Bell, R. G., elec. engr., 27, Mosley-st.
Bigge, D. Selby, & Co., elec. power engrs., 27, Mosley-st.
Bigland, H. H., engrs. agt., 17, Westgate-rd.

Newcastle-on-Tyne—*continued.*

Bowran, Robert, & Co., Ltd., gen. & elecl. engrs., 4, St. Nicholas-bldgs.
Brady & Martin, Ltd., elec. & scien. app. mkrs., Northumberland-rd.
British Elecl. & Mfg. Co., wholesale elec. suppliers, 1, St. Nicholas-bldgs.
Brit. Elecl. Plant Co., Ltd., elecl. mfrs., Prudential-bldgs., Mosley-st.
Brit. Insulated & Helsby Cables, Ltd., 33, High Bridge.
Brit. Thomson-Houston Co., Ltd., mfg. elec. engrs., Collingwood-bldgs.
Brit. Westinghouse E. & M. Co., Ltd., elecl. mfrs., Wards-bldgs., High Bridge.
Brotherton Tubes & Conduits, Ltd, 2, Collingwood-st.
Brown, J., jun., cons. engr., Mercantile-chbrs., Quayside.
Brown, D., & Co., elec. engrs., Elswick-ct., Northumberland-st.
Buchan & Partners, cons. elec. engrs., Milburn House.
Bulmer, J., & Sons, wire rope machy. mkrs., Pitt-st.
Capell Fan Co., 13, Mosley-st.
Carnegie, A. Q., elec. engr., 31, Manor House-rd.
Carter, T., A.M.I.E.E., elec. designer, Dene View, Heaton-rd.
Charlton, R. B., & Co., domestic elecns., Manors Rly. Station Wks.
Churchill, Chas., & Co., Ltd., imprtrs. machinery, Albion-bldgs., St. James-st.
Coleman, A. C., elec. engr., Clifton House, Forest Hall.
Cookson & Co., Ltd., lead & antim., Milburn Ho.
Corp. Elec. Wks. & Trams. Trwys. engr. & mgr., E. Hatton; asst. elec. engr., W. Dalton, A.I.E.E., A.M.I.M.E.
Co. of Durham E.P.D. Co., Ltd., Royal Exchange-bldgs., Hood-st.
Crompton & Co., Ltd., elec. engrs., 21, Pearl Assurance-bldgs., Northumberland-st.
Crosier, Stephens & Co., carbons, &c., 2, Collingwood-st.
Cross, Wm., elec. engr., 7, Ridley-pl.
Cryselco, Ltd., incand. lmps., 3, S. Nicholas-bdgs.
Dalton, W., asst. elec. engr., Corp. Elec. Wks.
Dargue, W. H., elec. engr., 57, Grey-st.
Davies, J., elecl. contr., 69, High Bridge.
Dick, Kerr & Co., Ltd., trwy. engrs., Milburn Ho.
Dinning & Cooke, elec. bell fitters, 91, Percy-st.
Easten, S., Ltd., elec. contrs., 23, Bath-lane.
Edison & Swan U. E. L. Co., Ltd., 38, Grey-st.
Eldon Elec. Co., 61, High Bridge.
Elecl. Eng. Supply Co., Haymarket-la.
Esslemont, A. S., gen. mgr., Co. of Durham Elec. Pr. Sup. & Dis. Cos.
Fairweather, C. W., cons. elec. engr., Milburn Ho.
Falconar, O. L., elec. engr., 7 & 9, Ridley-pl.
Falconar, Cross & Co., elec. engrs., 7 & 9, Ridley-pl.
Fletcher Bros., elec. engrs., High Friar-st.
France, A. H., elec. mfrs. agt., 17, Eldon-sq.

Newcastle-on-Tyne—*continued.*

Gec, J. H., & Co., elec. engrs., 8, Bath-la.
General Elec. Co., Ltd., elec. ftgs., Gallowgate House, 30, Gallowgate.
Gent & Co., Ltd., mfg. elecns., 67, High-bridge.
Gibson, M., teleg. engr., 82, Pilgrim-st.
Gillett, S., elec. contr., 40, Blackett-st.
Glover, W. T., & Co., Ltd., cable mfrs, 57, Sanderson-rd.
Graham, J. P., elec. agt., 26, Cloth Market.
Guthrie Bros. & Ogilvy, elecl. engrs., Prudential-bldgs., Mosley-st.
Haggie, R., Hood & Son, Ltd., wire rope mfrs., Cathedral-bldgs., Dean-st.
Hall, W., A.M.I.C.E., elec. engr., Milburn House.
Hanks, F. T., A.M.I.E.E., elec. agt., 1, Higham-pl.
Hanning, T., A.M.I.C.E., cons. elec. engr., N. Assurance-bldgs., 2, Collingwood-st.
Hedderley, C. H., elec. engr., 16, Heaton-rd.
Henley, W. T., Teleg. Wks. Co., Ltd., cable mfrs., 30, Mosley-st.
Holliday, T., elec. engr., 208, Heaton-rd.
Holmes, J. H., & Co., elec. lt. engrs., Portland-rd.
Hunt, F. O., A.M.I.E.E., cons. elec. engr., Union-bldgs., St. John-st.
Hunter, W. D., M.I.E.E., man. dir. & engr., N. & Dis. Elec. Ltg. Co., Ltd., 38, Grainger-st.-west.
India Rubber, G. P. & Teleg. Wks. Co., Ltd., 59, Westgate-rd.
Jennings, E. J., A.I.E.E., West Walls, Westgate-rd.
Jobling, J. A., manganese, St. Nicholas-chbrs.
Judc, R. H., D.Sc., Rutherford Coll.
Lahmeyer Elec. Co., 1, St. Nicholas-bldgs.
Lamb, G., corp. inspector.
Lancs. Dynamo & Motor Co., Ltd., Star-bldgs., Northumberland-st.
Leith, Alex., & Co., elec. engrs., 10, Neville-st.
Leng, E., elec. engr., 79, Percy-st.
McCoull, C., elec. engr. & contr., 4, Leazes Park-rd.
Mackey, W. G., elecl. contr., 17, Clayton-st.
Maling, C. T., & Sons, Ford Potteries.
Mawson, Clark & Co., lubricants, Pandon-bldgs., City-rd.
Mawson & Swan, Ltd., scien. instr. mkrs., &c., 11/15, Mosley-st.
Merz & McLellan, cons. engrs., Collingwood-bldgs.
Mills, John, & Sons, brass fdrs., Walker-gate Brass Works.
Newcastle & Dis. E. L. Co., Ltd., 38, Grainger-st.-west. Man. dir. & engr., W. D. Hunter, M.I.E.E.
Newcastle-upon-Tyne Elec. Supply Co., Ltd., Royal Exchange-bldgs., Hood-st.
Nicholson & Wadley, elec. contrs., 14, Neville-st.
N. E. Coast Institution of Engrs. & Shipbldrs., Bolbec Hall, Westgate-rd.
N. of Eng. Institute of Mining & Mech. Engrs., Neville Hall.
N. Cos. Elecy. Sup. Co., Ltd., Hebburn. Elecn., W. Bates.
Northern Elec. Eng. & Plating Co., Ltd., 4, Northumberland-st.
Northern Eng. & Construc. Co., Ltd., mech. engrs. & elecns., 19, Wentworth-pl.

Newcastle-on-Tyne—*continued.*

Ormrod, W., elec. engr., 134, Shortridge-ter.
Parkinson, J., & Co., elec. sup. dlrs., St. Nicholas-st.
Parsons, C. A., & Co., mfg. elecns., Heaton Wks.
Paterson, B. S., elec. & mech. engr., St. James'-st.
Patterson, W., dyn. brushes, Walker-gate.
Patton, G., elec. ltg. contr., Bath-la.
Percy, S., elec. contr., Osborne-rd.
Pochin, H. D., & Co., Ltd., sulph. of alu., Willington-quay.
Polglase & Co., Tyne Vale Chem. Wks., Skinnerburn-rd., Forth Banks.
Potter, Thomas, & Co., elec. engrs. & agts., 1, St. Nicholas-bldgs.
Price, B., elec. engr., 6, Woodbine-ave., Gosforth.
Priestman Power Co., Ltd., Milburn House.
Proctor, C. F., M.I.E.E., &c., elec. engr., Edison & Swan U. E. L. Co., Ltd., Benwell.
Redman, S. G., elec. engr., 15, Osborne-ter., Gosforth.
Reed & Foggin, con. elec. engrs., 1, St. Nicholas-bldgs.
Reichwald, A., steel & metal merch., Exchange-bldgs., Lombard-st.
Reid, F., Ferens & Co., elec. engrs., Orchard-st.
Reyrolle, A., & Co., Ltd., elec. & gen. engrs., Hebburn.
Richardson Bros., met. merch., Cathedral-bldgs.
Robinson & Jones, elec. engrs., 21, Collingwood-st.
Robson & Coleman, elec. engrs., Haymarket-la.
Rook, T., & Co., elec. contrs., 50, Grainger-st.
Rowell, J., & Sons, elec. engrs., 57, High Friar-st.
Roy, A. W., dyn. & mot., 151, Shields-rd., Heaton.
Rutherford College, Bath-la.
Sanzen-Baker, G. R., elec. engr. & contr., 52, Stowell Park.
Saunders, Todd & Co., met. merch., &c., Maritime-bldgs., King-st.
Seager, J. A., A.M.I.C.E., elec. engr., Emerson-chbrs., Blackett-st.
Siemens Bros. & Co., Ltd., elec. engrs., Collingwood-bldgs., Collingwood-st.
Siemens Bros. Dynamo Works, Collingwood-bldgs., Collingwood-st.
Simplex Conduits, Ltd., 60, Pilgrim-st.
Sleigh & Wood, elec. & mech. engrs., 3, Royal Arcade.
Smith, H. D., anal. chem., 8 & 10, Side.
Snowball & Co., engrs. & mach. valuers, Prudential-bldgs., Mosley-st.
Spencer, J., & Sons, Ltd., castings, Newburn Steel Wks.
Spencer & Watson, chem. merchs., Ward's-bldgs., High Bridge.
Stephenson, R., & Co., Ld., eng. & bls., Hebburn.
Stewart, G. C. I., elec. engr., 8, Dene-rd., Blaydon.
Stewart, Jas., cons. engr., Proctor House.
Stirling Boiler Co., Ltd., water-tube blrs., Milburn Ho.
Stobart, S., & Co., elec. contrs., Laidlaws-ct.
Stoney, G., B.E., M.I.E.E., M.I.C.E., engr., Oakley, Heaton-rd.

Newcastle-on-Tyne—*continued.*

Stroud, Prof. H., M.A., D.SC., M.I.E.E., prof. of phys., Armstrong Coll.
Sunbeam Lamp Co., Ltd., 21, Northumberland-st.
Swallow & Grey, mech. & elec. engrs., 18, Grainger-st. W.
Technical Art Co., advt. specialists, Emerson-chbrs., Blackett-st.
Thompson, A. J., elec. engr., 5, St. Mary's-pl.
Thornton, M., elec. engr., 210, Helmsley-rd., Jesmond.
Thwaites, J. W., elec. engr., 4, Higham-pl.
Travers, J. L., & Co., elec. engrs.
Tyneside Elec. Development Co., Ltd., Collingwood-bldgs.
Union Elec. Co., Ltd., Coilingwood-bldgs.
United Alkali Co., Ltd., mfrs., Pandon-bldgs., City-rd.
United Wire Wks., Ltd., wire gauze mfrs., Trafalgar Wks., Shields-rd. West.
Usher, T. G., & Co., el. engrs., 44, Leazes Park-rd.
Veritys Ltd., elec. engrs., 26, Eldon-sq.
Vesey-Brown, C. S., cons. elec. engr., Milburn Ho.
Walker, Henry, & Son, Ltd., elec. bell & teleph. ftrs., Gallowgate; & 55, Westgate-rd.
Warren, Beattie & Co., Ltd., elec. engrs., 4, St. Nicholas-chbrs.
Watson, C. G., elec. engr., Milburn House, Dean-st.
Watson, H., & Sons, mech. engrs., High Bridge Wks., Walker Gate.
Weighton, R. L., M.A., prof. eng., Armstrong Coll.
Western U. Teleg. Co., 1, Side.
Wheatley Kirk, Price & Co., elec. & mech. auctnrs., 26, Collingwood-st.
Wills, R., B.SC., cons. engr., Elswick Mechanics Institute & Tech. School, 26, Beech Grove-rd.
Wilson, J. R. S., elec. engr. & contr., Ward's-bldgs.
Wilson, F. H., & Co., elec. contrs., 1, Newgate-st.
Wyand, F. W., A.M.I.E.E., elec. engr., Elswick Wks.

Newcastle-under-Lyme, Staffs.

Bagguley, J., & Son, elec. engrs., 23, High-st.
Corp. Elec. Wks. Engr., A. J. C. De Renzi, A.M.I.E.E.; asst. engrs., J. A. Whittingham & E. Coulam.
De Renzi, A. J. C., res. engr., Corp. Elecy. Wks.
Silvester, F., & Co., elec. & gen. engrs., Castle-hill Works.
Wellings & Son, elec. contrs., Iron Market.

Newcastle Emlyn.

N. Emlyn & Dist. Elec. Sup. Co., Ltd.

Newmarket.

Newmarket Electric Light Co., Ltd., High-st. F. A. Simpson, engr.

Newport, Isle of Wight.

Isle of W. Elec. Lt. & Pr. Co., Ltd. Engr., F. T. Crowe.

Newport, Mon.

Aberavon Dis. Trys. Synd., Ltd., 4 & 5, Commercial-st.
Alger, T. E., elec. engr., The Dingle, Oakfield-rd.
Alger, R., & Sons, elec. lt. engrs., 160, Dock-st.
Arnold, A. G., & Son, elec. engrs., Market-st.
Beaven & Sons, Ltd., elec. engrs., 17, Dock-st.
Corp. Elec. Supply Wks. & Elec. Trams. Boro' elec. engr., H. Collings Bishop, M.I.E.E.
Evans, W., bltg. mfr., 24, High-st.
Groome, A., elec. engr., Commercial-st.
Holman & Co., elec. contrs., 132, Commercial-rd.
Hough, C. R., elec. engr., 23, Woodland-pk.
International Rubber Co., 144, Commercial-st.
Isca Foundry Co., gen. engrs.
Jones, B. G., & Co., engrs., powr. spec., 33, Commercial-st.
Liscombe, J., beltg. mfr., 10, Commercial-st.
N. Borough Tech. Inst. *See* SCHOOLS.
Newport Enam. Slate Co., Ltd., Carngethin Wharf.
Perman, E., elec. contrs., 157, Dock-st.
Phillips, C. D., mech. engr., Emlyn Iron Works.
S. Wales Glass Mfg. Co., Ltd., batt. jars, Crindau.
Spittle, T., Ltd., pipes, Cambrian Foundry.
Uskside Eng. Co., Ltd., mech. engrs., Uskside Iron Wks.
Wood, Arthur, elecn. & ironmgr.

Newquay, Cornwall.

Newquay Elec. L. & P. Co., Ltd. Res. engr., A. S. Hawkins.

Newton Abbot.

Hexter & Humpherson, cable cond. mkrs.
Parker Bros., elec. bell ftrs.
Urban Elec. Sup. Co., Ltd. Engr. & mgr., G. E. Smith, A.M.I.E.E.

Newtownsmyth.

Galway Elec. Co., Ltd. Engr., P. A. Spalding, A.M.I.C.E., A.M.I.E.E.

Normanton.

Bentham, J., elec. engr., New Sharlston Collieries, nr.

Northallerton.

N. Elec. Lt. & Pr. Co. Engr., F. R. Batty, A.M.I.E.E.

Northampton.

Adkins & Co., gen. elecns.
Allchin, W., Ltd., mech. engrs., &c., Globe Wks.
Baker, J. A., inst. contr., College-st.
Cameron, J. F., boro' elec. engr., Castle-st.
Corp. Trams. Mgr., J. Gottschalk; engr., J. F. Cameron.
Dickins, A. C., elec. lt. & teleph. contr., 14, Kingswell-st.
Duckenfield, E. E. Vernon, & Co., elec. engrs. & contrs.
Finnegan, R., trwy. contr., East Park.
Garrett Bros., elecns., 19, Cowper-st.
Goldston, E., elec. sup. dlr., 28, Marefair.

Northampton—*continued.*

Gottschalk, J., mgr. Corp. Trams.
Jackson, G. H., M.I.E.E., M.I.M.E., chief engr. & mgr., Northampton E. L. & P. Co., Ltd.
N. & County Modern & Tech. School. *See* SCHOOLS.
Northampton E. L. & P. Co., Ltd., 25, Bridge-st. Engr., G. H. Jackson, M.I.E.E., M.I.M.E.
Premier Accumulator Co., Ltd., Cattle Market-rd.
Trenery, E. T., & Sons, casing mkrs., Bridge-st.

Northfleet.

Bamford, W. W., Ltd., elec. & mech. engrs., Deepwater Pier.

Northwich.

Boyd, W., engr., N. Elec. Sup. Co.
Brunner, H. B., elecn. & chem., The Hollies, Hartford.
Brunner, Mond & Co., Ltd., alkali, Winnington.
N. Elec. Supply Co., Ltd. Engr., W. Boyd, A.M.I.E.E., A.M.I.M.E.
Thomas, Bertram & Co., elec. engrs., Castle-st.

Norwich.

Boulton & Paul, Ltd., elec. launches, Rose-lane Wks.
Cannell, E. S., elec. lt. engr., City Asylum.
Clark, W. H., elec. ltg. contr., St. Laurence's-la.
Corp. Elec. Wks., Duke-st. Engr., F. M. Long.
Frazer, Norwich, Ltd., casings, &c., Palace Plain Joinery Wks.
Ketley, F. W., engr., N. Elec. Tys. Co.
Laurence, Scott & Co., Ltd., elec. engrs., Gothic Wks., Thorpe.
Long, F. M., A.M.I.C.E., city elec. engr.
Mann, Egerton & Co., Ltd., elec. l. engrs., Bank Plain.
Nat. Teleph. Co., Ltd. O. W. Stevens, dis. mgr.
N. Elec. Trwys. Co. Engr. & man., F. W. Ketley.
Pank, A., & Son, elec. engrs., Bedford-st.
Vanstone & Roper, inst. contrs., 11, Exchange-st.
Woolnough, F., dyn. & motor mfr., St. Stephen's Wks.

Nottingham.

Aldworth, J., mgr. Corp. Tramways.
Ames Crosta Sanitary Engineering Co., Ltd., try. speciality mkrs., 12, Victoria-st.
Armitage, A., A.M.I.E.E., Elec. Dept.
Army & General Stores, Ltd., elec. & gen. engrs., 26, Broad Marsh.
Astbury, W. H., tool mkr., Brougham-chbrs., Wheeler Gate.
Barker, Henry, Ltd., inst. contrs., Angel-row.
Barton, Prof. E. H., A.M.I.E.E., D.SC., University Coll.
Baxter, A. H., elec. engr., 37, Millicent-rd., West Bridgeford.
Blackburn, Starling & Co., Ltd., elec. engrs. & ltng. cond. mkrs., Gresham Works.
Blakey Bros., elec. signs, Bridlesmith Gate.

Nottingham—*continued.*

Brit. Boiler Water Circulator Synd., 2, Ashforth-st.
"Cantie" Switch Mfg. Co., switch mfrs., 67–69, Mount-st.
Clifford, A., A.M.I.E.E., asst. engr., Elec. Dept.
Codd Arc Lamp Co., Ltd., mfg. elec. engrs., Standard Wks., Dame Agnes-st.
Corp. Elec. Supply, Talbot-st. Engr., H. Talbot, M.I.E.E.
Cropper, Charlton & Co., elec. engrs., Station-st.
Danks, T., & Co., Ltd., elec. engrs., Thurland-st.
Edison & Swan U. E. L. Co., Ltd., 12, Castlegate.
Elecl. Stores, Manchester-chbrs., 57, Parliament-st.
Farr, J., elec. & mech. engr., Sherwood-st.
Furse, W. J., & Co., elec. engrs., Traffic-st.
Goddard, Massey & Warner, Ltd., elec. engrs. & contrs.
Gowthorpe, E. L., & Son, engrs. & merchants, Victoria-bldgs., London-rd.
Greenall, E. B., 32, Cranmer-st.
Guy & Co., cabinet wk., 38 & 40, Bridlesmith-gate.
Harvey, E. A., elec. engr., 26, Burton-st.
Hazzledine, H. T., elec. engr., S. Sherwood-st.
Heaton, Prof. W. H., M.A., M.I.E.E., prof. of phys., &c., University Coll.
Irving, G., & Co., Ltd., elec. engrs., 12, Canal-st.
James, H., wire cov. mach. mfr., Roden-st.
Kahn, Dr. M., elec. engr., 9, St. James'-ter.
Kendall, F., elec. engr., Forman-st.
Knight & Farr, elec. engrs., 25, Mansfield-rd.
Lee & Hunt, Arkwright Tool Wks., Crocus-st.
Manlove, Alliott & Co., Ltd., gen. engrs., Bloomsgrove Wks.
Nott. Camera Co., cabinet wk., Bridlesmith-gate.
Nottingham Guild of Mech. & Elec. Engrs., 2, Ashforth-ter.
Peacock Patent Steel Grip Lock Nut & Fish Bolt Syndicate, Ltd., Prudential-bldgs., Queen-st.
Pearson Bros., elec. lt. engrs., 54–56, Long-row.
Premier Gas Engine Co., Ltd., Sandiacre, nr.
Railway Elec. Fog Signal Synd., St. Peter's Church-walk.
Rly. & Gen. Eng. Co., Ltd., Meadow-la.
Raynor, W. H., & Sons, elec. engrs. & contrs., 164, London-rd.
Robinson, W., M.I.E.E., &c., prof. of eng., University Coll.
Sibley, C. H., dis. mgr., Nat. Teleph. Co., Telephone-bldg., George-st.
Smith, G. E., cons. elecn., 1, Spence-yd., Sherwood-st.
Smith, J. S., elec. engr., Parliament-st.
Smith, J. W., elec. lt. contr., 6, Low Pavement.
Smith, Sydney, & Sons, Basford Brass Wks.
Standard Machine Works, Ltd., Dame Agnes-st.
Starling, F. H., A.I.E.E., Gresham Wks.
Talbot, H., M.I.E.E., Corp. Electricity Dept.
Taylor, F. G., M.A., B.SC., lect. in math., University Coll.
Thorp & Simpson, elec. engrs., Shakespeare-st.
Universal Eng. Co., ltng. cond. mfrs.
University College.

Nottingham—*continued.*

Walker, Hill & Co., cons. engrs., &c., 2, Churchgate, Low Pavement.
Webster, G. M., elec. contr., 71, Up. Parliament-st.

Nuneaton.

Borough Elec. Wks. Engr., S. C. Gibson, A.M.I.E.E.
Cross, G., elecn., Newdigate-st.
Daulman, W., elecn., Edward-st.
Evans, E. G., elecn., 189, Edward-st.
Parsons, Sherwin & Co., Ltd., install. contrs.
Stanley Bros., Ltd., mfrs. stone conduits.
Wilson, G., elecn., Abbey-st.

Oakamoor.

Bolton, T., & Sons, cop. teleg. wire.

Oakengates.

Maddock, J., & Co., Ltd., mall. iron cstgs.

Oban.

Campbell, J., elecn., 31, Stafford-st.
Town Council Elec. Wks. Engr., M. Sutherland.

Ogmore Vale.

Ogmore Valley Elec. L. & P. Supply Co., Ltd., Ash-grove, Dunraven-pl. Elecn., A. E. Marks.

Oldbury.

Bagnall, J., & Son, steel forgings, Langley Forge.
O. Steel Conduits, Ltd., Paddock Works.
Watson & Sons, elec. lt. contrs., 17, Birmingham-st.

Oldham.

Ball, J., ltng. cond. erector, York Castle.
Bradbury & Co., Ltd., lathe mkrs., Wellington Wks.
Buckley & Taylor, Ltd., eng. mkrs., Castle Iron Wks.
Butterfield Bros., elecns., 48, Yorkshire-st.
Carter, W., asst. elec. engr., Elecy. Wks.
Caton, W., elecn., 28, Peter-st.
Charlesworth, S., & Co., elec. engrs., 6, Clegg-st.
Corp. Elec. Wks. S. W. Newington, engr.
Corp. Trams.
Day, G. St. John, elec. engr., Mumps Elec. Wks.
Ferranti, Ltd., mfg. elec. engrs., Hollinwood.
Haigh, W. B., & Co., Ltd., elec. & gen. engrs., Globe Iron Wks.
Hall, J. P., & Co., Ltd., gen. & elec. engrs., Blackriding Iron Wks., Werneth.
Humphreys, J. H., & Sons, electric drills & motors, Horsedge Electric Wks.
Jackson, J., elec. engr. & contr., 131, Union-st.
Newington, S. W., boro' elec. engr.
O., Ashton & Hyde Elec. Trwys.
Schofield, B., elec. push mkr., Diggle, nr.
Shaw, G., & Co., elec. bell ftrs., Manchester-st.
Stott, J., & Co., elec. fan mkrs.
Summer, G., Rhodes Bank Lubricator Wks.

Oswestry.

Oswestry Elec. Ltg. & Power Co., Ltd., 6, Salop-rd. Engr., E. Bremner Smith.

Otford.

Freeman, W. S., elec. engr., Invicta Wks.

Oulton Broad.

O. B. Elecy. Co., Ltd. Engr., B. Barber.

Oxford.

Brind, Gillingham & Co., ironmgrs. & elecns., 5, Woodstock-rd.
Clifton, R. B., prof. of exp. phil., The University.
Colston, J. R., elec. l. & p. engr., 3, New Inn Hall-st.
Dick, J. R., B.SC., M.I.E.E., W. Lucy & Co., Ltd.
Eagleston & Son, inst. contrs., St. Clement's.
Elliott, J. E., & Co., elec. & mech. engrs., 12, Broad-st.
Felgate & Storey, elec. engrs. & contrs., 2 & 4, Woodstock-rd.
Francis, F. H., A.M.I.E.E., chief engr., Oxford Elec. Co., Ltd.
Gill & Co., ironmgrs. & elecns., High-st.
Hill, Upton & Co., elec. engrs., 22, George-st.
Jenkin, C. F., M.I.C.E., M.I.E.E., 14, Lathbury-rd.
Lucy, W., & Co., Ltd., elec. & mech. engrs. & fdrs., Eagle Iron Wks.
Madgen, F. J., A.M.I.E.E., W. Lucy & Co., Ltd.
Odling, W., M.A., F.R.S., prof. of chem., The University.
Oxford Electric Co., Ltd., 45, Broad-st. Engr., F. H. Francis, A.M.I.E.E.
Pierce, J. F., A.M.I.E.E., elec. engr., 67, Chalfont-rd.
Salter Bros., elec. launches, Folly Bridge.
University of Oxford. *See* SCHOOLS, &c.
Victoria Elec. Co., 9, Bradley-st.
Watson, G. W., & Son, elec. & mech. engrs., 14, Hurst-st.
Wyatt, G., & Son, ironmgrs. & elecns., 67, St. Giles.

Paignton.

Fawcett, E. M., elec. engr., 4, Sydney-ter., New-st.
P. Elec. L. & P. Co., Ltd., 5, Palace-ave. Engr., C. D'A. Jackson.

Paisley.

Bow, McLachlan & Co., Ltd., engrs., &c.
Corp. Elec. Wks. C. F. Parkinson, M.I.E.E., M.I.M.E., engr.
Coutts, F., mgr. P. Dist. Trwys. Co.
Doulton & Co., Ltd., stoneware for elec. purposes.
Fishers, Ltd., engrs., Macdowall-st.
Fullerton, Hodgart & Barclay, Ltd., eng. mkrs.
Hanna, Donald & Wilson, turb. mfrs., Abbey Wks.
Haran, N. G., & Sons, elec. engrs., 99 & 100, Causeyside-st.
Hunter & Goudie, elec. engrs., Causeyside-st.
Kilpatrick, J., & Son, elec. engrs., High-st.
Lawrie, J., sta. supt., Corp. Elec. Wks.
P. Dist. Trwys. Co. Engr. & man., F. Coutts.
Parkinson, C. F., M.I.M.E., M.I.E.E., res. elec. engr., Elec. Wks., & Walkerville, Potterhill.
Pollock, S., & Sons, eng. mkrs., Williamsburgh.
Reid Gear Co., mkrs. gears & pinions, Linwood.

Paisley—*continued.*

Robertson & Co., elec. engrs., 55, Back Sneddon-st.
Robertson, G., & Sons, elecns., 55, Back Sneddon.
Slater, A., elec. engr., J. & P. Coats, Ltd.

Pangbourne.

Hull, W. G., A.I.E.E., elec. & mech. engr.

Pelaw.

Felling Elecy. Wks. (N. C. E. S. Co., Ltd.). Cons. engrs., C. S. Vesey Brown & C. W. Fairweather.

Pemberton.

Elec. Wks. J. Slevin, engr.

Pembroke, Dublin.

Dis. Coun. Elec. Wks. S. L. R. Price, engr.

Penarth.

Cameron, H., elec. engr., P. Elec. L. Co., Ltd.
Moore, F. C., & Co., elec. engrs. & contrs., 1, Windsor-ter.
P. Elec. Ltg. Co., Ltd. Engr., H. Cameron.

Penrith.

Bowman, J., cons. elec. engr., 25, Middlegate.
Hetherington Bros., elecns., &c.
P. Elec. Sup. Co., Ltd. Engr., Dundas Fox.

Penzance.

Chambers, E., West. Union Teleg. Co.

Pershore.

Bomford & Evershed, Ltd., engrs.

Perth.

Campbell, P., elec. bell ftr. & engr., 68, George-st.
Corp. Elec. Wks. & Tys. Engr., J. Lambert, M.I.E.E.
Frew & Co., Ltd., engrs., 6 & 7, Mill-st.
Lambert, J., res. elec. engr. & trys. mgr., Corp.
Tomey & Sons, gauge gls. mfrs., Tay Glass Wks.
Westwood, A., & Son, elec. bell ftrs., 21, Princes-st.

Peterborough.

Amies & Son, elec. contrs., Long Causeway.
Beech, E., elec. contr., Lincoln-rd.
Corp. Elec. Wks. Engr., J. C. Gill, A.M.I.C.E.
Hall, J. P., & Sons, Ltd., mech. engrs., London-rd.
McAlpin & Co., elec. lt. engrs., Cumbergate.
Noble, J., & Sons, elecns.
Perkins, J. E. S., elec. engr., Queen-st. Iron Wks.
Peterborough City Garage Co., elec. contrs., Cowgate.
Sharpe & Son, elec. contrs., Huntly Grove.

Pinner.

Inglis, H., mg. dir. Omnium Wholesale Sup. Co.

Plymouth.

Andrews, T. N., A.I.E.E., Charles School of Science.
Baron, W. H., elec. engr., 4, Wesley-ave., Mutley.
Brown, H. W., elec. engr., 9, Seaview-ter.
Clemens, E. T., elec. bell ftr., 187, Union-st.
Corp. Elec. Wks., Prince Rock. Engr., E. G. Okell, M.I.E.E.
Corse, W. J., & Co., mfg. elecns., 45, Union-st.
Harris, J., mech. & elec. engr., Langstone-rd., Peverell.
Hearder, W., PH.D., F.L.S., F.S.A., med. elecn., 195, Union-st.
Heath, W. G., & Co., elec. engr., Frankfort-st.
Lawry, H., Ltd., install. contrs., Old Town-st.
Lord & Shand, Ltd., elec. engrs., 24, Lockyer-st.
Okell, E. G., M.I.E.E., Elec. Dept., Prince Rock.
Perkins, J., & Co., contracting elecns., 21, Princess-sq.
Perry, John, inst. contr., Edgcumbe-st., Stonehouse.
P. Mun. Tech. School. *See* SCHOOLS.
Plymouth, Stonehouse & Devonport Trwys. Co. G. H. Moreton, engr.
South Western Brass Fdy., Ltd., elec. ftgs., Mill-st. & Russell-st.
Stark, W. B., & Co., Ltd., engrs. & elecns.
Treglohan, T. P., elecn., c/o Plymouth & Dis. Students' Assoc.

Pontypool.

Pegler, W., jun., elecn., The Cross.
Pontypool Elec. Light & Power Co., Ltd., Clubchbrs. Engr., G. Edwill.

Pontypridd.

U.D.C. Elec. Wks. Engr., J. E. Teasdel, A.M.I.E.E.

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Greeves, O. V., elecn.

Porth.

Rhondda Trys. Sup. Co., Ltd. Engr., H. J. Nisbett.

Portrush.

Giants' Causeway & Portrush Elec. Trwy. Co. Engr., W. A. Traill.

Portsea.

Walker, F. W., & Co., elec. lt. engrs., 124 & 125, Queen-st.

Portsmouth.

Corp. Elec. Supply. W. S. Foale, engr. & mgr.
Corp. Elec. Trwys. V. G. Lironi, M.I.M.E., A.M.I.E.E., engr.
Couzens, G. E., elec. engr., 223, Commercial-rd., Landport.
Foale, W. S., engr. & mgr., Corp. Elec. Wks.
India Rubber, G. P. & Teleg. Wks. Co., Ltd., 49, High-st.

Portsmouth—*continued.*

Lironi, V. G., engr., Corp. Elec. Trwys.
Murch, P., boro' engr., Town Hall.
Sabine, W. H., elec. engr., Fratton-rd., Landport.
Smith, S. J., dis. mgr. P. & I. W. Dis., Nat. Teleph. Co., Ltd., Pearl-bldgs.
Vosper & Co., Ltd., elec. launch bldrs., Broad-st.
Windsor, J. B., A.M.I.E.E., elec. engr., 16, Glaydis-ave., North End.

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Brit. Ins. & Helsby Cables, Ltd., elec. engrs., &c.
Doudney, S. P., A.M.I.E.E., B.I. & H. Cables, Ltd.
Elecy. Wks. Brit. Ins. & Helsby Cables, Ltd., props. Res. engr., R. P. Nash.
Glover, R., meter movements, Cronton, nr.
Nash, R. P., engr., Elecy. Works.
Nisbett, G. H., M.I.E.E., Brit. Ins. & Helsby Cables, Ltd.
Packer, J. L., A.M.I.E.E., B.I. & H. Cables, Ltd.
Peard, G. W., A.M.I.E.E., B.I. & H. Cables, Ltd.
Saggerson, T., & Co., gears & pinions, West-st.
Schultz, A. H., A.M.I.E.E., B.I. & H. Cables, Ltd.
Sinclair, D., M.I.E.E., Brit. Ins. & Helsby Cables, Ltd.
Supplies, Ltd.

Preston.

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Attwater & Sons, eng. packing, Hopwood-st. Mills.
Barker, W., elec. engr., Derby-st.
Berry, J., elec. engr., Woodcock's-ct., Fishergate.
Brierley, R., elec. bell ftr., 27, Fylde-st.
Chaloner & Son, elec. engrs., 118, Friargate.
Corp. Trams. Engr., J. F. Simpson, M.I.E.E.
Dewhurst, E., elec. engr., Mount St. Elecl. Wks.
Dick, Kerr & Co., Ltd., trmwy. engrs., Strand-rd.
Elec. Wks. Nat. Elec. Sup. Co., Ltd., prop. Engr., J. H. Tonge.
Gibbs, G. J., cons. engr., 7, Lune-st.
Harris Inst. & Victoria Tech. School. *See* SCHOOLS.
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Leyland & B'ham Rubber Co., Ltd., Leyland, nr.
Marsden, Jas., Ltd., elec. engrs., Lancaster-rd.
National Elec. Supply Co., Ltd., 119A, Fishergate. Engr., J. H. Tonge, M.I.E.E., A.M.I.C.E.
Pilkington & Gibbs, Ltd., elec. & mech. engrs., Glover's Court.
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Tonge, J. H., M.I.E.E., A.M.I.C.E., engr., Nat. Elec. Supply Co.
United Elec. Car Co., Ltd., Strand-rd.
Williams, A., elec. engr., Mount-st.

Pudsey.

Corp. Elecy. Wks. Res. engr., E. Denton.

Queenstown.

Cork Elec. Trwys. & Ltg. Co., Ltd. Res. engr., W. H. Joyce.

Radcliffe.

De Wynter, L. J., A.M.I.E.E., "Clarach."
U.D.C. Elec. Wks. Engr., H. Wilkinson.

Ramsgate.

Coveney, Ed., elec. engr., 20, Belle Vue-rd.
Dunn, Edmund, elecn., 90, Queen-st.
Hume, C. E., res. engr., R. & Dist. Elec. Sup. Co., Ltd.
R. & Dist. Elec. Sup. Co., Ltd. Engr., C. E. Hume.
Vitty & Hopper, elec. contrs., High-st.

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Mexborough & Swinton Tys. Co. Engr., P. Priestly.

Rawtenstall.

Corp. Elec. Wks. & Trams. Engr., C. L. E. Stewart.

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Baughan, A. H., A.M.I.E.E., cons. engr., 8–10, London-st.
Baughan & Co., mfg. elecns., London-st.
Binns, W., M.I.E.E., gen. mgr. & engr., Corp. Tram. Sta., Mill-la.
Bowen, J., A.M.I.C.E., boro' engr. & surveyor.
Broadbent, J. E., Col., R.E., C.B., M.I.E.E., Fynesbury.
Callas, Sons & May, Ltd., elec. lt. contrs., &c., 68–76, Oxford-st.
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Cooksey, D. F., A.M.I.C.E., M.I.E.E., cons. engr., 5, Maitland-rd.
Corp. Trms. Engr., W. Binns.
Gilkes Engraving Works.
Griffith, S., elec. & mech. engr., Rly. Fdry. & Eng. Wks.
Hart & Sons, elec. lt. engrs., 13 & 14, Gun-st.
Hawkes & Sons, elec. wiring contrs., 7, High-st.
Herbert & Co., elec. engrs., 22, St. Mary's Butts.
Hill, E. R., mg. engr., Read. Elec. Supply Co., Ltd., Vastern-rd.
Mackies, Ltd., elec. & gen. engrs., Berks Iron Wks.
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Pulsometer Eng. Co., Ltd., pumps, Nine Elms Ironwks.
Reading Elec. Supply Co., Ltd., Vastern-rd. Engr., E. R. Hill, A.M.I.E.E.
Smith, F. A., elec. & gen. engr., De Bohun-rd.
Spencer, J. T., elec. bell ftr., 25, London-rd.
Webb, T., elec. bell ftr., 45, Gt. Knollys-st.
Whitchurch & Pangbourne Elec. Sup. Co., Ltd., King Edward-bldg.

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Pilling, F. S., M.I.M.E., 75, Beoley-rd.
Street, J. H., Ltd., elec. engrs., Unicorn Hill.
U.D.C. Elec. Wks. Engr., W. J. Ferguson.

Redhill.

Marriage, T. S., & Co., elec. bell ftrs., Station-rd.

Redruth.

R. School of Mines & Art. *See* SCHOOLS.
Urban Elec. Sup. Co., Ltd. Engr., L. A. Hards.

Reigate.

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Goundry, J. E. J., elec. engr., 31, High-st.
Marriage, T. S., & Co., elec. bell ftrs., Bell-st.
Ross, W. S., boro' elec. engr., Elec. Wks.
Tamplin & Makovski, Ltd., elec. contrs., Bell-st.

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Babcock & Wilcox, Ltd., engrs.
McAughtry, H., elec. engr., Hawthorn Cottage.

Retford.

Bradshaw, R. A., & Son, pillars, &c.
Clark, C., elec. & mech. engr., Bridgegate.
Cooke, F. W., M.I.E.E., asst. teleg. supt., G. N. Rly. Co.
Ireland, T., chf. teleg. supt. & engr., Gt. Northern Rly. Co.

Rhyl.

U.D.C. Elec. Wks. Engr., E. H. Wright, A.M.I.E.E.

Richmond, Surrey.

Annels, Wm., elec. engr., 77, Mortlake-rd.
Beard, H., & Co., elec. engrs., Duke-st.
Hawkins, A. W., inst. contr., 23, Hill Rise.
R. Elec. Lt. & Pr. Co. Res. engr., L. C. B. Trimnell, A.M.I.E.E., A.M.I.MECH.E.
Sunderland, L., inst. contr., 31, Hill Rise.

Ripon.

Harrison & Co., mech. & elec. engrs., Ure Bank Eng. Wks.
Scott, Wm., scientific instr. mkr., 3, Bateman's-ct., High Skellgate.

Rochdale.

Adamson, G. L., elec. engr., 116, Yorkshire-st.
Atchison, C. C., boro' elec. engr.
Corp. Elec. Wks. & Trams. C. C. Atchison, M.I.E.E., engr.
Grindrod, J. K., elec. engr., &c., Oulder Hill.
Humphreys, T., A.M.I.E.E., elec. engr., 158, Whitworth-rd.
Moffet, J. S. D., Corp. trwys. mgr.
R. Elec. Co., Ltd., elecy. meters, Shawclough.
Watson, Wm. D., elec. engr. & mg. dir. Rochdale Elec. Co., Ltd.

Rochester.

Bemrose, W. S., inst. contr., 37, High-st.
Goodfellow, H. W., elec. engr., Wm. Cory & Son, Ltd.

Romsey.

Roles, Wm., & Sons, elec. bell ftrs., Bell-st.

Ross.

Gray, C. E., elec. engr., Elec. Wks.
R. Elec. L. & P. Co., Ltd., Bank Offices. Elec. engr., C. E. Gray.

Rotherham.

Corp. Elec. Wks. & Trams. Engr., E. Cross.
Cross, E., A.M.I.E.E., boro' elec. engr., Elec. Wks.
Rodgers, J. T., elec. engr., 34, College-st.
R. Elec. Eng. Co., elec. engrs., Hunters-bldgs., High-st.
Smith Bros., Rotherham, Ltd., elec. engrs., 14, High-st.

Rothesay.

Burgh of Rothesay Elec. Wks. E. B. Stiven, engr.
R. Trwys. Co. Engr., H. H. Hill; man., A. Robertson.

Rugby.

Brit. Thomson-Houston Co., Ltd., elec. engrs.
Clough, F. H., A.I.E.E., elec. engr., Brit. T.-H. Co.
Fell, A. W., elec. engr., 44, Murray-rd.
Hardwick, G. H., A.M.I.E.E., elec. engr., 101, Bath-st.
Hopps, B., A.I.E.E., elec. engr., 83, Hillmorton-rd.
Larke, W. J., M.I.E.E., Brit. T.-H. Co., Ltd.
Lee, A. E., engr., R. School E. L. Co.
Letts, F. S., elec. l. & p. contr., Electra House, Naseby.
Marsh, S. P., elecn., 63, Regent-st.
R. Elecl. Co., elec. engrs. & contrs., Henry-st.
R. Lamp Co., Ltd., elec. lamp mfrs.
Rugby School Elec. Ltg. Co., Ltd., Dunchurch-rd. Engr., A. E. Lee.
Shenton, T. S., res. elec. engr., Elecy. Dept., Benn-bldgs., High-st.
U.D.C. Elec. Wks. Engr., T. S. Shenton.
Willans & Robinson, Ltd., engrs., Victoria Wks.
Young & Garratt, elec. engrs., Railway-ter.

Rushden R.S.O.

Cox & Co., elec. & mech. engrs., 70, Higham-rd.

Ryde.

Ashton & Holt, elec. engrs.
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Ryde Pier Co. & Electric Railway.

Sabden.

Hindle, Robert, & Co., Ltd., elec. sup. mfrs.

Saffron Walden.

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Elec. Sup. Corp., Ltd. Res. engr., H. Dixon.
Lowdon Bros. & Co., mfg. elecns., Fleming-pl.

St. Anne's-on-Sea.

Booth, T. C., elec. engr., c/o J. W. Speight, The Elms, Lytham-rd.
Clothier, J. H., elec. engr., Elec. Wks.

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Russell, W. E., elec. engr., Wood-st.
Russell & Co., Ltd., wiring contrs.
Speight, J. W., M.I.E.E., A.M.I.MECH.E., cons. engr., The Elms, Lytham-rd.
U.D.C. Elec. Wks. Engr., J. H. Clothier, A.M.I.E.E.
Walmsley, A. R., mech. & elec. engr., Newton Lodge, Links Gate.

St. Austell.

Coon, J. M., cons. elec. engr.
Francis & Son, elec. bells, High Cross-st.
Hawke, G., & Son, elec. bell ftrs.
Hill, J. G., elecn. & mech. engr., Trevarrick.
St. A. E. L. & P. Co., Ltd., Menacuddle-st. Engr., T. Hill.

St. Helens.

Beddow, Jas., elecn., 112, Brynn-st.
Bishop, S. & C., & Co., gauge glass mkrs.
Cannington, Shaw & Co., Ltd., Sherdley Gls. Wks.
Corp. Elec. Wks. & Trams. E. M. Hollingsworth, engr.; trwys. man., R. Salter.
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Critchley Bros., wiring contrs., Hall-st.
Derbyshire, P., wiring contr., Duke-st.
Else, J. E. C., wiring contr., Duke-st.
Forster & Sons, Ltd., glass tube mkrs.
Gamble Inst. Mun. Tech. School. *See* SCHOOLS.
Hollingsworth, E. M., chief elec. engr., Corp.
Holman, Michell & Co., Cornwall Lead Wks.
McNelly & Co., elec. contrs., Church-st.
Savage, J., elec. engr., 114, Westfield-st.
Swire, W., wiring contr., George-st.
Warr, J. W., A.M.I.E.E., elec. engr., 100, Prescot-rd., Cropper's Hill.

St. Ives.

Ruston, F. T., & Son, elec. sund.

St. Leonards.

Adams & Jarrett, wiring contrs.
Gideon, E. T., A.I.E.E., elec. engr., "Atherstone," Sedlescombe-rd.
Skinner, T. W., elec. & gen. engr., Silchester-rd.
Wordley, F., elec. engr., 33, Norman-rd.

St. Peters, Kent.

Isle of Thanet Elec. Trwy. & Ltg. Co. Engr., J. A. Forde.

Salisbury.

Parsons, J., & Son, elecns., 48, Bedwin-st.
S. Elec. Lt. & Sup. Co., Ltd., Town Mill. Engr., A. B. Randall, M.I.E.E.
"Scout" Motors, Ltd.

Saltburn-by-Sea.

Cleveland Trust, Ltd., elec. wks. Engr., C. W. Thompson, A.M.I.E.E.; electrician, A. Fowler.
Raine, A., elecn., Cleveland Trust, Ltd.

Sandown (I. of W.).

Isle of W. E. Lt. & Pr. Co., Ltd.

Scarborough.

Archer, W. H., elec. lt. engr., Hanover-rd.
Holden, F. G., M.I.E.E., engr., S. Elec. Sup. Co.
Sanderson, C. L., elec. lt. engr., 8, Valley Bridge.
Scarborough Elec. Sup. Co., Ltd., Seamer-rd. Engr., F. G. Holden.
S. Trys. Co. Man., W. E. Nicoll.
Walker & Hutton, inst. contrs., 37, Huntriss-row.

Settle.

Tamblyn-Watts, T. M. F., A.M.I.E.E., elecn., Goldielands.

Shanklin.

I. of Wight Elec. Lt. & Pr. Co. Engr. & man., A. E. Mayes, A.M.I.E.E.

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Hounsell Bros., inst. contrs., 22–24, High-st.
Murray & Sons, inst. contrs.
Sheerness & Dis. E. P. & T. Co., Ltd. Engr., G. L. Kirk.
Sheppey Water & Ltg. Co., Ltd., 4, Edward-st.

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Ashton, T. A., Ltd., elec. engrs., Norfolk-st.
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Bakewell, W., elec. contr., Volt Wks., Worksop-rd.
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Bessemer, H., & Co., Ltd., stl. fdrs.
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Cammell Laird & Co., Ltd., steel mfrs., Cyclops Works.
Carr, B., elecn., lect. elec. metall., Tech. Sch.
Chester, J. E., engr., Cen. Sec. School.
Chesterman, J., & Co., gauge mkrs., Bow Wks.
Cockayne, T. B. & W., Ltd., elec. engrs., Angel-st.
Constantine, C., elec. engr., 90 & 92, Fargate.
Corp. Elec. Supply. S. E. Fedden, engr. & mgr.
Corp. Elec. Trwys. Chf. engr., H. E. Yerbury, M.I.M.E., M.I.E.E.
Crapper, E. H., M.I.E.E., cons. elec. engr., University; & 32, Springfield-rd.
Cravens, Ltd., rly. car. bldrs., Darnall, nr.
Crowley, J., & Co., Ltd., cstgs., Meadow Hll. Wks.
Davy Bros., Ltd., boiler mkrs., Park Iron Wks.
Denner, E. G., & Co., elec. contrs., West-st.

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Durham, Churchill & Co., motors, Grimesthorpe.
Eadon, Moses, & Sons, Ltd., tools, President Wks.
Easterbrook, Allcard & Co., Ltd., mach. tools.
Elliot, G., & Co., Ltd., Sheaf Stl. Mills, Heeley.
Ellis, Son & Paramore, elec. med. app. dlrs., 39, Church-st.
Emery, W., & Co., mfrs. E. L. ftgs., Albion Br. Wks., 167, Arundel-st.
Evans, Jos., & Son, Highfield Tool Wks.
Fedden, S. E., M.I.C.E., M.I.MECH.E., gen. mgr. & engr., Corp. Elec. Sup.
Ferranti, S. Z. de, M.I.E.E., Grindleford.
Fisher, S., & Co., mal. cstgs., Pelham Works, Sylvester-gdns.
Flockton, Tompkin & Co., Ltd., steel mfrs., Newhall Stl. Wks.
Gallimore, W., & Sons, wire, Arundel Wks.
Gorrill, J., wire, Sydney Wks., Sydney-st.
Griffith, W., & Sons, rly. & trwy. springs.
Groves, R., & Sons, Ltd., tools, Beehive Wks.
Hadfield's Steel Fdry. Co., Hecla Wks.
Hall, C. E., clutch mfr., Standard Iron Wks.
Hall & Matthews, elec. & mech. engrs., 46 & 80, West-st.
Hallam, G., & Co., Havelock Steel & Wire Mills.
Hansell, F. L., & Co., trm. wheels & axles.
Hardcastle, W. H., batt. jars, 172, Alexandra-rd.
Hattersley & Davidson, Ltd., inst. contrs., Norfolk-st.
Hawksley, Wild & Co., Ltd., engrs., Savile-st.
Hawksworth, Eyre & Co., Ltd., lamps, Rockingham-st.
Hibbert, G., ivory, &c., name plts., 69, Arundel-st.
Hicks, W. M., D.SC., F.R.S., phys. prof., University.
Howell & Co., Ltd., tube mkrs., Wincobank.
India Rubber, G. P. & Teleg. Wks. Co., Ltd., 28, Angel-st.
Jagger, J. & G., Old Wire Mills, Thurgoland.
Jessop, W., & Sons, Ltd., steel mfrs., Brightside Wks.
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Jonas & Colver, Ltd., magnet steel, Cont. Stl. Wks.
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Lant, G., & Sons, switchboards, Stanley-st., Wicker.
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Lee, Arthur, & Son, steel mfrs., Bessemer-rd.
London & Provincial Patent Agency, 15, St. James'-row.
Lowe, Egerton & Co., elec. engrs., South View-cres.
Lucas, E., & Son, iron fdrs., Dronfield Fdry.
Makin & Co., Ltd., elec. engrs., Townhead-st.
Marsh Bros., elec. engrs., Townhead-st.

Sheffield—*continued.*

Meadows, C., & Co., Ltd., steel mfrs., Alliance Mills.
Midland Mfg. Co., Ltd., lathes & tools, Savile-st.
Midland Trading Co., Ltd., elec. engrs. & contrs., 49, Wicker.
Mylan, W. F., elec. engr., Bank-chbrs., Fargate.
Nash, T., & Son, cons. engrs., Testing Wks.
Nat. Telephone Co., Ltd., Commercial-st.
North, W., gears, &c., Rodley-la. & St. Mary's-rd.
Novelty & Nameplate Co., 102, Button-la.
Osborn, S., & Co., Ltd., Clyde Steel Wks.
Premier Engineering Co., elec. & mech. engrs., St. Mary's-rd.
Sainsbury, A. W., elec. engr., 89, Arundel-st.
Sampson, T. W., A.M.I.E.E., mfg. elecn., 130, Hanover-st.
Saville, J. J., & Co., Ltd., stl. cstgs., Triumph Wks.
Shaw, H., & Son, magnet, 45/47, Monmouth-st.
S. Elecl. Eng. Co., inst. contrs. & mfrs., 99, Rockingham-la.
Sheffield Nickel & Silver Plating Co., Globe Wks., Penistone-rd.
Sheffield Patent Office, Rectory-chbrs., 24, Norfolk-row.
Sheffield Wire Co., wire, Arundel-st.
Shipman, J., & Co., Attercliffe Stl. Wire Wks.
Skidmore, Wm., & Co., Ltd., elec. mach., 59, Cemetery-rd.
Sparks (Sheffield), Ltd., elec. & mech. engrs., Fitz William-st.
Staley, W., & Sons, switch blocks, 83, Headford-st.
Starlight Elecl. Co., inst. contrs., Alexandra-st.
Tasker, Sons & Co., Ltd., elec. contrs., Angel-st.
Tasker's Engineering Co., Ltd., 59 & 61, Blonk-st.
Tempered Spring Co., Ltd., Burton Weir Wks.
Turton Bros. & Matthews, Ltd., tool steel mfrs.
University. *See* SCHOOLS, &c.
Vickers Sons & Maxim, Ltd., elec. mfrs., River Don Wks.
Wall, G. P., steel wire mfr., Magneto Wks.
Walsh, J., Ltd., install. contrs., 44–64, High-st.
Ward, T. W., Ltd., metal & machy., Albion Wks.
Waterfall, H. & R., & Barber, engrs., Bailey-la.
Wholesale Traders' Assocn. for protec. & prom. of Hardware, Furn. & Metal Industries, Ltd., 3, East Parade.
Wild, A. M., tools, Castle-chbrs., 13, High-st.
Williams Bros., brassfdrs., Green-la.
Williamson, A. D., M.I.E.E., River Don Wks.
Wingfield, Rowbotham & Co., 1, Suffolk-rd.
Wood & Robinson, mech. & elec. engrs., Alma Eng. Wks.
Woodhouse & Rixson, Chantrey Stl. Wks., Attercliffe.
Wordsworth, G., & Sons, New Wire-ml., Thurgold.
Worrall, Hallam & Co., Needle Wks., Warren-st.
Yerbury, H. E., M.I.E.E., chf. elec. engr., Corp. Trwys.

Shepton Mallett.

Byrt, A., jun., elec. supplies, 47, High-st.

North Shields.

Haggie, R. Hood, & Son, Ltd., wire rope, 29, Clive-st.
Northern Elec. Eng. & Plat. Co., Ltd., Borough-rd.
Turnbull, C., M.I.E.E., boro' elec. engr., County Boro' of Tynemouth Corp. Elec. Wks.
Tynemouth Corp. Elec. Wks., Tanners Bank. Engr., C. Turnbull, M.I.E.E.

South Shields.

Cawthra, J. H., M.I.E.E., A.M.I.MECH.E., boro' elec. engr.
Corp. Elec. Wks. Engr., J. H. Cawthra, M.I.E.E., A.M.I.M.E.
Cubey, T. H., elec. engr., 31 & 32, King-st.
Dagleas, J. T., elec. contr., Burrow-st.
Dagleas & Sons, wiring contrs., Fowler-st.
Harvey, L. E., A.M.I.E.E., mgr. Corp. Trwys.
Henderson & Bonham, wiring contrs., Cuthbert-st.
Mica Lubricant Co., Albany-chbrs., 63, King-st.
Oates, T., wiring contr., Charlotte-ter.
Parmley & Baxter, wiring contrs., 5, Station-rd.
Revel, F., & Co., inst. contrs., King-st.
Surtees, E., wiring contrs., 64, King-st.
Wares, A. J., Ltd., elec. engrs., King-st.

Shifnal.

Lilleshall Co., Ltd., mkrs. of cable iron, &c.

Shildon.

Northern Cos. Elecy. Sup. Co., Ltd. Engr., T. Heron.

Shipley.

Clough, S. W., & Co., gas & oil eng. bldrs.
Parkinson, J., & Son, tool mkrs., Cromwell-rd.
Robson, J., gas eng. mkr., Ives-st.
Schofield, S. D., M.I.E.E., A.M.I.MECH.E., elec. engr., U.D.C. Elec. Wks.
Shipley Fan Co., fan mkrs., Well Croft.
Sowden, D., & Sons, mfrs. of boxes & feeder pillars.
U.D.C. Elec. Wks. Engr., S. D. Schofield, M.I.E.E., A.M.I.MECH.E.

Shrewsbury.

Alltree Bros., ironmgrs. & elecns., Castle-st.
Corp. Elecy. Sup. Wks. C. M. Johnston, M.I.E.E., M.I.MECH.E., cons. engr.
Fitz, R., Morris & Co., elec. engrs., 8, Milk-st.
Johnston, C. M., M.I.E.E., M.I.MECH.E., boro' elec. & cons. engr. & mgr., Corp. Elec. Wks. & Coton House.
Lea, F. J., cons. elec. engr., Silverdale, The Mount.
Lea, Son & Co., Ltd., elec. engrs., Pengwerne Wks.
Midland Railway Carriage & Wagon Co., Ltd., Abbey Wks.
Smallwood, G. H., & Co., elec. engrs., 10, Milk-st.

Sidmouth.

Lake, A., elec. bell ftr., Old Fore-st.
Strudwick, C., elec. engr. & contr.

Sittingbourne.

Hooker, G., elecn., High-st.
Seager, L., elec. lt. contr., London-rd.

Sleaford.

Hooton, W. M., elec. ltg. contr., Southgate.
U.D.C. Elec. Wks. W. H. Wilson, engr.

Slough.

S. & Datchet Elec. Sup. Co., Ltd. Engr., A. E. Farrow, A.M.I.E.E.

Southall.

Hayes, M., elec. engr., 13, Johnson-rd.
Houlder, W., Son & Co., acid mfrs.

Southampton.

Ashstone & Shepstone, inst. contrs., 183 & 185, Above Bar.
Brierley, J., boro' analyst, Municipal Offices.
Cook, F. W., & Co., inst. contrs., Bargate-st.
Corp. Elec. Sup. & Trwys. H. F. Street, engr.
Davis, T., elec. engr., A.M.I.E.E., Oaklands, Hill-la.
Dixon Bros. & Hutchinson, Ltd., petrol & paraffin elec. sets, Woolston.
Fay, J. G., & Co., Ld., elec. lt. eng., 89/90, High-st.
Hartley University College. *See* SCHOOLS, &c.
Howe, W., dis. mgr., Nat. Teleph. Co., Ltd., Telephone-bldgs.
Lankester & Son, Ltd., elec. lt. engrs., High-st.
Shalders & Davis, elec. engrs., 17, High-st.
Smethurst & Co., inst. contrs., 16, Bernard-st.
Street, H. F., boro' elec. engr. & trys. mgr.
Taplin, H. C., elec. lt. ftr., 105, Clifford-st.
Vivian, G., elec. engr., Oxford-st.
Wells, A. T., & Co., elec. engrs., 95, High-st.

Southend-on-Sea.

Birkett, R., A.I.E.E., boro' elec. engr. & gen. mgr.
Coombes, H. H., inst. contr., 6, Nelson-st.
Gozzett, G. P., inst. contr., 108, North-rd., Prittlewell.
Halsey, J. T., inst. contr., 103, High-st.
Norton, C. R., engr., Pier Elec. Rly.
Sims, N., inst. contr., 126, London-rd., & 96, Park-rd.
S. Elec. Eng. Co., Weston-rd.
S.-on-S. & Dis. Light Rlys. & Elec. Wks. Engr., R. Birkett, A.I.E.E.
Starlight Elec. Eng. Co., inst. contrs., 38, Alexandra-st.
Talmage, C. H. J., inst. contr., Kathloon Villa, Southchurch-rd.

Southport.

Ault, R. A., & Sons, elec. engrs., 73, Talbot-st.
Bastick, J., elec. furnaces, 40, Chestnut-st.
Black, A. S., boro' elec. engr.
Broadbent, D., elec. engr. & contr., 13, Lord-st.
Corp. Elec. Supply & Trams. Engr., A. S. Black.
Forbes, F. E., elec., mech. & motor car engr., 16, Chestnut-st.
Hanson, J., elecn., 25, Castle-st.

Southport—*continued.*

Harford, G. J., A.M.I.E.E., elec. engr., 92, Liverpool-rd., Birkdale.
Lloyd, J., mgr. Southport Trwys. Co.
McLellan, John, A.M.I.E.E., 2, Pilkington-rd.
Maund, A., elec. lt. & pr. engr., 13, Corporation-st.
Parkes, R. J., medical elecn., 2, Church-st.
Robson, A. S., elec. lt. ftgs., 347–349, Lord-st.
Smith, F. W., & Co., Ltd., elec. engrs. & contrs., 128, Lord-st.
S. Elec. Ltg. Co., elec. engrs. & contrs., 2, Bold-st.
S. Trwys. Co. Mgr., J. Lloyd.

Southsea.

Alford, E. J., elecn., 1, Mortlake-ter., Victoria-rd. North.
Bowerman Bros., elec. lt., 31 & 35, Osborne-rd.
Grossmith & Co., elec. engrs.
Hamilton, C. K., elec. engr., Trafford Villa, Wilberforce-rd.
Southey, Jas., & Co., elec. engrs., 43, King's-rd.

Southwold, Suffolk.

S. Elecy. Supply. F. R. Hunter, res. engr.

Sowerby Bridge.

Berry, F., & Sons, engrs'. tool mkrs.
Pollit & Wigzell, Ltd., mech. engrs.
Rushworth & Co., engrs'. tool mkrs.
Washington & Co., Ltd., elec. & mech. engrs.

Spennymoor.

Clark, R., & Co., engrs. & elecns., 22, Cheapside.
N. Cos. Elec. Sup. Co. Engr., C. W. Fairweather.

Stafford.

Corp. Elec. Wks. H. Pooley, A.M.I.C.E., engr.
Dorman, W. H., elec. engr., Foregate-st.
Lea, Son & Co., Ltd., elec. engrs., St. Mary's Walk.
Meade, R. E., elecn., Corp. E. L. Wks.
Pooley, H., engr. & mgr., Corp. Gas & Elec. Dept.
Rooper, W. O., & Co., stor. batt., Victoria Wks.
Siemens Bros. Dyn. Wrks., Lichfield-rd. Manager, E. O. Keiffer.

Staines.

Hutchins, C. D'Oyley, engr., Wood Hall, Kingston-rd.
Johnson & Clark, elec. engrs., High-st.
Wood, H. M., elec. engr., High-st.

Stalybridge.

Blackmore, R., engr.-in-chief, S., Hyde, Mossley & D. Trm. & Elec. Brd., Generating Sta.
Carter, J., & Sons, fuel economizers, Atlas Wks., Robinson-st.
Goodbrand & Co., fuel economisers, Clarence-st.
Illingworth, T. H. & W. R., dr. band mfrs., Ridgehill-lane.
S., Hyde, Mossley & Dukinfield Tram. & Elec. Board. Engr.-in-chief, R. Blackmore.

Stamford.

Cutting Bros., Ltd., elec. engrs., Park Wks.
U. Elec. Sup. Co. Engr., J. E. Edmundson.

Stevenage.

Syrinx Gas Engine Co., Ltd.

Stirling.

Corp. Elec. Wks. Engr., J. W. Papworth.
Duff, H. J., wiring contr., Dumbarton-rd.
Graham & Morton, elec. lt. engrs. & contrs., King-st.
Henderson Bros., elec. engrs., 29, Barnton-st.
Lockhart & Macnab, elec. engrs., 34–38, Craigs.
Marshall, W. & T., wiring contrs., Burnside Wks.
Papworth, J. W., A.M.I.E.E., A.M.I.MECH.E., engr., Corp. Elecy. Wks.
Scott, J., wiring contr., 128, Main-st.
Steel, J., wiring contr., 22, Murray-pl.

Stockport.

Bamford, G., elec. engr., 7, Woods Moor-la.
Bamford, R., cons. elec. engr., 17, Toronto-rd.
Corp. Elec. Trams. Elec. engr., R. Lomax.
Elecl. Contrs. Assoc. Incorp. Hon. sec., W. A. Shaw, Warren-st.
Fildes & Barlow, elec. engrs., Howard-st.
Fletcher, J. W., A.M.I.C.E., M.I.E.E., Homestead, Cale Green.
Furnival & Co., Ltd., gas eng., Reddish Iron Wks.
Langton, S., & Sons, castings, Mersey Brass Works.
Lomax, R., elec. engr., Corp. Elec. Wks., Millgate.
Lund, Edward, elec. pumps, 132, Northgate-st.
McCandlish, A., elec. engr., Bredbury, nr.
McClure & Whitfield, dyn. mfrs.
Mersey Chemical Co., chem. mfrs., Chestergate.
Mirrlees, Bickerton & Day, Ltd., oil eng., Hazel Grove, nr.
Richardson, C., A.M.I.E.E., Romily, nr.
Shaw, W. A., & Co., elec. lt., 10/16, Warren-st.
Taylor, E., elec. bell ftr., 68, Prince's-st.

Stockton-on-Tees.

Baker Bros., wiring contrs., Yarm-la.
Corp. Elec. Wks. Engr., J. J. Smith.
Head, Wrightson & Co., Ltd., gen. engrs., &c.
Hind & Son, elec. lt. engrs.
Imeson, Finch & Co., Ltd., elec. mfrs. & try. engrs., Bridge Works.
Pickerings, Ltd., elec. lifts, &c.
Watson, T. B., & Son, wir. contrs., Bishopton-la.

Stoke-on-Trent.

Barnett & Soans, elec. contrs., 34, Church-st.
Corp. Elec. Wks. Engr., P. J. S. Tiddeman, M.I.E.E.
Coxon, J., elec. engr., High-st., Cheadle.
Empire Porcelain Co., earthenware mfrs., Stoke-rd.
Lewis, H. A., A.M.I.E.E., Elec. Dept., N. Staffs. Rly.
Potteries Elec. Trac. Co., Ltd. Gen. man., Wm. Thom, M.I.E.E., A.I.C.E.; power supt., F. J. Chapple.

Stoke-on-Trent—*continued.*

Rly. Teleg. Sup. & Engrs'. Conference.
Renshaw, W. R., & Co., Ltd., boilers.
Rock, A. F., M.I.E.E., Elecl. Dept., N. Staffs Rly.
Saxon Eng. Co., Ltd., engrs., Fenton.
Tiddeman, P. J. S., M.I.E.E., boro' elec. engr.

Stony Stratford.

Hayes, E., elec. lt. engr.

Stourbridge.

Haskew, F., cons. engr., High-st.

Stowmarket.

East Anglian Eng. Co., Ltd.
Gooding, H., & Son, electrical engineers.
Plummer, F. S., elec. l. & bell ftr., Ipswich-st.
Prentice, Napier, A.I.E.E., cons. engr.
Stannard & Co., elec. engrs.
Suffolk Elec. Sup. Co., Ltd. Engr., N. Prentice.
Webb & Son, lther. dr. bnd., Combs Tannery.

Stratford-on-Avon.

S.-on-Avon Elec. Co., Ltd. Engr., C. D. Falcke.

Stretford.

U.D.C. Elec. Wks. Engr., R. Rowland, A.M.I.E.E.

Strood.

Kent Elec. Power Co. Power Sta., Frindsbury. Res. engr., H. B. Harvey, M.I.E.E.

Stroud.

Avens, F., & Co., oil & gas eng., Trusty Engine Wks.
Bailey, S. G., & Co., Ltd., manganese, Stafford Mills.
Dudbridge Iron Wks., Ltd., gas & oil eng.
Sampson & Co., Ltd., Patent Belt Wks.
Steel, H. E., Ltd., inst. contrs., Russell-st.

Sunderland.

Armstrong, Addison & Co., creosoted poles.
Arnison, G. N., & Sons, wiring contrs., 42, Borough-rd.
Bainbridge, Geo., elec. work, Vine-pl.
Blackman, A., M.I.M.E., M.I.E.E., boro' elec. engr.
Brantingham Bros., elec. engrs., 3, Toward-rd.
Brit. Elecl. & Mfg. Co., Athenæum-st.
Corp. Elec. Dept. A. Blackman, M.I.E.E., chief engr.
Davie, H. A., Ltd., engrs., Holmside.
Electric & General Stores Co., 16, Bridge-st.
McGeoch, Wm., & Co., Ltd., elec. ftgs.
National Telephone Co., Arcade-chbrs.
Reid, F., Ferens & Co., elec. engrs., 56, John-st.
Stoddart, J. G., wiring contr., Green-st.
Sunderland Forge & Engineering Co., Ltd.
Taylor, D., wiring contr., 4, Athenæum-st.
Webber, H., A.M.I.E.E., asst. elec. engr., Corp.
Wight, H. D., elec. engr., 1, Park-ter., Roker.
Wilkinson, J. B., wiring contr., Bedford-st.

Surbiton.

Gill, H. M., engr. & mgr., U.D.C. Elecy. Wks.
Stewart & Co., elec. engrs. & elec. bell ftrs., 79. Victoria-rd.
U.D.C. Elecy. Wks. H. M. Gill, res. engr.

Sutton, Surrey.

Baker & Anderson, elec. engrs., High-st.
Bawtree, A. E., elec. chem. engr., Lynton, Manor Park-rd.
Cashmore, P., elec. engr., Lyndhurst, Fairview-rd.
Newbald, E., & Co., elec. engrs., Court-rd., High-st.
Palmer, C., elec. engr., Cheam-rd.
Sibun, R. A., & Co., elec. engrs., 3, Mulgrave-rd.
S. Met. Elec. Trwys. & Ltg. Co., Ltd. Gen. mgr. & engr., A. V. Mason, 30, High-st., & Electricity Works, Wellesly-rd.
Webb, G. S., electric bell fitter, 148, High-st.

Sutton Coldfield.

Clive & Co., elec. engrs., 4, High-st.
Corp. Elec. Wks. T. Duesbury, engr. & mgr.
Page, D. G., elec. engr., Walmley-rd.

Swadlincote.

Burton & Ashby Lt. Rlys. Engr., J. Toulmin.

Swansea.

Alcock, H., elec. engr., 16, Megan-st.
Blake, A. W., A.M.I.E.E., con. engr., 66, Wind-st.
Brown, J. S., elec. engr., 21, 22 & 62, Oxford-st.
Corp. Elec. Supply. C. A. L. Prusmann, M.I.E.E., A.M.I.M.E., engr.
Cryselco, Ltd., incand. lmp. mfrs., 63, Wind-st.
Ellis, T. W., elec. engr., 52, St. George-st.
Evans, T. A., & Co., elec. engrs., Heathfield-st.
Fulton, D., elec. engr., Harbour Trustees.
Furneaux, A. L., elec. engr. & contr., 11, Wind-st.
Johnston, A., engr., S. Imp. & Trwys. Co.
Jones, S. M., elec. stores, 63, Wind-st.
Legg, J., & Sons, teleph. contrs., Nelson-st.
Matthews, R. B., WH.EX., A.M.I.C.E, con. elec. engr., 9, Cambrian-pl.
Mills, English & Co., Ltd., elec. engrs., Wind-st.
Nat. Teleph. Co., Ltd., Coleridge Ho., Mount-st.
Nener, E., elec. engr., Dillwyn-st.
Prusmann, C. A. L., M.I.E.E., A.M.I.M.E., boro' elec. engr., Corp. Elec. Sup. Dept.
Rees & Morgan, elec. engrs., De la Beche-st.
Sinclair, A., A.M.I.C.E., M.I.E.E., Hafod Wks.
Soars, G. F., rep. Veritys, Ltd., 3, Helens-ave.
Swansea Improvements & Trwys. Co. Engr., A. Johnston.
Symons, P., & Sons, elec. ltg. contrs., Oxford-st.
Vivian & Sons, Hafod Copper Wks.
Williams, Foster & Co., & Pascoe Grenfell & Sons, Ltd.
Williams & Michell, copper merchs., 7 & 8 Cross-st.

Swindon.

Corp. Elec. Wks. & Trams. Engr., A. Dimmack, A.M.I.E.E.; try. mgr., T. Medcalf.
Dimmack, A., elec. engr., Corp. Elecy. Wks.
Ferris, S., inst. contr., 12, Wellington-st.
Howell, L., wiring contr., 10, Victoria-rd.
Hutton Bros., elec. engrs., Commercial-rd.
Rye & Co., wiring contrs., Faringdon-st.
Saunders, J. B., & Co., elec. engrs.

Swinton.

South Yorks. Glass Bottle Co., mfrs. batt. jars.

Tadcaster.

T. Elecy. Co.

Tarporley.

Cowap, G. F., elecn. & engr.

Taunton.

Allen, C., & Son, mech. engrs., Tone Eng. Wks.
Beach, James, & Sons, dyn. mkrs., St. James'-st.
Corp. Elec. Wks., St. James'-st. E. B. Thornhill, A.M.I.E.E., engr.
Easton & Bessemer, engrs., Whitehall Iron Wks.
Haynes, F. T. J., M.I.E.E.
Kelsey, W. R., A.M.I.E.E., Mun. Tech. Inst.
Lock, F. J., elec. engr., Station-rd.
Newtons Ltd., mfg. elec. engrs.
Stansell & Son, elec. engrs., East-st. & Billett-st.
Thornhill, E. B., A.M.I.E.E., boro' elec. engr., St. James'-st.
West, H., & Son, elec. engrs., 31, High-st.

Teddington.

Langston-Jones, R., & Co., elec. engrs., High-st.
Melsom, S. W., elec. engr., Nat. Phys. Lab.
Phelps, Wintour & Sons, Broad-st.

Tewkesbury.

T. Elec. Light Co., Ltd.

Thetford.

Burrell, C., & Sons, Ltd., engrs., St. Nicholas Wks.
Carter, R., elecn., Electricity Wks.

Thirsk.

N. Cos. Elecy. Sup. Co., Ltd. Engr., C. W. Fairweather.

Thornaby-on-Tees.

Head, Wrightson & Co., Ltd., gen. engrs.

Thornhill.

Yorks Elec. Pr. Co., Calder-rd. Engr., W. B. Woodhouse, A.M.I.M.E., A.M.I.E.E.

Thrapston.

Smith & Grace Screw Boss Pulley Co., Ltd., pulley mkrs.

Tipton.

Bullers, Ltd., porcelain mfrs.
Cable Access. Co., Ltd., Tividale.
Midland Elec. Corp. for Pr. Dis., Ltd., Ocker Hill. Engr., J. Hardie MacLean, M.I.E.E.
Wright, Joseph, & Co., fd. water htrs.

Tiverton.

Babbage, T., elecn., 38, West Exe.
Nott, C. H., engr., Exe Bridge Iron Wks.
Stenner & Gunn, elec. engrs., Lowman Wks.

Todmorden.

Blackburn, R. S., & Co., elec. engrs., 1, Stansfield-rd.
Corp. Elecy. Wks. H. Talbot, engr.
Davis, F., elecn., 35, Halifax-rd.

Tonbridge.

Ashton, J. H., elec. engr., 19, Dry Hill Park-rd.
Beckett, H. R., elec. sup. dlrs., 3, Quarry Hill-rd.
Hall, H. E., & Co., elec. l. & p. contrs., 90, High-st.
Leonard, W., M.I.E.E., chf. elec. engr., S. E. & C. Rly. Co.
Plunkett, M. P., A.M.I.E.E., res. elec. engr., U.D.C.
Seale, Austen & Barnes, Ltd., elec. l. & p. contrs., 86, High-st.
U.D.C. Elec. Wks. Engr., M. P. Plunkett, A.M.I.E.E.

Tonyrefail.

T. & Gilfach Goch E. L. Co., Ltd., 48, High-st. & Mill-st. Engr., A. J. Arthur.

Topsham.

Gould, H. C., elec. engr., Erdwick Cottage.
T. Elec. Sup. Co., Ltd. Engr., H. C. Gould.

Torquay.

Beynon & Son, elec. contrs., Fleet-st.
Bovey, E. P., & Son, wiring contrs., Victoria Parade.
Corp. Elec. Wks. P. Storey, M.I.M.E., A.M.I.E.E., engr.
Harding, T. L., & Sons, wiring contrs., Market-st.
Lee, Edwin, elec. engr. & wiring contr., 111, Union-st.
O'Hara, F., elec. engr., Nat. Elec. Cons. Co.
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Saleh Bey Soubhi, engineer-in-chief of telegraphs, Cairo.
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Société Anonyme des Tramways d'Alexandrie, Alexandria. General manager, J. G. Jacot des Combes; engineer-in-chief, A. Woller.
Société Anonyme des Tramways du Caire, Cairo.
Société Electrique de la Basse Egypte, G. Cachard, Tantah. E. Nahman, managing director; R. Levi, consulting engineer.
Société Generale d'Electricité et de Mecanique, mechanical & electrical engineers by appointment to H.H. the Khedive, Alexandria & Cairo. (Telegs.: "Edison.")
Soubhy Saleh, bey, sub-inspector-general of Government Telegraphs, Cairo.
Steinemann, Mabardi & Co., engineers & machinery merchants, 12, place Mohamed Aly, Alexandria.
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Telephone Co. of Egypt, Ltd., Cairo & Alexandria. (Telegs.: "Oakenpin, Cairo.")
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Walker & Meimarachi, Ltd., electric supply stores, Cairo, Alexandria & Khartoum.
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Williams, John E., A.I.E.E., electrical engineer, Public Works Department, Khartoum.
Wills & Co., Ltd., general & shipping agents, Eastern Exchange, Port Said.
Woller, Alex, engineer-in-chief, Alexandria & Ramleh Railway Co., Ltd., Alexandria.
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German South-West Africa.

Warner, W. W. B., superintendent, Eastern & South African Telegraph Co., Swakopmund.

Gold Coast.

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Andrews, M. S., director of Government telegraphs, Accra.
Bumpus, B. E., electrical engineer, c/o Bibiani Gold Fields, Ltd., Dunkwa.

Gold Coast—*continued.*

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Fuller, A. G., superintendent African Direct Telegraph Co., Accra.
Hunt, Walter S., A.M.I.E.E., A.AM.I.E.E., chief electrician, Taquah Mining & Exploration Co., Ltd., Tarkwa, viâ Sekondi.
Jamieson, Hugh, general superintendent, African Direct Telegraph Co., Ltd.
Jensen, Ove., electrician, Postal Telegraphs, Accra.
Woodrow, W. G., superintendent, African Direct Telegraph Co.

Mauritius.

Adam, Joachim H., A.I.E.E., Queen-st., Port Louis.
Boys, R. H. H., Major R.E., D.S.O., A.M.I.E.E., Vacoas.
Harvey, H. R., superintendent, Eastern Telegraph Co.
Lalonde, E. L., electrical engineer, Port Louis. (Telegs.: "Lalonde, Mauritius." Teleph. No. 50.)
Mauritius General Electric Supply Co., Curepipe. Chief engineer, J. E. Tarby.
Mauritius Hydro Electric Co., Rose Hill.
Rae, Wm. C., superintendent of telegraphs, Port Louis.
Robinson, H. A. Lynn, superintendent, Eastern & South African Telegraph Co.
Smith, J. R., superintendent, Eastern & South African Telegraph Co.
Tarby, J. E., chief engineer, Mauritius General Electric Supply Co., Curepipe.

Morocco.

Canales, Jose G., superintendent of the Electricity Works, Tangier.
Compañia Transatlantica de Barcelona, electric light contractors, Tangier. (Telegs.: "Española, Tangier.")
Griffin, Thomas, officer in charge, Eastern Telegraph Co., Ltd., Tangier. (Telegs.: "Griffin, Tangier." Teleph. No. 90.)
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Ortenbach, Adolf, manager Fabrica de Electricidad Cia. Transatlantica, Tangier. (Telephone No. 1.)

Natal.

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British Insulated & Helsby Cables, Ltd., Hollander's-bldgs., Field-st., Durban.
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Coleman, J. W., superintendent of Government Telegraphs, Durban.
Coulthard, R. D., A.M.I.E.E., Natal Government Railways, Durban.
Davey, H., chief engineer, Harbour Works Department, Durban.
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Davies, Hubert, & Co., electrical & mechanical engineers, Box 352, Durban.
Duggan, E. V., electrical engineer, Beach, Durban.
Dundee Electric Lighting Co. (E. H. Gellender & Co., Ltd.), P.O. Box 72, Dundee. Engineer & manager, C. A. Hopton, A.I.E.E. (Telegs.: "Lightning, Dundee." Teleph. No. 72.)
Durban Municipal Electricity Works & Tramways, Durban. Engineer, J. Roberts.
Durban Municipal Telephone. W. Manson, manager.
Finlayson, P., municipal tramway general manager, Pietermaritzburg.
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Greytown Corporation Electricity Works, Greytown. Engineer, W. H. Blatchford.
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Hadfield, F. H., & Co., mechanical & electrical engineers, Field-st., P.O. Box 298, Durban. (Telegs.: "Motor, Durban." Teleph. No. 46.)
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Natal—*continued.*

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Pietermaritzburg Electricity Works, Pietermaritzburg. Natal Government Railways, proprietors. Engineer, G. Stoby, A.M.I.E.E., M.I.MECH.E.
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Nigeria.

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Fichardt & Co., electrical engineers, Bloemfontein. R. Erskine, manager.
Hale & Co., mechanical & electrical engineers, Harvey-rd. & Hanger-st., Bloemfontein. (Telegs.: "Irrigation, Bloemfontein.")
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Portuguese West Africa.

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Principe.

Macauley, G. J., officer-in-charge, West African Telegraph Co.

Rhodesia.

Bulawayo Waterworks Co., Ltd., electric light supply, Bulawayo. (Telegs.: "Electric, Bulawayo." Teleph. Nos.: Works, 134; Office, 45. P.O. Box 220.) Engineer, R. L. Graddon-Pettle.
Crowther, A. D., A.I.E.E., electrical engineer, Beira & Mashonaland Railways, Umtali.
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Johnson & Fletcher, mechanical & electrical engineers, Box 224, Bulawayo (Telegs.: "Motor, Bulawayo"); Salisbury & Beira.
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Rodrigues.

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St. Helena.

Chevallier, C., A.I.E.E., superintendent, Eastern Telegraph Co.

São Thome.

Durrant, H., superintendent, West African Telegraph Co.
Hurdus, E., general superintendent on the coast, West African Telegraph Co.

Senegambia.

Bull, B. W. E., superintendent, West African Telegraph Co., Bolama.
Marke, E. J., officer-in-charge, West African Telegraph Co., Bissao.
Woolward, R. S., superintendent, African Direct Telegraph Co., Ltd., Bathurst.

Sierra Leone.

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Espeut, R. W., maintenance engineer of Government Railways Engineering Department, Chine Town.
Farmer, S. L., inspector of Government Railway Telegraphs, Freetown.
Scovell, George R., superintendent, African Direct Telegraph Co., Ltd.

Swaziland.

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Transvaal.

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Allen, Edgar, & Co., Ltd., magnet steel manufacturers, New Club-bldgs., Loveday & Main-sts. (P.O. Box 551), Johannesburg.
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Blane & Co., Ltd., electrical & mechanical engineers, 37, 38, 47 & 48, Cullinan-bldg., Main-st. (P.O. Box 435), Johannesburg. (Telegs.: "Meteor, Johannesburg." Teleph. No. 516.)
Blumenthal & Co., electrical engineers, P.O. Box 428, Johannesburg.
Boksburg Electricity Works, Boksburg. Engineer, E. S. Curtis.
Botting, R. F., A.I.E.E., Box 700, Johannesburg.
Bradley, J. R., A.M.I.E.E., P.O. Box 1091, Johannesburg.
Brakpan Electricity Works, Brakpan. Victoria Falls Power Co., Ltd., proprietors. Engineer, B. J. Donnellan.
Briggs, H., agent for Sandycroft Foundry Co., Corner House, P.O. Box 1976, Johannesburg. (Telegs.: "Sancroft, Johannesburg." Teleph. No. 360.)
British General Electric Co., Ltd., corner Loveday & Anderson-st. (P.O. Box 2406), Johannesburg. (Telegs.: "Current, Johannesburg." Teleph. No. 479.) Managing director, W. B. Phelp.
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Transvaal—*continued.*

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East Rand Proprietary Mines, Ltd., Electricity Works, East Rand. (Box 88, East Rand.) Engineer, L. H. Wilms.
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Elsdon-Dew, W., M.I.E.E., resident mechanical & electrical engineer, Wit Deep, Ltd., P.O. Box 5, Knights.
Ensor, George Edmund, A.I.E.E., C.S.A.R. Telegraph Department, Pretoria.
Ferrar, W. H., electrical engineer, c/o Fraser & Chalmers, Ltd., Johannesburg.
Findlay, A., electrical engineer, P.O. Box 1942, Johannesburg.
Fletcher, R. W., A.M.I.E.E., chief electrician, Municipal Electricity Works, Krugersdorp.
Forsyth, J. L., A.M.I.E.E., electrical engineer, West Rand Mines, Krugersdorp.
Francis, G. W., assistant electrical engineer, Public Works Department, Johannesburg.
Gardiner, J. S., A.I.E.E., P.O. Box 6511, Johannesburg.
Gardiner & Wallis, general engineers, Standard-bldgs., President-st., Johannesburg.
Gavey, Arthur, A.M.I.E.E., A.M.I.MECH.E., engineer. Central offices: Randfontein Estates, Randfontein.
Gellender, E. H., & Co., Ltd., electric light & power contractors, Newcastle & Dundee.
Gerhardi, Geo., manager United Engineering Co., Ltd., P.O. Box 1082, Johannesburg.
Gibbs, A. E., construction engineer, Victoria Falls & Transvaal Power Co., Ltd., Box 85, Johannesburg.
Gilligan, J., A.I.E.E., electrician, Robinson Central Deep, Johannesburg.
Gilmour, R. W., resident engineer, Lancaster Gold Mining Co., Ltd., Krugersdorp.
Gould, R. H., electrical engineer & contractor, P.O. Box 286, Boksburg. (Teleph. No. 15.)
Gould, R. H., & Co., electrical supplies, Trust-bldgs. (P.O. Box 4941), cor. Fox & Loveday-sts., Johannesburg. (Telegs.: "Ampere, Johannesburg." Teleph. No. 787.)
Graf, M., & Nagler, engineers, Corporation-bldgs., Johannesburg. (Telegs.: "Construct, Johannesburg." P.O. Box 4837.)
Grant, James, engineer, Premier Diamond Mine.
Grant, John, district engineer, Government Telegraphs.
Green, E. H., & Co., engineers & machinery importers, agents for Robey & Co., P.O. Box 1978, Johannesburg.
Gumbley, Wm., electrical engineer, P.O. Box 1001, Johannesburg.
Hall, E. A., A.I.E.E., England-Transvaal G. M. Estates, Ltd., Pilgrim's Rest.
Hammerton, C. W., A.I.E.E., electrician, P.O. Box 188, Johannesburg.
Hammond, W. E., manager, Hubert Davies & Co. (Box 943), Pretoria.

Transvaal—*continued.*

Harrison, Norman, chief engineer, Government Telegraphs & Telephones, P.O. Box 2339, Johannesburg.

Heather, H. J. S., M.I.C.E., M.I.E.E., consulting electrical engineer, H. Eckstein & Co., P.O. Box 149, Johannesburg.

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Henley's (South Africa) Telegraph Works Co., Ltd., Howard-bldgs., Loveday-st., Johannesburg; & Mutual-bldgs., Smith-st., Durban.

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Higley, Walter J., M.I.E.E., supt. Central South African Railway Telegraphs, P.O. Box 302, Pretoria.

Hine & Sacks, electrical engineers (P.O. Box 5114), Johannesburg.

Holtby, Alfred C., M.I.E.E., A.M.AM.I.E.E., consulting electrical engineer, Johannesburg. (Private P.O. Box 4336.) (Teleph. No. 1728.)

Hoppert, F., electrical engineer & instrument maker, P.O. Box 3503, Johannesburg.

Horne, W. J., A.M.I.C.E., A.M.I.E.E., Department of Public Education (P.O. Box 432), Pretoria. (Telegs.: "Education, Pretoria." Teleph. No. 213.)

Horrell, L. C., assistant electrical engineer, Municipal Electricity Works, Pretoria.

Hosken, Wm., & Co., importers of electrical mining machinery, P.O. Box 667, Johannesburg.

Hosking, Corlett & Co., engineers & agents, P.O. Box 5912, Johannesburg.

Hunt, Leuchars & Hepburn, importers of building & mining machinery, Johannesburg.

Hurt, F. W. R., A.M.I.C.E., assistant electrical engineer, Witwatersrand Deep, Ltd., Box 38, Knights.

Inggs, C. W., A.M.I.E.E., resident electrical engineer, Consolidated Langlaagte Gold Mining Co., Ltd., Box 15, Langlaagte.

Irvine & Co., electrical engineers, Norwich Union-bldgs., Johannesburg.

James, W., chief electrical engineer, Village Main Reef Gold Mine, Johannesburg.

Johannesburg Municipal Gas, Electric Supply & Tramways, Johannesburg. Engineer, J. H. Dobson.

Journal of the South African Association of Engineers, Transvaal University College-bldg., P.O. 1818, Johannesburg.

Kenny, T. R. Davis, A.I.E.E., A. E. G. Electrical Co. of South Africa, Ltd., Johannesburg.

Kerr, J. A. W., A.M.I.E.E., electrical engineer, P.O. Box 312, London House, Loveday-st., Johannesburg.

Kisch, D. M., & Co., F.M.C.I.P.A. (Lond.), patent agents, P.O. Box 668, Johannesburg (Telegs.: "Patents, Johannesburg." Teleph. No. 774); & P.O. Box 317, Church-sq., Pretoria. (Teleph. No. 80.)

Koppel, Arthur, Ltd., electric railway contractors, Howard-bldgs. (P.O. Box 3256), Johannesburg (Telegs.: "Koppelrail, Johannesburg." Teleph. Nos. 29 & 82); & at Durban & Cape Town.

Krugersdorp Municipal Electricity Works, Krugersdorp. Town engineer, R. A. Webster; chief electrician, R. W. Fletcher.

Lancaster Gold Mining Co., Ltd., Krugersdorp. Chief electrician, F. F. Parker; resident engineer, R. H. Gilmour.

Lavenstein, L. H., engineer, P.O. Box 4480, Johannesburg. (Teleph. No. 166.)

Lazarus, J. S., & Co., dealers in electrical supplies, 45, Market-st., Johannesburg.

Maas, J. C., electrical engineer & contractor, Box 226, Germiston.

McCann, Jas., electrician, Knights Deep, Ltd., Germiston.

Macdonald, John Ronald, A.M.I.E.E., Athenæum Club, Johannesburg.

McInnes, Geo., B.SC., M.A.M.E., mechanical & electrical engineer, South-West cor. of Marshall-sq. (P.O. Box 2127), Johannesburg. (Telegs.: "McInnes, Johannesburg.")

Mauss, W., engineer, Victoria Falls Power Co., Ltd., P.O. Box 1, Brakpan.

Maxwell, H. B., M.I.E.E., electrical engineer, Reunert & Lenz, Johannesburg.

Mennie, G. A., A.M.I.E.E., Reunert & Lenz (P.O. Box 92), Johannesburg.

Michell, Frank Howard, A.M.I.E.E., Transvaal Technical Institute, Johannesburg.

Mitchell, F. T., electrician, Simmer Deep, Ltd., Germiston.

Moodie's Gold Mining & Exploitation Co., Ltd., Barberton. (Telegs.: "Moodie's, Barberton.") Engineer, J. G. B. Sutherland.

Niven, J. & R., importers of mining requisites, P.O. Box 4022, Johannesburg.

Niven & Mitchell, importers of mining requisites, P.O. Box 922, Johannesburg. (Telegrams: "Credit, Johannesburg." Telephone No. 147.)

Nunns, Augustine J. D., electrician, P.O. Box 193, Germiston.

Odgers, W., A.I.E.E., manager, Henley's (S. Africa) Telegraph Works Co., Ltd., Howard-bldgs., Loveday-st., Johannesburg.

Oehmen, J. H., electrical engineer, Smal-st. (P.O. Box 2916), Johannesburg. (Teleph. No. 998.)

Orenstein & Koppel, manufacturers of tramway material (P.O. Box 1716), Norwich Union-bldgs., Fox-st., Johannesburg (Telegs.: "Warranted, Johannesburg"); & Cairo, Egypt.

Ornstein, John A., A.I.E.E., c/o J. Vogl, P.O. Box 1318, Johannesburg.

Orr, Prof. John, B.SC., A.M.I.E.E., Transvaal University College, Johannesburg.

Owtram, E. H., A.M.I.E.E., electrical engineer (P.O. Box 134), Premier Mine.

Transvaal—*continued.*

Pargiter, A., & Co., engineers & agents, 7, New Club-bldgs., Johannesburg. (Telegs.: "Brazilians, Johannesburg.")

Parker, F. F., chief electrician, Lancaster Gold Mining Co., Krugersdorp & Lancaster West.

Parsons, C. A., & Co., turbo-electric machinery, Cullinan-bldg., P.O. Box 3390, Johannesburg. (Telegs.: "Turbot, Johannesburg." Teleph. No. 1133.)

Pashby, A. H., A.M.I.E.E., P.O. Box 257, Krugersdorp.

Peddie, Alfred McGregor, A.M.I.E.E., electrician, Princess Estate & Gold Mining Co., Roodeport.

Perrow, Wm. H., A.M.I.E.E., Box 58, Denver.

Pollitt, R. B., A.M.I.C.E., F.I.C., A.I.E.E., Cape Explosive Works, 321–322, Consolidated-bldg., Johannesburg. (Telegs.: "Liqdyn, Johannesburg." Teleph. No. 1439.)

Porter, Cecil, electrician, C.S.A.R., Pretoria.

Potchefstroom Consumers Light & Power Co., Ltd., Potchefstroom. Engineer, W. D. Ross; electrician, N. E. Sink.

Pretoria Corporation Electricity Works, Pretoria (T. C. Wolley Dod, A.M.I.E.E., chief engineer & manager). (Telegs. & Cables: "Helios, Pretoria." Teleph. No. 78. P.O. Box 423.)

Reath, W. E., A.I.E.E., electrical engineer, P.O. Box 1653, Johannesburg.

Reunert & Lenz, electrical & mechanical engineers, P.O. Box 92, Johannesburg.

Rice, F. P., electrical agent, 42, London House, Johannesburg.

Rintoul & Davis, engineers & electrical machinery importers, 23, 24, 35 & 36, Cullinan-bldg., Main-st., Johannesburg. (Telegs.: "Gondetta, Johannesburg.")

Robb, J. B., & Co., electrical engineers, Lawleys-bldgs., Fox-st., Johannesburg.

Roberts & Co., engineers, Fox & Delvers-sts., Johannesburg.

Roberts Heights Electricity Works, Roberts Heights.

Robinson Gold Mining Co., Johannesburg. Electrician-in-chief, J. Norman Andrews.

Rohmann, M., chief mechanician, Telegraph Department, Johannesburg.

Ross, W. D., electrical engineer to the Potchefstroom Electric Light Co., Potchefstroom.

Sather, S. P., electrician, Geldenhuis Deep Electricity Works, Geldenhuis Deep, Johannesburg.

Saunders, F., A.I.E.E., consulting electrical engineer, P.O. Box 1375, Johannesburg.

Seligmann & Co., electrical & mechanical engineers, 22 & 23, Breda-chbrs., Fox & Risch-sts. (P.O. Box 542), Johannesburg. (Telegs.: "Sayonare, Johannesburg.")

Siemens, Ltd., electrical engineers, City House, Harrison-st. (P.O. Box 3003), Johannesburg (Telegs.: "Serapis, Johannesburg." Teleph. No. 432); & 7/11, Waterkant-st. (P.O. Box 690), Cape Town. (Telegs.: "Serapis, Cape Town.")

Sims, Alfred, A.I.E.E., electrical engineer, Ferreira Gold Mining Co., Box 1021, Johannesburg.

Sink, N. E., electrician, Potchefstroom Consumers' Light & Power Co., Ltd., Potchefstroom.

Smart, Edgar, A.I.E.E., electrical & metallurgical engineer, Box 830, Johannesburg.

Smart, E., electrician, Victoria Falls Power Co., Ltd. (Germiston Branch), Germiston.

Smith, Sidney, M.I.E.E., M.I.MECH.E., managing director, South African General Electric Co., P.O. Box 1905, Johannesburg.

Smithson, S., electrical engineer, Simmer & Jack Prop. Mines, Ltd., P.O. Box 192, Germiston.

South African Association of Engineers (P.O. Box 1818), Johannesburg. Secretary, W. E. Cursons.

South African General Electric Co., 166, Commissioner-st. (P.O. Box 1905), Johannesburg (Telegs.: "Electrical, Johannesburg." Teleph. No. 591); & Durban, Natal.

Spain, William, engineer (P.O. Box 23), Johannesburg. (Telegs.: "Moni, Johannesburg.")

Spengel, H., M.I.E.E., chief engineer, Victoria Falls Power Co., Ltd., 507/511, Consolidated-bldg, Johannesburg.

Stephens, F. C., A.M.I.E.E., electrical adviser, Government-bldgs., Pretoria.

Stevens, J. D., A.I.E.E., P.O. Box 1872, Johannesburg.

Stiff, F. B., electrician, P.O. Box 2538, Johannesburg.

Sturrock & Co., electrical & mechanical engineers, 301-3, Consolidated-bldg., Fox-st., Johannesburg.

Sutherland, J. G. B., engineer, Moodie's Gold Mining & Exploitation Co., Ltd., Barberton.

Swan, S. S., electrical engineer, P.O. Box 2197, Johannesburg.

Sykes, S., & Co., Ltd., engineers & machinery importers (P.O. Box 2303), Consolidated-bldg., Johannesburg (Telegs.: "Psyche, Johannesburg." Teleph. No. 513); P.O. Box 230, Bulawayo, Rhodesia (Telegs.: "Psyche, Bulawayo"); Smith-st. (P.O. Box 269), Durban (Telegs.: "Psyche, Durban"); & Salisbury, Rhodesia. London office: 2, East India-ave., E.C.

Symons, J. E., assistant district engineer, Telegraphs & Telephones, Johannesburg.

Tarry, E. W., & Co., Ltd., mechanical engineers, iron founders & importers, Johannesburg; & Kimberley & Port Elizabeth, Cape Colony; & Jagersfontein, O.R.C. (Telegs.: "Tarrys, Johannesburg.")

Technical & Commercial Corporation, Ltd., electrical engineers & contractors, Silesia-bldgs., Main-st., Johannesburg. (Telegs.: "Tecomeco, Johannesburg.")

Telegraph Manufacturing Co. (Colonial), Ltd., 607 & 608, Consolidated-bldg. (P.O. Box 2827), Johannesburg (Telegs.: "Conductors, Johannesburg"); & at Durban & Cape Town. *See also* BRITISH DIVISION.

Transvaal—*continued.*

Thackrah, F. R., electrical & mining engineer, New Kleinfontein G. M. Co., P.O. Box 2, Benoni.
Trainer, E., chief telegraph engineer, Post Office, Pretoria.
Transvaal Gold Mining Estates, Ltd., Electricity Works, Pilgrim's Rest, Lydenburg. (Telegs.: "Trap, Lydenburg.") Electrical engineer, W. Elsdon-Dew, M.I.E.E.
Transvaal University College, Johannesburg. (Telegs.: "University. Johannesburg." A.B.C., 5th edit., Code. P.O. Box 1176. Teleph. No. 906.)
Trevett, C. G., A.M.I.E.E., 410, Consolidated-bldgs., Johannesburg.
Tyrrell, J. H., manager of Municipal Tramways, Johannesburg.
United Engineering Co., Ltd., Marshall-sq. (P.O. Box 1082), Johannesburg. (Telegs.: "Armature, Johannesburg.")
Van Straubenzee, H. T., A.M.I.E.E., manager C. A. Parsons & Co., Cullinan-bldg. (P.O. Box 3390), Johannesburg. (Telegs.: "Turbot, Johannesburg." Teleph. No. 1133.)
Victoria Falls Power Co., Ltd., P.O. Box 217, Germiston (Telegs.: "Randvic, Germiston." Teleph. No. 26); 507–511, Consolidated-bldg., Johannesburg (Telegs.: "Vicfalco." P.O. Box 2671. Teleph. Nos. 510 & 1889); & P.O. Box 1, Brakpan. Chief engineer, H. Spengel, M.I.E.E.
Webb, G. A., A.I.E.E., resident electrical engineer, Porge's Randfontein Gold Mining Co. (P.O. Box 38), Randfontein.
Weber, A. C., electrical engineer, Box 3003, Johannesburg.
Wickins, H. R., A.I.E.E., electrician, c/o Brister & Co., President-st., Johannesburg.
Wildenrath, P. A. von, A.M.I.E.E., Box 36, Premier Diamond Mine.
Wilmot, L. B., A.I.E.E., assistant chief electrical engineer, Randfontein Estates, Ltd., P.O. Box 2, Randfontein.
Wilms, L. H., M.I.E.E., M.I.C.E., chief elec. engr., East Rand Proprietary Mines, Box 88, East Rand.
Wilson, C. E., A.M.I.E.E., c/o Telegraph Manufacturing Co. (Colonial), Ltd., Johannesburg.
Wolley-Dod, T. C., A.M.I.E.E., engineer, Corporation Electricity Works, Pretoria.
Wood, J. S., & Sons, Ltd., engineers & agents, 13, Norwich Union-bldgs., Fox-st., Johannesburg.
Woodworth, L. B., A.M.I.E.E., A.M.AM.I.E.E., electrical engineer, c/o H. Eckstein & Co., Johannesburg.
Wyatt, G. H., A.M.I.E.E., electrical contractor, Adelaide-bldgs., cor. Eloff & Fox-sts., Johannesburg.
Wyatt, T. H., electrician, Victoria Falls Power Co., Ltd., Germiston.
Zarky, A., electrical engineer, Box 478, Germiston.

Tunis.

Bertrand, J., & Cie., electricians, ave. de Carthage.
Compagnie Electrique de Bizerte, Bizerta.

Zanzibar.

Kime, T. A., superintendent, Eastern Telegraph Co., Zanzibar.
Withycombe, R., engineer, Zanzibar Electric Light Co.
Zanzibar Electric Light Co., Zanzibar. Engineer, R. Withycombe.

AMERICA.*

NORTH AND CENTRAL.

Bermuda.

B. Electric Light, Power & Traction Co., Ltd., Hamilton. (Telegs.: "Vivacdum." Teleph. No. 394.) Engineer, H. G. W. Spurling; electrician, F. A. Wheeler.
Bermuda Telephone Co., Ltd., Hamilton. R. A. Ferguson, manager. (Telegs.: "Telephone, Bermuda.")
Ferguson, R. A., manager, Bermuda Telephone Co., Hamilton. (Telegs.: "Ferguson, Bermuda." Teleph. No. 62.)
Greet, S. H. A., superintendent, Halifax & Bermudas Cable Co., 6, Front-st., Hamilton. (Telegs.: "Quiescent, Hamilton." Teleph. No. 98.)
Spurling, H. G. W., engineer, Bermuda Electric Light, Power & Traction Co., Hamilton; & Pembroke.
Wheeler, F. A., electrician, Bermuda Electric Light, Power & Traction Co., Hamilton; & Pembroke.

British Honduras.

Belize Ice & Electric Light Co., Ltd., Belize. (Telegs.: "Electric, Belize.") Manager, P. D. Lyons.
Cuthbert, M., A.M.I.E.E., Government electrical engineer, Belize.

* For the United States Section, see page 1325.

Canada.

Acadia Edison Electric Light Co., Wolfville, N.S.

Ackroyd, P.., electrical contractor, 184, Bank-st., Ottawa, Ont.

Acme Electric Co., installation contractors, Moose Jaw, Sask.

Acres, Henry Girdlestone, A.AM.I.E.E., assistant engineer, Hydro Electric Power Co. of Ont., 93, St. Joseph-st., Toronto, Ont.

Acton Corporation Electric Light Plant, Acton, Ont. Engineer, E. E. Macklin.

Adams, W. L., A.AM.I.E.E., sales engineer, Ontario Power Co. of Niagara Falls, Niagara Falls South Ont. (Teleph. No. 134.)

Ahearn, J. J., electrician & shop superintendent, Ottawa Electric Railway Co., Ottawa.

Ahearn, Thomas, M.AM.I.E.E., Ahearn & Soper, Ltd., Ottawa.

Ahearn & Soper, Ltd., electrical engineers & contractors, Ottawa.

Aitken, K. L., city electrical engineer, City Hall, Toronto, Ont. (Teleph. No. 1482, Main.)

Alberta Electric Co., electrical supplies, Edmonton, Alberta.

Albion Iron Works Co., Ltd., engineers, ironfounders & boiler makers, Vancouver, British Columbia. (Telegs.: "Albion, Vancouver.")

Alexander, H., electrician, Nanaimo Electric Light, Power & Heating Co., Ltd., Nanaimo, B.C.

Alexander, A. E., & Son, installation contractors, Campbellon, N.B.

Alexander & Miller, electricians, 134, Brock-st., Peterborough, Ont. (Teleph. No. 283.)

Alexandria Corporation Electricity Works, Alexandria, Ontario.

Algoma Central & Hudson Bay Railway Co., Sault Ste. Marie, Ont.

Algoma Power Co., Ltd., Berlin, Ont. Registered Oct. 19, 1904. Authorized capital: Stock, $100,000 in $50 ordinary shares, all issued & paid. Directors: D. B. Detweiler, Esq.; O. Kinzie, Esq.; N. B. Detwelier, Esq. (secretary); C. K. Hagedon, Esq.; J. E. Klotz, Esq. Electrical engineer, Wm. Beattie.

Algoma Steel Co., Ltd., makers of tram rails, &c., Sault Ste. Marie, Ont.

Allen, Geo. W., installation contractor, Brantford, Ont.

Allen, H. L., electrical inspector, C.F.U.A., Room 30, Citizens-bldg., Ottawa.

Allen Taylor & Co., dealers in electrical supplies, Waterloo, Que.

Allis-Chalmers-Bullock, Ltd., manufacturers & importers of electrical & water power machinery, Montreal. Branches: Toronto; Winnipeg; Calgary; & Vancouver.

Alliston Electric Light Co., Alliston, Ontario. (Telegs.: "Alliston." Teleph. No. 35.) Engineer, J. Truman; electrician, W. J. Fletcher.

Almonte Electric Light Commission, electrical engineers & contractors, Almonte, Ont. (Bell Teleph. No. 48.) Manager, D. Forgie.

Altham, A. H., engineer, Electricity Works, Macleod, Alberta.

Alvinston Power Co., Ltd., Alvinston, Ont. Engineer, H. R. Carruthers.

Amherstburgh Electric Light, Heat & Power Co., Ltd., Amherstburgh, Ont. Directors: N. A. Coste, Esq. (president); J. A. Auld, Esq. (vice-president); F. A. Haugh, Esq.; W. S. Falls, Esq.; J. G. Mullen, Esq.; W. H. M'Evoy, Esq. (managing). Electrician, A. G. Brown.

Amireaux, C., engineer, The Kent Electric Co., Ltd., Richibucto, N.B.

Amora Electric Light Co., Amora. Resident engineer, C. W. McLeod.

Anderson, A., fire alarm telegraph apparatus manufacturer, 91, Bay-st., Toronto.

Anderson, G. M., chief electrician, Sorel Electric Light Co., Sorel, Que.

Anderson, O. S., installation contractor, 105, Borden-st., Toronto, Ont.

Anderson, R., electrical contractor & dealer in electrical supplies, 173, Sparks-st., Ottawa, Ont.

Anderson, Wm., A.AM.I.E.E., electrical engineer, Cascade Water, Power & Light Co., Cascade, B.C.

Andy, Max., installation contractor, Quebec, Que.

Anglo-American Telegraph Co., Ltd., corner St. François Xavier-st. & St. Sacrament-st., Montreal, Que.

Angus, W. G., A.AM.I.E.E., electrical engr., Hamilton Electric Light & Cataract Power Co., Hamilton, Ont.

Annapolis Royal Electric Light Plant, Annapolis Royal, N.S.

Antigonish Electric Co., Antigonish, N.S. (Telegs.: "Electrico." Teleph. No. 53.) Engineer, J. McLean; electrician, S. A. Hulbert.

Archibald, E. M., A.AM.I.E.E., consulting & constructing engineer, Bedford-chbrs., Halifax, N.S.

Archibald, J. G., engineer, Woodstock Electric Light & Power System, Woodstock, Ont.

Armstrong, Jas., installation contractor, Fort William, Ont.

Armstrong, F., Co., Ltd., installation contractors, Queen-st. West, Toronto, Ont.

Arnprior Electric Light & Power Co., electric light contractors, Arnprior, Ont. Engineer, J. R. Dodd.

Asbestos & Asbestic Co., Ltd., manufacturers of asbestos for electrical purposes, Danville, Que. (Telegs.: "Asbestino, Danville"); & Hopetoun House, 5, Lloyd's-ave., London, E.C.

Ashcroft Water, Electric & Improvement Co., Ashcroft, B.C. Engineer, H. Bales.

Athabaska Water & Power Co., Victoriaville, Que.

Aubin, A., inspector Gas & Electric Light, Custom House, Montreal, Que.

Auburn Power Co., Ltd., Peterborough, Ont.

Aurora Electric Light Plant, Aurora, Ont.

Canada—*continued.*

Austen Bros., mining machinery & mining supplies, 116, Hollis-st., Halifax, N.S.
Austin, J., & Co., dealers in electrical supplies & electrical fixtures, Simcoe, Ont.
Auto-Safety Electric Switch Co., 211, Board of Trade-bldg., Montreal.
Automatic Railway Signal Co., Ltd., 806, N.Y. Life-bldg., Montreal, Que.
Aven, A. M., electrician, Delhi Light & Power Co., Delhi, Ont.
Aylmer Municipal Plant, Aylmer, Ont. Engineer, J. L. Millard.
Babcock & Wilcox, Ltd., manufacturers of boilers, New York Life-bldg., Montreal.
Babin, F., engineer, Kent Electric Co., Richibucto, Kent Co., N.B.
Baird, C. L., engineer, Kentville Electric Light & Power Co., Kentville, N.S.
Baker, H. S., A.AM.I.E.E. (P.O. Box 424), Niagara Falls South, Ont.
Baker & Jordahl, electrical engineers, Manning-chbrs., Toronto, Ont.
Baldwin, B. H., installation contractor, 98, Bank-st., Ottawa, Ont.
Baldwin Bros., manufacturing electricians, 95, Bank-st., Ottawa, Ont.
Bales, H., engineer, Ashcroft Water, Electric & Improvement Co., Ashcroft, B.C.
Balfour, Reginald, A.AM.I.E.E., A.C.S.C.E., operating superintendent, Montreal Light, Heat & Power Co., Power-bldg., Montreal.
Balne, A. S., installation contractor, 330, Dorchester-st. West, Montreal, Que.
Barber, A. W., superintendent, Ontario division, Canadian Pacific Railroad Telegraphs, Toronto.
Barber, A. F., Electric Co., installation contractors, Vancouver, B.C.
Barber, Chas., & Sons, mfrs. of the Canadian turbine water-wheel, Georgian Foundry, Meaford, Ont.
Barnes, H. T., M.A.SC., D.SC., professor of physics, McGill University, Montreal.
Barr, Walter, electrical expert, 758, Yonge-st., Toronto, Ont.
Barrett, J. W., installation contractor, 18, Crown-st., Que.
Barrie City Electric Light Plant, Barrie, Ont. Engineer, J. A. Hare; electrician, W. J. Willis.
Barton, Donald Strode, A.I.E.E., Levis, P.Q.
Barton, Rufus, engineer, Corporation Electricity Works, Iroquois, Ont.
Bass, T. B., engineer, Sussex Manufacturing Co., Sussex, N.B.
Bassett, Thos., electrician, Corporation Electricity Works, Collingwood, Ont.
Bathurst Electric & Water Power Co., Bathurst, N.B. Engineer, P. J. Leger.
Battleford Municipal Electric Light Plant, Battleford, Sask. Chief engineer, F. K. Martin.
Baylis, Jas. A., electrician, Bell Telephone Co. of Canada, Montreal.
Bean, M., engineer, Electricity Works, North Hatley, Que.
Bear River & Digby Light, Heat & Power Co., Bear River, N.S. Electrician, J. G. Purdy.
Beardmore Belting Co., makers of leather belting, 39, Front-st. East, Toronto.
Beattie, G. J., installation contractor, 109, Victoria-st., Toronto, Ont. (Teleph. No. 121, Main.)
Beattie, Wm., electrical engineer, Algoma Power Co., Ltd., Michipicoten River, Ont.
Beatty, J. H., engineer, Municipal Plant, Campbellford, Ont.
Beauchamp, Leon, A.AM.I.E.E., manager, Standard Construction Co., Montreal, Que. (Long Distance Teleph. No. 973, East.)
Beauharnois Electric Light Co., Beauharnois, P.Q. (Teleph. No. 10.) Engineer, D. Terrien; electrician, H. Faubert.
Beaumont & Still, The Colonial & Foreign Train Lighting Co., Ltd., Ottawa, Ont.
Beaupré, M., electrician, 13, St. Antoine-st., Three Rivers, Que.
Beaverton Electricity Works, Beaverton, Ont. Electrician, J. Dobson.
Beckwith, J. W., electrician, Bridgetown Electric Light & Power Co., Bridgetown, N.S.
Bedford Electric Light Plant, Bedford, Que. Corey & Campbell, proprietors.
Beebe, C. N., A.AM.I.E.E., Canadian Westinghouse Co., Ltd., Box 175, Vancouver, B.C.
Beeton Municipal Electricity Works, Beeton, Ont. Engineer, H. Harman.
Bell, W. J., dealer in electrical supplies, Beeton, Ont.
Bell, Professor A. G., M.I.E.E., M.AM.I.E.E., Baddeck, Nova Scotia.
Bell Telephone Co. of Canada, Ltd., 118, Nôtre Dame-st. West, Montreal.
Belleau, W., installation contractor, 363, St. Jean-st., Quebec, Que.
Belleville Gas Co., Belleville, Ont.
Belnap, L. J., A.AM.I.E.E., engineer, Allis-Chalmers-Bullock, Ltd., Montreal, P.Q.
Benjamin Electric Manufacturing Co., 64, York-st., Toronto, Ont.
Bennett, Fredk. K., installation contractor, Brandon, Man.
Bennett, J., engineer, Carleton Place Electric Light Co., Carleton Place, Ont.
Bennett, James, installation contractor, 319, Lindsay-bldg., Montreal.
Bennett & Wright Co., Ltd., electrical engineers & contractors, 72, Queen-st. E., Toronto.
Bennington, W., installation contractor, Stratford, Ont.
Bergeron Electric & Gas Supply Co., 831, St. Denis-st., Montreal, Que.
Berlin & Bridgeport Electric Street Railway Co., Ltd., Berlin, Ont.
Berlin City Electricity Works, Berlin, Ont. Engineer, E. Freis; electrician, E. J. Philips.
Berlin Electrical Manufacturing Co., Ltd., dry batteries, Toronto, Ont.

Canada—*continued.*

Berlin & Waterloo Street Railway, Berlin, Ont.
Bert, C. L., engineer, Canada Electric Co., Ltd., Amherst, N.S.
Bertram, John, & Sons Co., Ltd., makers of machine tools, Dundas, Ont. (Telegs.: "Bertram, Dundas.")
Bertschinger, A. H., electrical contractor, 76, Queen-st., Ottawa. (Teleph. No. 572.)
Besner & Charles, installation contractors, Valleyfield, Que.
Bethune, Geo. T., installation contractor, New Castle, N.B.
Binns, G. A., installation contractor, Newmarket, Ont.
Birchard, W. H., proprietor & engineer, Aurora Electric Light Plant, Aurora, Ont.
Bird, T. G., electrician, Grand Forks City Council Electricity Works, Grand Forks, B.C.
Bird, W. L., M.AM.I.E.E., A.M.AM.I.E.E., manager & secretary, Kaministiquia Power Co., Fort William, Ont.
Black, R. G., A.AM.I.E.E., general superintendent & electrical engineer, Toronto Electric Light & Power Co., Toronto, Ont.
Blenheim Electric Light Co., Blenheim, Ont.
Blind River Light, Heat & Power Co., Blind River, Ont.
Blindman River Electric Power Co., Ltd., Lacombe, Alberta. Engineer, E. J. Tett.
Blouin, Louis, installation contractor, 67, Bayard-st., Quebec, Que.
Blyth Electric Light Plant Co., Blyth, Ont.
Bobcaygeon Electricity Works, Bobcaygeon, Ont.
Boiler Inspection & Insurance Co., of steam boilers & electrical maintenance, Toronto, Ont.; & 227, B. of Trade-bldg., Montreal.
Boivin, O., electrician, Cie. Electrique de la Baie St. Paul, Baie St. Paul, Que.
Bongard, C. W., Co., Ltd., electrical supplies & specialities, 130, Bay-st.W., Toronto. (Teleph. Main 4726.)
Bonter, H., installation contractor, Trenton, Ont.
Bothwell Corporation Electricity Works, Bothwell, Ont. Engineer, E. Gilbert.
Boucher, C. S., engineer, Sydney Mines Electric Co., Sydney Mines, C.B.
Boudreault, O., installation contractor, 147, St. Paul-st., Quebec, Que.
Bowers, J. D., installation contractor, Strathcona, Alberta.
Bowler, P., superintendent, City Electricity Works, New Westminster, B.C.
Bowman, A., engineer, Electricity Works, Waterloo, Ont.
Bowmanville Electric Light Co., Bowmanville, Ont. Engineer, R. Holditch.
Bowness, E. W., A.AM.I.E.E., P.O. Box 941, Canadian Westinghouse Co., Ltd., Pender-st., Vancouver, B.C.
Boyd, H. H., A.AM.I.E.E., assistant electrical engineer, Canadian Pacific Railway Co., Winnipeg, Manitoba.
Boyd, W. B., engineer, Electrical Development Co. of Ontario, Toronto, Ont.
Boyden, T., M.I.E.E., Thoburn, Victoria, B.C.
Boyd, Valentine, A.AM.I.E.E., Canadian General Electric Co., Toronto, Ont.
Bracebridge Corporation Electricity Works, Bracebridge, Ont. Engineer, Wm. C. Simmons.
Bradun, J. E., electrician, Corporation Electricity Works, Wingham, Ont.
Brampton Electric Co., electric light contractors, Brampton, Ont. Engineer, Bert Ostrander.
Brampton Electric Light Co., Brampton, Ont.
Brampton Electric Light Co., Huttonville, Ont. Engineer, Bert. Ostrander; electrician, G. Ostrander.
Brandeis, Charles, consulting electrical & mechanical engineer, 160, St. James-st., Montreal. (Telegs.: "Brandeis, Montreal." W.U. Code Univ. Edition. Long Dist. Teleph. No. 3256, Main.)
Brandon, Edgar T. J., A.AM.I.E.E., assistant engineer, Hydro-Electric Power Commission of Ontario, Toronto, Ont.
Brandon Electric Light Co., Ltd., Brandon, Man.
Brantford Electric & Operating Co., Ltd., Brantford, Ont. Directors: Geo. H. Wilkes, Esq.; A. J. Wilkes, Esq.; H. R. Yates, Esq.
Brantford & Hamilton Electric Railway Co., Hamilton, Ont.
Brantford Street Railway Co. (Electric), Ltd., Brantford, Ont.
Breed, E. M., A.AM.I.E.E., district manager, Allis-Chalmers Bullock Co., Ltd., P.O. Box 941, Vancouver, B.C.
Bremner Electric Co., installation contractors, Edmonton, Alta.
Brenner, W. H., A.AM.I.E.E., Columbia Manufacturing Co., New Westminster, B.C.
Bridge Bros., electrical supplies, Thessalon, Ont.
Bridgetown Electric Light & Power Co., Ltd., Bridgetown, N.S. Electrician, J. W. Beckwith.
Bridgewater Town Council Electricity Works, Bridgewater, Lunenburg Co., N.S. Elecn., L. C. Pelling.
Brighton Municipal Electricity Works, Brighton, Ont. Engineer, W. D. Brooks.
Brisco, F, installation contractor, Chatham, Ont.
British American Sign Co., Ltd., electrical signs, 23, Adelaide-st. West, Toronto, Ont.
British Columbia Electric Railway Co., Ltd., Vancouver, B.C. (Telegs.: "Lassant, Vancouver." Teleph. No. 290); & Victoria & New Westminster, B.C. Engineer, R. H. Sperling; secretary, J. V. Armstrong. For further particulars, *see* BRITISH SECTION.
British Columbia Power & Manufacturing Co., electric power contractors, Atlin, B.C.
British Columbia Telephone Co., Ltd.; head office, Vancouver, B.C.
Brockville Corporation Electricity Works, Brockville, Ont. Engineer, C. T. Wilkinson.

Canada—*continued.*

Brome Lake Electric Light & Power Co., Waterloo, Que.
Brooks, E., dealer in electrical supplies, Bobcaygeon, Ont.
Brooks, W. D., engineer, Municipal Electricity Works, Brighton, Ont.
Brooksbank, Arthur, A.I.E.E., Aurora, Ont.
Brousseau, Geo., installation contractor, 83, St. Paul-st., Quebec, Que.
Brousseaux & Freres, installation contractors, 318, St. Paul-st., Quebec.
Brown, A. G., electrician, Amherstburgh Electric Light, Heat & Power Co., Amherstburgh, Ont.
Brown, D. B., electrical fixtures, Meaford, Ont.
Brown, D. W., electrician, Calgary Water Power Co. & Eau Claire Light & Power Co., Calgary, Alberta.
Brown, Ernest, A.I.E.E., Engineering Laboratories, McGill University, Montreal.
Brown, H. A., electrician, St. John Railway Co., St. John, N.B.
Brown, J. E., A.AM.I.E.E., electrical engineer, Municipal Electric Department, Ottawa.
Brown, Lester, electrician, The Kent Electric Co., Ltd., Richibucto, N.B.
Brown, R. A., superintendent & engineer, Corporation Electricity Department, Nelson, B.C.
Brown, S. W., A.AM.I.E.E., construction engineer, Canadian Westinghouse Co., Montreal.
Brown, H., & Son, installation contractors, Carleton Place, Ont.
Brussels Electric Light Co., Brussels, Ont. Proprietor, W. M. Sinclair. Engineer, Jno. Fisher.
Buck, H. W., hydraulic engineer, Canadian Niagara Power Co., Niagara Falls, Ont.
Bucke, W. A., A.AM.I.E.E., agent, Canadian General Electric Co., 37, Isabella-st. East, Toronto, Ont.
Buckingham Electric Light Co., Buckingham, Quebec. (Telephone No. 11.) Electrician, J. McGarvey.
Buddo, Geo., & Co., electrical contractors, 4103, St. Catherine-st. West, Montreal, Que.
Bull, E. W., engineer, Corporation Electricity Works, Regina, Saskatchewan.
Bulmer, H. E. P., electrical contractor, 30, York-ave., Montreal, Que. (Teleph. No. 487, Westmount.)
Burke, M. J., engineer, Mattawa Electric Light & Power Co., Ltd., Mattawa, Ont.
Burks Falls Electricity Works, Burks Falls, Ont. The Knight Bros. Co., proprietors. Electrician, W. Knight.
Burnett, Henry D., superintendent Incandescent Lamp Works, Canadian General Electric Co., Peterborough, Ont.
Burnett, J. A., A.AM.I.E.E., superintendent & electrical engineer, Montreal & Southern Counties Railway Co., 439, Grosvenor-ave., Montreal. (Teleph. No. 4040, Main.)
Burns, John A., mechanical & electrical engineer, Munderloh & Co., Montreal.
Burns, J. D., installation contractor, Wingham, Ont.
Burr, E. Godfrey, A.AM.I.E.E., demonstrator electrical engineering, McGill University, Montreal, Que.
Burran, Lewis, electrical engineer, Quebec Railway, Light & Power Co., Quebec.
Burrows & Parmelee, installation contractors, Haileybury, Ont.
Burson, H. A., A.AM.I.E.E., chief engineer, Packard Electric Co., St. Catharine's, Ont.
Byers, F. W., engineer, Nanaimo Electric Light, Heat & Power Co., Nanaimo, B.C.
Byng, Geo., jun., installation contractor, Bobcaygeon, Ont.
Byrnes, Joseph, installation contractor, 78, Lewis-st., Ottawa, Ont.
Byron, Wm., electrician, Renfrew Power Co., Ltd., Renfrew, Ont.
Calais Electric Railway Co., Calais, N.B.
Calgary Corporation Electricity Works, Calgary, Alberta. Engineer, J. F. McColl; electrician, Chas. Obrien.
Calgary Water Power Co., Ltd., electric light contractors, Calgary, Alberta. Engineer, T. Strom; electrician, D. W. Brown.
Callahan, B., engineer, Charlottetown Light & Power Co., Charlottetown, P.E.I.
Cambie, H. J., C.E., special assistant engineer, C. P. R., 1030, Georgia-st., Vancouver, B.C.
Cambridge, F. A., city electrician, Winnipeg, Man.
Camp, W. J., electrical engineer, Canadian Pacific Railway Co.'s Telegraph, Montreal.
Campbell, C. J., chief electrician, W. A. Mackay & Co., Box 524, Sydney, N.S.
Campbell, John M., electrical engineers, Kingston, Ont.
Campbell, J. W., A.AM.I.E.E., electrical engineer, Canadian General Electric Co., Toronto, Ont.
Campbell, T., installation contractor, Midland, Ont.
Campbell & Campbell, installation contractors, Vancouver, B.C.
Campbellford Municipal Electric Light Plant, Campbellford, Ont. Engineer, J. H. Beatty.
Campbelton City Electric Light Plant, Campbelton, N.B. Eugineer, H. G. V. Farrer.
Canada Chemical Manufacturing Co., manufacturers of chemicals, London, Ont.
Canada Cycle & Motor Co., Ltd., storage batteries, motors & electric vehicles, 151, Bay-st., Toronto. (Telegs.: "Cyclemote, Toronto.")
Canada Electric Co., Ltd., Amherst, N.S. Registered 1889. Nominal capital: $50,000 in $100 shares & $30,000 debentures. Issued: $42,800, fully paid, & all the debentures. Directors: N. A. Rhodes, Esq. (chairman); D. W. Robb, Esq.; J. Dickey, Esq.; R. D. Bent, Esq.; J. R. Lamy, Esq.; S. G. Chambers, Esq. Electrical engineer, Ira T. Davis; secretary, J. A. Davis.
Canada Electric Co., manufacturers of electroliers, brackets & pendants, 230, Dorchester-st. West, Montreal.

Canada—*continued.*

Canada Electric Syndicate, Ltd. (Frank Thompson, secretary), 77, Sovereign Bank-bldg., Montreal, Que.

Canada Electric & Water Power Co., Perth. Chief engineer, R. J. Smith.

Canada Foundry Co., Ltd., engineers, Toronto.

Canada Gold Car Heating & Lighting Co., Ltd., 472, St. Paul-st., Montreal, Que.

Canada Light & Equipment Co., Ltd., installation contractors, 75, Yonge-st., Toronto.

Canada Metal Co., Ltd., fuse wire & solder manufacturers, William-st., Toronto, Ont.

Canadian Association of Stationary Engineers, Toronto.

Canadian British Insulated Co., Ltd., Montreal, Que. (Telegs.: "Insulator, Montreal.")

Canadian Contract Record (weekly), Confederation Life-bldgs., Toronto, Ont. (Ann. sub., $2.)

Canadian Copper Co., Copper Cliff, Ont. Electrician, W. D. Fleet.

Canadian Crocker-Wheeler Co., Ltd., manufacturers & electrical engineers, Montreal.

Canadian Electric Co., elec. contracting & supplies, P.O. Box 958, Sault Ste. Marie, Ont. (Tel. No. 417.)

Canadian Electric Light Co., Ltd., electric light & power contractors, Quebec & Levis. (Bell Teleph. No. 120, Levis.) Directors: Hon. L. P. Pelletier (president); H. M. Price, Esq.; W. A. Marsh, Esq.; C. King, Esq.; E. Dussault, Esq.; G. Demers, Esq.; J. Gosselin, Esq.; R. Audete, Esq. Chief engineer, D. S. Barton.

Canadian Electric Novelty Co., manufacturers "Eclipse Dry Battery," 334, Spadina-ave., Toronto, Ont.

Canadian Electric & Water Power Co., Ltd., Perth, Ont. Engineer, R. J. Smith.

Canadian Electrical Association, Confederation Life-bldg., Toronto, Ont. (Sec.-treasurer, T. S. Young.)

Canadian Electrical & Motor Co., Ltd., mfrs. of electrical machinery, 468, King-st. West, Toronto, Ont.

Canadian Electrical News & Engineering Journal (monthly; ann. sub., $1), Confederation Life-bldg., Toronto. (Teleph. No. 2362.)

Canadian Engineer (weekly; Canada & Great Britain, price $2.00; U.S., price $3.50 per ann.; single copies, 15 cents; Foreign, 16s.), 62, Church-st., Toronto. (Teleph. No. 7404, Main, Toronto.)

Canadian General Electric Co., Ltd., manufacturers of & dealers in electrical machinery, supplies & apparatus, Toronto (Cablegrams: "Canedison, Toronto"); & Montreal, Halifax, Ottawa, Winnipeg, Vancouver, Rossland.

Canadian Hardware & Metal (weekly), Toronto & Montreal (Telegs.: "Macpubco, Toronto"); & 88, Fleet-st., London, E.C.

Canadian Independent Telephone Association. Secretary, F. Page Wilson, Confederation Life-bldg., Toronto, Ont.

Canadian Independent Telephone Co., Ltd., 26, Duncan-st., Toronto, Ont.

Canadian Iron & Foundry Co., Ltd., St. Thomas, Ontario.

Canadian Machine Telephone Co., 26, Duncan-st., Toronto, Ont.

Canadian Machinery & Manufacturing News (monthly), Toronto & Montreal (Telegs.: "Macpubco, Toronto"); & 88, Fleet-st., London, E.C.

Canadian Manufacturer (1st, 3rd & 4th Friday of each month. P.U., price 10s. post paid), McKinnon-bldg., Toronto. (Telegs.: "Canaman, Toronto." Western Union Telegraph Code, Long Distance Teleph. No. 1274, Main.) (J. C. Armer, editor; D. O. M. Kinnon, manager.)

Canadian Niagara Power Co., Niagara Falls, Ont. Authorized capital: $3,000,000. Issued: $500,000. Authorized debentures (Series A B & C): $8,000,000. Issued (A B & C): $6,500,000. Directors: W. H. Beatty, Esq. (president); A. Monro-Grier, Esq., K.C. (vice-president & secretary); W. H. Brouse, Esq.; Hon. Wallace Nesbitt, K.C.; de Lancey Rankine, Esq. Hydraulic engineer, H. W. Buck.

Canadian Pacific Railway Company's Telegraph, Montreal. (Tel. Main 1858.) J. F. Richardson, supt.

Canadian Rubber Co., manufacturers of rubber goods, including electrical supplies, Montreal. (Telegs.: "Rubander, Montreal." A.B.C. Code, 4th ed., Lieber's.)

Canadian Society of Civil Engineers (secretary, C. H. McLeod), 413, Dorchester-st., West Montreal. (Bell Teleph. No. 1232, Uptown.)

Canadian Street Railway Association, 157, Bay-st., Toronto, Ont.

Canadian Westinghouse Co., Ltd., Hamilton, Ont. (Telegs.: "Canwest, Hamilton.") District offices: Vancouver, B.C.; Winnipeg, Man.; Toronto, Ont.; Montreal, Que.; & Halifax, N.S.

Canadian White Co., electrical engineers, Sovereign Bank-bldg., Montreal.

Cannington Electricity Works, Cannington, Ont.

Cape Breton Electric Co., Ltd., Sydney, N.S. Directors: F. S. Pratt, Esq. (president); A. R. Todd, Esq.; A. Stuart Pratt, Esq. Electrical engineer, W. Ross.

Carberry City Electricity Works, Carberry, Man.

Cardinal Electric Light Co., Ltd., Cardinal, Ont.

Cargill, H., & Sons, proprietors, Electricity Works, Cargill, Ont. Electrician, F. L. Martin.

Carleton Place Electric Light Co., Carleton-pl., Ont. Engineer, J. Bennet.

Carlton Electric Light & Power Co., St. John, N.B.

Carman, Town of, Electric Light (Municipal), Carman, nr. Winnipeg, Man. Engineer, H. Greenham; electrician, M. J. Melville.

Carmichael, J. W., consulting electrical engineer, 40, Bell Tele.-bldg., Montreal, Que.

Carruthers, H. R., engineer, Alvinston Power Co., Ltd., Alvinston, Ont.

Canada—*continued.*

Carter, R. F., Electric Co., installation contractors, Niagara Falls, Ont.
Carteret, Captain W. G. S. de, Anglo-American Telegraph Co.'s cable ship "Minia," Halifax, N.S.
Cascade Water, Power & Light Co., Cascade, B.C. Electrical engineer, Wm. Anderson.
Castle & Son, electrical fixtures, 568, St. Catherine-st. West, Montreal.
Cataract Electric Co., Cataract, Ont.
Cataract Electric Co., Ltd., Orangeville & Cataract; Alton; Erin.
Central Electric Co., electric light & power contractors, Portage La Prairie, Manitoba.
Central Electric & School Supply Co., Ltd., dealers in electrical supplies, 36, Adelaide-st. W., Toronto.
Central Heat, Light & Power Co., Ltd., Montreal. Engineer, J. Russell; electrician, E. Deladwantage.
Central Light & Power Co., Wolseley, Sask.
Central Ontario Power Co., Peterborough, Ont.
Central Telephone Co., Ltd., Bridgewater, N.S.
Centreville Municipal Electricity Works, Centreville, N.B.
Century Electric Co., installation contractors, 579, St. Paul-st., Montreal, Que.
Century Electric & School Supply Co., dealers in electrical supplies, Toronto, Ont.
Century Telephone Construction Co., telephone apparatus makers, Bridgeburg, Ont.
Chace, W. G., B.A.SC., A.AM.I.E.E., A.M.I.E.E., Carnegie Library, Winnipeg, Man.
Chadwick Bros., manufacturers & dealers in electrical supplies, 193, King-st. East, Hamilton, Ont.
Chalmers, Jas., installation contractor, St. Mary's, Ont.
Chambers Electric Light & Power Co., Truro, N.S.
Chambly Electric Co., electrical engineers, manufacturers & contractors, 55, St. Antoine-st., Montreal, Que. (Telegs.: "Chamblylectric, Montreal." Bell Teleph. Main No. 2966.)
Chambly Manufacturing Co., Richelieu Village, Que.
Channell, H. E., manager Stanstead Electric Light Co., Stanstead, Que.
Chapman, H., engineer, Yukon Electrical Co., Ltd., White Horse, Yukon Ter.
Charlottetown Light & Power Co., Charlottetown, P.E.I.
Chase, W. M., engineer, Essex Electric Light & Power Co., Essex, Ont.
Chatham Corporation Electricity Works, Chatham, Ont. Engr., L. A. Trott; elecn., Job Moore.
Chatham Gas Co., Ltd., Chatham, Ont. Engineer, E. Grandbois; electrician, F. Hayes.
Chatham Town Council Electricity Works, Chatham, N.B. Engineer, L. A. Trott.
Chatham, Wallaceburg & Lake Erie Railway Co., Chatham., Ont. President, Geo. W. Kipp, Esq.; vice-president, N. H. Stevens, Esq.; secretary, J. G. Kerr.
Chesley Electric Light Co., Chesley, Ont.
Chipman, Willis, electrical engineer, 103, Bay-st., Toronto, Ont.
Chisholm, F. A., engineer, St. John's Electric Light Co., St. John's, Que.
Chisholm, W. W., electrician, Windsor, Essex & Lake Shore Railway Co., Kingsville, Ont.
Choate, C., electrician, The Lincoln Electric Light & Power Co., St. Catherine, Ont.
Choisnet, J., engineer, Corporation Electricity Works, Parsboro, N.S.
Choquette, A. E., electrical supplies, Sherbrooke, Que.
Choquette, J. E., engineer, Cie. Éclairage de Mègantic, Mègantic (Lac), Compton Co., Que.
Chowen, Fred R., engineer, Stratford Gas Co., Stratford, Ont.
Christie, Clarence Victor, A.AM.I.E.E., lecturer, McGill University, Electrical Department, Montreal, Que.
City Electric Co., installation contractors, Edmonton, Alta.
City Electric Co., 105, Metcheson-st., Montreal, Que.
Clark, James, installation contractor, Windsor, Ont.
Clarke & Macdonald, dealers in electrical supplies, Metropole-bldg., Halifax, N.S. (Telegs.: "Electric.")
Cleland Bros., electrical fixtures, Meaford, Ont.
Clinton Electric Light Co., Clinton, Ont. Engrs., W. J. Medyer & E. Rumball; elecn., W. J. Stevenson.
Cluxton, W. H., superintendent Porcelain Works, Canadian General Electric Co., Peterborough, Ont.
Coaticook Municipal Electricity Works, Coaticook, Que.
Coburg Water & Electric Co., Ltd., Coburg, Ont. Engineer, J. Crozier; electrician, Geo. Lowe.
Coburn, C. N., engineer, International Transit Co., Sault Ste. Marie, Ont.
Cochrane, Frank, electrical supplies, Sudbury, Ont.
Cochrane, J. B., professor of physical science, Royal Military College, Kingston, Ont.
Cockroft, E. E., electrician, Canadian Mining & Smelting Co. of Canada, Ltd., Trail, B.C.
Colborne Electric Light Co., Colborne, Ont. Engineer, S. E. Turpin.
Cole, G. Percy, M.SC., A.M.I.E.E., Engineering Department, Allis-Chalmers-Bullock, Ltd., Montreal, P.Q.
Coleman, V. B., engineer, Port Hope Electric Light & Power Co., Port Hope, Ont.
Collier, W. H., B.A., M.E.E., consulting mechanical & electrical engineer, Collier-Cunningham Co., Peterborough, Ont.
Collier-Cunningham Co., Ltd., manufacturers of electrical heating apparatus, Peterborough, Ont.
Collingwood Corporation Electric Lighting Station, Ont. Engr., John Rose; elecn., Thos. Bassett.
Collins, T., electrician, Mount Forest Electric Light Co., Mount Forest, Ont.
Collyer, Alfred, B.A.SC., A.I.E.E., Bell Telephone-bldg., Montreal.

Canada—*continued.*

Collyer, Alfred, & Co., manufacturers' agents, Bell Telephone-bldg., Montreal.
Collyer & Brock, electrical engineers & contractors, 1801A, Notre Dame-st., Montreal.
Colpitt, P. R., city electrical engineer, Halifax, N.S.
Colville Electric Co., installation contractors, Toronto, Ont.
Commeford, J. W., jun., installation contractor, 292, College-st., Toronto, Ont.
Commercial Cable Co., Hazel Hill, Guysboro County, N.S.
Commercial Electric Co., electrical fixtures, London, Ont.
Compagnie d'Aqueduc La Providence de St. Hyacinthe, St. Hyacinthe, Que.
Compagnie de Lumière Electrique Impériale, Montreal. Chief engineer, A. Lapage.
Compagnie des Eaux et d'Electricité de Chicoutimi, Chicoutimi, Que. Engineer, J. G. Grenon; electrician, P. Ouillet.
Compagnie Éclairage de Mègantic, Lac Mègantic, Crompton Co., Que. Engineer, J. E. Choquette.
Compagnie d'Électricité de Roberval, Roberval, Que.
Compagnie Electrique de la Baie de St. Paul, St. Paul's Bay, Que. Electrician, O. Boivin.
Compagnie Electrique de Plessisville, Plessisville, Que.
Compagnie Electrique du Bic, Fraserville, Que. (Teleph. No. 5, Kamouraska.) Works: Bic, Que. (Teleph. No. 13, Kamouraska.)
Conduits Co., Ltd., makers of conduits, Toronto & Montreal.
Connors, H., engineer, Petrolia Electric Light, Heat & Power Co., Ltd., Petrolia, Ont.
Consolidated Electric Co., Ltd., A.C. & D.C., motor & electrical apparatus makers, Toronto.
Converse, V. G., A.AM.I.E.E., engineer-in charge, Ontario Power Co., Niagara Falls South, Ont.
Cook, W. F., engineer, City Electricity Works, Vernon, B.C.
Cooke, A. M., dealer in optical, mathematical & electrical instruments & machinery, Port Arthur, Ont.
Cooke & Ryan, electrical supplies, Prince Albert, Sask.
Cope, C., engineer, Municipal Electricity Works, Edmonton, N.W.T.
Cope & Son, wholesale electric supplies, 338, Hastings, W., Vancouver, B.C.
Copland, A., chief engineer, Glencoe Electric Light Co., Glencoe, Ont.
Coppins, E. S., electrical supplies, 373, Dundas-st., Woodstock, Ont. (Teleph No. 150.)
Cornwall, S. A., A.AM.I.E.E., engineer, B.C. Electric Railway Co., Vancouver, B.C.
Cornwall Street Railway, Light & Power Co., Ltd., Cornwall, Ont. Electrician & manager, Wm. Hodge.
Corringham, Geo. H., A.M.I.C.E., A.M.I.E.E., Vernon, B.C.
Cortlandt Electrical Manufacturing Co., Ltd., makers of fire alarms, 106, Lombard-st., Toronto, Ont.
Cosey & Campbell, proprietors Electricity Works, Bedford, P.Q.
Cossey, Ralph, electrical contractor, Berlin, Ont. (Teleph. No. 453.)
Costello & Crowe, installation contractors, 265, Rideau-st., Ottawa.
Cotten, F. W., installation contractor, 865, Cadieux-st., Montreal.
Coursol, A. G., superintendent, Sorel Electric Light Co., Sorel, Que.
Cowansville Municipal Electric Light Plant, Cowansville, Que.
Cowell, W. J. R., B.A., F.G.S., M.E., 43, Fort Pemberton-rd., Victoria, B.C.
Cox, John, professor of physics, McGill University, Montreal.
Crabb, G., engineer, Seaforth Electric Light, Heat & Power Co., Ltd., Seaforth, Ont.
Cranbrook Electric Light Co., Ltd., Cranbrook, B.C.
Crandall, T. O., electrician, Corporation Electricity Works, Picton, Ont.
Crawford & Lappin, installation contractors, St. Catherine's, Ont. (Teleph. No. 228.)
Creemore Electricity Works, Creemore, Ont.
Crofton Storage Battery Co., electric automobiles, yachts & storage batteries & miniature lamps, 423-425, West Queen-st., Toronto, Ont. (Long Distance Teleph. No. 5072, Main.)
Crosbie, Thos., installation contractor, Perth, Ont.
Crosby, J. W., electrician, Halifax Electric Tramway Co., Halifax, N.S.
Crosby, W., electrician, Municipal Electricity Works, Perth, Ont.
Crossen Car Manufacturing Co. of Cobourg, Ltd., makers of electric cars, Cobourg, Ont.
Crow's Nest Pass Electric Light & Power Co., Ltd., Fernie, B.C. Chief engineer, J. McEvoy; superintendent & chief electrician, H. H. Depew.
Crozier, J., engineer, Cobourg Water & Electric Co., Ltd., Cobourg, Ont.
Crystal Electric Sign Co., electric signs, 340, Sparks-st, Ottawa, Ont.
Culbertson, Dr. J. N., M.I.E.E., telephone & electrical engineer, Merchants Telephone Co., Montreal.
Culley & Breay, installation contractors & jobbers in electric supplies, Hamilton, Ont.
Cumberland Electric Co., Ltd., Cumberland, Vancouver Island, B.C. Engineer, J. D. Winningham.
Cunningham & Butcher, installation contractors, Paris, Ont.
Currie, N. M., A.AM.I.E.E., consulting engineer, St. Marys, Ont.
Currie, William, jun., A.AM.I.E.E., electrical engineer, 89, Union-ave., Montreal.
Cusgrein, L. A., engineer, Cie. des Eaux et de l'Electricité de Chicoutimi, Chicoutimi, Que.
Dagger, F., telephone expert, Regina, Sask.
Daley, John, electric light & power contractor, Digby, N.S.

Canada—*continued.*

Danville Electricity Works, Danville, P.Q. Proprietor, Thos. Crockett.
Darling, J., installation contractor, St. Mary's, Ont.
Darling Bros., mechanical engineers, 7, Ottawa-st., Montreal.
Darrall, Chas. H., A.AM.I.E.E., engr. of tests, Canadian Westinghouse Co., 135, Main-st., West Hamilton, Ont.
Dartmouth Electric Light, Heating & Power Co., Ltd., Dartmouth, N.S.
Date, John, electrolier manufacturer & fitter, 152, Craig-st. West, Montreal.
Davenport, Geo. E., electric supplies, electric light wiring & repairing, 1378, Queen-st. West, Toronto, Ont. (Teleph. Nos.: 447, Park; & 10, Evenings.)
David, A., installation contractor, St. Denis-st., Montreal, Que.
Davidson, John, chief engineer, Smith's Falls Electric Light Co., Smith's Falls, Ont.
Davidson, R., engineer, Electricity Works, Whitby, Ont.
Davidson, T., engineer, Town Council Electricity Works, Newmarket, Ont.
Davies, J. G., manager, Great North Western Telegraph Co., Ottawa. (Teleph. No. 1079.)
Davis, L. H., chief engineer, Tagona Water & Light & Lake Superior Power Cos., Sault Ste. Marie, Ont.
Davis, Sanford, A.AM.I.E.E., Canadian General Electric Co., 14, King-st., East Toronto.
Dawson Electric Light & Power Co., Ltd. (P.O. Box 960), Dawson, Yukon. Chief engineer, A. E. Lee. (Teleph. Nos. 46, 150, 188.)
Dawson, J. A., & Co., dealers in street railway & electrical supplies, 148, McGill-st., Montreal, P.Q. (Telegs.: "Dawson, Montreal." W.U. Code. Long Distance Tel. No. 4406, Main); & Winnipeg, Man.
Day, H., engineer, Petrolia Electric Light, Heat & Power Co., Ltd., Petrolia, Ont.
Daykin, W., engineer, Electricity Works, Norwich, Ont.
Deakin, C. E., installation contractor, 11, St. Sacrement-st., Montreal, Que.
Death, N. P. F., A.AM.I.E.E., chief engineer, Death & Watson, 25, Jarvis-st., Toronto, Ont.
Degrez, C., engineer, North Shore Power Co., Three Rivers, Que.
Deladwantage, E., electrician, Central Heat, Light & Power Co., Ltd., Montreal.
Delhi Light & Power Co., Delhi, Ont. Engineer, Geo. E. Quance; electrician, A. M. Aven.
Delisle, E., electrician, Cie. d'Electricité de Roberval, Roberval, Que.
De Long & Peel, installation contractors, Toronto, Ont.
Demorest, Stull & Low, electrical engineers, Sturgeon Falls, Ont.
Denis, Léo. G., electrical engineer, Quebec Jacques-Cartier Electric Co., Quebec.
Depew, Harry H., A.AM.I.E.E., general superintendent, Crow's Nest Pass E. Lt. & Power Co., Fernie, B.C.
Desilets, Jules T., electrical contractor, Three Rivers, Que. (Bell Teleph. No. 21.)
Desjardins, S., engineer, J. T. Ayer's Electricity Works, Lachute, Argenteuil Co., P.Q.
Desolier, A., engineer, Cie. de Gaz, Electricité et Pouvoir, St. Hyacinthe, Que.
De Witt Electric Co., Ltd., electrical contractors, Truro, N.S.
Dietrich, W. N., electrical engineer, Canadian Pacific Railway, Montreal.
Digby, J. C., electrical engineer, New Westminster, B.C.
Digby Electric Co., Digby, N.S.
Dion, Alfred A., M.AM.I.E.E., M.C.S.C.E., electrical engineer & general superintendent for Ottawa Electric Co., Ottawa, Ont. (Teleph. No. 1120.)
Dion, N., installation contractor, Fraserville, Que.
Dixville Electric Light, Dixville, P.Q. Proprietor, J. B. Parker.
Dobbie, A. G., & Co., electrical supplies, Brockville, Ont.
Dobie, Robt., mechanical superintendent, Canadian General Electric Co., Peterborough, Ont.
Dobson, A., engineer, Electricity Works, Cannington, Ont.
Dobson, J., electrician, Electricity Works, Beaverton, Ont.
Dodd, J. R., superintendent, Arnprior Electric Light & Power Co., Arnprior, Ont.
Dodge Manufacturing Co. of Toronto, Ltd., power transmission machinery & Dodge Standard wood-split pulleys, 138, Bay-st., Toronto, Ont.
Doeringer, A. W., installation contractor, Brantford, Ont.
Dolan, L. A., chief engineer, Nova Scotia Telephone Co., Ltd., P.O. Drawer 592, Halifax, N.S.
Dominion Electric Manufacturing Co., Ltd., manufacturing electricians, 955, St. James-st., Montreal, Que.
Dominion Eng. & Construction Co., Ltd., installation contractors, 38, Sovereign Bank-bldg., Montreal.
Dominion Mica Works, Ltd., 148, McGill-st, Montreal. Works: 534, Wellington-st., Ottawa.
Dominion Power & Transmission Co., Ltd., Hamilton. (Telegs.: "Electrico, Hamilton.") President: J. R. Moodie, Esq.; vice-presidents: Jas. Dixon, Esq. Directors: J. W. Sutherland, Esq.; S. O. Greening, Esq.; Andrew Cooke, Esq.; Lloyd Harris, Esq.; Wm. Southam, Esq. Treasurer, John Knox; secretary & general manager, Wm. C. Hawkins.
Dominion School of Telegraphy, 9, Adelaide-st. East, Toronto, Ont.
Dominion Telegraph Co., 2, Toronto-st., Toronto. Thos. Swinyard, president; Frederic Roper, secretary & treasurer. Western Union Telegraph Co., lessees; Great North Western Tel. Co., sub-lessees.
Dominion Wire Mfg. Co., Ltd., manufacturers of all kinds of wire, Montreal. Works: Lachine, Que.
Donald, Dr. J. T., electro-chemist, 112, St. Francois Xavier-st., Montreal, Que. (Teleph. Main. No. 2264.)
Donaldson & Wark, installation contractors, Hamilton, Ont.

Canada—*continued.*

Donnelly, J., chief engineer, Corporation Electricity Works, Westmount, Que.
Douglas, D. W., electrical supplies, Campbellford, Ont.
Douglas & Co., electrical supplies, Amherst, N.S.
Doull, W. P., installation contractor, Charlottetown, P.E.I.
Dowd Milling Co., Ltd., Pakenham, Ont.
Drayton Electricity Works, Drayton, Ont. Engineer, R. O. Hube.
Dresden Corporation Electricity Works, Dresden, Ont. Engineer, Chas. Eberlee.
Drew, W. J. B., A.AM.I.E.E., elec. engineer, Montreal Light, Heat & Power Co., Power-bldg., Montreal.
Drummondville Town Council Electricity Works, Drummondville, P.Q.
Duff, W. A., A.AM.I.E.E., Canadian Westinghouse Co., Ltd., Montreal, Que.
Duncan, T. Y., electrician, Yukon Electrical Co., Ltd., White Horse, Yukon Ter.
Duncan, W. E. D., M.I.E.E., Merritt, Nicola Valley, B.C.
Duncan Electrical Co., mfrs. of elec. supplies, 86, Grey Nun-st., Montreal. (Bell Tel. No. 3087, Main.)
Dundalk Town Council Electricity Works, Dundalk, Ont.
Dunlap Bros. & Co., Ltd., electrical supplies, Amherst, N.S.
Dunlop, Robert J., A.AM.I.E.E., technical salesman, Canadian Westinghouse Co., 27, Montague-pl., Toronto, Ont.
Dunn, J. A., Ltd., electric fittings, Halifax, N.S. (Teleph. No. 361.)
Dunnville Electric Light Co., Ltd., Dunnville, Ont. Engineer, E. G. Ward.
Dunstan, K. J., local manager of the Bell Telephone Co., Toronto, Ont.
Durham Electric Co., Durham, Ont. Manager, N. McIntyre.
Dutton Electric Light Co., Ltd., Dutton, Ont. Directors: Wm. M'Landress, Esq.; T. Hockin, Esq.; F. W. Drake, Esq.; J. B. Crawford, Esq.; J. H. M'Intyre, Esq. Engineer, Alex. Law; secretary, C. St. Clair Leitch.
Dwight, H. P., president, Great North-Western Telegraph Co., Toronto.
Eastern Electrical Engineering Co., electrical engineers & contractors, 316, Lagauchetière West, Montreal, Que. (Teleph. Main No. 760.)
Eastern Telephone Co., Ltd., Sydney, Cape Breton, N.S. Manager, W. A. Winfield.
Eastern Township Electric Co., North Hatley, P.Q. Electrician, J. H. Kezon.
Eastman Machine Co., manufacturing electricians, 59, Adelaide-st. West, Toronto, Ont. (Tel. No. 4471.)
Eau Claire Light & Power Co., Calgary, Alberta. (Teleph. No. 45.) Engineer, Theo. Strom; electrician, D. W. Brown.
Eberlée, Chas., engineer, Corporation Electricity Works, Dresden, Ont.
Edington, J., engineer, City of Moncton Water & Light Department, Moncton, N.B.
Edison Electric Light & Power Co. of Springhill, Ltd., Spring Hill, N.S. Directors: W. J. Pippy, Esq. (chairman & electrician); Robt. Murray, Esq.; W. H. Murray, Esq. Engineer, A. A. Fraser; secretary, W. H. Murray.
Edmondson, C. S., engineer, Oshawa Electric Co., Oshawa, Ont.
Edmonton Municipal Electricity Works & Railway, Edmonton, Alberta. Engineer, C. Cope; electrician, A. W. Ormsby.
Edwards, H. O., electrical engineer, Canadian General Electric Co., Toronto, Ont.
Egerton Tramway Co., Halifax, N.S.
Eisenbeis, W. H., A.AM.I.E.E., Can. W. E. & M. Co., Traders Bank-bldg., Toronto, Ont.
Electric Construction Co., installation contractors, Berlin, Ont.
Electric Engineering & Supply Co., manufacturers & contractors, St. Hilaire Station, Que.
Electric Ignition Co., manufacturers of dry batteries, Berlin, Ont.
Electric Reduction Co., manufacturers of chemicals, &c., Buckingham, Que.
Electric Repair & Contracting Co., 619, Lagauchetiere-st. West, Montreal, Que. (Teleph. No. 2177.)
Electric Repair & Supply Co., installation contractors, Sherbrooke, Que.
Electrical Construction Co., of London, installation contractors, London.
Electrical Contractors' Association of Province of Quebec, Montreal.
Electrical Development Co. of Ontario, Ltd., Niagara Falls Park, Niagara, Ont.; & Toronto. (Telegs.: "Electrico, Toronto.") Engineer, W. B. Boyd.
Electrical Machinery Co. of Toronto, installation contractors, Toronto, Ont. (Telegs.: "Electrochin, Toronto." Teleph. No. 6639.)
Electrical Maintenance & Repairs Co., electrical machinery repairers, Toronto, Ont. (Tel. Main No. 3419.)
Electrical Specialties, Ltd., makers of dry batteries, 12, Shuter-st., Toronto, Ont.
Electrical Supply Co., dealers in electrical supplies, 67, James-st., Hamilton.
Electrical Supply Co., dealers in electrical supplies, Moncton, N.B.
Electrical Trades Association of Canada, Ltd. Secretary, William R. Stanley, Royal Insurance-bldg., Montreal.
Electrical Wiring, Fixtures & Supply Co., installation contractors, Toronto, Ont.
Ellacott, J. A., & Co., installation contractors, Ottawa, Ont.
Elliott, R., engineer, Galt Gas Light Co., Ltd., Galt, Ont.

Canada—*continued.*

Elliott, W. G., electric railway contractor, Brantford, Ont.
Ellis, R., engineer, Town Electricity Works, Milton, Ont.
Elmvale Electricity Works, Elmvale, Ont. G. Copeland & Sons, proprietors.
Embro Electricity Works, Embro, Ont. G. H. Borall, proprietor.
Empire Electric Co., of Ottawa, manufacturing electricians, Corry-bldg., Rideau-st., Ottawa, Ont. (Teleph. No. 296.)
Engineering Equipment & Supply Co., electrical supplies, Lindsay bldg., Montreal, Que.
Enterprise Electric Co., installation contractors, Calgary, Alta.
Esling, Albert, A.AM.I.E.E., R. E. T. Pringle Co., Toronto, Ont.
Essex Electric Light & Power Co., Essex, Ont. Engineer, W. M. Chase.
Evans, John, engineer, Municipal Electricity Works, Kingston, Ont.
Evans, Owen N., patent agent & expert, Merchant's Bank-bldg., Montreal. (Telegs.: "Onevans, Montreal." Teleph. Main 192.)
Everitt, W. S., installation contractor, Thamesville, Ont.
Excelsior Light, Heat & Power Co., Lucan, Ont.
Exeter Electricity Works, Exeter, Ont. Snell & Zuefle, proprietors. Engineer, C. Zuefle.
Falls Power Co., Welland, Ont.
Farnan & Dipper, dealers in electrical supplies, Grimsby, Ont.
Farnham Electricity Works, Farnham, Que. Proprietor, G. Poulin. Engineer, W. C. Girard
Farnsworth, F. B., electrician, Corporation Electricity Works, Granby, Que.
Farquhar Bros., contractors & dealers in electrical supplies, 16, Barrington-st., Halifax, N.S.
Farquharson, H. L., electrician, Corporation Electricity Works, Fort William, Ont.
Farrer, H. G. V., engineer, City Electric Light Plant, Campbellton, N.B.
Farwell, J. B., & Son, Canadian cedar telegraph, telephone & electric light poles, Bancroft, Ont.
Faubert, H., electrician, Beauharnois Electric Light Co., Beauharnois, P.Q.
Federal Electric Construction Co., electrical engineers & contractors, Toronto, Ont.
Fenelon Falls Municipal Electricity Works, Fenelon Falls, Ont.
Fenn, S., superintendent Direct United States Cable Co., Halifax, Nova Scotia.
Fergus Electric Light Plant (A. Groves, owner), Ont. (Teleph. No. 29.) Electrician & engineer, Jos. Wilson.
Featherstonehaugh, E. P., professor of electricity, Manitoba University, Winnipeg, Man.
Ferguson, John, & Sons, Ltd., dealers in electrical supplies, New Castle, N.B.
Fetherstonhaugh & Co., patent solicitors & experts, Royal Bank-bldg., 10, King-st. East, Toronto, Ont. (Telegs.: "Invention, Toronto." Teleph. No. 2589); 5, Elgin-st., Ottawa (Teleph. No. 1870); & Canada Life-bldg., Montreal, Que.
Fife, G., engineer, Renfrew Electric Co., Renfrew, Ont.
Fisher, John, engineer, Electricity Works, Brussels, Ont.
Fisk, H. O., chief engineer, Peterboro' Light & Power Co., & Radial Railway Co., Peterboro', Ont.
Fiske, W. H., A.AM.I.E.E., electrician, Toronto Railway Co., Toronto, Ont.
Fleet, W. D., electrician, Canada Copper Co., Copper Cliff, Ont.
Fleming, Hugh, installation contractor, 108, Davis-st., Sarnia, Ont.
Fletcher, W. J., electrician, Alliston Electric Light Co., Alliston, Ont.
Fletcher & McGurvey, dealers in electrical supplies, Saskatoon, Sask.
Flint & Forrest, installation contractors, 5, Clossé-st., Montreal, Que.
Flood, M., electrician, Corporation Electricity Works, Owen Sound, Ont.
Fogarty, Bert, engineer, North River Power Co., Ltd., Montreal.
Fonderie de Roberval, Roberval, Que. Electrician, E. Delisle.
Fontaine & Daly, dealers in electrical supplies, Joliette, Que.
Forest Electric Light Co., Forest, Ont. Electrician, Jas. Prout.
Forman, John, dealer in & manufacturer of electrical supplies, 248 & 250, Craig-st., Montreal. (Telegs.: "Forman, Montreal." Teleph. No. 5330, Private Ex. Main.)
Fort Electric Co., Ltd., Fort Saskatchewan, Alberta.
Fort Saskatchewan Electric Co., Fort Saskatchewan, Alberta.
Fort William Corporation Electricity Works, Fort William, Ont. Engineer, H. G. Hancock; electrician, H. L. Farquharson.
Foster, B., engineer, Georgetown Electric Light & Power Co., Ltd., Georgetown, Ont.
Foster, F. H., A.AM.I.E.E., Engineering Dept., Hamilton Electric Light & Power Co., Hamilton, Ont.
Foster, G. E., electrician, Municipal Electricity Works, Niagara Falls, Ont.
Foulis, George, engineer, Yarmouth Street Railway Co., Ltd., Yarmouth, N.S.
Fowld Co., Ltd., electric light & power contractors, Hastings, Ont.
Fox, L., installation contractor, Newmarket, Ont.
Frankford Electric Light Co., Ltd., Frankford, Ont. Treasurer & manager, M. S. Miller.
Fraserville Municipal Electric Light Plant, Fraserville, Que. Electrician, J. W. Hogg.
Fredericton Gas & Electric Light Co., Fredericton, N.B. Engineer, H. D. White.

Canada—*continued.*

Fredericton Municipal Electricity Works, Fredericton, N.B.
Freeman, M., engineer, Lethbridge Water Works & Electric Light Co., Ltd., Lethbridge, Alberta.
Freeman, P. A., C.E., engineer, Halifax Electric Tramway Co., Ltd., Halifax, N.S.
Freis, F., engineer, Municipal Electricity Works, Berlin, Ont.
French, Orrin F., superintendent of telephone construction, Government Telephone System, Winnipeg, Man.
Fries, J. E., A.AM.I.E.E., commercial engineer, Canadian General Electric Co., Toronto, Ont.
Frizzell, F. W., electrician, Corporation Electricity Works, Glace Bay, N.S.
Frizzell, L. K., engineer, Corporation Electricity Works, Glace Bay, N.S.
Gaby, Fred. A., A.AM.I.E.E., chief assistant engineer, Hydro-Electric Power Commission of Ontario, Toronto, Ont.
Gagnon, J. A., installation contractor, 733, Notre Dame-st., Montreal, Que.
Gagnon, S., installation contractor, 1924, St. Lawrence-boul., Montreal, Que.
Gale, Geo. G., engineer, Hull Electric Co., Aylmer, Que.
Galt Gas Light Co., electric light contractors, Galt, Ont. Directors: D. Spiers, Esq.; H. M'Culloch, Esq.; H. M'Culloch, jun., Esq. Engineer, R. Elliott.
Galt, Preston & Hespeler Street Railway Co., Ltd., electric tramway, Galt, Ont. Capital authorized: $100,000 stock. Directors: M. N. Todd, Esq.; Geo. D. Forbes, Esq.; F. Clare, Esq.; Jas. Osborne, Esq.; H. M'Culloch, jun., Esq. Electrician, M. Kirkwood.
Galvanic Battery Works Co., manufacturing electricians. Selling agents: I. Stevens & Son Co., 145, Wellington-st. West, Toronto.
Gananoque Electric Light & Water Supply Co., Gananoque, Ont. Engineer, B. Heaslip.
Gardner, R., & Son, makers of machinery, 50, Nazareth-st., Montreal.
Garneau, J. I., electrical supplies, Levis, Que.
Garrioch, Godard & Co., electrical engineers & dealers in electrical supplies, 11, Elgin-st., Ottawa, Ont.
Garth Co., manufacturers of electric light fittings, 26–32, Craig-st. West, Montreal.
Gartshore, J. J., dealer in electric tramway supplies, 83, Front-st. West, Toronto, Ont. (Telegs.: "Gartshore, Toronto." Teleph. No. 3312, Main.)
Gas, Electric & Power Co. of St. Hyacinthe, Que. Electrician, G. Pominville.
Gay, Chas., installation contractor, 779, St. Andre-st., Montreal, Que.
Gelling, L. C., district superintendent, Nova Scotia Telephone Co., Ltd., Bridgewater, N.S.
General Electric Mica Works, mica merchants, Rochester & Albert-sts., Ottawa.
Georgetown Electric Light & Power Co., Ltd., Georgetown, Ont. Engineer, B. Foster.
Gerrard, F. B., superintendent, Commercial Cable Co., Hazelhill, Nova Scotia.
Gibson, Elbert Eugene, A.A.M.I E.E., general superintendent, South Kootenay Water Power Co., Rossland, B.C.
Giguere, L. C., installation contractor, 316, St. Joseph-st., Quebec.
Giguere, P. P., installation contractor, Quebec.
Gilbert, B., electrician, Benjamin Manufacturing Co., Ltd., Yarker, Ont.
Gilbert, E., engineer, Corporation Electricity Works, Bothwell, Ont.
Gill, Prof. L. W., A.AM.I.E.E., School of Mining, Kingston, Ont.
Girard, W. C., engineer, Farnham Electric Light Co., Farnham, Que.
Gisborne, H., M.I.E.E., M.CAN.SOC.C.E., electrical engineer, Yoxall Lodge, Ladysmith, Vancouver, B.C.
Glace Bay Corporation Electricity Works, Glace Bay, N.S. Engineer, L. K. Frizzell; electrician & superintendent, F. W. Frizzell.
Glassco, John G., A.AM.I.E.E., Dominion Power & Transmission Co., Ltd., Hamilton, Ont.
Gledhill, J. W., installation contractor, Huntsville, Ont.
Glencoe Electric Light Co., Glencoe, Ont. Chief engineer, A. Copland.
Glencoe Municipal Electricity Works, Glencoe, Ont. Manager, Hiram Lumley.
Glenn, P., engineer, Electricity Works, Stayner, Ont.
Globe Electric Co., electric fixtures, Vancouver, B.C.
Goderich Corporation Electricity Works, Ontario. Engineer, J. B. Kelly.
Goldie & McCulloch Co., Ltd., makers of electric light engines, Galt, Ont.; & Montreal.
Goodhue, J. L., & Co., tanners & makers of leather belting, Danville, Que.
Goodyear, Chas., electrical supplies dealer & agent, 56, Albert-st., Winnipeg, Man.
Gorman, Clancey & Grindley, electrical supplies, Edmonton, Alberta.
Gould Storage Battery Co., manufacturers of accumulators, 2, Bloor-st. East, Toronto, Ont.
Goyette, B. E., electric fixtures, Magog, Que.
Graburn, N., M.I.E.E., Montreal Street Railway, Montreal. (Teleph. No. 2479.)
Grace, Wm., & Co., installation contractors, 316, Coristine-bldg., Montreal, Que.
Grady, P. B., electrician, Summerside Electric Co., Summerside, P.E.I.
Granby Electrical Works, installation contractors, Granby, Que.
Granby Town Electricity Works, Granby, Que. Engr., A. J. Seale; elecn., F. B. Farnsworth.
Grand Forks City Council Electricity Works, Grand Forks, B.C. Engineer, F. W. Reid; electrician, T. G. Bird.
Grand Trunk Pacific Telegraph Co., Montreal.

Canada—*continued.*

Grand Valley & Arthur Electricity Works, Grand Valley, Ont. Engineer, J. Williams; electrician, R. W. Philip.

Grand Valley Railway Co., Brantford, Ont. Directors: Murry A. Verner, Esq. (president); W. S. Dinnick, Esq. (vice-president); W. R. Turnbull, Esq.; J. Firstbrook, Esq.; Rev. E. T. Fox; J. S. King, Esq.; Hon. J. R. Stratton. Electrician & superintendent, A. F. McBean.

Grandbois, E., engineer, Chatham Gas Co., Ltd., Chatham, Ont.

Grandview Electric Co., installation contractors, 1530, Venables-st., Vancouver, B.C.

Grant, Lawford, A.M.I.C.E.I., local hon. sec. & treasurer & A.M.I.E.E., A.M.AM.I.E.E., M.S.A., president & managing director, Canadian British Insulated Co., Ltd., Montreal. (Telegs.: "Seafield, Montreal.")

Gravenhurst Town Electricity Works, Gravenhurst, Ont. Engineer, W. Wright.

Gray, C. F., A.I.E.E., superintendent of construction, Canadian Westinghouse Co., Hamilton, Ont.

Gray, R. A. L., & Co., installation contractors, 85, York-st., Toronto. (Teleph. No. 293, Main.)

Great North Western Telegraph Co. of Canada, Toronto.

Greene, H. G., electrician, Brome Lake Electric Power Co., Waterloo, Que.

Greene-Butler Electric & Engineering Co., Saskatoon, Sask.

Greenham, H., engineer, Carman Electric Light & Power Co., Ltd., Carman, Man.

Greenleaf & Son, dealers in electrical supplies, Belleville, Ont. (Teleph. No. 83.)

Greenwood City Waterworks Co., Greenwood, B.C. Engineer, E. E. Warren.

Grenon, J. G., engineer, Cie. des Eaux et de l'Electricité de Chicoutimi, Chicoutimi, Que.

Grier, A. G., A.AM.I.E.E., Wescott & Grier, 78, Victoria-sq., Montreal, Que.

Grimsby Electricity Works, Grimsby, Ont. Proprietor, J. W. van Dyke.

Gross, Geo., electrician, Electricity Works, Waterloo, Ont.

Groves, G., engineer, Corporation Electricity Works, Parry Sound, Ont.

Ground Anchor Co., Ltd., electrical supplies, Montreal, Que.

Guelph Corporation Electricity Works, Guelph, Ont. Engineer, J. Heeg.

Guelph Electric & Motor Co., installation contractors, Guelph, Ont.

Guelph Radial Railway Co., Guelph, Ont.

Gutta-Percha & Rubber Manufacturing Co. of Toronto, Ltd., manufacturers of rubber belting, hose, packings & all kinds of mechanical rubber goods, tyres & rubber boots & shoes, 47, Yonge-st., Toronto, Ont. (Telegs.: "Guttaperch, Toronto.")

Haanel, Dr., Director of Mines, Department of Mines, Ottawa.

Haileybury Electric Co., Haileybury, Ont.

Halifax & Bermudas Cable Co., Ltd., Provincial Government-bldg., 201, Hollis-st., Halifax, Nova Scotia (Teleph. No. 345); 6, Front-st., Hamilton; & Town Hall, St. George's, Bermuda. (Telegs.: "Quiescent," to all places. Teleph. No. 98.)

Halifax Electric Tramway Co., Ltd., Halifax, N.S. Registered 1896. Nominal capital: $1,500,000 & $600,000 debentures. Issued: $1,400,000 in ordinary shares & all the debentures. Directors: Hon. D. Mackeen (president); J. Y. Payzant, Esq., & W. B. Ross, Esq. (vice-presidents); A. Kingman, Esq.; J. Hutchison, Esq.; J. C. Mackintosh, Esq.; C. C. Blackadar, Esq.; F. B. McCurdy, Esq.; M. C. Grant, Esq. Manager, J. W. Crosby; secretary, W. J. Deblois; engineer, P. A. Freeman; electrician, W. Soper. Dividends: 1907, 1908 & first half of 1909, 6 per cent.

Hall, J. H., electrical engineer, Conduits Co., Ltd., Toronto, Ont.

Hallarn, Wm. O., chief engineer & electrician, Municipal Electric Light Plant, Newmarket, Ont.

Halliday Electric Co., installation contractors, Kingston, Ont.

Ham & Walsh, electrical supplies, Halifax, N.S.

Hamilton, F. A., M.I.E.E., Halifax, Nova Scotia.

Hamilton, R. B., A.AM.I.E.E., manager, Packard Electric Co., St. Catherines, Ont.

Hamilton, R. E., consulting electrical engineer, 390½, Dupont-st., Toronto, Ont.

Hamilton, Wm., electrician, Woodstock Electric Railway, Light & Power Co., Woodstock, N.B.

Hamilton & Barton Electric Railway Co., Hamilton, Ont.

Hamilton Cataract Power, Light & Traction Co., Ltd., Hamilton, Ont. *Controlled by the* Dominion Power & Transmission Co., Ltd.

Hamilton, Chedoke & Ancaster Railway Co., Hamilton, Ont.

Hamilton, Grimsby & Beamsville Electric Railway Co., Hamilton, Ont. (Teleph. No. 1200.) Stock issued: $235,000; bonds, $150,000. Directors: Jas. Dixon, Esq. (president); J. Dickenson, Esq. (vice-president); J. R. Moodie, Esq.; J. W. Sutherland, Esq.; W. C. Hawkins, Esq.; S. O. Greening, Esq. Engineer, W. Jones; electrician, N. Waterbury; treasurer, John Knox.

Hamilton Powder Co., manufacturers of electric blasting apparatus, 45, C. P. R. Telegraph-bldg., Montreal.

Hamilton Radial Electric Railway Co., Hamilton, Ont.

Hamilton & Stott, electrical supplies, St. Thomas, Ont.

Hamilton Street Railway Co., Hamilton, Ont.

Hamilton, Waterloo & Guelph Railway Co., Hamilton, Ont.

Hamilton, Wm., Manufacturing Co., Ltd., turbine water-wheel makers, Peterborough, Ont.

Canada—*continued.*

Hammond & McIntosh, electrical contractors & engineers, Fernie, B.C. (Teleph. No. 101.)
Hancock, H. G., engineer, Corporation Electricity Works, Fort William, Ont.
Hanover Electricity Works, Hanover, Ont. Proprietor, H. Gruetzner; superintendent engineer, C. Herbecker; electrician, S. Hillgartner.
Hansey, J., engineer, Mount Forest Electric Light Co., Mount Forest, Ont.
Hare, J. A., engineer, City Electric Light Plant, Barrie, Ont.
Harkies, Wm., engineer, Electricity Works, Orangeville, Ont.
Harman, H., chief engineer, Municipal Electricity Works, Beeton, Ont.
Harper, Chas., electrical supplies, Goderich, Ont.
Harris, R., engineer, Corporation Electricity Works, Mitchell, Ont.
Harris, J. W., Co., Ltd., installation contractors, 7, St. Elizabeth-st., Montreal, Que.
Harrison, W. C., electric light contractor, Norwood, Ont.
Harriston Electricity Works, Harriston, Ont. Proprietor, G. Leighton. Engineer, C. Zuefle.
Hart, Harry U., A.AM.I.E.E., chief engineer, Canadian Westinghouse Co., 57, Charlton-ave., Hamilton, Ont.
Hart, Percy E., A.AM.I.E.E., electrical engineer, Canadian General Electric Co., 33, St. Vincent-st., East Toronto.
Hartman, Geo., A.AM.I.E.E., Huronian Co., Turbine, Ont.
Harvey, G. A., electrician, Niagara Falls Park & River Railway Co., Niagara Falls, Ont.
Hastings, W. J., installation contractor, Montreal, Que.
Hathaway, J. D., jun., A.AM.I.E.E., superintendent, Wire & Cable Co., Montreal, Que.
Hawkesbury Electric Light & Power Co., Ltd., Hawkesbury, Ont. Engineer, Jno. Knox.
Hawkins, Wm. C., secretary & general manager Dominion Power & Transmission Co., Ltd., Hamilton, Ont.
Hawkins & Hayward, electrical engineers, Victoria, B.C.
Hayes, F., electrician, Chatham Gas Co., Ltd., Chatham, Ont.
Heaslip, B., engineer, Gananoque Electric Light & Water Supply Co., Gananoque, Ont.
Heeg, J., engineer, Corporation Electricity Works, Guelph, Ont.
Henderson, C. W., electrical engineer, Canadian Westinghouse Co., Montreal.
Henderson, E. M., A.AM.I.E.E., lecturer, School of Mining, Queen's University, Kingston, Ont.
Henry, A. R., A.AM.I.E.E., Ross & Holgate, Montreal, Que.
Henry, John, M.A., B.E., head of Science Department, High School, Dawson City, Yukon.
Henry, Thos., engineer, Interurban Electric Co., Toronto, Ont.
Hensall Electricity Works, Hensall, Ont. Thos. Welsh, proprietor.
Herbecker, C., engineer, Electricity Works, Hanover, Ont.
Herdt, L. A., M.AM.I.E.E., consulting electrical engineer, professor McGill University, 432, Sherbrooke-st. East, Montreal. (Teleph. No. Up 474.)
Hersey, Milton L., M.SC., LL.D., electro-chemist, 171, St. James-st., Montreal. (Telegs.: "Milhersey, Montreal." W.U. Code.)
Hespeler Town Council Electricity Works, Hespeler, Ont.
Hicks, A. T., superintendent, Trenton Electric & Water Co., Ltd., Trenton; & Belleville, Ont.
Hicks, T. L., dealer in electrical supplies, 139, Church-st., Toronto, Ont.
Hicks Electric Co., installation contractors, 249, Langauchetiere-st. West, Montreal.
Higman, Ormond, M.I.E.E., M.CAN.S.C.E., chief electrical engineer, Electrical Standards Laboratory, Inland Revenue Department, Ottawa.
Hill, Albert J., M.A., civil & mining engineer (P.O. Box 231), New Westminster, B.C. (Telegrams: "Albert, Westminster, Canada." Teleph. Nos. 87 & 232.)
Hill Electric Switch & Manufacturing Co., Ltd., manufacturers of switches, switchboards, &c., 1560, St. Lawrence-boul., Montreal.
Hillgartner, S., electrician, Electricity Works, Hanover, Ont.
Hilliard, T. W. N., A.AM.I.E.E., Canadian General Electric Co., Glace Bay, N.S.
Hillis, J., engineer, Petrolia Electric Light, Heat & Power Co., Ltd., Petrolia, Ont.
Hills, Donald A., A.I.E.E., Box 293, G.P.O., Toronto.
Hinners & Jones Electric Co., installation contractors, Fort William, Ont.
Hinton Electric Co., Ltd., electrical contractors & jobbers in electrical supplies, & Marine Gasoline engines, Victoria & Vancouver, B.C. (Telegs.: "Hinton, Victoria, B.C." Teleph. No. 38.)
Hodge, Wm., engineer & general manager, Cornwall Street Railway, Light & Power Co., Ltd., Cornwall, Ont.
Hoffmeister, F., A.AM.I.E.E., engineer, Canadian General Electric Co., Toronto, Ont.
Hoffmeister, R., manufacturing electrician, Vancouver, B.C.
Hogg, Jno. W., electrician, Corporation Electric Light Works, Fraserville, Que.
Holden, C., A.M.I.E.E., chief engineer, City Electric Light & Power Department, Moose Jaw, Sask.
Holditch, R., engineer, Bowmanville Electric Light Co., Bowmanville, Ont.
Holmes Electric Protection Co. of Toronto, Ltd., Central Office System for burglary & fire detection, 5, Jordan-st., Toronto. (Teleph. No. 676, Main.)
Holt, H. S., president, Montreal Light, Heat & Power Co., Montreal. (Telegs.: "Powerco, Montreal.")

Canada—*continued.*

Home Electric Co., installation contractors, Konora, Ont.
Hopkins, Robt. H., A.AM.I.E.E., demonstrator electrical engineering, University of Toronto, Toronto, Ont.
Hopper, R. T., & Co., mica & asbestos mine owners, 415, Merchants Bank-bldg., Montreal.
Horton, W. H., engineer, Niagara, St. Catherine's & Toronto Railway Co., St. Catherine's, Ont.
Hotson, A. D., A.AM.I.E.E., constructing elec. engineer, 967, Burrow-st., Vancouver, B.C. (Tel. A. 2350.)
Hower, W. C., engineer, Phœnix Electric Lighting Co., Ltd., Phœnix, B.C.
Howse, C. L., engineer, Corporation Electricity Works, Almonte, Ont.
Hubbell, E. S., & Sons, installation contractors, Thamesville, Ont.
Hube, R. O., engineer, Electricity Works, Drayton, Ont.
Hudson Electrical Supply Co., dealers in electrical supplies, 309, Fort-st., Winnipeg, Man.
Huffman, J. C., A.AM.I.E.E., sales engineer, Canadian Westinghouse Co., Box 515, Calgary, Alb.
Hughes, Benjamin, electrical engineer, 16, St. Michael-lane, Montreal, Que.
Hughes, J. W., installation contractor, 367, Craig-st. West, Montreal, Que.
Hulbert, S. A., electrician, Antigonish Electric Co., Antigonish, N.S.
Hull Electric Co., Aylmer; & Hull, Que. Engineer, Geo. G. Gale.
Hull Electric Co., Deschenes, Que. Superintendent, G. Gordon Gale.
Hull Electric Railway Co., Aylmer, Que.
Hunt, A. O., electrician, London Electric Co., London, Ont.
Hunt, Chas. B., manager London Electric Co., London, Ont. (Teleph. No. 146.)
Hunter, J., electrical engineer, 88, Princess-st., St. John's, New Brunswick.
Hunter, T., engineer, Selkirk Electric Co., Ltd., Selkirk, Man.
Huntingdon Electricity Works, Huntingdon, Que. A. Chambers, proprietor.
Huntsville Corporation Electric Light Plant, Huntsville, Ont. Engineer, G. Rolston.
Hutchison, M., superintendent City Electric Lighting Department, Victoria, B.C.
Hutchison Bros. Co., Ltd., electrical & mechanical engineers, Esquimault-rd., Victoria, B.C.
Hydro-Electric Power Commission, Toronto, Ont. Electrical engineer, P. W. Sothmann.
Ideal Electric Manufacturing Co., installation contractors, London, Ont.
Imperial Varnish & Colour Co., Ltd., paint, varnish & insulating material manufacturers, 8-26, Morse-st., Toronto. (Telegs.: "Imvarco, Toronto.")
Indian Head Municipal Electricity Works, Indian Head, Sask.
Ingersoll Electric Power & Light Co., Ltd., electric light contractors, Ingersoll, Ont. Engineer, H. Richardson. (Teleph. No. 102.)
Ingram, A., engineer, Corporation Electricity Works, Kincardine, Ont.
International Electric Co., 97, Bleury-st., Montreal. (Bell Teleph. Main No. 1301.)
International Railway Co., Niagara Falls, Ont. Electrician, G. A. Harvey.
International Transit Co., Sault Ste. Marie, Ont. Engineer, C. N. Coburn.
Interurban Electric Co., Ltd., Toronto, Ont. (Bell Teleph. No. 475; Stark Nos. 100 & 111.) Registered July, 1908. Paid up capital: $100,000. Directors: H. Waddington, Esq. (president); E. S. Edmondson, Esq. (vice-president); G. Grant, Esq. (secretary); C. H. Porter, Esq.: G. T. Turnbull, Esq.; J. Brockbank, Esq.; J. Harriman, Esq. Engineer, T. H. Henry.
Iroquois Corporation Electricity Works, Iroquois, Ont. Engineer, R. Barton.
Irwin, Thos., engineer, St. John Railway Co., St. John, N.B.
Isaac, H. M., electrician, Electricity Works, Whitby, Ont.
Jackson, Thos., installation contractor, 11, Sorauren-ave., Toronto, Ont.
James, Tudor Conway, A.AM.I.E.E., Electrical Engineer's Office, City Hall, 83, Howland-ave., Toronto, Ont.
Jaquays, H. M., M.AM.I.M.E., A.M.AM.I.E.E., chief engineer, Montreal Rolling Mills Co., Montreal, Que. (Teleph. No. Up, 3316.)
Jenckes Machine Co., Ltd., electric motor makers, Sherbrooke, Que. (Telegs.: "Challenge, Sherbrooke." Private, W.U., Lieber & A.B.C. Codes.)
Jenking Brass Manufacturing Co., fixture manufacturers, 25-29, Bleury-st., Montreal.
Jenkins, B. S., general superintendent, Canadian Pacific Railway Co.'s Telegraphs, Winnipeg, Man.
Jenkins Bros., Ltd., valve & packing manufacturers, St. Henry, Montreal, Can. (Telegs.: "Pipkin, Montreal.")
Jenkins-Leslie Brass Manufacturing Co., manufacturers of electrical supplies, Montreal.
Jennings, Ed., electrician, Everitt & Moore Synd., Electricity Works, Windsor, Ont.
Jennings, F. T., superintendent, Canadian Pacific Railway Co.'s Telegraphs, Sudbury, Ont.
Jennings, S. W., installation contractor, 4, St. Antoine-st., Montreal. (Teleph. No. 2849, Main.)
Johnson, W. A., consulting electrical engineer, 470, King-st. West, Toronto. (Telegs.: "Wajohn.")
Johnston, D. McGregor, A.M.AM.I.E.E., electrical engineer, Volta Electric Repair Works, 131, Delaware-ave., Toronto. (Teleph. No. M. 4118.)
Johnstone, J. K., electric light inspector, Toronto, Ontario.
Joliette Town Electric Light Plant, Joliette, Que.
Jones, Frank E., installation contractor, 156, Prince William-st., St. John, N.B.
Jones, W., engineer, Hamilton, Grimsby & Beamsville Electric Railway Co., Hamilton.

Canada—*continued.*

Jones & Glassco, installation contractors, 334, Notre Dame-st., Montreal.

Jones & Moore Electric Co., manufacturers & contractors, motors, dynamos, wiring supplies, Adelaide-st. West, Toronto. (Teleph. No. 2310.)

Joyner, A. H. W., A.I.E.E., manufacturers' agent, 6, Wellington-st. East, Toronto.

Joyner, G., engineer, Benjamin Manufacturing Co., Ltd., Yarker, Ont.

Kaministiquia Power Co., Ltd. Executive offices: Power-bldg., Montreal, Que. Head office: Fort William, Ont. Capital authorized: $2,000,000 in $100 ordinary shares, all issued & fully paid, & $2,000,000 in 5 per cent. debenture bonds, of which $1,772,000 are issued. Directors: H. S. Holt, Esq. (president); W. A. Black, Esq. (managing); C. R. Hosmer, Esq.; F. W. Thompson, Esq.; Sir Ed. S. Clouston; J. E. Aldred, Esq. Consulting engineer, R. S. Kelsch; manager & secretary, W. L. Bird. Dividends: 1907, 1908 & first half of 1909, *nil.*

Kamloops City Electric Light Plant, Kamloops, B.C. Engineer, C. L. Wain.

Kammerer, Jacob A., A.AM.I.E.E., J. A. Kammerer & Co., Toronto, Ont.

Kartzmark & Bro., electrical & mechanical engineers, 33, King William-st., Hamilton, Ont.

Keating & Breithaupt, consulting engineers, Aberdeen-chbrs., Toronto, Ont.

Keeley, D. H., general superintendent, Government Telegraph Service, Ottawa.

Keeley, R. R., A.AM I.E.E., chief engineer, City of Edmonton, Edmonton, Alberta.

Keeling, C. H., installation contractor, 178, Bank-st., Ottawa.

Kegan, J. H., electrician, Electricity Works, North Hatley, Que.

Keith & Fitzsimmons Co., Ltd., elec. contractors, 111, King-st. W., Toronto. (Tel. Main Nos.: 6151 & 6152.)

Kelly, Jno. B., engineer, Corporation Electricity Works, Goderich, Ont.

Kelsch, R. S., M.AM.I.E.E., M.C.S.E., consulting engineer, Power-bldg., Montreal. (Telegs.: "Kelsch, Montreal." W.U. Code. Teleph. Main 4040.)

Kemptville Milling Light, Heat & Power Co., Kemptville, Ont. (Teleph. No. 54.) Engineer, J. Maxwell.

Kennedy, Wm., & Sons, Ltd., turbine manufacturers, steel castings, &c., Owen Sound, Ont. (Tel. 20.)

Kenora Corporation Electricity Works, Kenora, Ont. Manager, H. P. Thomas, B.SC.

Kensit, H. E. M., M.I.E.E., 68, McDougall-blk., Calgary, Alberta.

Kent, Jas., manager Canadian Pacific Railway Co.'s Telegraph, Montreal.

Kent Electric Co., installation contractors, 165, Queen-st. W., Toronto.

Kent Electric Co., Richibucto, Kent Co., N.B. Engineer, C. Amireaux; electrician, Lester Brown.

Kentville Electric Light & Power Co., Kentville, N.S. Engineer, C. L. Baird.

Kincardine Municipal electric light plant, Kincardine, Ont. Engineer & electrician, A. Ingram.

King, Edward D., A.AM.I.E.E., chief operator, Ontario Power Co., Niagara Falls South, Ont.

King, Geo., engineer, Woodstock Electric Railway, Light & Power Co., Woodstock, N.B.

King Electrical Works, Ltd., manufacturing electricians, 6, Chenneville-st., Montreal, Que.

Kingston Municipal Electricity Works, Kingston, Ont. Engineer, Jno. Evans; electrician, W. C. Rogers.

Kingston, Portsmouth & Cataraqui Street Railway Co., Kingston, Ont.

Kingsville Electric Light Co., Ltd., Kingsville, Ont. Engineer, Wm. Mathieson.

Kirkpatrick, R. A., electrician, Lardeau Light & Power Co., Ferguson, B.C.

Kirkwood, M., superintendent, Galt, Preston & Hespeler Street Railway Co., Galt, Ont.

Kissack, J. T., electrician, Tweed Electric Light & Power Co., Tweed, Ont.

Klein, O., engineer, Corporation Electricity Works, Prince Albert, Saskatchewan.

Knapp, John H., electrical supplies, Coaticook, Que.

Knight, W., electrician, Electricity Works, Burks Falls, Ont.

Knox, John, engineer, Hawkesbury Electric Light & Power Co., Ltd., Hawkesbury, Ont.

Kootenay Electric Co., Ltd., Kaslo, B.C. Electrician, J. Hamilton Stubbs.

Kynoch, Jas., A.I.E.E., Canadian General Electric Co., Ltd., 212, King-st. West, Toronto.

Lachine Corporation Electric Plant, Lachine, Que. Engineer, D. Leclair.

Lachine Rapids Hydraulic & Land Co., Ltd., Montreal, Que.

Lachute Electricity Works, Lachute, Que. J. Palliser, proprietor.

Lachute Electric Light System, Lachute, Argenteuil Co., P.Q. J. T. Ayers, proprietor. Engineer, S. Desjardins; electrician, A. Mallette.

Lafleur, J. L., electrical supplies, Levis, Que.

Lahee, Philip, installation contractor, Temple-bldg., Montreal, Que.; & Toronto, Ont.

Laidlaw, R. A., electrical contractor, 976, Granville-st., Vancouver, B.C. (Teleph. No. 2707.)

Lake Superior Power Co., Sault Ste. Marie, Ont. Chief engineer, L. H. Davis.

Lakefield Light & Power Co., Lakefield, Ont. (Teleph. No. 55B.) Engineer, Wm. J. Leggott.

Lalonde, D., engineer, Soulanges Canal Power House, Coteau de Lac, Co. Soulanges, Que.

Lander, Leon Harvey, A.I.E.E., 533, King-st., East Hamilton, Ont.

Lang, N., installation contractor, Vancouver, B.C.

Langdon-Davies Motors (Canada), Ltd., 15, Alice-st., Toronto, Ont. (Telegs.: "Langdaymo, Toronto"); & London, England.

Langevin, Narcisse, installation contractor, Valleyfield, Que.

Canada—*continued.*

Lapierre, Conrad, installation contractor, 1094, St. Denis-st., Montreal, Que.
Lardeau Light & Power Co., Ferguson, B.C. Electrician, R. A. Kirkpatrick.
Larmouth, J. H., engineer, Peterborough Light & Power Co., Ltd., Peterborough, Ont.
Laurentide Mica Co., mica merchants, Queen & Bridge-sts., Ottawa, Ont.
Laurie & Lamb, consulting engineers, 211, Board of Trade-bldg., Montreal, Que. (Telegs.: "Larco, Montreal.")
Laval Electric Co., St. Therese, Que.
Lavoie Electric Co., electrical & mechanical contractors, 134, Queen-st., Quebec.
Law, Alex., engineer, Dutton Electric Light Co., Ltd., Dutton, Ont.
Lawrence Hardware Co., electrical supplies, Revelstoke, B.C.
Leamington Light & Heat Co., Ltd., Leamington, Ont. Nominal capital: $40,000 in $20 ordinary shares & $20,600 debentures. Issued: $16,000 ordinary shares, fully paid. Directors: R. S. Stewart, Esq.; G. B. Hayes, Esq. (secretary); J. V. Ostoby, Esq. Engineer, J. Snider; electrician, W. Snider.
Leclair, D., engineer, Corporation Power House, Lachine, Que.
Lee, A., engineer, Dawson City Electric Light & Power Co., Ltd., Dawson, Yukon.
Lee, C. C., installation contractor, Goderich, Ont.
Leger, P. J., engineer, Bathurst Electric & Water Power Co., Bathurst, N.B.
Leggott, W. J., electrical engineer, Lakefield Light & Power Co., Lakefield, Ont.
Leofred, A., consulting engineer, 39, St. John-st., Quebec, Que.
Leslie, A. C., & Co., Ltd., importers of magnet steel & electrical sheets, Montreal, Que.
Lethbridge Electric Co., installation contractors, Lethbridge, Alberta.
Lethbridge Water Works & Electric Light Co., electric light contractors, Lethbridge, Alberta. Engineer, M. Freeman.
Leveille, F. X., installation contractor, 47, Baade-st., Quebec.
Levis County Railway, Levis, Que. (Teleph. Nos. 16A & 2A, Levis.)
Light, Heat & Power Co., of Lindsay, Ltd., Lindsay, Ontario. Manager, W. E. Reesor.
Lincoln Electric Light & Power Co., St. Catherine, Ont. Electrician, C. Choate.
Listowel Gas & Electric Light Co., Ltd., Listowel, Ont.
Little Current Electricity Works, Little Current, Ont. Proprietors, Monthrop, Sharp & Jackson.
Liverpool Town Council Electricity Works, Liverpool, Queen's Co., N.S.
Livingstone, C., engineer, Corporation Electricity Works, Tottenham, Ont.
Lockhart, H. K., engineer, Montreal Park & Island Railway Co., Montreal.
London, Aylmer & North Shore Electric Railway Co., Aylmer, Ont.
London Electric Co., Ltd., electric light, power & traction company, London, Ont. (Teleph. Nos.: Head Office, 958, Richmond; & 961, Power House.) Capital stock: $406,200. Debentures & interest accrued: $102,083. Directors: W. D. Matthews, Esq. (president); H. P. Dwight, Esq. (vice-president); W. P. Brock, Esq.; Hon. Geo. A. Cox; Hon. R. Jaffray; Hon. J. R. Kerr, K.C.; C. B. Hunt, Esq.; M. J. Kent, Esq.; E. Meredith, Esq.; F. Nicholls, Esq.; J. C. Judd, Esq. Engineers, R. A. Lyons & Wm. Baker; electrician, A. O. Hunt. Dividend: 1908, 6 per cent.
London Street Railway Co., London, Ont.
Lonergan, Thos. D., installation contractor, 42, St. John-st., Quebec, Que.
Lowden, E. A., electrician, Town Council Electricity Works, Neepawa, Man.
Lowe, Geo., electrician, Cobourg Water & Electric Co., Cobourg, Ont.
Lozan, J., engineer, West Lorne Electric Light Co., Ltd., West Lorne, Ont.
Lucknow Electricity Works, Lucknow, Ont. Proprietors, W. Stewart & Son.
Luke, W. J., electrical supplies, Dundas-st. West, Whitby, Ont.
Lunenburg Gas Co., Ltd., Lunenburg, N.S. Directors: A. J. Wolfe, Esq.; Jas. A. Hirtle, Esq.; T. G. Nicol, Esq.; J. Rudolph, Esq.; E. L. Nash, Esq. Electrician, E. L. Nash.
Lyall, Peter, & Sons, installation contractors, 88, King-st., Montreal, Que.
Lyons Electric Co., general electrical contractors & supplies, 87–89, Colborne-st., Brantford, Ont. (Long Distance Bell Telephone Nos. 387 & 500.)
McBean, A. F., electrician & superintendent, Western Counties Electric Co., Brantford, Ont.
McCallum, W. R., installation contractor, Ottawa, Ont.
MacCanley, T. H., E.E., engineer, Corporation Electricity Works, Port Arthur, Ont.
McCartney Bros., electric fixtures, Vancouver, B.C.
McColl, J. F., engineer, Corporation Electricity Works, Calgary, Alberta.
McConnell, John, engineer, Sandwich, Windsor & Amherstburg Railway, Windsor, Ont.
McCormick, B. T., A.AM.I.E.E., Allis-Chalmers-Bullock, Montreal, Que.
McCrady, F. W., civil, mining & mechanical engineer, 1115, Haro-st., Vancouver, British Columbia. (Cablegrams: "Ydarcam, Vancouver." A.B.C. Code, 4th edition.)
McCrossan, J. A., M.AM.I.E.E., electrical engineer, Vancouver, B.C.
McCullough, installation contractors, Toronto, Ont.
Macdonald, Geo. F., superintendent of Fire Alarm System, Ottawa.

Canada—*continued.*

Macdonald, Geo. M., instructor in electricity, University St. Francis Xavier's College, Antigonish, Nova Scotia.

McDonald, J. D., electrician, general superintendent West Kootenay Power & Light Co., Ltd., Rossland, B.C.

McDonald & Willson, electric light fixtures, 187, Yonge-st., Toronto; & Montreal.

MacDunnough, R. B., A.AM.I.E.E., manager, North Shore Power Co., Three River, Que.

Mace, T. H., electrical engineer, Confederation Life-bldg., Toronto.

McFadgen & McQuade, installation contractors, Collingwood, Ont.

McFarlane, L. B., general manager, Bell Telephone Co. of Canada, Montreal.

Macfarlane, W. L., A.AM.I.E.E., engineer, St. Lawrence Power Co., Mill Roche, Ont.

McGill University, Montreal. *See* SCHOOLS.

McGilvay, Wm., engineer, Phœnix Electric Lighting Co., Ltd., Phœnix, B.C.

McGregor, J. F., installation contractor, Campbellford, Ont.

MacGregor & Reid, installation contractors, 428, George-st., Peterborough, Ont.

McGuire, W. J., Ltd., electrical contractors, 86, King-st. West, Toronto.

McHaffey, B. J., engineer, Sackville Electric Light & Telephone Co., Sackville, N.B.

McKavanagh, T., chief electrician, Anglo-American Telegraph Co.'s cable ship "Minia," Halifax, N.S.

McKay, A. N., electrician, Town Council Electricity Works, Chatham, N.B.

Mackay, J. T., electrical engineer, Sawyerville, Que.

McKay, Robt., A.AM.I.E.E., Johnston, McKay, Dods & Grant, 6, West King-st., Toronto, Ont.

Mackay, W. A., & Co., installation contractors, Sydney, N.S.

McKenzie, W., engineer, Corporation Electricity Works, Thamesville, Ont.

McLachlan, R. G., superintendent, Pacific Cable Board, Bamfield Creek, Vancouver Island, B.C.

Maclachlan, Wills, A.AM.I.E.E., constructing engineer, Canadian Westinghouse Co., 183, Carlton-st., Toronto, Ont.

McLaren, W. F., A.AM.I.E.E., engineer, Canadian Westinghouse Co., Hamilton, Ont.

McLean & Dawson, installation contractors, Guelph, Ont.

McLeay, R. C., electrician, Electricity Works, Watford, Ont.

McLennan, Dr. J. C., professor of physics, The University, Toronto. (Teleph. No. 5002, Coll.)

McLeod, Prof. C. H., McGill University, Montreal.

McLeod, Geo., electrician, Sandwich, Windsor & Amherstburg Railway, Windsor, Ont.

Macleod Electric Light & Power Co., Macleod, Alberta. Engineer, A. H. Altham.

McLinden, Jos., superintendent, Corporation Electricity Works, Owen Sound, Ont.

McLinden, W. J., installation contractor, Owen Sound, Ont.

McMackon, W. H., electrician, Ridgetown Electric Light Co., Ridgetown, Ont.

McMichael, I., general manager, Great North Western Telegraph Co., Toronto.

McMillan, J., superintendent, C.P.R. Telegraphs, Calgary, Alta.

McNeil, J. A., electrician, Electricity Works, Paisley, Ont.

Mcphail, J., engineer, Electricity Works, Uxbridge, Ont.

McPherson, F. R. J., installation contractor, Peterborough, Ont. (Teleph. No. 386.)

MacPherson, W. F., installation contractor, Prescott, Ont.

McTavish, Wm., engineer, Midland Electric Light Co., Midland, Ont.

McVittie, John, engineer, Saugeen Electric Light & Power Co., Ltd., Southampton, Ont.

Madden, Geo. F., electrical engineer, Canadian General Electric Co., Toronto, Ont.

Madden, R. H., electrician, St. Jerome Power & Electric Light Co., Ltd., St. Jerome, Que.

Madoc Municipal Electricity Works, Madoc, Ont. Engineer, F. Smith. (Teleph. No. 41, Madoc.)

Magie, L. de Witt, A.AM.I.E.E., works engineer, Canadian General Electric Co., Peterborough, Ont.

Magog Corporation Electricity Works, Magog, Que. Engineer, R. Pratte.

Malcolmson, W., installation contractor, Prince Albert, Sask.

Mallette, A., electrician, J. T. Ayers' Electricity Works, Lachute, Argenteuil Co., P.Q.

Malloch, Wm., & Co., electric, hydraulic & power elevator builders, 84-94, Fullerton-st., London, Ont.

Manitoba Electric & Gas Light Co., Winnipeg, Man.

Mann, W. L., A.AM.I.E.E., asst. supt., Shawinigan W. & P. Co., Bank Ottawa-bldg., Montreal, Que.

Marchand, P. E., & Co., electrical engineers, 128½, Sparks-st., Ottawa.

Marchard, J. E., engineer, Valleyfield Electric Co., Valleyfield, Que.

Marconi Wireless Telegraph Co. of Canada, Ltd., 86, Notre Dame-st. West, Montreal, Que.

Maritime Coal Railway & Power Co., Ltd., Chignecto, N.S. Superintendent, F. H. Mitchell.

Maritime Coal Railway & Power Co., Maccan.

Markdale Electricity Works, Markdale, Ont. Minnis Bros., props. Engr., F. J. Ritchie.

Markham Corporation Electric Plant, Markham, Ontario. Engineer, W. Morrison.

Marmora Electric Co., Marmora, Ont.

Marshall, D. W., installation contractor, Sarnia, Ont.

Martin, C. H., A.M.I.E.E., Box 254, Battleford, Sask.

Canada—*continued.*

Martin, F. K., chief engineer, Battleford Municipal Electric Light Plant, Sask.
Martin, F. L., electrician, Electricity Works, Cargill, Ont.
Martin Electrical Supply & Construction Department, electrical supplies, St. Catherine's, Ont.
Martindale, R. H., engineer, Corporation Electricity Works, Sudbury, Ont. (Teleph. No. 368.)
Mathieson, Wm., engineer, Kingsville Electric Light Co., Ltd., Kingsville, Ont.
Mattawa Electric Light & Power Co., Ltd., Mattawa, Ont. Engineer, M. J. Burke.
Maxwell, John, chief engineer, Kemptville Milling Light, Heat & Power Co., Kemptville, Ont.
Maybee, A. E., & Co., installation contractors, 254, St. Clarens-ave., Toronto, Ont.
Meaford Electricity Works, Meaford, Ont. The Georgian Bay Milling & Power Co., Ltd., props. Electrician, W. J. Moore.
Mechanics Supply Co., dealers in electrical supplies, St. Paul-st., Quebec.
Melville, M. J., electrician, Town of Carman Electric Light (Municipal), Carman, Man.
Merrick, F. A., works manager, Canadian Westinghouse Co., Hamilton, Ont.
Merrickville Electric Light & Power Co., Merrickville, Ont. Electrician, E. J. Kyle.
Merrill, Edw. B., B.A., B.A.SC., electrical engineer, Toronto & Winnipeg. (Telegs.: "Ebmeril, Toronto.")
Merriton Electricity Works, Merriton, Ont. J. H. Lyman, proprietor.
Mershon, Ralph D., consulting electrical engineer, Street Railway-chbrs., Montreal.
Mertens, Bernard de M., A.I.E.E., Post Office, Vancouver, B.C.
Meteor Cycle & Electric Machine Co., manufacturing electricians, Toronto, Ont.
Mexican Electric Light Co., Montreal.
Mexico Tramways Co., 1, Toronto-st, Toronto.
Meyer, Einar Honoratus, A.AM.I.E.E., electrical engineer, Niagara Falls Centre, Ont.
Midland Electric Co., electrical supplies, Montreal, Que.
Midland Electric Light Co., Midland, Ont. Engineer, Wm. McTavish.
Millard, J. L., engineer, Municipal Electrical Plant, Aylmer, Ont.
Millbrook Electricity Works, Millbrook, Ont. J. Davidson & G. F. Harrington, proprietors.
Millen, John, & Son, Ltd., dealers in electrical supplies, Montreal & Toronto. (Telegs.: "Jonmilson.")
Miller, A., engineer, Electricity Works, Shubenacadie, Hants Co., N.S.
Miller Bros. & Toms, electric crane builders, 110–122, King-st., Montreal.
Milton Electric Light & Power Co., Ltd., Milton, Ont.
Milton Town Electricity Works, Milton, Ont. Engineer, R. Ellis.
Mitchell, C. H., A.AM.I.E.E., mechanical engineer, Ontario Power Co., Niagara Falls South, Ont.
Mitchell, F. H., engineer, Maritime Coal Railway & Power Co., Ltd., Chignecto, N.S.
Mitchell Corporation Electricity Works, Mitchell, Ontario. Engr., R. Harris; elecn., B. Ruston.
Mitchell Electric & Machinery Co., manufacturing electricians, Winnipeg, Man.
Mitchell, J. S., & Co., electrical supplies, 69 & 71, Wellington-st., Sherbrooke, Que.
Mitchell, Robert, & Co., Ltd., brass founders & makers of electric light fixtures, 2468, St. Catherine-st., St. Cunegonde, Montreal, Que.
Mole, Ed., electrician, Seaforth Electric Light, Heat & Power Co., Ltd., Seaforth, Ont.
Monarch Electric Co., Ltd., manufacturing electrical & mechanical engineers, 579, St. Paul-st. West, Montreal, Que. (Teleph. Main No. 1391.)
Moncel, R., Electrical Co., electrical contractors, 157, Craig-st. West, Montreal.
Moncton, City of, Water & Light Department, Moncton, N.B. Engineer, J. Edington.
Montague Electric Co., Ltd., Montague, P.E.I.
Montmagny Light & Pulp Co., electric light & power, Montmagny, Que.
Montreal Electric Co., electrical engineers, manufacturers & dealers in electrical supplies, 425, St. James-st., Montreal. (Teleph. Nos 2840 & 6694, Main.)
Montreal Light, Heat & Power Co., electric light & power contractors, Montreal. Capital authorized & issued: Capital stock, $17,000,000, 4½ per cent. first mortgage bonds, $6,787,000, Lachine Sinking Fund 5 per cent. bonds, $3,355,000. Directors: H. S. Holt, Esq. (president); W. M'Lea Walbank, Esq. (first vice-president); R. Forget, Esq., M.P. (second vice-president); Hon. L. J. Forget; Hon. R. Mackay; Sir H. Montague Allan; C. R. Hosmer, Esq.; Hon. H. B. Rainville; Geo. Caverhill, Esq.; J. S. Norris, Esq. (secretary-treasurer).
Montreal Park & Island Railway Co., Street Railway-chbrs., 78, Craig-st. West, Montreal.
Montreal Street Railway Co., electric, Montreal.
Montreal Telegraph Co., Montreal. (Teleph. Main No. 861.)
Montreal Terminal Railway Co., 78, Craig-st. West, Montreal.
Moore, H. A., A.AM.I.E.E., general manager, Dominion Engineering & Construction Co., Ltd., Sovereign Bank-bldg., Montreal. (Telegs.: "Domencones, Montreal.")
Moore, W. J., electrician, Electricity Works, Meaford, Ont.
Moore Milling Co., Qu'Appelle, Sask.
Moore, W., & Sons, electric light & power contractors, Meaford, Ont.
Moose Jaw Electric Co., installation contractors, Box 12, Moose Jaw, Sask. (Teleph. No. 256.)
Moose Jaw Electricity Works, Moose Jaw, Sask. Engineer, C. Holden.

Canada—*continued.*

Morden Electric Light Plant, P.O. Box 617, Morden, nr. Winnipeg, Man. Manager, J. H. Forster (Teleph. No. 40.)

Morgan & Co., Ltd., Henry, installation contractors, Montreal, Que.

Morin, Thomas, installation contractor, Levis, Que.

Morley, H. B., installation contractor, Armstrong, B.C.

Morley, Jacob, proprietor & electrician, Electricity Works, New Hamburg, Ont.

Morris, H. B., electrical engineer, 11, St. Sacrement-st., Montreal, Que.

Morrisburg Municipal Electric Light Works, Morrisburg, Ont.

Morrisette, J. H., electrical supplies, Quebec.

Morrison, Albert Edward, A.M.I.E.E., Anglo-American Telegraph Co., Charlottetown, P.E.I.

Morrison, W., engineer, Corporation Electricity Works, Markham, Ont.

Morrison, A. J., & Co., installation contractors, 399, Spadina-ave., Toronto, Ont.

Morrison, James, Brass Manufacturing Co., Ltd., manufacturers of electric fixtures, &c., Toronto. (Teleph. Main No. 3836.)

Morton & Owen, electrical supplies, Campbellford, Ont.

Mount Bros., installation contractors, 4278, St. Catharine-st., Montreal.

Mount Forest Electric Light Co., Mount Forest, Ont. Engineer, W. J. Hausey; electrician, T. Collins.

Mount McKay & Kakabeka Falls Railway, Fort William, Ont.

Mount Royal Telephone Co., St. Láurent, Que.

Mowbray, Thomas, & Co., installation contractors, New Westminster, B.C.

Moxley, S. N., installation contractor, 237, Gloucester-st., Ottawa, Ont.

Mucklin, E. E., engineer, Corporation Electricity Works, Acton, Ont.

Mudge, A. L., A.AM.I.E.E., Smith, Kerry & Chace, Toronto, Ont.

Mullen, T. J., A.AM.I.E.E., superintendent of construction, Allis-Chalmers-Bullock Co., Montreal, Que.

Munderloh & Co., wholesale electrical supplies of all kinds, Montreal.

Murphy, John, M.AM.I.E.E., electrical engineer, Department of Railways & Canals, & Board of Railway Commissions for Canada, Ottawa. (Teleph. Nos. 4377 & 2681.)

Murray Bay Electricity Works, Murray Bay, Que. Labrador Electric & Pulp Co., proprietors.

Myler, Paul J., A.AM.I.E.E., vice-president & general manager, Canadian Westinghouse Co., 61, Robinson-st., Hamilton, Ont.

Nanaimo Electric Light, Power & Heat Co., Nanaimo, B.C. Engr., F. W. Byers; elecn., H. Alexander.

Napanee Municipal Electricity Works, Napanee, Ont. Electrician, C. A. Walters.

Nash, E. L., electrician, Lunenburg Gas Co., Lunenburg, N.S.

National Electrical Sign Co., makers of electrical signs, 43, Adelaide-st. West, Toronto, Ont.

Naylor, C. E., proprietor & engineer, Electricity Works, Esse, Ont.

Nedyer, W. J., engineer, Clinton Electric Light Co., Clinton, Ont.

Neepawa Town Council Electricity Works, Neepawa, Man. Electrician, E. A. Lowden.

Nelson Corporation Electricity Works, Nelson, B.C. Engineer & superintendent, R. A. Brown.

Nelson (B.C.) Electric Tramways Co., Ltd., Nelson, B.C. (Telegs.: "Nelson, B.C.") & London. Capital issued: 250,000 shares of $1 each, 5 per cent. debentures authorized $50,000. Issued: $35,000.

Nesbit, G. K., electric light contractor, Cowansville, Que.

Ness, McLaren & Bate, manufacturers of telephones & electrical supplies, 732, Dorchester-st. West, Montreal. (Telegs.: "Nessphones, Montreal." Bell Teleph. No. 1100, Main.)

Nevitt, I. H., A.AM.I.E.E., assistant engineer, City Engineer's Office, 46, Bloor-st. West, Toronto, Ont.

New Brunswick Telephone Co., engineers & contractors, Fredericton, New Brunswick.

New Glasgow Electric Co., Ltd. (alternating electric supply), New Glasgow, N.S. (Teleph. No. 49.) Engineer, D. Ormiston; electrician, C. E. Wadden.

New Hamburg Electricity Works, New Hamburg, Ont. Proprietor, J. Morley.

New Liskeard Light, Heat & Power Co., New Liskeard, Ont.

New Ross Telephone Co., Ltd., Mahone, N.S.

New Westminster City Electric Light Station, New Westminster, B.C.

New York Electrical Construction & Repair Shop, 56, Quesnell-st., Montreal, Que.

Newbury, Geo., electrician, Otonabee Power Co., Ltd., Peterborough, Ont.

Newcastle Electricity Works, Newcastle, Ont.

Newcastle Town Council Electricity Works, Newcastle, Northumberland Co., N.B.

Newman, W. H., Electric Co., electrical contractors, Kingston, Ont.

Newmarket City Electric Light Plant, Newmarket, Ont. Engr., T. Davidson; elecn., Wm. O'Hallarn.

Newton, N. E., A.AM.I.E.E., asst. supt., Northern Electric & Manufacturing Co., Ltd., Montreal, Que.

Niagara Electrical Co., electrical supplies & construction work, 146, Maine-st., Niagara Falls South, Ont. (Teleph. No. 302A); & Niagara-on-the-Lake, Ont.

Niagara Falls Hydraulic Power Co., Niagara Falls.

Niagara Falls Park & River Railway Co. (electric), Niagara Falls. Electrician, G. A. Harvey.

Niagara (Municipal) Electric Light & Power Plant, Niagara Falls, Ont. Electrician, G. E. Foster.

Niagara, St. Catharine's & Toronto Railway Co., St. Catharine's, Ont. Engineer, W. H. Horton.

Canada—*continued.*

Nold, Henry N., A.AM.I.E.E., cons. electrical & mechanical engineer, Provident & Loan-bldg., Hamilton, Ont.
Normand, A., engineer, Town Electric Light Plant, Jolictte, Que.
North-American Telegraph Co., Deseronto, Ont.
North Bay Light, Heat & Power Co., North Bay, Ont. Engineer, W. Wilkinson; electrician, W. Stewart.
North Hatley Electricity Works, North Hatley, Que. Proprietors, L. A. Taylor & W. D. Cussien. Engineer, M. Bean; electrician, J. H. Kegan.
North River Power Co., Ltd., Montreal. Directors: J. A. Mann, Esq. (president); R. Bickerdike, Esq., M.P.; W. R. Staveley, Esq.; Bert Fogarty, Esq. (managing). Engineer, Bert Fogarty.
North Shore Power Co., Three Rivers, Que.
Northern Electric & Manufacturing Co., Ltd., manufacturers of telephone & electrical supplies, cor. Notre Dame & Guy-st., Montreal.
Northern Electric Supply Co., electrical contractors & jobbers, Orillia, Ont. (Telcph. No. 196.)
Northern Novelty Works, installation contractors, Dawson, Yukon Ter.
Northgrave, W., electrician, Electricity Works, Waterloo, Ont.
Northumberland Durham Power Co., Port Hope & Coburg, Ont.
Northwest Electric Co., Ltd., installation contractors, Edmonton, Alberta.
Northwest Electric Co., Ltd., electrical supplies, Calgary, Alberta; & Moose Jaw, Sask.
Northwestern Electric, Ltd., electrical contractors & supplies, Regina, Sask.
Norton Telephone Manufacturing Co., Ltd., 64, York-st., Toronto, Ont.
Norwich Electricity Works, Norwich, Ont. Proprietor & manager, H. Webster; engineer, W. Daykin.
Norwood Electricity Works, Norwood, Ont. Proprietor, W. C. Harrison.
Nova Scotia Telephone Co., engineers & contractors, head office, Halifax, N.S.
Nova Scotian Institute of Science, Halifax, Nova Scotia. *See* SOCIETIES.
Oakville Electric Plant (owned by Lawrence Est, Stratford), Oakville, Ont. (Teleph. Nos. 27 & 1.) Engineer, R. S. Wilson.
Obrien, Chas., electrician, Corporation Electricity Works, Saskatoon, Sask.
O'Brien, Hon. H. B., assistant electrical engineer, High Power Transatlantic Wireless Station, Glace Bay, Cape Breton.
Occomore, F., installation contractor, Collingwood, Ont. (Telcph. No. 121A.)
O'Connor, L., electrician, Corporation Electricity Works, Thorold, Ont.
O'Hallarn, Wm., electrician, Municipal Electricity Works, Newmarket, Ont.
O'Leary, Harry, installation contractor, Richibucto, N.B.
Olds Gas Power Co., Saskatoon, Sask.
O'Leary, W. J., & Co., installation contractors, 36–40, Recollet-st., Montreal.
Ontario Lantern & Lamp Co., Ltd., incandescent lamp makers, Hamilton, Ont.
Ontario Power Co., electric light & power contractors, Niagara Falls. Engineer-in-charge, V. G. Converse; superintendent, H. H. Wilson.
Ontario Rubber Co., 44, Yonge-st., Toronto.
Ontario West Shore Electric Railway Co., Godcrich, Ont.
Orangeville Electricity Works, Orangeville, Ont. Engr., Wm. Harkies. Prop. & elecn., C. W. Watson.
Orillia City Light Plant, Orillia, Ont.
Ormiston, D., engineer, New Glasgow Electric Co., Ltd., New Glasgow, N.S.
Ormsby, A. W., electrician, City Electricity Works, Edmonton, Alberta.
Oshawa Electric Light Co., Ltd., Oshawa, Ont. Manager, C. S. Edmondson.
Oshawa Railway Co. (electric), Oshawa, Ont. (Bell Teleph. No. 62.)
Ostrander, Bert, engineer, Brampton Electric Co., Huttonville, Ont.
Otis Fensom Elevator Co., Ltd., Traders Bank-bldg,, Toronto.
Otonabee Power Co., Ltd., Peterborough, Ont. Capital authorized & issued: $90,000 7 per cent. preferred stock & $110,000 ordinary stock. Directors: W. G. Ferguson, Esq. (president & general manager); Adam Hall, Esq. (vice-president); R. R. Hall, Esq.; W. T. Hall, Esq. Secretary-treasurer, W. S. Davidson; electrician, Ed. Guerin.
Ottawa Car Co., Ltd., makers of electric cars & vehicles, Slater-st., Ottawa.
Ottawa Corporation Electricity Works, Ottawa, Ont. Electrical superintendent, J. E. Brown.
Ottawa Electric Co., electric light, heat & power contractors, 35, Sparks-st., Ottawa. Engineer, A. A. Dion. (Teleph. No. 1120.)
Ottawa Electric Railway Co., Ottawa.
Ottawa & Hull Power & Manufacturing Co., Hull, Que.
Ouillet, P., electrician, Cie. des Eaux et de l'Electricité de Chicoutimi, Chicoutimi, Que.
Owen, George, consulting & mechanical engineer, 22, Robinson-st., Hamilton, Ont.
Owen Sound Corp. Electricity Works, Owen Sound, Ont. (Teleph. No. 249.) Electricians, M. Flood & Jos McLinden.
Oxford Electric Light Co., Oxford, N.S.
Oxley-Enos Co., electrolier manufacturers & fitters, 94, King-st. West, Toronto, Ont.
Pace, Gordon, A.AM.I.E.E., construction engineer, Canadian Westinghouse Co., Ltd., Hamilton, Ont.

Canada—*continued.*

Packard Electric Co., Ltd. (R. B. Hamilton), The, manufacturers of the Packard Incandescent Lamp Transformers, recording Watt meters & electrical supplies, St. Catharine's, Ont.

Pagel, Wm., engineer, Electricity Works, Waterloo, Ont.

Paget, P. W., electrician, Marconi Wireless Telegraph Station, Glace Bay, Cape Breton, N.S.

Painchaud, J. R., installation contractor, Three Rivers, Que.

Paisley Electric Light Co., Paisley, Ont. Electrician, J. McNeill.

Palmerston Electric Light Department, Palmerston, Ont. Superintendent, W. J. Hansey.

Paris Corporation Electricity Works, Paris, Ont. Engineer, G. W. Wheeler.

Parke, Roderick J., consulting electrical engineer, Bank of Toronto-bldg., 205, Yonge-st., Toronto, Ont. (Telegs.: "Rodparke, Toronto." Long Distance Teleph. Main No. 4652.)

Parkhill Electricity Works, Parkhill, Ont. Props., H. C. Baird & Son. Engr., G. W. Van Alstine.

Parks, H. B., installation contractor, 215, Rideau-st., Ottawa, Ont. (Teleph. No. 3154.)

Parry Sound, Corporation of, Electric Light Plant, Box 422, Parry Sound, Ont. G. Groves, engineer & electrician. (P.O. Box 442. Teleph. No. 17.)

Parsboro Town Electricity Works, Parsboro, N.S. Engineer, J. Choisnet.

Patterson, E. G., A.AM.I.E.E., general supt. Canadian General Electric Co., Ltd., Peterborough, Ont.

Patterson, J., engineer, Wroxeter Electric Light Co., Wroxeter, Ont.

Peaker, William James, A.AM.I.E.E., Topographical Survey Branch Department of the Interior, Ottawa, Ont.

Peeling, C. U., engineer, Municipal Light & Power Plant, Campbellford, Ont.

Pembroke Electric Light Co., electrical engineers & contractors, Pembroke, Ont.

Penetanguishene & Midland Electric Street Railway, Light & Power Co., Ltd., Penetanguishene, Ont.

Perry Bros., installation contractors, Moncton, N.B.

Perth Corporation Electricity Works, Perth, Ont. Electrician, W. Crosby.

Peterborough Light & Power Co., Ltd., electric light & power contractors, Peterborough, Ont. Directors: T. E. Bradshaw, Esq. (president); J. Stuart, Esq. (vice-president); R. Stuart, Esq.; R. Gordon, Esq. (secretary); H. P. Cravell, Esq.; T. E. Wells, Esq.; J. H. Larmouth, Esq. (managing & engineer). Electrician, H. O. Fisk.

Peterborough Meter Co., Ltd., Peterborough, Ont.

Peterborough Radial Railway Co., Peterborough, Ont. Engr., J. H. Larmouth; elecn., H. O. Fisk.

Petrolia Electric Light, Heat & Power Co., Ltd., Petrolia, Ont. (Teleph. No. 16.) Manager, G. C. Lembke; superintendent, H. Day; engineers, J. Hillis & H. Connors.

Phelps, E. B., engineer, Sarnia Gas & Electric Light Co., Sarnia, Ont.

Philip, R. W., electrician, Electricity Works, Grand Valley & Arthur, Ont.

Philips, E. J., electrician, City Electricity Works, Berlin, Ont.

Phillips, D., engineer, Winnipeg Electric Street Railway Co., Winnipeg, Man.

Phillips, E. F., Electrical Works, Ltd., manufacturers of electric wires & cables, Montreal & Toronto.

Philpot, L. B., A.AM.I.E.E., Britannia Smelting Co., 1656, Georgia-st., Vancouver, B.C.

Phœnix Electric Lighting Co., Ltd., Phœnix, B.C. Registered Jan., 1903. Nominal capital: $50,000 in ordinary shares of $1 each. Issued: $38,000, fully paid. Directors: Geo. W. Rumberger, Esq. (chairman); P. W. Wooster, Esq. (vice-president); J. L. Martin, Esq. (secretary); Wm. J. Williams, Esq.; W. C. Hower, Esq. (engineer). Dividends: 20 c. per share per annum.

Picard & La Londe, installation contractors, 122, William-st., Montreal, Que.

Picard, O., & Fils, installation contractors, 199, St. John-st., Quebec.

Pickering, Jas., proprietor & engineer of electric light plant, Shelbourne, Ont.

Picton Corporation Electric Works, Picton, Ont. Engr., H. W. Smith; elecn., T. O. Crandall.

Pilcher, J. W., A.AM.I.E.E., Canadian General Electric Co., Baddeck, N.S.

Pinder, W. R., installation contractor, Goderich, Ont.

Pingle, Homer, superintendent, Canadian Pacific Railway Co.'s Telegraphs, Toronto.

Pippy, W. J., electrician, Edison Electric Light & Power Co., Spring Hill, N.S.

Pitcher, F. H., M.A.SC., A.I.E.E., general manager & chief engineer, Montreal Water & Power Co., Montreal.

Plante, O., & Cie., electrical engineers & contractors, 259, St. John-st., Quebec.

Plews, W. J., consulting electrical engineer, 40, Hospital-st., Montreal, Que.

Pominville, G., electrician, Cie. de Gaz, Electricité et Pouvoir, St. Hyacinthe, Que.

Poole, H. S., A.M.I.E.E., 422, Mance-st., Montreal.

Poole & Thompson, electrical supplies, Montague, P.E.I.

Pope, H. B., A.AM.I.E.E., Montreal Light, Heat & Power Co., Montreal.

Port Arthur Corporation Electricity Works & Tramways, Port Arthur, Ont.

Port Dalhousie Electricity Works, Port Dalhousie, Ont. Proprietors, Maple Leaf Rubber Co., Ltd.

Port Dalhousie, St. Catherine's & Thorold Elec. St. Railway Co., St. Catherine's, Ont. Engr., W. W. Horton.

Port Dover Electric Co., Port Dover, Ont.

Port Hope Electric Light & Power Co., Ltd., Port Hope, Ont. Registered Aug. 24, 1889. Nominal capital: $49,000, of which $25,000 are issued. Directors: R. A. Corbett, Esq. (president); T. Tuer, Esq. (electrician); V. B. Coleman, Esq. Secretary, M. F. Corbett. Dividends: 1906, 1907 & first half of 1908, *nil.*

Canada—*continued.*

Port Perry Electricity Works, Port Perry, Ont. Proprietor, C. V. Currie.
Potter, J. T., electrician, Walkerton Electric Light & Power Co., Ltd., Walkerton, Ont.
Powell, W. B., manager Great North-Western Telegraph Co., Montreal.
Power Equipment Co., London, Ont.
Power House (monthly), Toronto & Montreal; & 88, Fleet-st., London, E.C.
Poytress, A., electrical fixtures, Parry Sound, Ont.
Pratt, L. W., A.AM.I.E.E., secretary, Federal Electric Construction Co., Ltd., Toronto, Ont.
Pratte, R., engineer, Corporation Electricity Works, Magog, Que.
Pray, C. F., engineer, St. Stephen Railway, St. Stephen, N.B.
Premier Electric Light & Power Co., Ltd., Wallaceburg, Ont. (Teleph. No. 28.) Engineer, W. H. Tobey; electrician, R. L. Soper.
Prescott Municipal Electricity Works, Prescott, Ont. Engineer, H. Reney.
Preston City Electricity Works, Preston, Ont.
Price, H. W., A.AM.I.E.E., lecturer, School of Science, Toronto, Ont.
Prince Albert Municipal Electricity Works, Prince Albert, Saskatchewan. Engineer, O. Klein.
Pringle, T., & Son, consulting & supervising engineers, Coristine-bldg., St. Nicholas-st., Montreal. (Teleph. Nos. 597 & 598, Main.)
Prout, Jas., electrician, Forest Electric Light Co., Forest, Ont.
Provost, J. E., installation contractor, 137, Cascades-st., St. Hyacinthe, Que.
Purcell, J. W., superintendent, Hiram Waker & Sons, Electrical Department, Walkerville, Ont.
Purdy, J. G., electrician, Bear River & Digby Light, Heat & Power Co., Bear River, N.S.
Purvis Bros., installation contractors, Sudbury, Ont.
Pyke, J. W. (agent for Siemens Bros. & Co.), Sovereign Bank-bldg., 232, St. James-st., Montreal.
Quance, Geo. E., engineer, Delhi Light & Power Co., Delhi, Ont.
Quebec Electric Co., installation contractors, 111, St. John-st., Quebec. (Teleph. No. 284.)
Quebec-Jacques-Cartier Electric Co., Quebec. Engineer, L. Denis.
Quebec Railway, Light & Power Co., Quebec. Engineer, Lewis Burran.
Queen City Motor & Dynamo Co., manufacturers of dynamos & motors, 20, Pearl-st., Toronto, Ont.
Raikes, C. P. N., A.AM.I.E.E., London Club, London, Ont.
Rankin, H., dealers in electrical supplies & electrical fixtures, Prescott, Ont.
Rankin & Cherrill, electric fixtures, Vancouver, B.C.
Read, J. R., A.AM.I.E.E., electrical engineer, Canadian West. Co., Ltd., 439, Pender-st., Vancouver, B.C.
Reeder Electrical & Manufacturing Co., Ltd., installation contractors, 1526, Queen-st. W., Toronto, Ont.
Reeder & Jackson, installation contractors, Toronto, Ont.
Reesor, L. H., electrical supplies, St. Mary's, Ont.
Reesor, W. E., engineer, Light, Heat & Power Co. of Lindsay, Ltd., Lindsay, Ont.
Regina, Corporation of, Electric Light Department, Regina, Sask. Engineer, E. W. Bull.
Reiber, Wm., electrician, Electricity Works, Waterloo, Ont.
Reid, F. W., engineer, City Council Electricity Works, Grand Forks, B.C.
Reney, H., engineer, Prescott Electric Light Co., Prescott, Ont.
Renfrew Electric Co., Ltd., Renfrew, Ont. Engineer, G. Fife; electrician, H. H. Wright.
Renfrew Power Co., Ltd., Renfrew, Ont. (Teleph. No. 90.) Registered 1900. Nominal capital: $150,000 in $100 ordinary shares. Issued: $66,100 fully paid & $35,000 4 per cent. bonds. Directors: Alex Barnet, Esq. (chairman); J. E. H. Barnet, Esq.; W. A. Mackay, Esq.; Robt. Leitch, Esq.; Thos. A. Low, Esq.; P. S. Stewart, Esq.; A. Francis, Esq. Elecn., Wm. Byron; sec., W. A. Mackay. Dividends: 1907, 6 per cent.; 1908, 6 per cent.; & first half of 1909, 3 per cent.
Revell, F., superintendent City of St. Thomas Light, Heat & Power Department, St. Thomas, West, Ont.
Revelstoke City Electricity Works, Revelstoke, B.C. (Teleph. Nos. 83, 20 & 15.) Engineer, C. North.
Revelstoke, Trout Lake & Big Bend Telephone Co., Ltd., Revelstoke, B.C.
Rice Lewis & Son, Ltd., electrical supply dealers, Toronto.
Richards, Edward, A.AM.I.E.E., assistant engineer, Hydro-Electric Power Commission, Toronto, Ont.
Richardson, H., engineer, Ingersoll Electric Power & Light Co., Ltd., Ingersoll, Ont.
Richey, H. R., Co., Ltd., installation contractors, Montreal, Que.
Richmond, J. S., A.AM.I.E.E., engineer, 34, Victoria-st. East, Toronto, Ont.
Richmond County Electric Co., Richmond, Que.
Ridgetown Electric Light Co., Ridgetown, Ont. Engineer, W. H. Rous; electrician, W. H. McMackon.
Ringrose, Joseph H., dealer in electrical supplies, Stanley-st., Nelson, B.C. (Telegs.: "Ringrose, Nelson." Teleph. No. 227A.)
Rio de Janeiro Tramway, Light & Power Co., Ltd., 9, Toronto-st., Toronto. Capital stock: $25,000,000, first mortgage 5 per cent. gold bonds $25,000,000, 50 year second mortgage bonds £3,500,000 or 88,060,000 frs. Directors: Wm. Mackenzie, Esq. (chairman); F. S. Pearson, Esq., DR.SC.; A. Mackenzie, Esq.; R. M. Horne-Payne, Esq.; E. R. Wood, Esq.; Z. A. Lash, Esq., K.C.; Dr. Alf. Maia; Sir Wm. C. van Horne, K.C.M.G.; Geo. Flett, Esq.; E. Quellennec, Esq.; P. Farquhar, Esq.; Th. Verstraeten, Esq.; J. Javal, Esq.; W. Gow, Esq.; D. B. Hanna, Esq.

Canada—*continued.*

Rippay, S., engineer, Municipal Electric Light Plant, Annapolis Royal, N.S.
Ritchie, F. J., electrician, Electricity Works, Markdale, Ont.
Ritchie, H., general superintendent, Canadian General Electric Co., 285, Metcalfe-st., Ottawa.
Ritchie Plumbing & Heating Co., installation contractors, Toronto, Ont.
Rivière du Loup Electrical & Iron Works, installation contractors, Fraserville, Que.
Roath, C., electrician, City Electricity Works, Revelstoke, B.C.
Robb Engineering Co., Ltd., makers of the Robb-Armstrong Electric Light Engine, Amherst, Nova Scotia. (Telegrams: "Robb, Amherst." A.B.C. & A1 Codes.)
Robbins, P. A., electrical engineer, McKinley Derragh Savage Mines of Cobalt, Ltd., Cobalt, Ont.
Robertson, Geo. A., dealer in electrical supplies, Moncton, N.B.
Robertson, H. D., B.A.SC., Home Life-bldgs., Toronto, Ont.
Robertson, J. A., electrician, Vankleek Hill Electric Co., Vankleek Hill, Ont.
Robertson, J. McCallum, A.AM.I.E.E., consulting engineer, 101, Board of Trade-bldg., Montreal, P.Q.
Robinson, A., installation contractor, Kenora, Ont.
Robinson, L. G., A.AM.I.E E., electrical engineer, Niagara Falls South, Ont.
Robinson Bros., installation contractors, 410, Spadina-ave., Toronto, Ont.
Rochon, Wm., installation contractor, 454, Parc Lafontaine, Montreal, Que.
Rodgers, Jno., engineer, Electricity Works, Wiarton, Ont.
Rogers, W. C., engineer, Corporation Electricity Works, Kingston, Ont.
Rogers Electric Co., dealers in electrical supplies, 145–147, Queen-st. West, Toronto, Ont.; & 179, Dundas-st., London, Ont.
Rolston, Geo., engineer, Corporation Electricity Works, Huntsville, Ont.
Rose, John, engineer, Corporation Electricity Works, Collingwood, Ont.
Rosebrugh, A. M., M.E., inventor of the Duplex telephone system, 107, Mutual-st., Toronto.
Rosebrugh, T. R., M.A., A.AM.I.E.E., professor of electrical engineering, University of Toronto, Toronto.
Ross, Hugh, general electrician, Winnipeg, Man.
Ross, John, engineer, Town Electricity Works, Yarmouth, N.S.
Ross, Robert A., electrical engineer, Ross & Holgate, 80, St. Francois Xavier-st., Montreal, Que.
Ross, W., engineer, Cape Breton Electric Co., Sydney, N.S.
Ross & Holgate, consulting & supervising engineers, 80, St. Francois Xavier-st., Montreal, Que. (Telegs.: "Rossgate, Montreal." Teleph. Main No. 4223.)
Rough, Geo. C., A.AM.I.E.E., sales manager, Packard Electric Co., St. Catherines.
Rous, W. H., engineer, Ridgetown Electric Light Co., Ridgetown, Ont.
Routh, Alex. C., A.AM.I.E.E., local manager Hinton Electric Co., Ltd., Vancouver, B.C.
Roy, A., installation contractor, Hull, Que.
Royal Electric Co., installation contractors, Berlin, Ont.
Royal Society of Canada, Physical, Chemical & Mathematical Section (president, W. Bell Dawson, D.SC.; secretary, E. Deville, LL.D.), 60, Lisgar-st., Ottawa.
Royce, Jas. C., consulting engineer, Continental Life-bldg., Toronto, Ont.
Rumney, J., engineer, Corporation Electricity Works, Weston, Ont.
Russell, J., engineer, Central Heat, Light & Power Co., Ltd., Montreal.
Rust, H. P., electrical engineer, Electrical Development Co., Niagara Falls, Ont.
Ruston, B., electrician, Corporation Electricity Works, Mitchell, Ont.
Rutton, H. N., city engineer, Winnipeg, Man.
Ryan, H. A., electrical supplies, Regina, Sask.
Sackville Electric Light & Telephone Co., Sackville, N.B. Engineer, B. J. McHaffey.
Sadler & Haworth, manufacturers of leather belting, Montreal & Toronto.
St. Casimir Electricity Works, St. Casimir, Que. Proprietors, M. A. & H. Grandbois.
St. Croix Gas Light Co., St. Stephen, N.B.
St. Denis, J. A., electrician, St. François Hydraulic Co., Thetford Mines, Que.
St. Francis Hydraulic Co., D'Israeli & Weedon, Que. Engineer, A. G. Sangster.
St. George's Electric Co., St. George's East, Beaune, Que.
St. Jerome Power & Electric Light Co., Ltd., St. Jerome, Que. Electrician, R. H. Madden.
St. John Railway Co., operating street railway, gas & electric lighting, St. John, N.B. Engineer, T. Irwin; electrician, H. A. Brown.
St. John's Electric Light Co., electric light contractors, St. John's, Que. Engineer, F. A. Chisholm.
St. Lawrence Power Co., Mille Roche, Ont. Engineer, W. L. Macfarlane.
St. Marys Board of Water, Light & Heat Commissioners, St. Marys, Ont. Supt., W. R. Reynolds.
St. Marys Hardware Co., electrical supplies, St. Marys, Ont.
St. Maurice Light & Power Co., Shawinigan Falls, Que. (Bell Teleph. No. 44.) Engr., J. C. Smith.
St. Paul Electric Light & Power Co., Emard, Que.
St. Raymond Electricity Works, St. Raymond, Que. Proprietor, Chas. A. Julien.
St. Stephen Electric Light Co., St. Stephen, N.B.
St. Stephen Railway, St. Stephen, N.B. Engineer, C. F. Pray.

Canada—*continued.*

St. Thomas Light, Heat & Power Department, St. Thomas, Ont. Manager, G. L. Oill.
St. Thomas Street Railway Co., St. Thomas, Ont.
Sammett, Matthew Alex., A.AM.I.E.E., consulting engineer, Montreal, Que.
Samuel, M. & L., Benjamin & Co., makers of engineers' tools, 26–30, Front-st. West, Toronto, Ont.
Sanders, G. E., A.M.I.E.E., A.M.I.M.E., consulting engineer, Million, East Bay, Dauphin, Manitoba.
Sandham & Roberts, electrical contractors & supplies, St. Thomas, Ont. (Teleph. No. 500.)
Sandon Water & Light Co., Sandon, B.C.
Sandwich, Windsor & Amherstburg Railway, Windsor, Ont. Engr., J. McConnell; elecn., G. McLeod.
Sanford, E. L., A.AM.I.E.E., engineer, Canadian Westinghouse, Ltd., Hamilton, Ont.
Sangster, A., engineer, City Gas & Electric Department, Sherbrooke, Que.
Sangster, A. G., engineer, St. Francis Hydraulic Co., D'Israeli, Que.
Sangster, J., A.AM.I.E.E., power house supt., Hamilton Elec. Light & Cataract Power Co., Power Glen, Ont.
Sao Paulo Tramway, Light & Power Co., Ltd., Toronto Railway-chbrs., Toronto. Capital stock: $10,000,000, 5 per cent. gold bonds $6,000,000. Directors: Wm. Mackenzie, Esq. (president); Fredk. Nicholls, Esq.; Alex. Mackenzie, Esq.; Hon. Geo. A. Cox; Sir H. M. Pellatt; Y. A. Lash, Esq., K.C.; E. R. Wood, Esq.; Dr. F. S. Pearson; R. M. Horne-Payne, Esq.; J. H. Plummer, Esq.; Dr. Alf. Maia. Manager, W. N. Walmsley; secretary, J. M. Smith.
Saraguay Electric Light & Power Co., Montreal, Que.
Sarnia Gas & Electric Light Co., Sarnia, Ont. Engineer, E. B. Phelps; electrician, W. Williams. (Teleph. No. 152.)
Sarnia Street Railway Co., Ltd., electric railway, Sarnia, Ont. Engineer, W. Williams.
Saskatoon Electric Supply Co., installation contractors, Saskatoon, Sask.
Saucier, L., installation contractor, Vankleek Hill, Ont.
Saugeen Electric Light & Power Co., Ltd., Port Elgin & Southampton, Ont. Head office: Walkerton, Ont. Engineer, John McVittie.
Sayer Electric Co., electrical contractors, 30, Victoria-sq., Montreal, Que. (Long Distance Teleph. Nos.: 4546, Main; & 17, East.)
Schenk, Capt., Cable Repairing s.s. "Mackay-Bennett," Halifax, Nova Scotia.
Schomburg & Aurora Railway Co., Aurora, Ont.
Schwartz, F. J. F., assistant electrician, Bell Telephone Co., Montreal.
Scott, D. Bryce, electrician, Intercolonial Railway of Canada, Moncton, New Brunswick.
Scott, Wm., electric fixtures, Midland, Ont.
Scott & Bennett, installation contractors, Galt, Ont.
Scott & Rubinstein, electrical contractors, 342, St. James-st., Montreal. (Teleph. No. 783, Main.)
Scroggie, J., engineer & electrician, Citizens' Electric Co., Ltd., Smith's Falls, Ont. (Teleph. No. 142.)
Seaforth Electric Light, Heat & Power Co., Ltd., Seaforth, Ont. Engr., G. Crabb; elecn., Ed. Mole.
Seale, A. J., engineer, Corporation Electricity Works, Granby, Que.
Seguin, A. J., installation contractor, Ottawa, Ont.
Selkirk Electric Co., Ltd., Selkirk, Man. Engineer, T. Hunter; electrician, S. Wilson.
Shaw, J. A., A.AM.I.E.E., engineer, Montreal Light, Heat & Power Co., Montreal, Que.
Shaw, William B., electrician, Montreal Electric Co., 425, St. James-st., Montreal. (Bell Teleph. No. 644, Mount.)
Shawinigan Falls Terminal Railway Co., Shawinigan Falls, Que.
Shawinigan Water & Power Co., Room 84, Bank of Ottawa-bldg., Montreal. Chief engineer, J. A. Walls. (Telegs.: "Shawgan, Montreal." Teleph. No. 5293, Main.)
Shedrick, C. E., mfr. of electrical measuring instruments & heating appliances, 157, Craig-st. W., Montreal.
Shelburne Electric Co., Ltd., Shelburne, N.S.
Shelburne Electricity Works, Shelburne, Ont. Proprietor & electrician, James Pickering. Engineer, R. J. Small.
Sherbrooke City Gas & Electric Department, Sherbrooke, Que. Engineer, A. Sangster.
Sherbrooke Street Railway Co., Sherbrooke, Que.
Shields, John, manager Ashcroft Water, Electric & Improvement Co., Ashcroft, B.C.
Shipman Electrical Co., installation contractors, 403, Portage-ave., Winnipeg, Man. (Teleph. Main No. 4917.)
Shubenacadie Electricity Works, Shubenacadie, Hants Co., N.S. Props., Logan & Co. Engr., A. Miller.
Sifton, E. I., electrical engineer, City Hall, London, Ont.
Simcoe Gas & Water Co., Simcoe, Ont. (Teleph. No. 88.) Registered 1890. Nominal capital: $40,000 in ordinary shares, of which $24,600 are issued & fully paid. Directors: G. H. Luscombe, Esq. (chairman); A. McCall, Esq.; H. B. Donly, Esq.; J. C. West, Esq.; I. E. York, Esq. Electrician, J. C. Sovereign; secretary, W. C. McCall. Dividends: 1906, 1907 & first half of 1908, 5 per cent.
Simmons, W. C., electrician, Corporation Electricity Works, Bracebridge, Ont.
Simoneau, L. E., installation contractor, 442, Richmond-st., Montreal, Que.
Simoneau, N., installation contractor, 583, Notre Dame-st., Montreal. (Bell Teleph. No. 1275, Main.)
Simons, H. B., A.I.E.E., Box 41, Chambly Canton, Quebec.

Canada—*continued.*

Simpson, T. T., A.AM.I.E.E., consulting engineer, 55, Sparks-st., Ottawa, Ont.

Sise, Charles F., A.AM.I.E.E., president Bell Telephone Co. of Canada, Ltd.; president Northern Electric & Manufacturing Co.; president Wire & Cable Co., Montreal.

Skaife, Lewis, consulting engineer, 20, St. James-st., Montreal. (Telegs.: "Skaife, Montreal." Main Teleph. No. 345.)

Skinner, W. E., A.AM.I.E.E., sales manager, James Stuart Electric Co., Ltd., Winnipeg, Man.

Slade Electric Co., electrical engineers & contractors, 121, St. John-st., Quebec. (Teleph. No. 622.)

Sleeper & Akhurst, dynamo makers, Coaticook, Que.

Sloan, J. H., electrician, Corporation Electricity Works, Tottenham, Ont.

Small, R. J., engineer, Electricity Works, Shelburne, Ont.

Smallpiece, F. C., A.AM.I.E.E., engineer, Canadian General Electric Co., Peterborough, Ont.

Smart, J. C., A.AM.I.E.E., superintendent of transmission lines, Shawinigan Water & Power Co., Joliette, Que.

Smart, R. H., electrical supplies, Brockville, Ont.

Smart-Turner Machine Co., Ltd., electric cranes & pumping machinery, Hamilton, Ont. (Telegs.: "Stmco, Hamilton." A.B.C. Code, 4th edition.)

Smith, A. Bruce, general manager, Grand Trunk Pacific Telegraph Co., Montreal.

Smith, Frank, manager, Municipal Electricity Works, Madoc, Ont.

Smith, H. W., engineer, Corporation Electricity Works, Picton, Ont.

Smith, J. C., engineer, St. Maurice Light & Power Co., Shawinigan Falls, Que.

Smith, J. Norman, A.AM.I.E.E., electrical engineer, Ross & Holgate, Montreal, Que.

Smith, Julian C., M.AM.I.E.E., general superintendent, Shawinigan Water & Power Co., Bank of Ottawa-bldg., Montreal, Que.

Smith, R. J., A.AM.I.E.E., superintendent, Canadian Electric & Water Power Co., Ltd., Perth, Ont.

Smith, Seth B., A.AM.I.E.E., Western manager, electrical department, Canadian Fairbanks Co., Ltd., Vancouver, B.C.

Smith, S. W., A.AM.I.E.E., sales engineer, Engineering Equipment & Supply Co., 13, St. John-st., Montreal, P.Q.

Smith Electric Co., D. L., installation contractors, 211, Church, Toronto, Ont.

Smith, Kerry & Chace, consulting & constructing engineers, Confederation Life-bldg., Toronto. (Telegs.: "Smithco, Toronto." W.U. Code.)

Smith's Falls Electric Power Co., electric light contractors, Smith's Falls, Ont. Chief engr., J. Davidson.

Snider, John, engineer, Leamington Light & Heat Co., Ltd., Leamington, Ont.

Snider, Joseph, installation contractor, New Market, Ont.

Snider, W., electrician, Leamington Light & Heat Co., Ltd., Leamington, Ont.

Soo Electric Co., installation contractors, Sault Ste. Marie, Ont.

Soper, Warren Y., electrical engineer, president Ahearn & Soper, Ltd., Ottawa, Ont.

Sorel Electric Light Co., Sorel, Que. Superintendent, A. G. Coursol; chief electrician, G. M. Anderson.

Sothmann, P. W., A.AM.I.E.E., chief engineer, Hydro Electric Power Commission of Ontario, Toronto.

Soulanges Canal Power House, Coteau du Lac, Co. Soulanges, Que. Engineer, D. Lalonde.

South Western Traction Co., London, Ont.

Sovereign, J. C., electrician, Simcoe Gas & Water Co., Simcoe, Ont.

Speakman, R. E., consulting civil & electrical engineer, Canada Life-bldgs., Toronto, Ont.

Sperling, R. H., A.I.E.E., A.M.AM.I.E.E., general manager, British Columbia Electric Railway Co., Ltd., Vancouver, B.C.

Sprague, H. G., electrical engineer, Vancouver, B.C.

Stacey, F. S., assistant electrical engineer, High Power & Transatlantic Wireless Station, Glace Bay, Cape Breton.

Stacey, H. C., installation contractor, 544, Quebec-ave., Toronto, Ont.

Stanbridge East Electric Light Plant, Stanbridge East, Que. Proprietors, M. S. Cornell & Sons.

Standard Construction Co., contracting electrical engineers. Head office: 17, Place d'Armes Hill, Montreal, Que. (Long Distance Teleph. No. Main 4449.) Shops & warehouse: 11½, Gosford-st. (Telegs.: "Stancond, Montreal." Long Distance Teleph. No. Main 4453.)

Standard Electric Co., installation contractors, 775, Berri-st., Montreal, Que.

Standard Electric Co., electrical engineers & contractors, Confederation Life-bldg., Toronto, Ont.

Stanstead Electric Light Co., Stanstead, Que.

Staples, Allan, electrical supplies, Fredericton, N.B.

Star Electric Co., Eganville, Ont.

Star Electric Co., installation contractors, Winnipeg, Man.

Stark Telephone, Light & Power Co., Erindale.

Stark Telephone, Light & Power System, Toronto, Ont.

Starr, John, Son & Co., Ltd., dealers in all electrical supplies, 158, Granville-st., Halifax, Nova Scotia. (Cablegrams: "Starr, Halifax." Telephone No. 229.)

Stave Lake Power Co., Stave Lake, B.C.

Stayner Electricity Works, Stayner, Ont. J. Knox, proprietor. Engineer, P. Glenn.

Canada—*continued.*

Steinman, A. E., engineer, Electricity Works, Tavistock, Ont.
Stephenson, E. S., & Co., mechanical engineers, 17, Nelson-st., St. John, N. Brunswick. (Telephone No. 675.)
Stevenson, W. J., electrician, Clinton Electric Light Co., Clinton, Ont.
Stevenson Malcolm Co., installation contractors, Guelph, Ont.
Stewart, W., electrician, North Bay Light, Heat & Power Co., North Bay, Ont.
Stinson & Bell, manufacturers' agents, 129, Bell Telephone-bldg., Montreal, Que.
Stodgell, F. W., engineer, Electricity Works, Walkerville, Ont.
Stoever, Geo., importer of electrical supplies, 27, Melinda-st., Toronto, Ont.
Stonehouse, H., manager, Premier Electric Light & Power Co., Wallaceburg, Ont.
Stormont Electric Light & Power Co., Ltd., Cornwall, Ont. (Teleph. No. 35.) Manager, Wm. Hodge.
Stratford Gas Co., Stratford, Ont. Engineer, Fred. R. Chowen.
Strathroy Municipal Electric Light & Water Works, Strathroy, Ont. Engineer, J. Teckoe.
Strickland, H. F., A.AM.I.E.E., chief electrician inspector, 27, Wellington-st. East, Toronto, Ont.
Strom, Th., engineer, Eau Claire Light & Power Co., Eau Claire, Calgary, Alberta.
Stuart, James, Electric Co., Ltd., wholesale electrical supplies & machinery, 324, Smith-st., Winnipeg, Man. (Teleph. Nos. 7206–3447.)
Stuart Machinery & Electrical Co., Winnipeg, Man.
Stubbs, J. Hamilton, electrician, Kootenay Electric Co., Ltd., Kaslo, B.C.
Sturgeon Falls Electric Light & Power Co., Ltd., Sturgeon Falls, Ont. Managing director, H. E. M'Kee; engineer, W. H. Young.
Sudbury Corporation Electricity Works, Sudbury, Ont. Engineer, R. H. Martindale.
Summerfeldt, W. S., electrician, Electricity Works, Sutton, Ont.
Summerside Electric Co., electric light contractors, Summerside, P.E.I. Electrician, P. B. Grady.
Sumner Co., installation contractors, Moncton, N.B.
Sunbeam Incandescent Lamp Co., of Canada, Traders Bank-bldg., Toronto, Ont.
Sunderland Electric Power Co., Ltd., Sunderland, Ont.
Surtees, Harold J., manufacturers' agent, 90, Bay-st., Toronto, Ont.
Sussex Manufacturing Co. Electricity Works, Sussex, N.B. Engineer, T. B. Bass.
Sutton Electricity Works, Sutton, Ont. Props., W. H. Summerfeldt & Sons. Elecn., W. S. Summerfeldt.
Sydney & Glace Bay Railway Co., Sydney, N.S. Manager, H. C. Foss.
Sydney Mines Electric Co., Sydney Mines, C.B. Engineer, C. S. Boucher.
Symes, Harry, A.AM.I.E.E., superintendent, Electrical Development Co., Niagara Falls, Ont.
Tagona Water & Light Co., Sault Ste. Marie, Ont. Chief engineer, L. H. Davis.
Tangent Cycle Co. & Electrical Works, electrical supplies, 418, College-st., Toronto, Ont.
Tate Electrolytic Co. of Canada, Ltd., Continental Life-bldg., Toronto, Ont.
Tavistock Electricity Works, Tavistock, Ont. Proprietor, J. G. Field. Engineer, A. E. Steinman.
Taylor, C. E., installation contractor, Edmonton, Alberta.
Taylor, F. W., assistant electrical engineer, High Power Transatlantic Wireless Station, Glace Bay, Cape Breton.
Taylor, G. R., chief engineer, Town Council Electricity Works, Wetaskiwin, Alberta.
Taylor, T., electrician, Sherbrooke Power, Light & Heat Co., Sherbrooke, Que.
Taylor, W. A., A.AM.I.E.E., electrical engineer, 475, West Marion-st., Toronto, Ont.
Teckoe, J., engineer-in-charge, Corporation Electricity Works, Strathroy, Ont.
Teeswater Electric Light Co., Teeswater, Ont.
Telephone Age of Canada (monthly). Publishers: Biggar-Wilson, Ltd., Confederation Life-bldg., Toronto.
Telephone Co. of Prince Edward Island. Head Office: Charlottetown, Prince Edward Island.
Telephone Specialty Co., 15, Sovereign Bank-bldg., Montreal, Que.
Terrebonne Electric Light Co., Terrebonne, Que.
Terrien, D., engineer, Beauharnois Electric Light Co., Beauharnois, P.Q.
Tett, E. J., engineer, Blindman River Electric Power Co., Ltd., Lacombe, Alberta.
Thamesville Corporation Electricity Works, Thamesville, Ont. Engineer, W. McKenzie.
Thessalon Town Council Electricity Works, Thessalon, Ont. Engineer, E. E. Thompson.
Thomas, Geo. P., installation contractors & electrical supplies, Windsor, Ont.
Thompson, C. A., installation contractor, New Market, Ont.
Thompson, E. E., engineer, Town Council Electricity Works, Thessalon, Ont.
Thompson, Geo. W., general superintendent, Corporation Light & Power Department, Westmount, Que.
Thompson, J. R., installation contractor, 56, Quesnelle-st., Montreal, Que.
Thompson, A. A., & Co., electric dynamos & motor repairs, 56, Quesnelle-st., Montreal, Que.
Thompson, A. C., Co., Ltd., electrical supplies, North Sydney & Glace Bay, N.S.
Thompson & Anderson, electric fixtures, Port Arthur, Ont.
Thomson, Fred., & Co., contractors & manufacturing electricians, 326, 328 & 330, Craig-st., Montreal.
Thornber, Percy, borough electrician, Summerland, B.C.
Thornbury Electric Light Co., Thornbury, Ont.

Canada—*continued.*

Thornton, George A., A.AM.I.E.E., electrical engineer, 302, Boswell-ave., Peterboro, Ont.

Thorold Corporation Electricity Works, Thorold, Ont. Electrician, L. O'Connor.

Tilbury Electricity Works, Tilbury, Ont. Proprietor, T. C. Vickerman.

Tilsonburg Electric Light Works, Tilsonburg, Ont. Proprietors, F. J. & W. E. Barkey.

Tippet, F. H., & Co., installation contractors, 65, Prince William-st., St. John, N.B.

Tobey, W. H., engineer, Premier Electric Light & Power Co., Ltd., Wallaceburg, Ont.

Toronto Electric Constuction Co., installation contractors, 74, Adelaide-st. East, Toronto, Ont.

Toronto Electric Light Co., Ltd., 12, Adelaide-st. E., Toronto, Ont. (Teleph. No. 3975, Main.) Nominal capital: $4,000,000 in $100 ordinary shares, all issued & fully paid, & $1,000,000 debentures. Directors: Sir H. M. Pellatt (president); W. D. Matthews, Esq. (vice-president); W. R. Brock, Esq.; F. Nicholls, Esq.; L. Goldman, Esq.; Hugh Blain, Esq.; S. Trees, Esq.; H. P. Dwight, Esq.; T. Walmsley, Esq.; S. F. Mackinnon, Esq.; Hon. Geo. A. Cox. General manager, J. J. Wright; general superintendent, R. G. Black; secretary, W. A. Martin. Dividends: 1907, 8 per cent.; 1908, 8 per cent.; & first half of 1909, at the rate of 8 per cent. per ann.

Toronto Electric Storage Battery Co., manufacturers of accumulators, 342, Adelaide-st. W., Toronto, Ont.

Toronto Electrical Works Co., Ltd., electrical engineers & contractors, manufacturers of electrical supplies, 42, Adelaide-st. West, Toronto. (Teleph. No. 121, Main.)

Toronto & Hamilton Electric Co., electrical manufacturers, 99–103, McNab, Hamilton, Ont. (Telegs.: "Joblynch, Hamilton." Teleph. No. 1515.)

Toronto Inter-urban Electric Co., Ltd., Toronto, Ont. Incorporated 1908.

Toronto Power Co., Ltd., Toronto, Ont.

Toronto Railway Co., Toronto. Chief electrician, W. B. Boyd.

Toronto Suburban Street Railway Co., Toronto Junction, Ont.

Toronto Technical High School, Toronto. *See* SCHOOLS.

Toronto & York Radial Railway, Toronto, Ont.

Torrens, C. W., A.I.E.E., c/o Price Bros., Quebec.

Torrey, C. E., A.AM.I.E.E, Tagona Water & Light Co., Sault Ste. Marie, Ont.

Torrey, J. H., installation contractor, 362, Portage-ave., Winnipeg, Man.

Tottenham Corporation Electricity Works, Tottenham, Ont. Engineer, C. Livingstone; electrician, J. H. Sloan.

Townsend, Arthur, A.AM.I.E.E, electrical engineer, Milestone, Sask. (Teleph. No. 11.)

Trail Electric Light Plant, Trail, B.C. Consolidated Mining & Smelting Co., proprietors. Engineer, J. R. M'Dougall; electrician, E. E. Cockroft.

Trenton Electric & Water Co., Ltd., Trenton, Ont. Engineer, A. T. Hicks; secretary, W. A. Martin.

Trimingham, C. L., consulting electrical engineer, 40, Hospital-st., Montreal. (Teleph. No. 1763, Main.)

Trott, G. H., installation contractor, Bothwell, Ont.

Trott, L. A., engineer, Corporation Electricity Works, Chatham, Ont.

Trueman, Jas., engineer, Alliston Electric Light Co., Alliston, Ont.

Tuer, Thos., electrician, Port Hope Electric Light & Power Co., Ltd., Port Hope, Ont.

Turbayne, William A., consulting electrical engineer, 127, King-st., East Hamilton, Ont.

Turnbull, W. R., M.E., consulting engineer, Rothesay, N.B.

Turpin, S. E., engineer, Colborne Electric Light Co., Colborne, Ont.

Tushingham, F., engineer, Toronto Railway Co., Toronto, Ont.

Tweed Electric Light & Power Co., Tweed, Ont. (Teleph. Nos.: manager, 32; power house, 29.) Electrician, J. T. Kissack.

Underfeed Stoker Co., Ltd., underfeed stoker manufacturers, engineers & contractors, Toronto.

Union Switch & Signal Co., 20, Sovereign Bank-bldg., Montreal, Que.

United Electric Co., installation contractors, 166, Pacific-ave., Winnipeg, Manitoba. (Telephone No. 3608.)

University of Manitoba, Winnipeg, Man. *See* SCHOOLS.

University of Toronto, Toronto. (Teleph. No. 5000, College.) *See* SCHOOLS.

Urgel, Beaupre, installation contractor, Three Rivers, Que.

Uxbridge Electricity Works, Uxbridge, Ont. Proprietor, I. J. Gould; engineer, J. Mephail.

Valleyfield City Electricity Works, Valleyfield, Que. (Teleph. No. 161.)

Valleyfield Electric Co., Ltd., Valleyfield, Que.

Van Alstine, G. W., engineer, Electricity Works, Parkhill, Ont.

Van-Bergh Electrical & Manufacturing Co., Winnipeg, Man.

Van Cleve, A. H., engineer, Canadian Niagara Power Co., Niagara Falls, Ont.

Vancouver Engineering Works, Ltd., marine, hydraulic, electrical & general engineers, Vancouver, B.C.

Vancouver Power Co., Ltd., electric power contractors, Vancouver, B.C. General manager, R. H. Sperling; electrician, W. T. Woodroofe. *This company is controlled by the British Columbia Electric Railway Co., Ltd.*

Vandry & Matte, installation contractors, St. Jean-st., Quebec.

Canada—*continued.*

Vankleek Hill Electric Co., Ltd., Vankleek Hill, Ont. Electrician, J. A. Robertson.

Vaughan, F. P., electrical engineer, manager Vaughan Electric Co., Ltd., St. John, New Brunswick. (Teleph. No. 319.)

Vaughan Electric Co., Ltd., electrical engineers & contractors, 94, Germain-st., St. John, N.B.

Vegreville Electric Light & Power Co., P.O. Box 8, Vegreville, Alberta. (Teleph. No. 82.) Manager, T. A. Weekes.

Vernon City Council Electricity Works, Vernon, B.C. Electrical engineer, W. F. Cook.

Vezina, Charles, installation contractor, 117, Du Pont-st., Quebec.

Vickerson Electric Co., installation contractors, 24 & 26, St. George-st., Montreal, Que. (Teleph. No. 799, Main.)

Victoria City Electricity Works, Victoria, B.C. M. Hutchison, electrical engineer.

Victoria Electric Co., electrical supplies, Victoria, B.C.

Victoria Foundry Co., makers of water wheels especially adapted to automatically regulated electric power plants, Ottawa.

Victoriaville Electricity Works, Victoriaville, Que. Proprietors, Athabasca Water & Power Co. Engineer, W. G. Mayhew.

Vogel, C. H., installation contractor, Carstairs, Alta.

Volta Electric Repair Works, installation contractors, 86, Adelaide-st. West, Toronto, Ont.

Vulcan Iron Works Co., Ltd., manufacturers of iron, steel & elevator machinery, Winnipeg, Manitoba.

Vyvyan, R. N., chief engineer, Marconi Wireless Telegraph Co. of Canada, Ltd., & manager of the High Power Transatlantic Wireless Station, Glace Bay, Cape Breton.

Waddell, John, D.SC., PH.D., assistant professor in chemistry, School of Mining, Kingston, Ont.

Wadden, C. E., electrician, New Glasgow Electric Co., Ltd., New Glasgow, N.S.

Wagner, Geo. J., installation contractor, Guelph, Ont.

Wagner Electric Manufacturing Co., Traders' Bank-bldg., Toronto, Ont. (Teleph. No. 7532, Main.)

Wain, C. L., superintendent, Municipal Electricity Works, Kamloops, B.C.

Wainwright & Morrison, installation contractors, Cedar-st., Sudbury, Ont.

Walbank, W. McLea, vice-president & chief engineer, Montreal Light, Heat & Power Co., Montreal. (Telegs.: "Knablaw, Montreal.")

Walkem, G. A., Co., installation contractors, Vancouver, B.C.

Walker, E. B., A.AM.I.E.E., engineer, Canadian General Electric Co., 14, King-st., Toronto, Ont.

Walkerton Electric Light & Power Co., Ltd., Walkerton, Ont. Capital authorized & issued: $30,000. Directors: D. Robertson, Esq. (president); J. Rowland, Esq. (vice-president). Secretary, N. Robertson; electrician, J. T. Potter.

Walkerville Electricity Works, Walkerville, Ont. Hiram Walker & Sons, proprietors. Engineer, C. J. Stodgell; electrician, J. W. Purcell.

Wallace, J. A., & Co., dealers in electrical supplies, New Market, Ont.

Walls, J. A., chief engineer, Shawinigan Water & Power Co., Montreal, Que.

Walsh & Co., installation contractors, 33–35, Vitre-st. West, Montreal. (Teleph. No. 2744.)

Walters, Chas. A., electrician, Napanee Water & Electric Light Co., Napanee, Ont.

Waltz, A. C., & Co., installation contractors, 31, Court-st. South, Port Arthur, Ont.

Ward, E. G., electrical engineer, Dunnville Electric Light Co., Ltd., Dunnville, Ont.

Warren, E. G., engineer, City Waterworks Co., Greenwood, B.C.

Warren, Wm. R., A.M.I.E.E., Dept. of Railways, Telegraphs, and Telephones, Regina, Sask.

Waterbury, N., electrician, Hamilton, Grimsby & Beamsville Electric Railway Co., Hamilton, Ont.

Waterloo Electric Light Plant, Waterloo, Ont. (Long Distance Teleph. No. 239.) Engineers, Wm. Pagel & A. Bowman; electricians, G. Grosz & W. Northgrave.

Waterous Engine Works Co., manufacturers of steam engines & boilers, Brantford. (Telegs.: "Waterous.")

Watford Electricity Works, Watford, Ont. Electrician, R. C. McLeay.

Watson, C. W., proprietor & electrician, Electricity Works, Orangeville, Ont.

"Watt" Electric Lamps, 14, St. Sacrement-st., Montreal, Que.

Watt, Jas., & Sons, installation contractors, Chatham, Ont.

Watts, Geo. W., M.AM.I.E.E., works manager, Canadian G.E. Co., Ltd., 16, East King-st., Toronto, Ont.

Watts, John, electrical engineer, Canadian General Electric Co., 14, King-st. East, Toronto, Ont.

Watts, H. H., & Co., mfrs. of elec. novelties, 519, Queen-st. W., Toronto, Ont. (Tel. No. 3720, Main.)

Waugh, R., engineer, Corporation Electricity Works, St. Mary's, Ont.

Weaver, L. E., installation contractor, Hespeler, Ont.

Webb, H., installation contractor, 4, Church-st., St. John, N.B.

Webster & Co., mica manufacturers, 274, Stewart-st., Ottawa, Ont.

Webster, W. C., & Son, electrical supplies, Coaticook, Que.

Welbanks & Lacroix, installation contractors, Prince Albert, Sask.

Welland Electrical Co., Welland, Ont.

Weller, H. W., A.M.I.C.E., M.AM.I.E.E., &c., mechanical & electrical engineer, New York Life-bldg., Montreal, Que. (Telegs.: "Weller-Babcock, Montreal." Teleph. Main No. 674.)

Canada—*continued.*

Welsbach Co. (Canadian), electric appliances, 13½, Queen-st. East, Toronto, Ont.

West Electric Co., installation contractors, 803, Bathurst-st., Toronto, Ont. (Teleph. No. 5184, Collego.)

West India Electric Co., Ltd., Commercial Union-bldg., Montreal; & Kingston, Jamaica. Registered 1898. Nominal capital: $1,250,000 in ordinary $100 shares, $800,000 issued & fully paid, & $600,000 in $1000 debenture bonds, fully paid. Directors: J. Hutchison, Esq. (chairman); S. H. Ewing, Esq. (vice-president); G. M. Webster, Esq.; John Fair, Esq.; A. R. Oughtred, Esq.; Lieut.-Colonel J. H. Burland; Hon. D. MacKeen. Electrical engineer, H. A. Campbell; secretary, H. E. Flower. Dividends: 1907, *nil*; 1908, 4 per cent. per ann.; & first half of 1909, at the rate of 5 per cent. per ann.

West Kootenay Power & Light Co., Ltd., Rossland, B.C.; & Room 56, Canada Life-bldg., Montreal. Incorporated 1897. Nominal capital: $2,000,000 in fully paid ordinary shares, $200,000 in fully paid preference shares & $1,500,000 debentures. Directors: W. M. Doull, Esq. (president); F. Paul, Esq.; C. R. Hosmer, Esq.; W. R. Baker, Esq.; E. Hanson, Esq.; Geo. F. Benson, Esq.; J. S. C. Fraser, Esq. Electrical engineer, L. A. Campbell; secretary, W. Roach.

West Lorne Electric Light Co., Ltd., West Lorne, Ont. Directors: D. Hyndman, Esq.; W. A. Becker, Esq.; J. M'Callum, Esq.; J. Keefer, Esq.; D. M'Pherson, Esq.; J. A. M'Killop, Esq.; D. F. Webster, Esq. (secretary). Engineer, J. Lozan.

Westcott & Grier, electrical engineers, 78, Victoria-st., Montreal.

Western Counties Electric Co., Ltd., electric light & power, Brantford, Ontario. (Local Telephone No. 29.)

Westman, A. W., electrician, Windsor, Essex & Lake Shore Railway Co., Kingsville, Ont.

Westmount Corporation Electricity Works, Westmount, Que. Chief engineer, J. Donnelly; electrician, Geo. W. Thompson.

Westmount Plumbing & Heating Co., Ltd., installation contractors, Westmount, Que.

Weston Corporation Electric Light System, Weston, Ont. Engineer, J. Rumney.

Wetaskiwin Town Council Electricity Works, Wetaskiwin, Alberta. Chief engineer, G. R. Taylor.

Wharram, C. E., engineer, Corporation Electricity Works, Blenheim, Ont.

Whatmough, F. C., electrical construction, Stratford, Ont. (Teleph. No. 338.)

Wheeler, G. W., engineer, Corporation Electricity Works, Paris, Ont.

Whitby Electricity Works, Whitby, Ont. Proprietors, Water & Light Commissioners. Engineer, R. Davidson; electrician, H. M. Isaac.

White, Ernest C., M.E., illuminating engineer, Winnipeg, Man. (Telegs.: "Lumination, Winnipeg.")

White, Fred, superintendent, Anglo-American Telegraph Co., St. Pierre Miquelon.

White, H. D., engineer, Fredericton Gas Light Co., Fredericton, N.B.

White Horse Electricity Works. *See* Yukon Electrical Co.

Whitley Electricity Works, Whitley, Ont. Proprietor, Geo. H. Jordan.

Wiarton Electricity Works, Wiarton, Ont. Proprietors, Canada Furniture Manufacturing Co., Ltd. Engineer, J. Rodgers.

Wiley, R. R., A.AM.I.E.E., electrical engineer, Packard Electric Co., St. Catherine's, Ont.

Wilkinson, C. T., engineer, Corporation Electricity Works, Brockville. Ont.

Wilkinson, W. J., engineer, North Bay Light, Heat & Power Co., North Bay, Ont. (Teleph. No. 113.)

Willard, N., & Co., installation contractors, Prescott, Ont.

Willetts, H. H., installation contractor, 1154, Ontario East, Montreal, Que.

Williams, Jas., engineer, Electricity Works, Grand Valley & Arthur, Ont.

Williams, Wm., manager, Sarnia Gas & Elec. Light Co.; & engineer, Sarnia St. Railway Co., Sarnia, Ont.

Williams, A. R., Machinery Co., Ltd., manufacturers of & dealers in machinery, Toronto, Ont.; Montreal, P.Q.; Winnipeg, Man.; & Vancouver, B.C.

Willis, W. J., electrician, City Electric Light Plant, Barrie, Ont.

Wilson, H. H., superintendent, Ontario Power Co. of Niagara Falls, Ont.

Wilson, J., engineer & electrician, Electricity Works, Fergus, Ont.

Wilson, J., superintendent, Canadian Pacific Railway Co.'s Telegraphs, Vancouver, B.C.

Wilson, R. M., A.AM.I.E.E., 23, Seymour-ave., Montreal, Que.

Wilson, R. S., engineer, Electricity Works, Oakville, Ont.

Wilson, S., electrician, Selkirk Electric Co., Ltd., Selkirk, Man.

Wilson, J. C., & Co., makers of the "Little Giant" turbine, &c., Glenora, Ont. (Telegs.: "Wilson, Glenora." Local Teleph. No. 96.)

Wilson, L., & Co., dealers in electrical supplies, 36, Arthur-st., Winnipeg, Man.

Winchester Electricity Works, Winchester, Ont. M. F. Beach Co., proprietors.

Windover, W., installation contractor, Frankford, Ont.

Windsor, Essex & Lake Shore Railway Co., Kingsville, Ont. Electricians, A. W. Westman & W. W. Chisholm.

Windsor Electric Light & Power Co., electric light & power contractors, Windsor, N.S.

Windsor & Tecumseh Electric Railway Co., Walkerville, Ont.

Winfield, J. H., A.AM.I.E.E., general manager, Nova Scotia Telephone, Ltd., Drawer 592, Halifax, N.S.

Canada—*continued.*

Wingham Corporation Electricity Works, Wingham, Ont. Electrician, J. E. Bradun.
Winningham, J. D., engineer, Cumberland Electric Co., Ltd., Cumberland, B.C.
Winnipeg Electric Street Railway Co., Winnipeg, Man. Engineer, D. Phillips.
Winnipeg Municipal Electricity Works, Winnipeg, Man. Engineer-in-chief, F. A. Cambridge.
Winnipeg Rubber Co., Ltd., 41, Princess-st., P.O. Box 1251, Winnipeg, Man.
Winnipeg, Selkirk & Lake Winnipeg Railway, Winnipeg, Man.
Wire & Cable Co., Montreal. E. F. Sise, manager.
Wood, F. W., electrical supplies, Campbellford, Ont.
Woodman Bros., electrical contractors, cor. Main & Catharine-sts. East, Hamilton, Ont.
Woodroofe, W. T., superintendent, Vancouver Power Co., Ltd., Vancouver, B.C.
Woodstock City Electricity Works, Woodstock, Ont. Engineer, J. G. Archibald.
Woodstock Electric Railway, Light & Power Co., Woodstock, N.B. Engineer, Geo. King; electrician, Wm. Hamilton.
Woodstock, Thames Valley & Ingersoll Electric Railway Co., Woodstock, Ont.
Woodward, P. J., electrician, Marconi's Wireless Telegraph Co., High Power Station, Glace Bay, N.S.
Worsell, J. H., & Son, installation contractors, Goderich, Ont.
Worth & Martin, installation contractors, Toronto, Ont.
Wright, C. H., A.AM.I.E.E., engineer, Canadian General Electric Co., Citizen-bldg., Ottawa, Ont.
Wright, H. H., electrician, Renfrew Electric Co., Ltd., Renfrew, Ont.
Wright, J. J., A.AM.I.E.E., general manager, Toronto Electric Light Co., Toronto.
Wright, R., installation contractor, Battleford, Sask.
Wroxeter Electric Light Co., Wroxeter, Ont. Engineer, J. Paterson.
Wyler & Knight, electrical contractors & supplies, 3 & 5, Reeve-st., Woodstock, Ont. (Teleph. No. 331.)
Yarker Electricity Works, Yarker, Ont. Proprietors, Benjamin Manufacturing Co., Ltd. Engineer, G. Joyner; electrician, B. Gilbert.
Yarmouth Amalgamated Telephone Co., Ltd., dealers in electrical supplies, Yarmouth, N.S.
Yarmouth Cycle Co., installation contractors, Yarmouth, N.S.
Yarmouth Street Railway Co., Ltd., electric tramway, Yarmouth, Nova Scotia.
Yarmouth Town Electricity Works, Yarmouth, N.S. Engineer, John Ross.
Young, A., installation contractor, Wingham, Ont.
Young, R. N., asst. superintendent, Canadian Pacific Railway Co.'s Telegraphs, Winnipeg, Man.
Young, T. S., sec.-treasurer of the Canadian Electrical Association, Confederation Life-bldg., Toronto.
Young, W. H., engineer, Sturgeon Falls Electric Light & Power Co., Ltd., Sturgeon Falls, Ont.
Yuill, A. C. R., A.AM.I.E.E., erecting engineer, Canadian General Electric Co., 14, King-st. E., Toronto, Ont.
Yukon Electrical Co., Ltd., White Horse, Yukon Ter. Engr., H. Chapman; elecn., T. Y. Duncan.
Yule, W. L., electrical supplies, Goderich, Ont.
Zavitz, R. H., A.AM.I.E.E., district manager, Allis-Chalmers-Bullock, Ltd., Box 16, Winnipeg, Man.
Zuefle, C., engineer, Electricity Works, Exeter, Ont.
Zurich Electricity Works, Zurich, Ont.

Costa Rica.

Clarke, R. A., station manager, Central & South American Telegraph Co., San José.
Costa Rica Electric Light & Traction Co., Ltd., electric light & power contractors, San José. (Cable address: "Tranvia, San José, Costa Rica.")
Green, Gilbert Holt, A.M.I.E.E., Electric Light & Traction Co., San José.
Tristan, Rafael Manual, A.AM.I E.E., electrical engineer, Costa Rica Government, San Jose de Costa Rica.

Fanning Island.

Bent, W., superintendent Pacific Cable Board.

Guatemala.

Compañia de Plantaciones "Cecilia," Ltd., Quezaltenango. Engineer, H. Noerbel.
Empresa Electrica de Guatemala. Chief engineer, Max Obst.
Empresas Electricas, Quezaltenango. Electrical engineer, H. Noerbel.
Melville, E. H., British commercial agent for Central America, c/o British Legation.
Noerbel, Hermann, electrical engineer, Empresas Electricas, Quezaltenango.
Obst, Max., chief engineer, Empresa Electrica de Guatemala.
Winter, C. J., acting commercial agent, H.B.M.'s Legation.

Hawaiian Islands.

Cassidy, Jno., A.AM.I.E.E., Hawaiian Electric Co., Ltd. (P.O. Box 144), Honolulu.
Dodd, M., A.I.E.E., electrician, Commercial Pacific Cable Co., Honolulu.
Frazie, W. L., chief elecn. & manager, Govt. Electric Light Plant, P.O. Nuuanu Valley, Honolulu.
Gaines, John D., superintendent, Commercial Pacific Cable Co., Honolulu.
Gartley, Alonzo, A.AM.I.E.E., general manager Hawaiian Electric Co. (P.O. Box 3576), Honolulu. (Teleph. No. 3576, White.)

Hawaiian Islands—*continued.*

Government Electric Light Plant T. H., Honolulu. Chief electrician & manager, W. L. Frazie.
Grant, C., superintendent, Kauai Electric Co., P.O. Wainiha, Island of Kauai.
Hawaiian Electric Co., agents for Westinghouse Electric & Manufacturing Co., & Pelton Water Wheel Co., 223–227, King-st. (P.O. Box 144), Honolulu. (Telegs.: "Hawelect, Honolulu." Teleph. No. 390, Main.) Engineer, O. R. Williams.
Hilo Electric Light Co., Hilo. Engineer, J. C. Mocine.
Honolulu Rapid Transit & Land Co., Honolulu. Engineer, R. Menaugh; electrician, L. H. Wolff.
Hudson, H. L., consulting & contracting hydraulic & electrical engineer, Honolulu (Telegs.: "Nosdu, Honolulu"); & 1555, Haight-st., San Francisco, Cal., U.S.A.
Kauai Electric Co., Wainiha; & Eleele, Kauai Island. Engineer, C. Grant.
Lehigh, W. F., superintendent Mutual Telephone Co., Ltd., Honolulu. (Telegs.: "Montelco, Honolulu." Teleph. No. 2.)
Menaugh, Robt., chief engineer, Honolulu Rapid Transit & Land Co., Honolulu.
Mocine, J. C., engineer, Hilo Electric Light Co., Hilo.
Mutual Telephone Co., Ltd., Honolulu. W. F. Lehigh, superintendent. (Telegs.: "Mutelco, Honolulu." Teleph. No. 700.)
Parks, C. Wellman, M.AM.I.E.E., civil engineer, U.S. Navy Station, Honolulu.
Pratt, Alex., A.AM.I.E.E., superintendent, Honolulu Rapid Transit & Land Co. (P.O. Box 8), Honolulu.
Pratt, R. J., M.AM.I.E.E., chief electrician, Honolulu Iron Works Co., Honolulu.
Stodant, Wm., manager, Kauai Electric Co., P.O. Eleele, Island of Kauai.
Williams, O. R., engineer, Hawaiian Electric Co., Honolulu.
Wolf, Lee H., A.AM.I.E.E., electrician, Honolulu Rapid Transit & Land Co., Honolulu.

Mexico.

Arozarena, R. M. de, A.AM.I.E.E., consulting engineer, 1, Alamo A., City of Mexico.
Ascorve, Ernesto, electrical engineer (Cia. Ind. Ascorve y Gayosso, P.O. Box 11B), Av. Hombres Ilustres 13, Mexico.
Ascorve, Enrique, electrical engineer (Cia. Ind. Ascorve y Gayosso, P.O. Box 11B), Av. Hombres Ilustres 13, Mexico.
Bailey, Eugene, electrical & consulting engineer, G. & O. Braniff & Co., Cadena 19, Mexico.
Baxter, E. D., engineer, Monterey Electric Light & Power Co., Monterey.
Bellamy, W. H., general superintendent, Mexico Tramways Co., Ltd., Indianilla.
Bennett, P. M., A.M.I.E.E., D.F., electrical engineer, ave. Independencia No. 13, Esp. 1ª, Callede, Lopez, Mexico.
Bennett, P. M., & Co., representatives Callender's Cable & Construction Co., Ltd., London, San Juan de Letran 5, 1/2, Mexico.
Bergner, Pablo, & Co., electrical engineers & contractors, calle de Cadena 3, Mexico. O. M. C. Heyl, engineer & manager.
Beyer, M., engineer, Cia. Pontencia Electrica de Colima, Colima.
Bonsor, Wm. V., electrical engineer, Santa Gertrudis, Oriziba.
Braniff, G. & O., & Co., electrical supplies, 19, Cadena, Mexico.
Braschi, V. M., & Co., electrical engineers & agents, calle de Cadena 2, Mexico. (Telegs.: "Braschi, Mexico.")
Brown, Robert C., managing director, Mexico Tramways Co. & Mexican Light & Power Co., Ltd., Mexico.
Buchanan, W. S., station manager, Central & South American Telegraph Co., Salinacruz, Oaxa.
Burford, W. J., A.M.I.E.E., c/o S. Pearson & Co., Ltd., Oilfields Department, Minatitlan, Vera Cruz.
Cananea Electricity Works, Cananea, Senora. Consolidated Copper Co., props. Engr., H. C. L. Gooding.
Carnaghan, E. D., chief engineer, Cia. Durangueña de Luz Electrica, Durango.
Castello-Sosa, Alfonso, A.M.I.E.E., Departmento de Pesas y Medidos, Ministerio de Fomento.
Chase, C. A., chief engineer, Mexican General Electric Co., Mexico City.
Chism, R. E., patent agent & attorney, Apartado 130 bis, Mexico. (Telegs.: "Rechism, Mexico." Teleph. No. 417.)
Clapham, G. H., M.I.E.E., Mazapil Copper Co., Concepcion del Oro Saltillo.
Compañhia de Tranvias, Luz y Fuerza de Guadelajara, Soc. Anon., Guadalajara. Chief engineer, M. L. Schiaffino; resident engineer, C. Guzman.
Compañia de Fuerza y Luz Electrica de Celaya, Celaya. Engineer, Jorge S. Herbert.
Compañia de Luz Electrica y Fuerza Motriz, Monclova. Chief electrician, A. V. Ramirez.
Compañia de Potencia Electrica de Colima, P.O. Box 4, Colima. (Teleph. No. 48.) Engr., M. Beyer.
Compañia de Transmision Electrica de Potencia, power contractors, Apartado 95, Pachuca.
Compañia de Tranvias de Mexico.
Cia. Duranguena de Luz Electrica, Durango. Chief engineer, E. D. Carnaghan.
Compañia Hidro-Electrica Queretaro, Las Rosas, nr. Queretaro. Engineers, L. de Lozanna & Wm. Honey.
Compañia Industrial Ascorve y Gayosso (P.O. Box 11B), Av. Hombres Ilustres 13, Mexico.

Mexico—*continued.*

Compañia Industrial de Orizaba S. A., Apartado 576, Mexico. (Telegs.: "Cidosa, Mexico." Tel. 2252.)
Cummings, C. E., superintendent, Mexican Telegraph Co., P.O. Box 293, Mexico City.
De Waal, Wm. H., A.M.I.E.E., engineer, c/o Enrique Schondube, Apartado 756, Mexico City.
Dyer, S. A., A.AM.I.E.E., manager, Supply Dep., Mexican General Elec. Co., Apartado 403, Mexico, D.F.
Ecroyd, A., engineer, Electricity Works, Tepic.
Ellicott, W. J., engineer, Consolidated Copper Co., Cananea, Senova.
Empreza Telefonica de Michoacan, Morelia. Manager, E. Gonzalez.
Empson, A. W., electrical engineer, Mexican Light & Power Co., San José Real 22, Mexico City.
Escalante, E., e Hijo, dealers in electrical goods, Merida, Yucatan. (Telegs.: "Escalante, Merida, Mexico.")
Fabrica de Acumuladores S. A., calle de Ortega 28 (P.O. Box 626), Mexico City. (Telegs.: "Afa, Mexico.")
Ferguson, W. A., A.AM.I.E.E., electrical engineer, Mexican Light & Power Co., Ltd., Mexico City.
Fiske, W. H., A.AM.I.E.E., electrical engineer, Mexico Tramways Co., Mexico, D.F.
Fittig, Dr. Rudolf, engineer, Tudor Accumulator Manufacturing Co. of Berlin & Hagen, Apartado 626, Mexico City. (Telegs.: "Afa, Mexico.")
Freston, C. C., engineer, Electricity Works, Tampico.
Gemmill, T., station manager Central & South American Telegraph Co., Coatzacoalcos.
Gibson, G. D., A.I.E.E., electrical engineer, Apartado 77, Guanajuato, Mexico.
González, Engineer Camilo A., Director-General of Government Telegraphs, Mexico.
Guanajuato Power & Electric Co., electric light & power contractors, Guanajuato. N. Rowe, supt.
Guzman, C., resident engineer, Cia. de Tranvias, Luz y Fuerza de Guadalajara, Soc. Anon., Guadalajara.
Hayward, R. F., general manager Mexican Light & Power Co., Ltd., Mexico City.
Herbert, Jorge S., engineer, Cia. de Fuerza y Luz Electrica de Celaya, Celaya.
Hermessen, J. L., A.M.I.E.E., c/o Cia de Terrenos de Chiapas (Mexico), Ltd., Tuxtla Gutiérrez, Chiapas.
Honey, Wm., engineer, Cia. Hidro-Electrica Queretaro, Las Rosas, nr. Queretaro.
Leach, Harvey, constructing engineer, Guanajuato.
Lobo, G., E.E., A.AM.I.E.E., V. M. Braschi & Co., Apartado No. 830 & calle Cadena 2, Mexico.
Lozanna, L. de, engineer, Cia. Hidro-Electrica Queretaro, Las Rosas, nr. Queretaro.
Madge, R. G., A.I.E.E., A.AM.I.E.E., general manager & chief engineer, Campeche Light & Power Co., Ltd., Campeche.
Mahony, Gerald, electrical engineer, Achotal, Ver.
Mazenet, D., managing director Mexican General Electric Co., Apartado 403, Mexico City.
Mead, D. G., electrical engineer, Guanajuato.
Mexican General Electric Co., agents for General Electric Co. of N.Y., San Juan de Letran 3, Mexico.
Mexican Light & Power Co., San Jose Real 22, Mexico City.
Mexico Tramways Co., Mexico City. (Telegs.: "Traficante, Mexico." Teleph. No. 529.)
Mitchell, Charles, station manager Compañia Telegrafica Mexicana (Cable Sub-Marino), Vera Cruz.
Monclova Electricity Works, Monclova.
Monterey Electric Light & Power Co., Monterey, Nuevo Leon. Engr., E. D. Baxter; elecn., F. Wright.
Morehouse, H. H., A.AM.I.E.E. (Morehouse & Morrill), Apartado 157, Chihuahua.
Morehouse & Morrill, electric light & power contractors, Chihuahua.
Neugebauer, Franz, electrical engineer, Schöndube & Neugebauer, P.O. Box 756, Mexico City. (Telegs.: "Schöndube, Mexico." Teleph. No. 759.)
Nims, F. D., A.AM.I.E.E., chief operating engineer, Mexican Light & Power Co., Mexico City.
Puebla Tramways, Light & Power Co., Puebla. Meliton Ulmer, manager.
Ramirez, A. V., chief electrician, Cia. de Luz Electrica y Fuerza Motriz, Monclova.
Renstrom, F. A., A.AM.I.E.E., supt., Cia. de Transmission Electrico de Palencia, Apartado 95, Pachuca.
Reynolds, A. E., electrical engineer, Mexican Light & Power Co., Mexico, D.F.
Rossi, Harold J., A.AM.I.E.E., San Martin Texmelucan, Estado Puebla.
Rowe, Norman, M.AM.I.E.E., general superintendent, Guanajuato Power & Electric Co., Guanajuato.
Saltillo Municipal Electricity Works, Saltillo.
Schiaffino, M. L., technical director, Cia. de Tranvias, Luz y Fuerza de Guadalajara, Soc. Anon., Guadalajara.
Schöndube & Neugebauer, machinery importers & contractors, P.O. Box 756, Mexico City.
Somellera, G. F., A.AM.I.E.E., Partner, Salcedo & Co., Apartado 115, Capuchinas 10, Mexico City.
Soni, F. A., electrician, Telegrafos Federales, Mexico.
Stacpole, S. W., electrical engineer, Orizaba.
Sternefeld, I., general manager, G. & O. Braniff & Co., 19, calle Cadena, Mexico.
Tampico Electricity Works. Engineer, C. C. Freston.
Tepic Electricity Works, Tepic. D. G. Aguirre successors, proprietors. Engineer, A. Ecroyd.
Tovey, H. T., A.I.E.E., Cadena 17, Mexico.
Ulmer, M., electrical engineer, Puebla Tramways, Light & Power Co., Puebla.
Van Voorhis Bros., installation contractors & electrical agents, Monterey.

Mexico—*continued.*

Wilkins, E. M., A.AM.I.E.E., superintendent of meters, San Luis Potosi, Mexico.
Woodcock, F., station manager, Mexican Telegraph Co., Apartado 385, Mexico City.
Wright, F., electrician, Monterey Railway Electric Light & Power Co., Monterey.

Newfoundland.

Dickenson, W., telegraph engineer & electrician, Anglo-American Telegraph Co., Heart's Content.
Lincoln, H. F., A.M.AM.I.E.E., Anglo-Newfoundland Dev. Co., Grand Falls.
Morris, J. W., A.AM.I.E.E., superintendent, Reid Newfoundland Co., St. John's.
Reid Newfoundland Co., electric light suppliers & tramway, St. John's. Superintendent, J. W. Morris.
St. John's Street Railway Co., St. John's.
Smith, R. C., general superintendent, Anglo-American Telegraph Co., St. John's.
Twillingate Electrical Co., Twillingate.
United Towns Electric Co., Electricity Works, Carbonear.
Van Wart, T. J. W., A.AM.I.E.E., Reid Newfoundland Co., St. John's.

Nicaragua.

Cross, W. G. H., elecn. & station manager, Central & South American Telegraph Co., San Juan del Sur.
Reed, Warren B., district manager Wagner & Bullock Electric Manufacturing Cos., Managua.

Panama.

Cotter, J. R., station manager, Central & South American Telegraph Co. (P.O. Box 120), Panamá.
Humber, E. S., agent of the West India & Panama Telegraph Co. (P.O. Box 120), Panama.
Lefevre, E. T., Director-General of the Telegraph System.
Kratz, A. B., chief inspector, Telegraph and Telephone Dept., Panama Railroad, Culebra, Canal Zone.
Newsan, E. C., station manager, West India & Panama Telegraph Co., Colon.
Walker, F. Philip, A.I.E.E., Central & South American Telegraph Co., Casilla 261, Colon.

San Salvador.

Compania de Alumbrado Electrico, San Salvador. (Telegs.: "Voltaico, San Salvador." A.B.C. 5th ed. & Lieber's Codes.) Engineer, F. Klein.
Klein, F., engineer, Cia. de Alumbrado Electrico.

AMERICA, SOUTH.

Argentina.

Accumulatoren Fabrik Aktiengesellschaft, Buenos Ayres.
Agar, Cross & Co., machinery importers & agents for Westinghouse Cos., Defensa 136, Buenos Aires.
Aldum, Hugo, A.M.I.E.E., Calle Zapiola 2024, Belgrano, Buenos Aires.
Allgemeine Elektricitats Gesellschaft, Cuyo 963, Buenos Ayres.
Anglade, J. E., & Sons, electroliers, Esmeralda 355, Buenos Ayres.
Anglo-Argentine Electricity Co., Reconquista 325, Buenos Aires. (Teleph. No. 3265, Avenida.) Engineer & manager, John H. Bouwer.
Anglo-Argentine Tramway Co., Ltd. (electrical), Avenida Mayo 819, Buenos Ayres.
Azaretto Hermanos, manufacturers of electroliers, Cuyo 1901, Buenos Ayres.
Azul Electricity Works, Azul.
Baker, W. E., manager United River Plate Telephone Co., Rosario.
Barozzi, Baudolino, electrical & scientific instrument maker, 1056, calle B. Mitre, Buenos Ayres.
Barnwell, Stephen Donald, A.M.I.E.E., Ferro Carril de Buenos Aires al Pacifico, Sección Bahia, Blanca y Noroeste, Bahia Blanca.
Bartram & Co., importers of electrical goods, Calle Cuyo 1147, Buenos Ayres. (Telegs.: "Bartrall.")
Bash, A., & Co., iron & brass founders, B. Mitre 472, Buenos Ayres.
Bayliss, B. W., A.M.I.E.E., engineer, United River Plate Telephone Co., Buenos Ayres.
Beatty, Pakenham, resident electrical engineer, Ferro Carril de Buenos Aires al Pacifico, Bahia Blanca.
Beckett, Cunliffe & Co., importers, 467, Alsina, Buenos Aires.
Blanch Bros., importers, engineers & engineers supplies, Bolivar 152 & 172, Buenos Ayres. (Telegrams: "Oleum, Buenos Ayres." Co-operative Telephone No. 554, Union Co., 1088.)
Boeker & Co., suppliers of electric tramway material, Maipu 463 & Centenera y Rio IV., Buenos Ayres.
Boglietti, Cesar, maker of engineering instruments, 1056, calle Bartolome Mitre, Buenos Ayres.
Bonthoux, C., & Co., makers of electric light fittings, 956–1000, calle Lima, Buenos Ayres.
Borok, S., manufacturer of rubber goods, Buen Orden 236, Buenos Ayres.
Boutell, Chevallier F. H., electrical engineer, 566, calle Cangallo, Buenos Ayres.
Bouwer, J. H., A.I.E.E., engineer, Cia. Anglo-Argentina de Electricidad, Buenos Aires; Concordia; Gualeguay; & Tandil.
Brain, H. E., A.I.E.E., engineer & importer, calle Chacabuco 488, Buenos Aires. (Telegs.: "Magnetico.")
Breduis, Juan P., electrical & general machinery agent, 529, calle Cuyo, Buenos Ayres.

Argentina—*continued.*

Bridger, F. R., A.M.I.E.E., Los Talleres, F.C.S., Buenos Aires.
Brown, V. A., manager, Lacroze Tram Co., Corrientes 4002, Buenos Aires.
Brush Electrical Engineering Co., Buenos Ayres.
Buchanan, R. J., A.M.I.E.E., Telegraph Dept., Central Argentine Railway, Rosario de Santa Fé.
Buenos Aires Port & City Tramways, Ltd., 564, calle Cangallo, Buenos Aires. Manager, J. H. Wall.
Buenos Aires Southern Tramway Co., Buenos Aires.
Buenos Ayres Lacroze Tramways Co., Buenos Ayres.
Buxton, Cassini & Co., electrical engineers, contractors & importers, calle Suipacha 602, Buenos Ayres. (Telegs.: "Cassilite, Buenos Ayres.") Agents for W. T. Henley's Telegraph Works Co., Ltd.
Calastremé, J. C., M.I.MECH.E., A.M.I.E.E., consulting engineer, 586, ave. de Mayo, Buenos Ayres.
Carbide of Calcium Co., Reconquista 424, Buenos Ayres.
Carreras, J., electrician, Cerrito 713, Buenos Aires.
Cassels, F. K., M.I.E.E., 60, Pavon-Avellaneda, Buenos Ayres.
Central Argentine Railway Co., Rosario de Santa Fé. Engr., H. Pearse; elecn., G. W. Dean.
Centro Nacional de Ingenieros (Miguel Tedin, president), Florida 230, Buenos Ayres.
Chacabuco Electricity Works (owned by Sociedad Anonima Alumbrado Electrico), Chacabuco, Province of Buenos Ayres.
Chantrill, Bevan R., importer of engineers' supplies, 544, B. Mitre, Buenos Aires.
Chascomus Electricity Works (owned by Anglo-Argentine Electricity Co.), Chascomus. Engineer, P. Petrowitsch.
Chivilcoy Electricity Works, Chivilcoy, Buenos Ayres. Soldani & Trant, proprietors.
Christiany, B. M., electrician, Florida 183, Buenos Aires.
Cipriani, W., & Co., agents for Marconi's Wireless Telegraph Co. of America, 121, calle San Martin, Buenos Ayres.
Clark, R. C. Graham, A.I.E.E., c/o C. H. Walker & Co., Ferrocarrit Transandine, Tunnel Summit Works, Las Cuevas.
Clarke, F. W. Courtenay, A.M.I.E.E., agent, valuer, &c., Bartolomé Mitre 544, Buenos Ayres.
Clisdell, P. A., manager S. A. General Electric Supply Co., Cuyo 531, Buenos Ayres. (Telegs.: "Clisdell, Buenos Aires." Union Teleph. No. 2511, Avenida, & Cooperativa 4586, Central.)
Colson, Brookhouse & Pyne, engineers & contractors, Cangallo 370, Buenos Ayres. (Telegs.: "Construct, B. Aires.")
Compañia Alemana Transatlantica de Electricidad, Florida 725–735. Buenos Ayres. (Telegs.: "Allemantras.")
Compañia Anglo-Argentina de Electricidad, Reconquista 325, Buenos Ayres. Registered Oct., 1906. Nominal capital: $2,000,000 in $100 ordinary shares. Issued: $1,200,000, $900,000 paid up. Directors: Sr. F. Bustamante (chairman); H.Wilson, Esq.; F. K. Cassels, Esq.; H. B. Buxton, Esq.; W. G. Cassini, Esq.; M. Gambin, Esq.; F. A. Verceli, Esq. Engineer, John H. Bouwer; secretary, H. B. Buxton. Dividends: 1906–07, at rate of 8 per cent.; 1907–08, all put to reserve fund; 1908–09 (provisional), 3 per cent. (final), 5 per cent. Reserve fund $100,000. And at Chascomus Concepcion del Uruguay; Concordia; Gualeguay; & Tandil.
Compañia de Electricidad de la Prov. de Buenos Ayres, Adrogue; Azul, Quilmes; San Nicolas; Tres Arroyos; San Fernando; & Belgrano 432, Buenos Ayres.
Compañia de Luz Electrica, Esperanza, Province of Santa Fé.
Compañia de Luz Electrica, Santa Fé.
Compañia de Luz y Fuerza Motriz de Cordoba, Cordoba.
Compañia de Telefonos de Concordia, Concordia, Entre Rios.
Compañia de Telefonos de Parana, Parana, Entre Rios.
Compañia de Telefonos de Santa Fé, Santa Fé.
Compañia de Tramways Anglo-Argentina, Ltd., Avenida Mayo 819, Buenos Ayres.
Compañia de Tramways Eléctricos del Sud, Buenos Ayres.
Compañia Gas y Luz Electrica de Parana, Parana, Prov. of Entre Rios. (Telegs.: "Gasometro, Parana.") Engineer, Chas. Holzer.
Compañia General de Electricidad de Cordoba, Cordoba.
Compañia General de los Tranvias Electricos del Rosario, Avenida Pellegrini, Rosario de Sta. Fé. (Telegs.: "Rostram, Rosario.")
Compañia Industrial de Electricidad del Rio de la Plata, Belgrano 432, Buenos Aires.
Compañia Marconi de Telegrafia sin Hilos del Rio de la Plata, 137, calle San Martin, Buenos Aires.
Compañia Telegrafica del Rio de la Plata, Calle San Martin, 287/91, Buenos Ayres.
Compañia Tramways Lacroze de Buenos Aires Lda., 4002, Corrientes, Buenos Aires. (Telegs.: "Lacroztram, Buenos Aires.") Sub-manager & engineer, J. V. A. Brown.
Cóppola H^nos^, mechanical engineers, 590, Bustamante (esq. Corrientes), Buenos Ayres.
Couillard & Leppaille, electricians, Belgrano 462–70, Buenos Aires.
Crawford, James R., acting superintendent, River Plate Telegraph Co., Ltd., & Pacific & European Telegraph Co., Ltd., Buenos Ayres.

Argentina—*continued.*

Cuff, R. S., chief electrician, United River Plate Telephone Co., Ltd., Rivadavia 1193, Buenos Ayres.
D'Abbadie, A., M.I.E.R.P., electrical engineer, Cia. de Luz y Fuerza, Cordoba.
Danvers, Ernest, M.I.E.E., F.R.G.S., F.S.S., consulting electrical engineer, & local secretary & treasurer I.E.E., 475, Bartolome Mitre, Buenos Ayres. (Telegrams: "Danvers, Buenosayres." A1 & A.B.C. Codes.)
Dates, W. H. J., M.I.E.R.P., contractor & engineer, 383, calle Alsina, Buenos Ayres.
Dean, E. W., M.I.E.E., electrical engineer, c/o H. Pearse, Tallcres, F.C.C.A., Rosario.
Dean, Geo., A.M.I.E.E., Avenido de Mayo 651, Buenos Aires.
Dean, G. W., electrician, Central Argentine Railway Co., Rosario de Santa Fé.
Del Campo F., electrician, Alsina 971, Buenos Aires.
De Marchi, Alfredo, chairman, Compania de Electricidad de la Province de Buenos Ayres, Buenos Ayres.
Dirks, P. T., M.I.E.R.P., contractor & engineer, 383, calle Alsina, Buenos Ayres.
Dominici, J. M., engineer & proprietor, Electricity Works, Lujan.
Donnell & Palmer, importers' agents, 562, Moreno, Buenos Aires.
d'Ornellas, C. E., general representative of J. G. White & Co., Ltd., Bartolome Mitre 519, Buenos Ayres.
Doyle, John T., consulting engineer, calle Alsina 2964, Buenos Ayres.
Drysdale, T., & Co., general machinery importers, Moreno 450, Buenos Ayres. (Telegs.: "Oakburn, Buenos Ayres.")
Duran, Lieut., chief electrician, Argentine Navy, Buenos Ayres.
Durham, Ernest W., A.M.I.E.E., Cia. de Luz y Fuerza Motriz de Córdoba, Córdoba.
Edridge, B., electrician, Rosario Electric Tram Co., Rosario.
Eguiguren, Luis, electrical engineer, Laprida 283, San Juan.
Empresa de Electricidad (Antonio A. Gimbatti), Pergamino, Prov. de Buenos Ayres.
Empresa de Luz Electrica, San Juan.
Empresa de Luz y Fuerza (Soc. Anon.), Mendoza.
Empresa Luz Electrica, San Antonio de Areco.
Empresa Luz Electrica, electrical contractors (F. K. Cassels & Co.), Barracas al Sud.
Empresa Luz Electrica, Zarate, Prov. Buenos Ayres.
Empresa Luz Electrica de Chivilcoy, Chivilcoy, Province of Buenos Ayres.
Empresa Luz Electrica de Mercedes, Mercedes, Province of Buenos Ayres.
Ermoli, B., electrician, 1337, calle Paraguay, Buenos Ayres.
Esperanza Municipal Electricity Works, Esperanza.
Etchepareborda, Agustin, publisher of electrical & scientific books, 359, Tacuari, Buenos Ayres.
Evans, Thornton & Co., importers of engineers' supplies, agents Store's System Railway Lighting, 349, Bartolome Mitre, Buenos Aires.
Ferrocarril de Buenos Aires al Pacifico, Bahia Blanca. Engineer, Pakenham Beatty.
Field, H., manager, River Plate Electricity Co., Tucuman.
Fisher, H. H., consulting electrical engineer, Suipacha 212, Buenos Aires. (Telegs.: "Dubourcq.")
Fitte Hermanos, electric light materials, Moreno 834, Buenos Ayres. (Telegrams: "Fitte, Buenos Ayres.")
Fleming, M. J., electrical engineer, Westinghouse Electric & Manufacturing Co., 947, calle Cuyo, Buenos Ayres.
Fleming, Thomas J., M.I.E.E., 947–949, calle Cuyo, Buenos Ayres. (Telegs.: "Flemkrauss, Buenos Ayres.")
Fontan, Pablo, electrical apparatus, Cuyo 864, Buenos Ayres.
Franklin, Herrera & Co., importers of engineers' supplies, representatives, 412, Bartolome Mitre, Buenos Aires.
Frayme, J., Electricity Works, Lujan.
Freisz & Co., iron wire manufacturers, Peru 347, Buenos Ayres.
Fuhrken & Bechtel, agents for the Watt incandescent lamp, 928, calle Alsina, Buenos Ayres.
Galetto, Francisco, agent for the Italian Cruto Co., Bolivar 373, Buenos Ayres.
Garcia, D., electrician, Rivadavia 1620, Buenos Aires.
Garrido & Castro, electricians, Mejico 1736, Buenos Aires.
Giles, B. A., electrician, Central Argentine Railway Co., Buenos Ayres.
Giudici, L., electrician, Charcas 1034, Buenos Aires.
Gonzalez & Maranghello, electrical engineers & contractors, 934, calle Rioja, Buenos Ayres.
Gourinski, Leon, boiler maker, Azopardo, entre Cochabamba y Garay, Buenos Ayres.
Greenwood, H. B., agent, Western & Pacific & European Telegraph Cos., Mendoza, Buenos Ayres.
Griswald, Francisco L., M.A., S.C.E., electrician, La Rioja.
Gualeguay Electricity Works, Anglo-Argentine Electricity Co., proprietors, Gualeguay. Engineer, J. H. Bouwer.
Gwyther, Cecil W., M.I.E.E., sub-manager, United River Plate Telephone Co., Ltd., Calle Rivadavia 1193, Buenos Ayres.
Hahn, Alberto, & Sons, electricians, Cangallo 1873, Buenos Ayres.
Harvey, R. H., A.M.I.E.E., c/o Dick, Kerr & Co., Ltd., calle 4, No. 474, La Plata.
Hasenclever y Cia., dealers in electric tramway plant, &c., 673, calle Belgrano, Buenos Ayres.
Havas Agency, San Martin 312, Buenos Ayres.

Argentina—*continued.*

Henley's, W. T., Telegraph Works Co., Ltd. Agents: Buxton, Cassini & Co., calle Su'pacha 602. Buenos Aires.

Henry, H., & Co., mechanical engineers & electrical agents, Necochea 655, Buenos Ayres.

Hess, Otto, & Cia., medical electrical apparatus, Florida 667, Buenos Ayres.

Heynemann & Co., electrical engineers, 328, calle Esmeralda, Buenos Ayres.

Hibberd, C. F. Maxwell, A.I.E.E., San Martin 266, Bahia Blanca.

Hogg, David, & Co., engineers' supplies, 236-246, Bolivar, Buenos Ayres. (Telegs.: "Goma, B. Ayres." A.B.C., 5th edition, Lieber's, A1 & W.U. Codes used.)

Hollmann, H., wire maker (iron), calle Vieytes 1273–1285, Buenos Ayres.

Holm Hansen, J., electrician, Paraguay 1042, Buenos Aires.

Holzer, Chas., engineer, Cia. Gas y Luz Electrica de Parana, Parana.

Hopkins & Gardom, engineers & contractors, 349, calle Bartholomé Mitre, Buenos Ayres.

Hughes, W., engineer, Union Telefonica, Rosario.

Hunt, Robert W., & Co., bureau of inspection, San Martin 195, Buenos Aires. (Telegs.: "Robhunt.")

Indiarubba, Gutta-percha & Telegraph Works Co., Ltd., calle Florida 469, Buenos Aires (H. Randolph, manager) (Telegs.: "Silvergray, Buenos Aires"); 274, Flinders-st., Melbourne (J. Wilson, manager) (Telegs.: "Silvergray, Melbourne." Teleph. No. 637); Queen's-bldgs., William-st., Perth, W. Australia; 1–1, Fairlie-pl., Calcutta, India; 279, George-st., Sydney, N.S.W.; 234, Cashel-st., Christchurch, N.Z.; Edward-st., Brisbane, Queensland; Agency-chbrs., Bulawayo, Rhodesia Mercantile-bldgs., Durban, Natal; & New Club-bldgs., Loveday-st., Johannesburg, Transvaal.

Industrial del Oeste, Ltd., La, Electricity Works, Rojas. (Telegs.: "Lido, Rojas." Teleph. No. 42.) Head office: Victoria 1250, Buenos Ayres. Engineer, P. Möller; electrician, G. Schumann.

Ingenieria, La (bi-weekly), 230, Florida, Buenos Ayres. (Ann. sub., 26s.) A. P. Carbone, director; E. Boló Bolaño, administrator.

Institution of Engineers of the River Plate. Secretary, H. H. Fisher, Suipacha 212, Buenos Ayres.

Isla, C. V., director of telegraphs, Prov. of Buenos Ayres.

Ituziango Electricity Works, Ituziango.

Joselevich, Hnos., electro-platers, Calle Corrientes 1682, Buenos Ayres.

Kalbus, R., electrician, Rivadavia 1319–21, Buenos Aires.

Kelly, A. C., electrical engineer, B. A. & P. Railway, 25, calle de Mayo 277, Buenos Ayres.

Kennard, H. L. E., A.I.E.E., c/o River Plate Fresh Meat Co., Ltd., Campana.

Kerhly, C., electrician, Cuyo 1386, Buenos Aires.

Killey, J. G., engr. & contractor, calle Alsina 541, Buenos Ayres. (Telegs.: "Killiweir, Buenos Ayres.")

Kincaid, Waller, Manville & Dawson, consulting electrical engineers, 564, Cangallo, Buenos Ayres. *See also* British Division.

Knight, Shoolbred & Co., agents for Mather & Platt, Ltd., Maipu 131, Buenos Aires.

Krüger, H., & Co., electrical articles, 729 & 735, Florida, Buenos Ayres. (Telegs.: "Ferofon, Buenos Ayres." Teleph. Nos.: Union, 2971; Avenida & Co-operation, 4393, Central.)

Laborde & Co., importers of electrical goods & contractors, Calle San Martin 368–374, Buenos Ayres.

Lacroze Bros., electric tramway contractors, Corrientes 4092, Buenos Ayres.

Lacroze Tramway Co., calle Corrientes, Buenos Aires.

Larroy, P., electrician, Moreno 945, Buenos Aires.

Leipner, Juan A., electrical engineer, 1035, calle Australia, Buenos Ayres.

Lepage & Co., importers of phonographs, calle Bolivar 375, Buenos Ayres.

Leroy de Bonneville, E., importer of electrical goods, Cangallo 1268, Buenos Ayres. (Telegs.: "Lerodebone, Buenos Ayres.")

Libera & Malatesta, electrical engineers & contractors, calle Rioio 870, Buenos Ayres.

Lindenberg, Nellen & Co., dealers in electric tramway plant, 434, Alsina, Buenos Ayres.

Lindop, Vernon, M.I.E.E., general manager & engineer, River Plate Electricity Co., Ltd., Casilla de Correo 12, La Plata.

Lujan Electricity Works. Engineer & proprietor, J. M. Dominici; electrician, J. Frayme.

Lutz & Schulz, opticians & medical-electro appliances, Florida 171, Buenos Ayres.

Macadam, J. F., & Co., merchants, electrical engineers & contractors, 302–326, Balcarce, Buenos Ayres. (Telegs.: "Macadam, Buenos Aires.")

McClelland, Alex., M.I.E.E., telegraph superintendent Buenos Aires & Rosario Railway Co., Rosario.

McLaren, John O., Westinghouse representative, c/o Ferro-Carril Del Sud, Buenos Aires.

MacReddie, C., engineer, 432, Belgrano, Buenos Ayres.

Mantels & Co., machinery importers & electrical agents, Peru & Belgrano, Buenos Ayres.

Maranghello & Filippucci, electrical engineers, 565, calle San Martin, Buenos Ayres.

Marengo, José, electrical engineer, Rio Bamba 230, Buenos Ayres.

Marjoribanks, James, engineer & boiler maker, Riachuelo, Boca, Buenos Ayres. (Telegrams: "Marshbanks, Buenos Ayres.")

Marty, Ernest, C.E., A.M.I.E.E., A.M.I.M.E., consulting, civil, mining & mechanical engineer, calle Cevallos 1954, Buenos Ayres. (Telegs.: "Itram, B.Aires." Teleph. No. 2034, Juncal. A.B.C. Code, 5th edit.)

Argentina—*continued.*

Mattos, M. E., electrical & engineers' agent, 299, Bartolome Mitre, Buenos Ayres.
Menzies, Nield & Co., importers & agents, 259, Maipu, Buenos Aires.
Meucci, Tito, & Cie., electrical & scientific instrument imPorters, calle Cuyo 753–759, Buenos Ayres.
Migliavacca, A., electrician, Cuyo 1700, Buenos Aires.
Migotti, L. W., electrical engineer, Buenos Ayres Pacific Railway Co., Bahia Blanca.
Miranda, L., electrician, Victoria 314, Buenos Aires.
Moglia & Co., dealers in electric light fittings, 929–931, calle Cuyo, Buenos Ayres.
Molet, A., acetylene gas & calcium carbide, Paseo Julio & Lavalle, Buenos Ayres.
Möller, P., engineer, La Industrial del Oeste, Ltd., Rojas.
Montpellier, Antonio, boiler maker, Victoria 2839, Buenos Ayres.
Moos, Henri, electrical engineer, calle Chile 760–768, Buenos Aires.
Moron Co-operative Electricity Supply Society, Moron, Buenos Ayres.
Müller, J. C., & Co., wire makers, Lavalle 414, Buenos Ayres.
Navarro-Viola, J., electrical engineer, Vicente Lopez 137, Buenos Ayres.
Newbery, Jorge A., consulting electrical engineer & general municipal director of public lighting, 2368, Moldes, Belgrano, Buenos Ayres.
Noceti, Dom., & Cia., electrical & general machinery importers, 535, calle Perú, Buenos Ayres.
Nye, D. H., electrical engineer, Cangallo 370, Buenos Ayres.
Olmi, José, director of National Telegraphs, Corrientes 402, Buenos Ayres.
Onofri, Robt., engineer, Electricity Works, Pergamino.
Pacific & European Telegraph Co., San Martin 287–291, Buenos Ayres.
Parcus, Augusto, technical office, agent for Siemens-Schuckert-Works, calle Moreno 477, Buenos Ayres.
Parker, Jacob E., general manager United River Plate Telephone Co., 1193, calle Rivadavia, Buenos Ayres.
Parsons, E. A. A., electrical engineer, Cordoba.
Pearse, H., engineer, Electricity Works, Central Argentine Railway Co, Rosario de Santa Fé.
Perochena, M., electrician, Bolivar 630, Buenos Aires.
Perrier, Enrique, & Co., electrical & mechanical engineers & agents, 876, calle Cangallo, Buenos Ayres. (Telegs.: "Perrier, Buenos Aires." Teleph. No. 273, Libertad.)
Petrowitsch, P., engineer, Anglo-Argentine Electricity Co., Chascomus.
Pollock, Jas., Sons & Co., Ltd., engineers & agents, 311, calle Bartolomé Mitre, Buenos Ayres. Agent, S. W. Lewis.
Pope, W. G. T., A.M.I.E.E., La Union Telefonica, 1193, Rivadavia, Buenos Aires.
Primitiva Gas & Electric Lighting Co. of Buenos Ayres, Ltd., 947, calle Cuyo, Buenos Ayres.
Puente, G. A., A.M.I.E.E, 195, San Martin, Buenos Aires.
Rafaela Electricity Works, Rafaela, Santa Fé.
Randolph, H., M.I.E.E., local manager, India Rubber, Gutta Percha & Telegraph Works Co., Ltd., Florida 467, Buenos Ayres.
Rebuffo, F. A., electrician, Cerrito 338, Buenos Aires.
Resistencia Electricity Works, Resistencia.
Ritchie, Tuddenham & Co., importers' agents, Bartolome Mitre 1353, Buenos Aires.
River Plate Electricity Co., Ltd., La Plata. V. Lindop, gen. manager & engineer; elecn., B. C. Wilson.
River Plate Electricity Co., Ltd., Tucuman. (Telegs.: "Luciente, Buenos Ayres." Teleph. No. 375.) Engineer, H. Field; electrician, F. Spillmann.
Rosario Electric Co., Rosario. (Telegs.: "Radioso, Rosario.") General manager, A. H. Unwin; electrician, C. E. Smith.
Rosario Electric Tram Co., Rosario. Manager, J. Warnant; electrician, B. Edridge.
Rossi, J., director of telegraphs, Prov. of Entre Rios.
Rowbotham, J. M., engineer, River Plate Gas Co., Corrales, Buenos Aires.
Ruckauf, Mauricio, chief State electrician, Buenos Ayres.
Saccaggio, P. C., electrician, Estacion Talleres, F.C. Sud, Buenos Ayres.
San Juan Electricity Works, San Juan.
Scapusio & Cia., electrical engineers & contractors, Suipacha 570, Buenos Ayres.
Schelp & Schelp, importers of electric light material, B. Mitre 1123, Buenos Ayres.
Schilder, Carlos, manufacturing electrician, 1019, Lavalle, Buenos Ayres. (Union Telephone No. 1972, Libertad.)
Schill, Pearson & Co., Ltd., machinery merchants, Alsina 1554–1560, Buenos Ayres.
Scholz, A., manager, Compañia Alemana Transatlantica de Electricidad, Buenos Ayres.
Schumann, G., electrician, La Industrial del Oeste, Ltd., Rojas.
Sell, A., superintendent Western Telegraph Co., Ltd., Buenos Aires.
Shoolbred, J. F., A.M.I.E.E., engineer, 131, Calle Maipu, Buenos Aires.
Simpson, L. S., A.I.E E, Buenos Aires & Pacific Railway, calle 25 de Mayo 227, Buenos Aires.
Sloan, P. G., manager, Co-operative Telephone Co., calle Cangallo 1294, Buenos Ayres. (Telegrams: "Telephone, Buenos Ayres.")
Smith, C. E., A.M.I.E.E., electrician, Rosario Electric Co., Casilla Correo 137, Rosario.

Argentina—*continued.*

Smith, Ch. E., electrical engineer, 354, calle San Martin, Rosario.
Sociedad Anonima Alumbrado Electrico, owners of Electricity Works, Chacabuco, Prov. Buenos Ayres.
Sociedad Anonima de Luz Electrica y Fuerza Motriz, Pergamino. Manager, J. S. Yantorno.
Sociedad Anonima Talleres Metalúrgicos, mfrs. of rivets, screws, bolts, nuts & nails, Buenos Ayres.
South American General Electric Supply Co., Calle Cuyo 531, Buenos Ayres. (Telegs.: "Clisdell, Buenos Aires." Teleph. No. 2511, Avenida (Union Teléfonica).)
South American Light & Power Co., Bahia Blanca. Engineer, Pakenham Beatty.
Spillmann, F., electrician, River Plate Electricity Co., Tucuman.
Stewart, John E., M.I.E.E., M.I.C.E., 651, Avenida de Mayo, Buenos Aires.
Stone, Joseph P., electrical engineer, Talleres Liniers, Ferro Carril Oeste de Buenos Aires, Estacion Liniers, Buenos Aires.
Straube, Otto, M.I.E.E., telegraph engineer, No. 1709, calle Cangallo, Buenos Ayres.
Sweeting, J. B., superintendent Transandine Section, Central & South American Telegraph Co., Villa Maria, Cordoba.
Talbot, F. F., M.I.E.E., Club de Residentes Estrangeros, Rosario de Santa Fé.
Telephone Co-operative Society, Calle Cangallo 1294, Buenos Ayres. (Telegs.: "Telephone.")
Tiddy, Jas., superintendent, Argentine division, Central & South American Telegraph Co., Buenos Ayres.
Trant, L. B., M.I.E.E., 748, Avenida de Mayo, Buenos Aires.
United River Plate Telephone Co., Ltd., 1193, calle Rivadavia, Buenos Ayres.
Unwin, A. H., M.I.E.E., manager Rosario Electric Co., Limitada, Casilla del Correo 137, Rosario de Santa Fé. (Telegs.: "Radioso, Rosario." Teleph. Nos. 486 & 846.)
Usina Municipal Luz Electrica, 289, Garantias, San Nicolas.
Valobra, Camillo, electrical agent, 1368, calle Bolivar N., Buenos Ayres.
Varela, R., jun., electrical engineer, 271, Florida, Buenos Ayres.
Vasena, Pedro, machinery importer & foundry, 1732–1740, Calle Belgrano, Buenos Ayres.
Venzano & Perez, wire makers, Alsina 751, Buenos Ayres.
Victoria Electricity Works, Victoria, Entre Rios. M. C. Leiva, proprietor.
Vignoles, L., A.M.I.E.E., electrical engineer, Buenos Aires & Pacific Railway, Bahia Blanca.
Vila, Manuel A., engineer & editor of *La Ingenieria*, 240, Calle Bolivar, Buenos Ayres.
Warner, R. A., A.I.E.E., Hotel de Provence, Cangallo No. 319, Buenos Ayres.
Wedekind & Weihmüller, electrical engineers & contractors, 754, calle Libertad, Buenos Ayres.
Wentzky, R. von, & Co., dealers in electrical supplies, Cangallo 1236, Buenos Ayres.
Westinghouse Electric & Manufacturing Co. (Agar Cross & Co., Ltd, agents), 947, calle Cuyo. Buenos Ayres.
White, J. G., & Co., Ltd., engineers & contractors, 519, B. Mitre, Buenos Aires.
Wilson, Chas., A.I.E.E., 140, Reconquista, Buenos Aires.
Zinder, Alfredo, engineer, Telegraph Service, Buenos Ayres.
Zublin, de Bary & Co., electrical engineers & agents, 146, calle Reconquista, Buenos Ayres.

Bolivia.

Oruro Electricity Works, Oruro.
Peruvian Corporation, Ltd., La Paz. Resident engineer, S. C. Shepperd.
Shepperd, Sidney C., A.M.I.E.E., resident engineer, Peruvian Corporation, Ltd., La Paz.

Brazil.

Almeida Lisbôa, Prof. J. J. de, electrician, Gymnasc National, Caixa Postal 1111, Rio de Janeiro.
Andrada, E. de Aguiar de, electrical engineer, São Paulo Railway Co., São Paulo.
Antunes, Dr. Humberto Saraiva, chief engineer of the Central Brazilian Railway telegraphs, telephones & lighting station, 61, rua Guanabara, Rio de Janeiro.
Appleby, H. W., M.I.E.E., M.I.M.E., electrical engineer, St. John del Rey Mining Co., Ltd., villa Nova de Lima, Estado de Limas.
Araujo, A., engineer, Empreza Telephonica de Manaos, Amazon State (P.O. Box 478). (Telegs.: "Telephone." Teleph. No. 135.)
Arens & Co., electrical & general engineers & contractors, Avenida Central 20, Rio de Janeiro. (Telegs.; "Arens, Rio de Janeiro." Teleph. No. 67.) Branch office: rua do Commercio 24, São Paulo. Works: Jundiahy, Est. Sao Paulo.
Armbrust, Reinhardt, electrical apparatus maker, Campinas, Sao Paulo.
Ayres, W. J., M.I.E.E., electrician, P.O. Box 92, Pernambuco.
Bahia Tramway, Light & Power Co., Praca Castro Alves 107 (P.O. Box 4), Bahia. (Telegs.: "Hayn, Bahia.") Engineer, J. V. Brandão.
Bailly Bros., patent agents, 77, rua Sete de Setembro, Rio de Janeiro. P.O. Box 814.
Bainton, L. H., A.M.I.E.E., c/o C. H. Walker & Co., Ltd., Caixa 711, Rio de Janeiro. (Telegs.: "Ambulo, Rio de Janeiro.")
Baptista, Dr. João Nepomuceno, M.I.E.E., late Director-General of Brazilian Telegraphs, Rio de Janeiro.
Baptista de Oliveira Bello, Dr. Jõas, district engineer, Government Telegraphs, Para.

Brazil—*continued.*

Barbosa, Moreira, importer of electro-medical & dental apparatus, Rua de Ouvidor 51, Rio de Janeiro. (Telegs.: "Seringa, Rio.")

Barroso, Dr. Euclides, engineer, vice-director of Government telegraphs, Rio Janeiro.

Baturite Railway, Fortaleza, Ceará.

Bauerfeldt, A., officer in charge, Western Telegraph Co., Ltd., Maranhao.

Behrend, Schmidt & Co., representatives of the A. E. G., 32, rua da Alfandega (P.O. Box 724), Rio de Janeiro. (Telegs.: "Behrend, Rio de Janeiro." Teleph. No. 7.)

Bevan, T. W., superintendent, Power Houses, Cia. Light & Power, Rio de Janeiro.

Blake-Forster, F. B., assistant superintendent, Western Telegraph Co., Pernambuco.

Braga, Eduardo, jun., consulting electrical engineer, Juiz de Fora Minas, Rio de Janeiro.

Braga, F. F., bells, telephone & telegraph instruments, rua Gonçalves Dias 46, Rio de Janeiro.

Braga, Mario, electrical engineer, 64B, rua do Ouvidor, Rio de Janeiro.

Braga, Mello, electrical engineer, director of the Petropolis Electric Lighting Installation, 26, rua do Hospicio, Rio de Janeiro.

Brandao, Benjamin, A.AM.I.E.E., elec. engineer, Empresa Forca e Luz de Pouso Aleyre, Bello-Horizonte.

Brandao, J. V., A.AM.I.E.E., C.E., chief engineer, Guinle & Co., P.O. Box 954, Guinle's-bldg., Rio de Janeiro.

Brocca, Barthels & Co., electrical instrument dealers, 995, Caixa do Correio, Rio de Janeiro.

Buschmann & Cia., patent & trade mark registration agents, 34, rua General Camara (P.O. Box 314), Rio de Janeiro. (Telegs.: "Busco, Rio de Janeiro.")

Byington & Co., electrical engineers & importers, No. 4, rua do Commercio, S. Paulo. (Telegs.: "Alton.")

Camargo, J. A. de, resident engineer, Cia. Paulista de Electricidade, Franca.

Camocim & Sobral Railway, Camocim, State Ceara. Chief engineer & manager, Dr. João Thomé de Saboya e Silva.

Casa Vannet, Moreno Borlido & Co., electro-medical instruments, R. do Ouvidor 114, Rio.

Central Electrica Rio Claro, Rio Claro, Estado de Sao Paulo.

Cesar de Campos Dr. Caetano, director-general of Brazilian telegraphs, Rio de Janeiro.

Chaplin, W. B., clerk in charge, Western Telegraph Co., Desterro, Santa Catharina. (Telegs.: "Chaplin, Desterro, Brazil.")

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Chermont & Ca., electrical engineers & contractors, Box 252, Para.

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Companhia Brazileira de Electricidade (Brasilianische Elektricitäts Ges.), 45, Praça Tiradentes, Rio de Janeiro. (P.O. Box 451.)

Companhia Edificadora. Works: Rua General Gurjão, Ponta do Cajú; offices: Rua da Alfandega 78 & 80, Rio de Janeiro.

Companhia Ferro-Carril Carioca, electric tramway installation, 117, rua Riachuelo, Rio Janeiro.

Companhia Ferro-Carril da Villa-Izabel (Brasilianische Elektrizitats Gesellschaft), electric tramway contractors, 45, Praça Tiradentes, Rio Janeiro. (P.O. Box 451.)

Companhia Ferro-Carril do Jardim-Botanico, electric tramway company, Largo do Machado, Rio Janeiro.

Companhia Força e Luz Porto-Alegrense, Porto Alegre, Rio Grande do Sul. (Telegs.: "Forçaluz, Porto Alegre." Teleph. No. 138.) Engineer, Chas. F. Pepper.

Companhia Luz Electrica, Amparo, São Paulo.

Companhia Luz Electrica, Jacarehy, São Paulo.

Companhia Luz Electrica, Piracicaba, São Paulo.

Companhia Luz Electrica, São Carlos do Pinhal, Estado de São Paulo.

Companhia Mineira de Electricidade, contractors of the electric light of Juiz de Fóra, Minas Geraes.

Companhia Telephonica do Para Belem, Para.

Companhia Urbana, electric light contractors, Pará.

Compañia Luz Electrica, Rio Grande do Sul. Engineer, Dr. F. M. Pereira e Souza; electricians, M. Pais & F. Graciosetti.

Cia. Paulista de Electricidade, Bragança, Brazil. Chief engineer, Dr. D. A. Matheus, Descalvaldo; chief engineer, J. Ferranini, Franca; resident engineer, J. A. de Camargo, Itapira; chief engineer, B. N. de Moraes, Limeira.

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De Albuquerque-Maranhao, Alfonso de Oliveira, A.M.I.E.E., A.M.I.C.E., chief engineer of National Telegraphs, Recife, Pernambuco.

Brazil—*continued.*

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De Figueiredo, Carlos, electrical engineer, 57, rua da Constituicaô, Rio de Janeiro.

Empresa Força e Luz Electrica, Limeira, São Paulo.

Empreza Telephonica, Maceio. Luiz Machado, director.

Empreza Telephonica da Bahia, rua do Arcebispo 1, Bahia.

Empreza Telephonica Paraense, Para.

Empreza Telephonica de Pernambuco, telephone installation, Pernambuco.

Fernandes, Malmo, & Co., electro-medical apparatus, 74, rua do Hospicio, Rio de Janeiro.

Ferranini, J., chief engineer, Cia. Paulista de Electricidade, Descalvaldo.

Foy, A., acting superintendent, Western Telegraph Co., Caixa 121, Pará.

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Freitas, Dr. Bernardino Ribeiro de, engineer & patent agent, Travessa do Ouvidor 11, Rio de Janeiro.

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Gibbs, G. R., superintendent, Western Telegraph Co., Pernambuco.

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Guilherme, Silva & Co., electric light contractors, 100, rua Theo. Ottons, Rio de Janeiro.

Guinle & Co., agents for the General Electric Co. of N.Y., Rua Ouvidor 64B, Rio Janeiro.

Guinle & Cia., light & power, Bahia. (Telegs.: "Fuse, Bahia.")

Harling, William, A.M.I.E.E., A.M.I.MECH.E., c/o City of Santos Improvements Co., Ltd., Santos.

Haupt, Bichn & Co., dealers in electrical apparatus, & contractors for electric light & power plants, rua da Alfandega 53, Rio de Janeiro. (Telegs.: "Haupt, Rio.")

Havas Telegraphic Agency, 97, rua Ouvidor, Rio de Janeiro.

Hayn, E., engineer & general manager, Bahia Tramway, Light & Power Co., Bahia. (Telegs.: "Hayn, Bahia.")

Holder, F. S., electrical engineer, c/o British Westinghouse Co., Rio Janeiro.

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Kerr, W., engineer, City of Santos Improvements Co., Ltd., Santos.

Knight, F. W. A., M.I.E.E., ss. *Norseman*, Western Telegraph Co., Caixa 117, Pernambuco.

Knorr, W. E., telegraph superintendent, Leopoldina Railway Co., Ltd., Rio Janeiro.

Krug, Arthur G., electrical engineer & contractor, 26–28, Palacete Briccola, São Paulo.

Lavandeyra, A., engineer, Electricity Works, Manaos.

Lébre, F., & Co., importers of electric lighting apparatus, 156, rua Hospicio, Rio Janeiro.

Leclerc & Co., patent agents, 156, rua do Rosario, Rio de Janeiro. (Telegs.: "Hargeraud, Rio de Janeiro.")

Lichtenberger, F., manager Siemens-Shuckert-Werke A.-G., Rio de Janeiro.

Lloyd, Edwin I., A.I.E.E., superintendent, Western Telegraph Co.

Lowes, E. S., A.I.E.E., Morro Velho, Villa Nova de Lima, Estados de Minas.

Maceio Electricity Works, Maceio. *See* Nova Empreza Luz Electrica. J. Basto & Co., proprietors. (Telegs.: "Basto, Maccio.") Engineer, A. McPherson, A.M.I.E.E.

Machado, Dr. Aureliano Vieira Werneck, electro-therapeutist, R. Primeiro de Marco 8, Rio.

Machado, Luiz, director Empreza Telephonica, Maccio.

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McLauchlan, S. L. F., M.I.E.E., Caixa 455, Rio de Janeiro. (Telegs.: "Bencastro, Rio." Teleph. No. 1234.)

McLauchlan, Machado & Cia., engineers & importers of electrical supplies, rua de S. Pedro 37, Rio de Janeiro. (Telegs.: "Bencastro, Rio." A.B.C., A1, Lieber's & Western Union Codes. Teleph. No. 1234.)

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Mamede Ferreira Rodrigues, engineer, Government contractor, importer of all kinds of machinery & all accessories (P.O. Box 131), Bahia. (Telegs.: "Mamede, Bahia.")

Manãos Electricity Works, Manãos. Amazonas State, proprietors. Engineer, A. Lavandeyra. (Telegs.: "Viação, Manãos." Teleph. No. 10.)

Mardock, R., electrical engineer, The Amazon Wireless Telegraph & Telephone Co., Caixa 5365, Para.

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Brazil—*continued.*

Matheus, Dr. D. A., chief engineer, Cia. Paulista de Electricidade, Bragança.
Merino & Co. (Casa Merino), importers of electro-medical apparatus, rua Ouvidor 129, Rio de Janeiro.
Moraes, Dr. Martinho de, chief engineer & electrician, Government Telegraphs, Rio de Janeiro.
Morize, Henry, C.E., D.SC., electrical engineer & professor at the Escola Polytechnica, Rio de Janeiro.
Moura & Wilson, patent agents, 33, rua Rosario, P.O. Box 596, Rio de Janeiro. (Telegrams: "Patent, Rio." A.B.C. Code, 4th Edition, used.)
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Nosworthy, F. E., A.M.I.E.E., general manager & engineer, Amazon Telegraph Co., Para.
Nova Empreza Luz Electrica (J. Basto & Co.), Maceio. (Telegs.: "Basto, Maceio.") Engineer, Andrew McPherson, A.M.I.E.E.
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Orr, John B., electric works contractor, rua Rosario 34 (P.O. Box 723), Rio de Janeiro.
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Padbury, P. G., superintendent The Western Telegraph Co., Ltd., Rio de Janeiro.
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Pepper, Chas. F., engineer, Cia. Força e Luz Porto Alegrense, Porto Alegre, Rio Grande do Sul.
Pereira, José M. Rodrigues, electrician, Caixa do Correio 9, Para. (Telegs.: "Zumbinha, Para." A.B.C., A1 & Western Union Codes.)
Phillips, T. B., officer-in-charge, Western Telegraph Co., Ltd., Ceara.
Pinna, Claudiano Luiz, electrical engineer, Estacão Central Telegraph Nacional, Rio de Janeiro.
Ramos, Dr. Mario de Andrade, A.M.I.E.E., rua Martins Ferreira 2A, Rio de Janeiro.
Raymond, Joyeux, bells, telephones & electric lighting, Ouro-Preto.
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Reidy, R. J., M.I.E.E., representative Western Telegraph Co., Ltd., Rio de Janeiro.
Revista Maritima Brazileira (monthly), rua D. Manoel N. 3, Rio de Janeiro.
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Ribeiro Preto Electricity Works, Ribeiro Preto.
Rice, Patrick I., managing electrical engineer, Companhia Edificadorá, Rio de Janeiro.
Rio Claro Electricity Works, Rio Claro.
Rio de Janeiro Tramway, Light & Power Co., Ltd., 78, Avenida Central, Rio de Janeiro. (Telegs.: "Catalon, Rio.") Consulting engineer, Dr. F. S. Pearson. For particulars, *see under* CANADA.
Robertson, Wm. Stewart, M.I.E.E., Caixa 1212, Rio de Janeiro.
Rufino A. de Almeida & Cia., electric light & power installation of Ribeirão Preto, S. Paulo.
Saboia, Paulo, engineer, electric works contractor, 65, rua General Camara, Rio Janeiro.
Santos, City of, Improvements Co., Ltd., Santos. Engineer, W. Kerr; electrician, W. da F. B. Davids; resident engineer, J. T. Cornish, M.I.E.E.
São Paulo Tramway, Light & Power Co., Ltd., rua Direita No. 7, São Paulo. (Telegs.: "Kaigor, São Paulo.") Electrician, E. de Souza. For further particulars, *see under* CANADA.
Schlosser, Carlos, & Co., electric light & tramways plants, 64, rua Alfandega, Rio Janeiro.
Servicos Electricos do Estado, rua Municipal 98, Manaos. (Telegs.: "Viacão, Manaos." Teleph. No. 55.)
Silva, Edesio, engineer, Government Telegraphs, Para.
Silva, Dr. J. T. de Saboia e, managing director & engr., Camocim & Sobral Rly., Camocim, State Ceará.
Smyth, H., electrical supplies, rua da Quitandra 45, Rio de Janeiro. (Telegs.: "Batteria, Rio." Teleph. No. 1150.)
Société Anonyme de Travaux et d'Entreprises au Brésil, importers of electrical machinery, 79, rua Primeiro de Março, Rio de Janeiro. (Telegrams: "Estudos, Rio Janeiro.") A.B.C. Code used.
South American General Patent Agency (Leclerc & Co.), 156, rua do Rosario, Rio de Janeiro.
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Souza, Dr. F. M. Pereira e, engineer, Cia. Luz Electrica, Rio Grande do Sul.
Stuart-Fox, J., A.M.I.E.E., electrical engineer, Western Telegraph Co., Rio de Janeiro.
Taves, Oscar, & Co., successors to Whyte & Co., metal & machinery merchants, 84, rua de S. Pedro & rua Theophilo Ottoni 73 (P.O. Box 841), Rio de Janeiro. (Telegs.: "Arampo, Rio." A.B.C. 5th edit., Engineering, A1 & Lieber's Codes.)
Trajano Medeiros & Co., engineers & electric lighting & tramways makers & contractors, 65, rua General Camara (P.O. Box 208), Rio Janeiro. (Telegs.: "Metalugica, Rio." Teleph. No. 341.)
Tringham, J. P., electrical engineer, telegraph inspector, Leopoldina Railway, Rio de Janeiro.
Trowbridge, E. D., electrical engineer, assistant general manager Rio de Janeiro Tramway, Light & Power Co., Ltd., Rio de Janeiro. (Telegs.: "Trowtele, Rio.")

Brazil—*continued.*

Victor Uslaender & Co., complete installations of elec. light, power & telephones; agents for Brown, Boveri & Co., Baden, Switzerland, rua Primeiro de Março 60, Rio. P.O. Box 542. (Telegs.: "Uslaender.")

Walmsley, W. N., general manager, São Paulo Tramway, Light & Power Co., Ltd., São Paulo.

Weiss, Dr. Leopoldo, technical director of the Brazilian telegraphs, Rio de Janeiro.

Whichello, W. H., A.I.E.E., c/o Victor Uslaender & Cia., Rio de Janeiro.

Williamson, John, M.I.E.E., c/o Davidson, Pullen & Co., Caixa 16, Rio de Janeiro.

Xavier, Dr. Edmundo, electrotherapy, 4, rua Dr. Faleão, S. Paulo.

British Guiana.

Alsing, J., assistant government electrician, Georgetown.

Conrad, Son & Co., general commission agents & agents for electric apparatus & supplies, Georgetown. (Telegs.: "Son, Demerara." A.B.C., 4th & 5th edits., & A1 Codes.)

Cregan, J. H., electrician, Demerara Electric Co., Georgetown.

Demerara Electric Co., Ltd., electric light & power contractors, & electric railways, Water-st., Georgetown (Telegs.: "Demelco, Georgetown." Lieber's Code. Teleph. Nos.: Head Office, 141; Power House, 203; Car Shed, 122): & 179, St. James-st., Montreal, Canada. Registered 1899. Issued capital: $425,000, fully paid. Directors: W. B. Ross, Esq., K.C. (president); Wm. Aitken, Esq. (vice-president); Sir Wm. Van Horne, K.C.M.G.; Hon. David McKeen; R. E. Harris, Esq, K.C.; H. A. Lovett, Esq., K.C.; C. C. Giles, Esq. Engineer, J. C. Thompson; electrician, J. H. Cregan: secretaries, F. C. Clarke, Montreal; W. B. Gray, Demerara.

New Amsterdam Corporation Electricity Works, Berbice. H. D. Scudamore, engineer.

Scudamore, H. D., engineer, New Amsterdam Corporation Electricity Works, Berbice.

Spain, H. G. G., M.AM.I.E.E., chief electrician, Postal Telegraphs & electric inspector, Georgetown.

Thompson, J. E., engineer, Demerara Electric Co., Ltd., Georgetown.

Chili.

Artola, J. M. de, electrical & civil engineer, Casilla 968, Valparaiso.

Balfour, Lyon & Co., manufacturing & importing engineers, Valparaiso; & Santiago.

Betteley & Co., engineers & machinery merchants, Valparaiso, Santiago, Iquique & Concepcion.

Chili Telephone Co., 13, Galeria San Carlos, Santiago. (Telegs.: "Chiliadal, Santiago, &c.")

Chilian Electric Tramway & Light Co., Ltd., P.O. Box 1557, Santiago. (Telegs.: "Viajar, Santiago.")

Cifuentes, Luis, director of state telegraphs, Santiago.

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Cia. Alumbrado y Fuerza Motriz Electricos de Antofagasta, Antofagasta. Engineer, J. L. Grigioni; assistant, G. W. Kidd.

Cia Electrica de Viña del Mar, Viña del Mar, Valparaiso. Engineer, W. L. King.

Compañia Luz Elec. de la Serena, Serena. (Telegs.: "Cles.") Chief engineer, C. A. Johannsen.

De Artola, José Maria, A.I.E.E., Casilla 968, Valparaiso.

Doremus, W. S., electrical engineer, W. R. Grace & Co., Valparaiso.

Gillespie, Wm., A.M.I.E.E., Chilian Mills Co., Chiguayante, Concepcion.

Gleisner, Mauricio, & Co., importers of electrical goods, Santiago.

Grace, W. R., & Co., electrical contractors, Valparaiso. (Telegs.: "Grace, Valparaiso.")

Greenwood & Hallgarth, electrical engineers, Blanco 377, Valparaiso. (Teleph. No. 720.)

Grigioni, J L., engineer, Cia. Alumbrado y Fuerza Motriz Electricos de Antofagasta, Antofagasta.

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Harnecke, Luis. engineer, Chilian Electric Tramway & Light Co., Ltd., Santiago.

Harris, R. J., & Co., electrical engineers & importers, calle Estado, Santiago; P.O. Box 1167. (Telegs.: "Harris, Santiago." Teleph. No. 1753.)

Heiremans, A., Comptoir de le Costa de Pacificio, machinery agent, 1681, calle San Antonio, & Casilla 4, Santiago.

Heywood, C. F., M.I.E.E., Casilla del Correo 16, Valparaiso; & 121, San Martin, Buenos Aires, Argentina. (Telegs.: "Heywood," Valparaiso & Buenos Aires.)

Hormann y Cia., machinery merchants, &c., Valparaiso; & at Santiago, Talca, Conception & Valdivia.

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Huth & Co., electrical contractors, Valparaiso.

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Johnston, Wm., M.I.E.E., general superintendent, Chili Telephone Co., Santiago. (Telegs.: "Electrode, Santiago." Teleph. No. 733.)

Kerr, C. Allen (British vice-consul), F.M.C.I.P.A. (Lond.), patent & trades marks agent, Casilla 490, Santiago. (Telegrams: "Making, Santiago." A1, A.B.C. & Premier Codes. Telephone No. 840.) Patents & trade marks in Chili, Peru, Bolivia, Ecuador & Colombia.

Chili—*continued.*

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McKerlie, Jas., A.M.I.E.E., Ferrocarriles del Estado, Santiago.
Martin, E. W., M.I.E.E., consulting engineer, Casilla 181, Valparaiso.
Martin Bros., electric plant for mining & industrial purposes, Casilla 181, Valparaiso. (Telegs.: "Martibros, Valparaiso." A.B.C. 5th & W.U. Codes.)
Mascall, F. H., government electrical inspector, Arsenales de Marina, Valparaiso.
Mengin, Max, & Co., electrical instrument makers, Santiago.
Morrison & Co., agents for British Insulated & Helsby Cables, Valparaiso.
Nebel, A., electrical engineer, Casilla 43, Santiago.
Nicoreanu, C., installations engineer, Chilian Electric Tramway & Light Co., Ltd., Santiago.
Peck, Walter Toucey, A.AM.I.E.E., electrical engineer, Casilla 926, Valparaiso.
Robinson, J. K., representative on the West Coast of South America of the Westinghouse Electric Co., Iquique.
Rose Innes & Co., electrical contractors, Valparaiso.
Ruiz, Antolin, A.I.E.E., Casilla 1364, Valparaiso.
Saavedra, Bénard y Ca., electrical agents, contractors for electric lighting & electric railways, Casilla 948, Valparaiso. (Telegs.: "Bénard, Valparaiso.")
Salazar, Prof. A. E., electrical engineer, The University, Santiago.
Senior, A. M., station manager, Central & South American Telegraph Co., Santiago.
Siemens Schuckert & Co., electrical engineers, Valparaiso.
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Williamson, Balfour & Co., machinery agents, Valparaiso; & Santiago.
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Colombia.

Bogota Telephone Co., Ltd. (incorporated London, England), Bogota; & London, England. (Cables: "Telephone, Bogota;" & "Pelaez, London.")
Burrowes, V., station manager, Central & South American Telegraph Co., Buenaventura.
Cifuentes, C., electrician, Compañia de Energia Electrica, Bogota.
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Compañia de Energia Electrica, Bogota. (Telegs.: "Energia, Bogota.") Engineer, A. Wöbcken; electrician, C. Cifuentes.
Compañia de Luz Electrica, Cartagena.
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Ecuador.

Almeida, J. C., inspector-general of Telegraphs, Guayaquil.
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Empresa de Luz y Fuerzá Electrica, Guayaquil. Engineer, H. Fontaine.
Fontaine, H., engineer, Empresa de Luz y Fuerza Electrica, Guayaquil.
Gregorio, C. Nallos, director National Telegraphs, Quito.
Loja Electricity Works, Loja.
Michell, R. E., manager Ecuador Telephone Co., Guayaquil.
National Telephone Co., Guayaquil. Manager, J. G. Sanchez.
Pescod, Henry, station manager, Central & South American Telegraph Co., Santa Elena.
Powell, G. A., station manager & land line superintendent, Cen. & S. American Teleg. Co., Guayaquil.
Quito Electric Light & Power Co., Apartado 82, Quito. Electrician, P. M. Romero.
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Paraguay.

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Peru.

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Empresa de Fuerza Electrica "Santa Rosa," electrical engineers & contractors, calle Espaderos, Lima. Engineer, Alfred Lewis Kenyon.
Empresa de Tranvia Electrica Lima y Callao, Lima.
Empresa de Tranvia Electrica Lima y Chorrillos, Lima.
Empresa Electrica, Ltd., Iquitos. Incorporated March 1, 1909. Capital: £16,000. President, Marcel Oury; secretary, Mario Niño; engineer, A. S. Bytton.
England, W., station manager, Central & South American Telegraph Co., Lima.
Ferreiros, Capt. de Navio D. Carlos, Director-General of Government Telegraphs, Lima.
Fox, A., A.M.I C.E., chief engineer, Soc. Esplotadora de Caylloma, Caylloma Silver Mines.
Gilbert, L. M., agent West Coast America Telegraph Co., Casilla 209, Lima.
Guarini, E., electrical engineer & professor, Escuela de Artes y Oficios, Lima.
Herouard, P., importer of telegraph & telephone wire, &c., Calle de Villalta 60, Lima. (Telegrams: "Hero, Lima." Telephone No. 24.)
Kenyon, A. L., M.AM.I.E.E., engineer, Empresa de Fuerza Electrica "Santa Rosa," calle Espaderos, Lima.
Kimmel, F. J., resident engineer, Ferro Carril Electrico de Lima y Callao, Lima.
Kingsford, H., M.I.E.E. (local hon. sec. & treas. of the I.E.E.), superintendent & engineer Central & South American Telegraph Co., Lima.
La Rosa, F., electrician, Arequipa.
Ludowieg & Co., importers of telegraph, electric light & traction material, San Pedro, Lima.
Menchaca, G., & Co., importers of electrical machinery & supplies, Calle del Correo 29, 33 & 35; Plateros San Agustin 34; Baquijano 276A, Lima. (Telegrams: "Menchaca, Lima.")
Peruvian Telephone Co., Casilla 846, Lima.
Rendon, Edward, station manager, Central & South American Telegraph Co., Paita.
Schröder, C. M., & Co., electrical agents, Calle Melchormalo, Lima.
Soldan, Carlos Paz, M.I.E.E., Lima.
Velasco, F., electric light & power contractor, Arequipa.
Wagner, Emilio, dealer in electrical plant, Calle Coca, 76, Lima. (Telegrams: "Wagner, Lima.")
Weiss, C., & Co., importers of telegraph wire, Calle San Pedro 111, Lima. (Telegrams: "Weisscar, Lima.")

Uruguay.

Arboleya, José, manager Oriental Telegraph Co., Montevideo.
Barth, Eugenio, y Ca., importers of electric light apparatus telephones, calle Uruguay 2, Montevideo. (Telegs.: "Barthco, Montevideo.")
Carve, Don Carlos A., assistant director-general of State Telegraphs, Montevideo.
Compañia Telegrafico-Telefonica del Plata, 78, Calle Zabala, Montevideo. E. Laborde, manager.
Edwards, J. H., A.I.E.E., electrician, Cable Ship "Cormorant," Western Telegraph Co., Monte Video.
Empresa Nacional "Luz Electrica," electric light engineers & contractors, Dayman 105, Montevideo.
Ganzo & Co., dealers in electrical supplies, Calle 25 de Mayo 431, Montevideo.
Garcia y Santos, Don Francisco, Director-General of State Telegraphs, Montevideo.
Gioffii, Regusci & Voulminot, dealers in electrical supplies, 161B, Zabala, Montevideo.
Grove, Carlos, electrician & dealer in electrical supplies, 56, Uruguay 58, Montevideo.
Guldenzoph, C., electrician, Minas.
Gutta, Ciscone F., dealer in electrical supplies, 157, Sarandi, Montevideo.
Invernizzi & Foerster, engineers, Electricity Works, Montevideo.
Jones, T. Harison, resident engineer-in-chief, United Electric Tramways of Montevideo, Ltd., Montevideo.
Laborde, E., manager, Cia. Telegrafico-Telefonica del Plata, 78, calle Zabala, Montevideo.
La Transatlantica Electricity Works, Montevideo, Uruguay. Engineer, H. D. Shepherd.
Lewis, C. C., representative J. G. White & Co., Ltd., electrical engrs. & contrs., 25, Mayo 206, Montevideo.
Montevideo Electricity Works, Montevideo. Engineers, Invernizzi & Foerster.
Montevideo Telephone Co., Ltd. (A. B. Powers, manager), Calle Rincon 137, Montevideo.
Muñoz & Co., dealers in electrical supplies, 18, Julio 596A, Montevideo.
Nevile, G. O., A.M.I.E.E, Sociedad Comercial de Montevideo 67, calle Rincon, Montevideo.

Uruguay—*continued.*

Oldham, James, local hon. sec. & treasurer, A.I.E.E., supt. Western & River Plate Telegraph Cos., Montevideo.
Oldham, John, M.I.E.E., Cia. Telegrafica del Rio de la Plata, Montevideo.
Oriental Telegraph Co., calle Sarandi 171, Montevideo. (José Arboleya, general manager.)
Predari, J. P., technical inspector, Uruguay State Telegraphs, Montevideo.
Quincke, Ernesto, importer of electrical apparatus, calle Cerro Largo No. 92, Montevideo.
River Plate Telegraph Co., Ltd., Montevideo & Buenos Ayres.
Shepherd, H. D., engineer, La Transatlantica Electricity Works, Montevideo.
Sociedad Comercial de Montevideo, Montevideo. Chief engineer, T. Harison Jones.
Sociedad Co-operativa Telefónica Nacional, 89, pl. de la Independencia, Montevideo.
Trias, Arturo, superintendent, telegraph dept., Central Uruguay Railway Co., Ltd., Montevideo.
Western Telegraph Co., 146, Cerrito, Montevideo.

Venezuela.

Abamevali, Camilo, electric light & power contractor, Merida.
Aikman, J. E., manager of the Puerto Cabello & Valencia Railway Co., Ltd., Valencia.
Almond, Harry J., manager Ferrocarril de La Guaira à Caracas.
Angarita & Co., electric light & power contractors, San Cristobal.
Barletta, E., manager, Telephone Co., Ciudad, Bolivar.
Blanco, Luis J., engineer & patent agent, Caracas.
Caracas Electric Tramways, Caracas. E. H. Ludford, manager.
Carrillo, James F., electric light & power contractor, Caracas.
Cavailler, Louis, telegraph engineer & manager, Cie. française des Cables télégraphiques, Maracaibo.
Cherry, Albert J., manager Ferrocarril Central Caracas.
Compañia Anonima Electricidad de Valencia, Valencia. (Telegs.: "Stelling.") Engineer, C. Stelling.
Compañia Anonima, "La Electricidad de Caracas," Caracas. Engineer, Ricardo Zuloaga.
Compañia del Gas y de Luz Electrica.
De Pool, Jacobo R., electrician, Maracaibo.
Escala, Ernesto B., electrician, La Vela.
Herrera, Leandro, electrician, Electric Light Station, Caracas.
Jones, A. P. S., general manager, Bolivar Railway Co., Ltd., c/o Boulton & Co., Puerto Cabello.
Jovin, Domingo, electrician, San Cristobal.
Ludford, E. Henry, telephone & electrical engineer, Apartado 176, Caracas.
Maracaibo Electric Light Co., Maracaibo. (Jaime S. Carrillo, manager.)
Maracaibo Telephone Co., Maracaibo. (Evangelino A. Rincon, manager.)
Molina, Felix, electrician, La Vela.
Pacheo, F. Colmenares, director of telegraphs, Caracas.
Puerto Cabello Electricity Works, Puerto Cabello. (Telegs.: "Villarroel, Puerto Cabello." A.B.C. 4th edit. Code. Teleph. No. 104.) Engineer, R. O. Tanner.
Stelling, C., engineer, Cia. Ana. Electricidad de Valencia, Valencia.
Tanner, R. O., engineer, Electricity Works, Puerto Cabello.
Tarder, Tohan, electrician, Puerto Cabello.
Wallis, Edgar A., general manager, Venezuela Telephone & Electrical Appliances Co., Caracas.
Zuloaga, R., engineer, Cia. Anonima "La Electricidad de Caracas," Caracas.

WEST INDIES.

Bahamas.

Burns, P. H., engineer, Colonial Government Electricity Works, Nassau.
Colonial Government Electricity Works, Nassau. Engineer, P. H. Burns.

Barbados.

Barbados Light Railway, Ltd., Barbados. (Telegs.: "Amphion, Barbados." Bedford M'Neil & A.B.C. 5th edit. Codes.)
Simpson, D. M., & Co., Ltd., engineers, iron, brass & copper founders, Trafalgar-sq., Bridgetown.
Sinckler, Reynold R., M.I.E.E., Barbadoes Telephone Co.

Cuba.

"Berlin," Agencia Eléctrica, electrical supplies & machinery, O'Reilly 67, Havana.
Bindemann, Harry O. F., M.I.E.E., A.M.AM.I.E.E., electrical engineer, representing Siemens-Schuckertwerke & Siemens & Halske A. G. Berlin, Germany, Apartado 1324, Havana, Cuba. (Telegs.: "Bindemann, Havana.")
Binner, J. W. A., A.M.I.E.E., A.M.I.MECH.E., Cia. de Gas y Electricidad de la Habana, Monte 1, Havana.
Bordenave, J. R., importer of electrical apparatus, P.O. Box 33, Matanzas.
Börnsteen, A. G., "La Alemana" electrical contractor & importer of electrical machinery & supplies, Obrapia 24, P.O. Box 213, Havana. (Telegs.: "Bornsteen, Havana." Teleph. No. 55.)

Cuba—*continued.*

Bouclé, Edouard, installation contractor & representative of Pablo Delaporte, Santa Elena 16, Cienfuegos.
Compañia Electrica de Regla y Guanabacoa, Regla & Guanabacoa.
Cuba Electrical Supply Co., importers of electric goods. Store & office: Obispo 88, P.O. Box 699, Havana. (Telegs.: "Celsuco, Havana." Code A.B.C. 4th. Teleph. No. 798.)
Cuban Electric Co., electric railway, Regla, Havana.
Decker, R. J., A.AM.I.E.E., chief engineer, Cuban Sugar Refining Co., Cardenas.
Delaporte, Pablo, electrical engineer & importer of electrical & phonograph supplies & machinery, Apartado 647, Havana. (Telegs.: "Turbilaval, Havana." A.B.C. Code, 4th edit. Tel. No. 868.)
Deutsche-Cubanische Elektrizitäts Ges. m. b. H. Cardenas, Guanabacoa; & Matanzas.
Font, O. M., S. en C., electrical supplies, Apartado 240, Cienfuegos.
Gamboa, N. de, y Ca., elec. light contrs., Cienfuegos. (Telegs.: "Gamboa, Cienfuegos." Teleph. No. 62.)
Greenwood, G. F., general manager, Havana Electric Railway Co., Havana.
Havana Electric Railway Co., Havana.
Havana Gas & Electric Co., 1, Monte, Havana. (Telegs.: "Gasco, Havana." Teleph. No. 365.)
Hempel, C., contractors for electrical installation & general machinery, 95, Aguiar, Havana.
Mott-Trille, Radley, A.M.I.E.E., Cienfuegos.
Naranjo, J. Sanchez, representative of Pablo Delaporte, Centro Telefónico, Sancti-Spiritus.
Peralta, A. G. de, Bolondron Electric Light & Ice Co., Bolondron.
Quiñones Ramon, L., electrical agent, 68, Independencia, Cardenas.
Thrall, Chas., & Co., S. en C., installation contractors & importers of electric machinery, Apartado 734, Neptuno, cor. of Monserrate, Havana.
Zarrabeitia, J. M., importer of electrical supplies, 10, Mercaderes-st. (P.O. Box 184), Havana. (Telegs.: "Zarrabeitia, Havana." Teleph. No. 784.)

Curaçao.

Curaçao Telephone Co. Jacob T. de Pool, proprietor.
Evertsz, Jan F., electrician, Curaçao Electric Light Co.
Maduro, S. E. L., & Sons, proprietors of Curaçao Electric Light Co.
Pool, Jacob T. de, electrical engineer of the Curaçao Telephone Co.

Hayti.

Morales, A., superintendent, French Telegraph Cable Co., Cape Hayti.

Jamaica.

Aiken, D., engineer, West India Electric Co. & Jamaica Electric Light & Power Co., Ltd., Kingston.
Campbell, H. A., A.I.E.E., A.AM.I.E.E., electrician, West India Electric Co., Ltd., Kingston.
Duperdouzel, H., engineer, West India Electric Co., Ltd., Kingston.
Engineering & Supply Co., engineers' agents, 255, Pechon-st., Kingston.
Escala, A., telegraph engineer, Jamaica Railway, Kingston.
Hart, Geo. A., assistant to the superintendent of telegraphs, Kingston.
Jamaica Telephone Co., Ltd., Kingston. G. de Montagnae, superintendent; J. Philips, secretary.
Lewis, W. H., & Son, mechanical engineers, Kingston.
MacLeod, N., clerk in charge, West India & Panama Telegraph Co., Kingston.
Montego Bay Electric Light & Power Co., Montego Bay.
Myers, G. D. A., A.M.I.E.E., electrical engineer, c/o Hon. G. P. Myers, Kingston.
Roberts, A. D., A.AM.I.E.E., electrical engineer, Kingston.
Rock, G. A., Government electrical inspector, Kingston.
Sullivan, R., superintendent, Direct West India Cable Co., Ltd., Kingston.
Tucker, N. B., general manager West India Electric Co., Ltd., & Jamaica Light & Power Co., Ltd., Kingston.
Valverde, O. B., electrical engineer & contractor, 3, Jeffrard-pl., Kingston.
Vendryes, L. H., electro-metallurgist, 35, Johns-lane, Kingston.
West India Electric Co., Ltd., Kingston. N. B. Tucker, general manager; H. A. Campbell, electrician. (Telegs.: "Wicco, Jamaica.") For particulars, *see under* CANADA.

Porto Rico.

Beames, C. F., M.AM.I.E.E., San Juan Light & Transit Co., San Juan.
Mayagnez Electric Light & Power Plant, Mayagnez.
Olazagasti, Angel, mechanical & electrical engineer & manufacturers' agent, Gauyama.
Palmer, D. Alonso, A.AM.I.E.E., manager, South Puerto Rico Telephone Co., Ponce.
Ponce Railway & Light Co., Ponce.
Porto Rico Power & Light Co., San Juan.
San Juan Light & Transit Co., San Juan.
Thomson, D. L., A.M.I.MECH.E., consulting engineer, Mayagnez.
Timpson, F. C., general superintendent, Insular Telegraph Department of the Interior, San Juan.

St. Thomas.

Best, H., assistant superintendent, West India & Panama Telegraph Co.
Morrell, Robt., general superintendent West India & Panama Telegraph Co.

Trinidad.

Commercial Telephone Co., Ltd., Port-of-Spain. T. A. Wright, manager.
Harris, Wm. A., A.I.E.E., Usine Ste. Madeleine.
Monckton, C. C. F., A.I.E.E., electrical inspector, Colonial Government of Trinidad.
Teele, Fred. W., M.SC., M.A.S.M.E., N.A.S.E., general manager & consulting engr, Trinidad Electric Co., Ltd.
Trinidad Electric Co., Ltd. (Telegs.: "Trinelco, Trinidad." Lieber's Code.) Capital authorized: $1,200,000.00 stock, of which $1,164,000.00 is issued, & $720,000.00 in 5 per cent. bonds. Directors: Wm. B. Ross, Esq., K.C. (president); Wm. G. Gordon, Esq. (vice-president); C. Archibald, Esq.; R. E. Harris, Esq., K.C.; B. F. Pearson, Esq., K.C.; W. D. Ross, Esq.; W. M. Aitken, Esq. General manager & consulting engineer, Fred. W. Teele, M.SC., M.A.S.M.E., N.A.S.E.; secretary, F. H. Oxley.

ASIA.

Aden.

Adamson, J. E., assistant superintendent Eastern Telegraph Co.
Martin, A. H., supervisor, Eastern Telegraph Co.
Prosser, A. W., superintendent Eastern Telegraph Co.

Borneo.

Atkinson, R. Scott, M.I.E.E., Postmaster-General & superintendent of telegraphs & telephones, Jesselton.

Ceylon.

Baird, R. W., resident electrical engineer, Colombo Gas & Water Works Co., Ltd., Kandy.
Boustead Bros., electrical engineers, Colombo. (Telegs.: "Boustead, Colombo.")
Bradley, G. T., A.M.I.E.E., c/o Colonial Secretary, Colombo.
Cave, H. W., & Co., importers of electrical apparatus, Colombo.
Cockerell, T., A.I.E.E, F.C.S., instructor in telegraphy & electrical engineering, Technical College, Colombo.
Colombo Apothecaries Co., Ltd., dealers in electrical apparatus, Colombo. (C. Davidson, manager.)
Colombo Commercial Co., Ltd., engineers, &c. (J. G. Wardrop, manager), Slave Island, Colombo. (Telegs.: "Cossack, Colombo.")
Colombo Electric Tramways & Lighting Co., Ltd., Colombo. Engineer, L. H. Combe. Managing agents in Ceylon: Boustead Bros., Colombo.
Colombo Gas & Water Co., Ltd., electrical engineers & contractors, Colombo & Kandy. (Telegs.: "Fageorum, Colombo.") (H. G. Edwards, engineer & manager. Kandy branch: R. W. Baird, resident electrical engineer.)
Combe, L. H., chief engineer, Colombo Electric Tramways & Lighting Co, Ltd., Colombo.
Cooper, Hon. F. A., C.M.G., M.I.C.E., Director of Public Works, Colombo.
Davies, W. H., & Co., engineers & merchants, Colombo; & Mander-st., Wolverhampton. (Telegs.: "Davies, Colombo;" & "Composcens, Wolverhampton." Commercial, A1, A.B.C., 5th edit., & Lieber's Codes.)
Dissanaike, Edwin S., A.I.E.E., telegraph instructor, G.P.O., Colombo.
Dix, H. S., electrical engineer, Boustead Bros., Colombo.
Eastern Produce & Estate Co., Ltd., electric light contractors' agents, Colombo.
Fairfield Iron Works (C. W. H. Duckworth, proprietor), general engineers, Slave Island, Colombo. (Telegs.: "Pumping, Colombo.")
Gill, O. S., assistant electrical engineer, Colombo Electric Tramways & Lighting Co., Ltd., Colombo.
Grieve, John, general engineering manager & director, Brown & Co., Ltd., Colombo, Hatton & Nawalapituja.
Harris, Leopold J., A.M.I.E.E., irrigation engineer, Trincomalie.
Holsinger, A. E., jun., importer of electrical apparatus, 2, Canal-row, Colombo.
Human, Edwin, A.I.E.E., superintendent Ceylon Technical College, Colombo.
Hutson, C. A., & Co., engineers & repairers of electrical apparatus, Colombo.
Hyde, G. H. M., M.I.M.E., A.M.I.C.E., district & mech. engineer, Government Factory, P.W.D., Colombo.
Kandy, Ceylon, Central Electric Light & Power Station. Colombo Gas & Water Co., Ltd., proprietors.
Lund, Chas. W., A.M.I.E.E., assistant superintendent of telegraphs, Colombo.
McAlpine, G., assistant superintendent of telegraphs, G.P.O.
McCausland, H. A., electrical engineer, Gavatenne, Madulkele.
Montagu, D., A.M.I.C.E., A.I.E.E., superintendent of telegraphs, Colombo.
Orr, P., & Sons (R. Doresamy, agent), electrical engineers, Victoria Arcade, Colombo. (Telegs.: "Diamond, Colombo.")
Percy, H. L., A.I.E.E, assistant electrical & tramways engineer, Colombo Electric Tramways & Lighting Co., Colombo.

Ceylon—*continued.*

Roberts, R. C., A.I.E.E., Stokesland, Udugama, Galle, Ceylon.
Robson, Geo., & Co., electrical & general engineers, Colombo. (Telegs.: "Robons, Colombo.")
Royal Asiatic Society, Ceylon Branch (H. C. P. Bell, C.C.S., J. Harward, M.A., & G. A. Joseph, hon. secs.), Colombo.
Rylands, F. B., A.M.I.E.E., electrical engineer, Ceylon Government Factory, P.W.D., Colombo.
Templeton, Prof. Wm. Sandilands, M.A., B.SC., A.M.I.E.E., Ceylon Technical College, Colombo.

China.

Aldridge, T. H. U., M.I.E.E., municipal electrical engineer, Shanghai.
Antung Electricity Works, Antung.
ARNHOLD, KARBERG & CO., ELECTRIC LIGHT & POWER CONTRACTORS, SHANGHAI. (TELEGS.: "KARBERG, SHANGHAI.")
Bahnson, J. J., general manager in China & Japan, Great Northern Telegraph Co., Ltd., Shanghai.
Bailey & Murphy, consulting mechanical engineers & contractors, Hotel Mansions, Hong Kong. (Telegs.: "Contract, Hong Kong." Teleph. No. 187.)
Baines, —, Eastern Extension Telegraph Co., Tientsin.
Barker, Wm., & Co., electrical, mechanical engineers & general machinery agents, Port Victoria, Hong Kong. (Telegs.: "Arcade, Hongkong." Teleph. No. 261.)
Beattie, R. B., supervisor Eastern Extension Australasia & China Telegraph Co., Ltd., Hongkong.
Beck, J. M., superintendent, Eastern Extension Telegraph Co., Hong Kong.
Beilby, W. H., electrical engineer, c/o Bruce Peebles & Co., Ltd., Shanghai.
Bellingham, A. W. H., M.I.C.E., engineer-in-chief to the British Municipal Council, Tientsin.
Beutel, —, superintendent of telegraphs, German Telephone Exchange, Chefoo.
Bille, H., electrician, Great Northern Telegraph Co., Shanghai.
Black, R. C., superintendent, Great Northern Telegraph Co., Chefoo.
Blagden, A. H., A.M.I.E.E., A.M.I.MECH.E., deputy electrical engineer, Munipical Council Electrical Department, Shanghai.
Brandt, A., & Co., electrical contractors & importers, Hankow. (Telegs.: "Brandus, Hankow.")
Bridger, H. B., electrical engineer, Hong Kong Electric Co., Hong Kong.
Brighten, Malcolm, & Co., Ltd., general engineers & manufacturers' agents, Shanghai, British P.O. Box 174. (Cables: "Brimal, Shanghai." A.B.C. 5th edit., Western Union & Engineering 2nd edit. Codes.)
Bullard, W., manager in China, Eastern Extension Telegraph Co., Shanghai.
Cameron, A., superintendent, Eastern Extension Telegraph Co., Weihaiwei.
Carlowitz & Co., electrical & general agents, 16, Kinkiang-rd., Shanghai.
Carmoy, Pierre, resident engineer, French Municipal Electricity Works, Tientsin.
Carter, Wm. L., A.M.I.E.E., China & Japan Telephone Co., Hong Kong.
Chateau, P., chief engineer, Cie. Française de Tramways et d'Eclairage Electrique, 4, quai de Jang King Pang, Shanghai.
China General Engineering Co., electrical & general agents, 15, Canton-rd., Shanghai.
China & Japan Telephone & Electric Co., Ltd. (W. L. Carter, A.M.I.E.E.), Hong Kong. (Telegs.: "Oakenpin, Hong Kong.")
China Light & Power Co., Ltd. Head office: Hong Kong. (Telegs.: "Lightpower, Hongkong.") Also Canton. Resident engineer, G. S. Thorne; & Kowloon, resident engineer, G. H. Hales.
Chinese Engineering & Mining Co., Ltd., Tientsin. (Telegs.: "Maishan, Tientsin." Teleph. No. 1018.) Major W. S. Nathan, R.E., agent & general manager.
Chinkiang Electric Light Co., Chinkiang.
Chollot, J. J., engineer, 30, rue Eugene Bard, Concession Française, Shanghai.
Chow, W. P., general manager & director Imperial Chinese Telegraph Administration, Shanghai.
Chow Pang Wai, director Chinese Telegraph Co., Canton.
Christensen, A., electrician, Great Northern Telegraph Co., Ltd., Amoy.
Chu Wai, manager of Imperial Chinese Telegraphs, Shameen, Canton.
Coath, D., manager, Commercial Pacific Cable Co., Shanghai.
Cole, G. E., superintendent, Eastern Extension Telegraph Co., Chefoo.
Cole, Philip Henry, A.M.I.E.E., chief engineer, Shanghai Mutual Telephone Co., Shanghai.
Compagnie Française de Tramways et d'Eclairage Electriques, 75, ave. Dubail, Shanghai. Electrical engineer, M. Vie.
Corbac, G. van, A.I.E.E., general electrical engineer, Arnhold Karberg & Co., Tientsin.
Dingle, W., consulting electrical engineer, Peking Club, Peking.
Dresing, F. N., M.I.E.E., telegraph engineer & electrician, chief superintendent & foreign adviser, Imperial Chinese Telegraph Administration, Shanghai.
Edmunds, Ch. K., A.AM.I.E.E., professor of physics, Canton Christian College, Canton.
Edwards, F. W., assistant superintendent Eastern Extension Telegraph Co., Pekin.
Electric Traction Co. of Hong Kong, Ltd., Hong Kong. (Telegs.: "Snakefish, Hongkong." Teleph. No. 430.) Engineer & manager, J. J. Stodart Kennedy.

China—*continued.*

Erichsen, J., superintendent, Imperial Chinese Telegraphs, Peking. (Teleph. No. 55.)
Fairchild, H. J., Eastern Extension Telegraph Co., Hongkong.
Fairley, Frank, M.I.E.E., A.M.I.M.E., elec. engr., Hankow Water Works & Electric Light Co., Ltd., Hankow.
Fearon, Daniel, & Co., electric light engineers & contractors, Shanghai.
Fechner, Max, electrical engineer, Kiaochow. (Telegs.: "Fechner, Tsingtau." Teleph. No. 64.)
Fippard, A. J., A.M.I.E.E., engineer, Hankow Light & Power Co., Ltd., Hankow.
Frost, Joe, A.M.I.E.E., Shanghai Electric & Asbestos Co., Ltd., 11A, Nanking-rd., Shanghai. (Telegs.: "Ohm, Shanghai." Teleph. No. 1196.)
Fung, Tsun Nam, engineer, China Light & Power Co., Ltd., Canton.
Gaillard, E., engineer, French Municipal Electricity Works, Shanghai.
Garrard, E. E., A.M.I.E.E., assistant engineer, China Light & Power Co., Ltd., Canton.
Gibb, Livingston & Co., agents for the Hong Kong Electric Co., Ltd., Hong Kong.
Gibson, J. K., A.I.E.E., controller, Eastern Extension Telegraph Co., Sharp Peak.
Gilby, H. H., assistant superintendent, Eastern Extension Telegraph Co., Hong Kong.
Godineau, G., chief electrician, Chinese Engineering & Mining Co., Ltd., Tientsin.
Graham, Frank, A.I.E.E., chief assistant, Hongkong Electric Co., Hongkong.
Grégoire, Albert, engineer & manager, Compagnie de Tramways & d'Eclairage de Tientsin.
Grey, Wm. J., A.M.I.E.E., electrical engineer, Shanghai Nankin Railway (B.P.O. Box 219), Shanghai.
Gui Tze Liang, manager, Imperial Chinese Telegraphs, Moukden, Manchuria.
Hales, G., electrical engineer, China Light & Power Co., Kowloon.
Hankow Engineering Development Syndicate, Ltd. (E. E. Griffiths, managing director, China), Tientsin. (Telegs.: "Gritonis.")
Hankow Light & Power Co., Ltd., Hankow. (Telegs.: "Powercold, Hankow.") Engr., A. J. Fippard.
Hankow Water Works & Electric Light Co., Ltd., Hankow. Engineer, F. Fairley, M.I.E.E., A.M.I.M.E.
Haverkate, Y. G., engineer, Peking Chinese Electric Light Co., Peking.
Hearson, H. R., A.I.E.E., Oriental Ice Co., Ltd., Shanghai. (Telegs.: "Hearson." Teleph. No. 663.)
Helsgaun, A., engineer & superintendent, Imperial Chinese Telegraphs, Hankow.
Henke, M., engineer, German Government Electricity Works, Kiaochau.
Henningsen, H. F., superintendent Imperial Chinese Telegraph Administration, Tientsin. (Telegs.: "Henningsen, Tientsin." Teleph. No. 1117.)
Hong Kong Electric Co., Ltd., electric supply company, Hong Kong. Registered February, 1889. Nominal capital: HK. $600,000 in ordinary shares, all issued & fully paid. Directors: I. W. C. Bonnar, Esq. (chairman); Hon. Sir C. P. Chater, C.M.G.; Hon. W. I. Gresson; E. G. Barnett, Esq. Engineer, W. H. Wickham, A.M.I.C.E., A.M.I.E.E. Dividends: 1906, 10 per cent.; 1907, 10 per cent. & 2 per cent. bonus.
Ilbert, Owen Lewis, A.M.I.E.E., Electricity Department, Municipal Council, Shanghai.
Imperial Chinese Telegraphs, Shanghai. F. N. Dresing, chief superintendent & foreign adviser.
Imperial Chinese Telephone Co., Yu Mo-st., Old City, Canton.
Imperial Polytechnic College, 18, Sicawei-rd., Shanghai. Director-general, H. E. Yang Wen Chun.
Inniss & Riddle, electrical engineers, 40, Szechuen-rd., Shanghai.
Jack, William C., & Co., Ltd., marine & electrical engineers & contractors, Hong Kong. (Telegs.: "Marinework, Hong Kong." Teleph. No. 358.)
James, S. L., superintendent, Eastern Extension Telegraph Co., Cape St. James.
Jardine, Mathieson & Co., Ltd., Mechanical & Electrical Engineering Department, Shanghai. Leo Smith, manager.
Jensen, J. P., chief engineer, Great Northern Telegraph Co.'s s.s. "Pacific," Shanghai.
Jessen, E. V., acting superintendent, Great Northern Telegraph Co., Amoy.
Johnson & Phillips, electrical engineers & contractors, Hankow. (Telegs.: "Juno, Hankow.") Agent, A. J. Fippard.
Junginger, L., electrical engineer, Arnhold, Karberg & Co., Shanghai.
Kasuya, Y., M.E., electrical engineer, S. Manchuria Railway Co., Dairen, Manchuria.
Kee, Cheong, electrician, China Light & Power Co., Canton.
Kiaochau Electricity Works, Kiaochau. German Government, proprietors. Engineer, M. Henke.
Kinder, C. W., C.M.S., M.I.C.E., engineer-in-chief, North China Imperial Railways, Tientsin.
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Kirin Electricity Works, Kirin.
Korndoerfer, G., manager, The Wireless Telegraph Co. (Telefunker), 45, Kiangse-rd., Shanghai.
Kreutzer, I., engineer, Siemens-Schuckert Werke, Tientsin.
Lapouyade, —, engineer, Société Electrique d'Extreme-Orient, Macao.
Lien Chia, manager Imperial Chinese Telegraphs, Peking.
Lightfoot, S., electrician, Hong Kong & Whampoa Dock Co., Queen's-bldgs., New Praya, Hong Kong.
Loebbel, M. W., electrical engineer, Von Duering, Wibel & Co., 5, Jinkee-rd., Shanghai.
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Lussmann, R., electrician, Siemens-Schuckert Werke, Tientsin.

China—*continued.*

Lysaught, Wm., & Son, engineers & machinery merchants, 1, 4 & 8, Cross-lane, Hong Kong.
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Marshall, P., superintendent Eastern Extension Australasia & China Telegraph Co., Ltd., Shanghai.
Matzen, A. M. W., chief engineer, Great Northern Telegraph Co.'s s.s. "Store Nordiske," Shanghai.
Mayne, Charles, M.I.C.E., engineer & surveyor, Municipal Council, Shanghai.
Mengel, E., superintendent, Imperial Chinese Telegraphs, Yunnanfoo.
Meyer, H., chief engineer, Siemens-Schuckert Werke, 16, Kinkiang-rd., Shanghai.
Mortensen, V., telegraph engineer, Imperial Chinese Telegraphs, Hankow.
Münter, L. S., acting controller, Great Northern Telegraph Co., Ltd., Peking.
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Mutual Telephone Co., Hankow-rd., Shanghai. L. G. Oberg, manager & secretary.
Nakaya, S., engineer, Nannan Railway Co, Manchuria.
Nielsen, O., superintendent, Great Northern Telegraph Co., Ltd., Hongkong.
Oberg, G. L., secretary & general manager The Shanghai Mutual Telephone Co., Ltd., Shanghai.
Paquet, N. A., chief engineer, The Mines, Kaiping, Tong Shan.
Paton, G., A.M.I.M.E., chief engineer, Tientsin Gas & Electric Light Co., Ltd., Tientsin.
Peking Chinese Electric Light Co., Peking. Engineer, Y. G. Haverkate.
Peking Electric Co., Ltd., Peking. Registered office: Hong Kong. Nominal capital: Taels 260,000 in ordinary shares of 100 Taels each, all issued & fully paid. Directors: W. Alsberg, Esq. (chairman); C. Feanrenand, Esq.; E. P. Allen, Esq.; Chen Chi-i, Esq.; Li Han Tien, Esq.; Ma-yu-ching, Esq. Electrical engineers, M. Fechner & C. Hurbner; manager, Curt Lorenz. Dividends: 1908, 2 per cent.
Petersen, V., telegraph engineer, superintendent Imperial Chinese Telegraphs, Peking.
Petley, H. W., electrical engineering, Hong Kong Electric Co., Hong Kong.
Porter, E. E., M.I.E.E., electrical engineer, 14, Canton-rd., Shanghai. (Telegs.: "Electrical." Tel. No. 570.)
Porter, E. E., & Co., Ltd., electrical engineers, contractors & commission agents, 14, Canton-rd., Shanghai. (Telegs.: "Electrical, Shanghai." Teleph. No. 570.)
Proust, Geo., chief engineer, French Municipal Electricity Works, Tientsin.
Pyper, W. J. S., A.I.E.E., Imperial Maritime Customs, Station Manchuria, Siberian Frontier N., Manchuria.
Quennell, Capt. A. W., A.O.D., A.I.E.E., Ordnance Office, Hong Kong.
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Rocha, A. C., acting superintendent Eastern Extension Telegraph Co., Macao.
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Runacher, J., resident engineer, Usine Électrique Française, Tientsin.
Saunders, R. J., supervisor, Eastern Extension Telegraph Co., Chefoo.
Schiller & Co., electrical agents, 36, Szechuen-rd., Shanghai. (Telegs.: "Juvenile, Shanghai.")
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Schroeder, W. E., superintendent, Great Northern Telegraph Co., Ltd., Shanghai.
Scott Harding & Co., electrical & mechanical engineers, 6, Peking-rd., Shanghai. (Telegs.: "Scothar, Shanghai.") Engineer, K. Watson.
Sellick, S. S., A.M.I.E.E., c/o Ward, Probst & Co., 10, Nankin-rd., Shanghai.
Shanghai Dock & Engineering Co., Ltd., engineers & shipbuilders, 26, Broadway, Old Dock, Shanghai. (Telegs.: "Farnham, Shanghai.")
Shanghai Electric & Asbestos Co., Ltd., 11A, Nanking-rd., Shanghai. (Telegs.: "Ohm, Shanghai." Teleph. Nos. 286 & 1196.) J. Frost, A.M.I.E.E., managing director.
Shanghai Municipal Council, Electricity Department, Shanghai. Engineer, T. H. U. Aldridge, M.I.E.E.
Shanghai Mutual Telephone Co., Ltd., Hankow-rd., Shanghai. G. L. Oberg, secretary & general manager.
Shewan, Tomes & Co., civil, mechanical & electrical engineers, Hong Kong; Canton; Shanghai; Tientsin; Kobe; New York & London.
Siemens-Schuckertwerke, 16, Kiukiang-rd., Shanghai. Branch offices at Tsingtao, Tientsin & Hankow. (Telegs.: "Motor." Lieber's & A1 Codes. Teleph. No. 1427.)
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Tientsin French Municipal Electricity Works, Tientsin. Chief engr., Geo. Proust; res. engr., Pierre Carmoy.
Tientsin Gas & Electric Light Co., Ltd., Bruce-rd., Tientsin. Chief engineer, G. Paton, A.M.I.M.E.
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Tsingtauer Industrie u. Handels Ges., electrical agents, &c., Kiaochau.
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Woo, K. B., superintendent, Imperial Chinese Telegraphs, Foochow.
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Cochin China.

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Cocos Island.

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Swan, W., superintendent, Eastern Extension Telegraph Co.
Young, W. R., superintendent, Eastern Extension Telegraph Co.

Federated Malay States.

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Jansz, C. A., inspector of posts & telegraphs, Selangor.
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Kuala Lumpur Electricity Works, Kuala Lumpur. (Teleph. Nos.: 16, Generating Station; & 163, Office.) Engineers-in-charge, J. C. M. Matthews, A.M.I.E.E., & D. Kelleway; electrician, L. V. Fox.
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Tate, W. H., & Co., engineers, Perak.

French Indo-China.

Bert, M., chief engineer, Société Indo-Chinoise d'Electricité, Haiphong, Tonkin.

Bouzard, —, inspector of Telegraphs, Tonkin.

Brien, Joseph, director of Posts & Telegraphs & Chief of Service, Hanoi, Tonkin.

Charrière & Cie., importers, Haiphong, Tonkin.

Hollard, L., inspector of telegraphs, Hanoi, Tonkin.

L'Union Commerciale, importers, Hanoi, Tonkin.

Reeves, E. R., acting superintendent, Eastern Extension Telegraph Co., Haiphong, Tonkin.

Société Bordelaise, importers, Haiphong, Tonkin.

Société d'Electricité, Hanoi, Tonkin.

Société Foncier de l'Indo Chine, Hanoi, Tonquin.

Société Indo-Chinoise d'Electricité, Haiphong, Tonkin. Chief engineer, Veyrenc; electricians, Perrin, Masse.

Vialet, Inspector & Director-General, Posts & Telegraphs of Indo-China, Hanoi, Tonkin.

India.

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Ahmuty & Co., general engineers, machinery agents, &c., Church-lane, Calcutta.

Alcock, Ashdown & Co., Ltd., engineers & iron founders, Defence Works, Mazagon, Bombay.

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Alexander, G. F. L., electrical engineer, Balmer, Lawrie & Co., 103, Clive-st., Calcutta.

Alexander, R. D. T., A.M.I.E.E., electrical engineer, Magda-Muttra State Railway, Kotah, Rajputana.

Allahabad Electricity Works, Allahabad. Engineer, H. J. Callaghan.

Allen, W. P., chief engineer & acting manager, Calcutta Tramways Co., Ltd., Calcutta.

Ammen, Walter, electrical engineer, Siemens Bros. Dynamo Works, Ltd., 12, Dalhousie-sq. East, Calcutta. (P.O. Box 224.)

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Babington, C. D. de V., superintendent, 2nd grade, Indian Telegraph Department (*on combined leave*).

Babington, S., superintendent, 2nd grade, Indian Telegraph Department, Barrackpore.

Bagshawe, E. L., assistant superintendent, 1st grade, Indian Telegraph Department, Akyab.

Balaji, Baganna, M.I.E.E., electrical engineer to H.H. the Maharajah, Baroda.

Ballantyne, J. W., sub-assistant supt., Indian Govt. Telegraphs, Southern Shan States, Taunggyi, Upper Burma.

Balmer, Lawrie & Co., contractors for complete electric light & power installations, P.O. Box 4, Calcutta.

Baltye, B. C., Lieut. R.E., A.I.E.E., c/o Cox & Co., 8, Hornby-rd., Bombay.

Banerji, Durgadass, M.A., A.I.E.E., asst. supt., 1st grade, Indian Telegraph Department, Mozuffarpur.

Bangalore Power & Lighting Scheme, Bangalore. Mysore Government, proprietors. Engineer, H. P. Gibbs, M.I.E.E., M.AM.I.E.E.; G. R. Narasimha Iyengar, superintendent.

Bannerjee, A. C., assistant superintendent, 2nd grade, Indian Telegraph Department (*on combined leave*).

Barrackpore Electric Supply Co., Ltd., Barrackpore, Calcutta. (Telegs.: "Tasconium, Calcutta.") Registered 1906. Nominal capital: Rs. 1,00,000 in Rs. 100 ordinary shares, all issued & fully paid. Managing agents, Kilburn & Co.; station engineer, L. H. B. Sandwell; electrician, R. Leech.

Barry & Co., engineers, 5, Lyons Range, Calcutta.

Baxter, E. H. B., sub-assistant superintendent of Indian Government telegraphs, Pokokku, Upper Burma.

Baylay, F., Major, R.E., A.I.E.E., c/o Director-General of Military Works, Simla.

Beales, R. N. W., assistant manager, Electrical Dept., Oriental Telephone & Electric Co., Ltd., Rangoon.

Beaver, G. H., electrical engineer, 285, Bois Bazaar-st., Calcutta.

Bellamy, L. C. F., assistant manager, Rangoon Electric Tramway & Supply Co., Ltd., Rangoon.

Bellihomji, Jehangir N., A.I.E.E., c/o Tata & Sons, Navsari-bldgs., Hornby-rd., Fort, Bombay.

Bengal Government Public Works Division, Calcutta (April, 1909). Executive engineer, Electrical Division, A. K. Taylor. (Telegs.: "Executive Electrical, Calcutta.")

Bengal-Nagpur Railway Co., Loco & Carriage Workshops, Khargpur. Electrical engineer, E. Stanley Franklin, M.I.E.E., M.I.MECH.E.

India—*continued.*

Bengal Telephone Co., Ltd., Calcutta. J. B. Saunders, gen. manager. (Telegs.: "Oakenpin, Calcutta.")

Berrie, J. G., assistant superintendent, 1st grade, Indian Telegraph Department, Quetta.

Berrington, T. D., M.I.E.E., Director-General of Telegraphs, Calcutta & Simla.

Bevenue-Miller, E. D., A.M.AM.I.E.E., A.I.E.E., Turner Hoare & Co., Bombay.

Bhaumik, H. P., assistant superintendent, 4th grade, Indian Telegraph Department, Chittagong.

Bikanir State Electricity Works, Bikanir. Engineer, G. R. Drummond.

Bird & Co., engineers & agents, 101-1, Clive-st., Calcutta.

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Black, G. M. C., A.M.I.E.E., Derby Tea Co., Derby P.O., Carhar.

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Bombay Electric Supply & Tramways Co., Ltd., Colaba Causeway (P.O. Box 192), Bombay. Managing engineer, A. T. Cooper, M.I.E.E., M.I.MECH.E., M.AM.I.E.E.

Bombay Telephone Co., Ltd., Telephone-bldgs., Bombay. R. Ellis, secretary; C. Robinson, manager. (Telegs.: "Oakenpin, Bombay.")

Bombay University, Mayo-rd., Bombay. *See* SCHOOLS.

Bonnett, Chas., A.M.I.E.E., c/o F. & C. Osler, Bombay.

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Bose, L. C., engineer, Electricity Works, Srinagar, Kashmir.

Bose, Prof. J. C., electrician & professor of physics, Presidency College, Calcutta.

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Bradbury, Brady & Co., electrical agents & machinery importers, Royal Insurance-bldg., Bombay. (Telegs.: "Brad, Bombay." Teleph. Nos. 192, 27 & 306.)

Bradshaw, J. P., electrical engineer, Callender's Cable & Construction Co., Ltd., Bombay.

Brett, W. P., Lieut.-Col., R.E., A.M.I.E.E., Jhansi.

Brokenshaw, A., assistant superintendent, 4th grade, Indian Telegraph Department (*on leave*).

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Bulloch Bros. & Co., Ltd., engineers & iron founders, Rangoon, Burma. (Telegrams: "Bulloch, Rangoon.")

Burlingham, G., assistant superintendent, 3rd grade, Indian Telegraph Department, Vizagapatam.

Burma Electric Tramways & Lighting Co., Ltd., Mandalay, Burma. Manager, A. C. Morgan; engineer, E. J. Aldworth.

Burn & Co., Ltd., civil, mechanical & electrical engineers. Head office: 7, Hastings-st., Calcutta. Iron Works: Howrah. Home agents: John Spencer, 121, West George-st., Glasgow; & T. F. Craddock, 7, East India-ave., Leadenhall-st., London, E.C.

Cahoon, D. G., local manager, Oriental Telephone & Electric Co., Ltd., Moulmein, Burma.

Calcutta Electric Supply Corp., Ltd., 8, Dalhousie-sq., Calcutta. (Telegs.: "Cotyliform, Calcutta." P.O. Box 304. Teleph. No. 677, Calcutta.) Engineer, S. G. L. Eustace, A.M.I.E.E.

Calcutta Tramways Co., Ltd., Calcutta. Manager, T. E. Pallant; chief engineer, W. P. Allen.

Calcutta University, Calcutta. *See* SCHOOLS.

Callaghan, H. J., mechanical & electrical engineer in charge of power station, First Allahabad Division, P.W.D., 12, Albert-rd., Allahabad.

Callender's Cable & Construction Co., Ltd., Killick-bldg., Fort Bombay. (Telegs.: "Califate, Bombay." Teleph. No. 361); & 5, Mangoe-la., Calcutta. (Telegs.: "Califate, Calcutta." Teleph. No. 800.)

Calvert, R. C. M., assistant chief electrical engineer to the Government of Mysore, Bangalore.

Cameron, J. G. P., assistant superintendent, 4th grade, Indian Telegraph Department, Port Blair.

Cantwell & Co., consulting engineers & international patent agents, 14, Lindsay-st., Calcutta. (Telegrams: "Cantwell, Calcutta.")

Cardew, J. H., Government electrical inspector, Madras.

Cauvery Falls Electric Power Works, Sivasamudram, Mysore. Chief engineer, H. P. Gibbs.

Chappel, H. E., superintendent, 1st grade, Indian Telegraph Department, Rangoon.

Chatterjee, A. C., assistant superintendent, 4th grade, Indian Telegraph Department, Akyab, Burma.

Chrestien, F. F., & Co., mica merchants & mine owners, Tisri, viâ Giridih, Bengal; Calcutta & London. Mines in Hazaribagh, Gya & Monghyr. (Telegs.: "Chrestien, Giridih.")

Civil Engineering College, Seebpore, Howrah, Bengal. *See* SCHOOLS.

Clark, G. V., assistant engineer, Municipality, Rangoon.

Cole, G. W., chief engineer, K. W. H. P. Co., Munaar.

College of Engineering, Madras. *See* SCHOOLS.

India—*continued.*

College of Science, Poona. *See* SCHOOLS.

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Crawford, M. N., assistant superintendent, 3rd grade, Indian Telegraph Department, Simla.

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Crosbie, C. W., A.M.I.E.E., c/o J. N. Crosbie, O. & R. State Railway, Roorkee.

Cuninghame, Jas., A.M.I.E.E., E. D. Sassoon & Co.'s Mills, Bombay.

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Dacca Electricity Works, Dacca, Bengal. Chief engineer, I. Scott Mackenzie, B.E., A.M.I.E.E.; second engineer, D. H. Kerr.

Darjeeling Municipal Electricity Supply Station, Darjeeling. (Telegs.: "Kukri, Darjeeling.") Engineer, G. P. Robertson.

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Delhi Electric Tramways & Lighting Co., Ltd., Delhi. J. G. Griffin, A.M.I.E.E., resident engineer & general manager. (Telegs.: "Tramways, Delhi.")

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Dempster, F. E., C.I.E., M.I.E.E., Deputy Director-General of Telegraphs, Simla.

De Penning & De Penning, patent agents, 19, Watkins-lane, Howrah, Calcutta. (Telegs.: "Depend.")

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Oki & Co., electrical agents & contractors, 19, Shinsakana-cho, Kyobashi, Tokyo (Telegs.: "Oki, Tokyo." Tel. Shimbashi Nos. 39, 99, 135, 2157); & 154, Sonezaki, Kitaku, Osaka. (Tel. East No. 10.)
Okitsu, Y., chief engineer, Hyogo-Akashi Electric Railway, Hyogo.
Onishi, T., electrical engineer, Toyohashi Electric Light Co., Ltd., Toyohashi.
Ono, F., M.E., electrical engineer, Post, Telegraph & Telephone Office, Nagoya.
Ono, S., electrician, Hokkai Electric Co., Sapporo & Hokkaido.
Onomichi Electric Light Co., Ltd., Onomichi. Engineer-in-chief, S. Esawa.
Osaka Electric Light Co., Ltd., electrical engineers & contractors, 5, Chome, Nakanoshima, Osaka. Registered May 1, 1887. Directors: Michio Doi, Esq. (president); Tatsukichi Suganuma, Esq. (managing); K. Kimura, Esq. (chief engr.); Kichibey Noda, Esq.; Nashichi Toda, Esq. Nominal capital: 7,200,600 yen. Issued: 600,000 yen. Dividends: 1907, 15 per cent.; 1908, 15·5 per cent.; & first half of 1909, 16 per cent. Engineers, K. Kimura, S. Kitaura, H. Oshime, S. Hashimoto, C. Sugiyama & S. Muto; & Sakai, engineer, Kinji Uchimura.
Osawa, J., president Kyoto Electric Light Co., Sanjo Kobashi, Kyoto.
Oshima Hydro Electric Power Co., Hakodate. Engineer, I. Otawara.
Ota, K., M.E., electrical engineer, Central Post Office, Osaka.
Ota, K., engineer, Kyoto Electric Light Co., Nakatsu.
Otagawa, Masayuki, M.E., M.I.E.E., 57, Haramachi I'tchome, Ushigomeku, Tokyo.
Otaki, T., engineer-in-chief, Municipal Electric Works, Kyoto.
Otaru Electric Light Co. (proprietor, D. Kurahashi), Otaru. Engineer, S. Saito.
Otawara, I., engineer, Oshima Hydro Electric Power Co., Hakodate.
Otsu, B., electrician, Sapporo Hydro Electric Co., Sapporo & Hokkaido.
Ōtsu Sub-Station, Kyoto Electric Light Co., Ōtsu Shigaken. Engineer, S. Yesawa.
Peterson & Co., Ltd., engineers & ship-repairers, 115, Creekside, Yokohama.
Rastall, W. H., manager, Engineering Department, American Trading Co., 99, Kobe.
Riko, H., M.E., Engineering Bureau, Ministry of Communications, Tokio.
Robertson, Herbert, A.M.I.E.E., A.M.I.MECH.E., c/o E. H. Hunter & Co., 14, Honden Nibancho Nishiku, Osaka.

Japan—*continued.*

Sakai, K., electrician, Yonezawa Suiryoku denki Kaisha, Yonezawa, Yamagataken.
Sakaida, K., engineer, Municipal Electric Works, Kyoto.
Sale & Frazar, Ltd., general merchants & engineers, P.O. Box 263, Yokohama (Teleph. No. 25); No. 46, Kobe; & Marunouchi, Tokio.
Samuel, Samuel, & Co., Ltd., electrical & general engineering merchants, 6 & 7, Takiyama-cho, Kyobashi-Ku, Tokio. (Teleph. No. 804, Shimbashi.) Branches: Yokohama, Osaka, Kobe, Shimonoseki & Formosa. (Cable address for all offices: "Orgomanes.")
Sanyo Railway Co., Kobe. Chief engineer, H. Iwasaki; electrician, T. Okamoto.
Sato, M., engineer, Government Telegraphs, Sendai.
Saunderson, P. S., A.M.I.E.E., c/o Siemens-Schuckert Denki Kabushiki Kaisha, 48, Tsukiji, Tokio.
Schaeffer, E., manager, Takata & Co., Tokyo.
Schultz, Chas. Stafford, M.I.E.E., Dick, Kerr & Co., Ltd., 3, Itchome, Uchisaiwaicho, Koyimachiku, Tokyo.
Science & Engineering College, Imperial University, Kyoto.
Seki, Hokato, electrical engineer, Post Office, Kagoshima.
Seki, Kahachiro, engineer, Hakata Electric Light Co., Fukuoka.
Sekiguchi, H., electrical engineer, Imperial Department of Communications, Tokyo.
Sekizawa, M., engineer, Yokohama Union Electric Light Co., Yokohama.
Sekoguchi, S. G., engineer, Ise Electric Railway Co., Yamada, Ise.
Sendai Electric Light Co., Sendai. Engineer, S. Kawamura.
Shaw, Francis S., A.M.I.E.E., electrical engineer & manager, L. J. Healing & Co., Kobe. (Tel. No. 719.)
Shejiro, Ito, electrician, Miyagi Boseki Dento Kabushiki Kaisha, Sendai.
Shiba Sub-Station, Tokyo Electric Light Co., Tamachi, Shiba-ku, Tokyo.
Shibahara, K., electrical apparatus manufacturer, Moto Kagomachi, Nagasaki.
Shibaura Engineering Works, Shibaura, Shibaku, Tokyo.
Shimomura, K., director of Post & Telegraph Department, Yokohama.
Shingu Electric Light Co., Shingu. Engineer, K. Oyama.
Shinjo, Y., DR.S., M.E., A.AM.I.E.E., electrical engineer, Tokyo Electric Co., Tokyo.
Shirai, S., electrician, Kyoto Electric Light Co., Kyoto.
Shishido, S., director of Imperial Post Office, Osaka.
Shiznoka Electric Light Co., Ltd., Shiznoka.
Siemens-Schuckert Denki Kabushi Kaisha, 48, Tsukiji, Tokio. (Telegs.: "Siemens, Tokio." Teleph. No. 744, Shimbashi); & 50, Ichome Yedobori, Minamidori Nishiku, Osaka. (Telegs.: "Siemens, Osaka." Teleph. No. 1631, Nishi, L. d.)
Sokurai, N., chief engineer, Moji Electric Light Co., Moji.
Stone, W. H., F.I.I., M.I.E.E., Ministry of Communications, Tokyo.
Sugino, B., electrical engineer, Takata & Co., Tokyo.
Sumitomo Bessi Copper Mine. Engineer, K. Nogami.
Tada, K., M.E., A.AM.I.E.E., electrical engineer, Municipal Electric Works, Kyoto.
Takagi, B., director of the Kyoto Electric Traction Co., Kyoto.
Takahashi, K., engineer, Yokohama Union Electric Light Co., Yokohama.
Takano, S., chief electrical engineer, Engineering Department of Kumamoto Post Office, Kumamoto.
Takata, J., M.E., electrical engineer, Central Post Office, Osaka.
Takata, Y., M.E., electrical engineer, Central Post Office, Osaka.
Takata & Co., electrical agents, 1, Yurakucho, 1 Chome, Kojimachi-ku, Tokio; also at Osaka & Yokohama.
Takatoruj, I., electrician, Kyoto Electric Light Co., Nakatsu.
Tamaki, Bentaro, M.E., M.I.E.E., electrical engineer, Imperial Government Railways, Tokyo.
Tanabe, J., B.S., chief electrical engineer, Hiroshima Water Electric Power Co., Hiroshima.
Tanaka, H., manager Kyoto Electric Light Co., Kyoto.
Tanaka, Jiu Kuma, A.M.I.E.E., c/o Takata & Co., Turakucho, 1 Chome, Kojimachi-ku, Tokio.
Tanaka, H. S., & Co., electrical agents & contractors, Minami Kinrokucho, Shimbashi, Tokyo. (Telegs.: "Tanaka, Tokyo." Teleph. Nos. 38 & 3532, Shimbashi.)
Tanakadate, Dr. A., professor of physics, Imperial University, Tokyo.
Tetsuka, H., electrician, Hanshin Electric Railway Co., Amagasaki; & Mikage.
Toko, I., electrician, Hokkai Electric Co., Sapporo & Hokkaido.
Tokushima Electric Light Co., Tokushima.
Tokyo Electric Co., Ltd. (president, I. Fujioka), 2, Mita Shikokumachi, Shiba-ku, Tokyo. (Telegs.: "Fiyioka, Tokyo." A.B.C. & A1 Codes used. Teleph. No. 1519, Shimbashi.)
Tokyo Electric Light Co., 3, Yūraku-cho Sanchome, Kojimachi-Ku, Tokyo. (Telegs.: "Dento, Tokyo." Teleph. Nos. 160, 190, 210, 430, 1200 & 2000, Honkyoku.) Chief engineer, I. Nakahara.
Tokyo Higher Technical School, Kuramaye, Tokyo.
Tokyo Imperial University, Hongo, Tokyo. *See* SCHOOLS.
Tokyo Railway Co., 3, Urakucho Sanchome Koymachi, Tokyo.
Tonegawa, M., M.E., electrical engineer, Department of Communications, Tokyo.
Toragoro, Kondo, DR.E.C.E., engineer, Engineering Bureau of Home Office, 2, Ote machi, Itchome, Tokyo.

Japan—*continued.*

Tosa Electric Railway Co., Konchi. (Telegs.: "Toten, Kochi." Teleph. No. 11.)
Toyama Electric Co., Toyama. Engineer, K. Yanagita; electrician, R. Ishizu.
Toyohashi Electric Light Co., Ltd., Toyohashi. Engineer, S. Hashizume.
Tsuboi, M., M.E., M.I.E.E., electrical engineer, Nippon Railway Co., Tokyo.
Tsuchiya, M., superintendent of Telegraph Department, Imperial Post Office, Kobe.
Tsuda, Mrs. A., electric wire maker, Toiyamachi Shômen, Kyoto.
Uchimura, Kinji, engineer, Osaka Electric Light Co., 2-cho, Ringin-bashi-dori, Sakai.
Uji River Electric Co., Ltd. Main office: Hichiijo, Kyoto. Chief engineer, Isoji Ishiguro; electrician, Juki Kobori.
Urata Shiurjiro, M.E., telegraph engineer, Imperial Telegraphs, Tokyo.
Uyeno, K., manager, Union Electric Light Co., 9, Tokiwa-cho Ichome, Yokohama.
Wadachi, Y., M.E., managing director Nagoya Electric Light Co., Nagoya.
Wakamatsu Electric Light Co., Wakamatsu.
Wakayama Hydro Electric Co., Wakayama. Engineer, R. Iwasawa.
Watanabe, E., M.E., second engineer, Post & Telegraph Office, Supporo.
Watanabe, F., electrical engineer, Government Post Office, Tokyo.
Weinberger, C., & Co., importers of electrical supplies, 1, Ikuta-maye, Kobe. (Telegrams: "Weinberger, Kobe." Telephone No. 1150.)
Yabuuchi, K., director of Imperial Post & Telegraph Office, Nagasaki.
Yamada, M., M.E., electrician, Branch Purchasing Office of Communication Department, Osaka.
Yamada, Y., electrician, Hokkai Electric Co., Sapporo & Hokkaido.
Yamakawa, Gitaro, M.E., DR.E., professor of electrical engineering, Imperial University, Tokyo.
Yamaki, Y., M.E., electrical engineer, Tokyo Railway Co., Tokyo.
Yamazaki, Shiro, A.AM.I.E.E., consulting engineer, 116, Honmura-Cho, Trabu-Kir, Tokyo.
Yanagita, K., engineer, Toyama Electric Co., Toyama.
Yenya, Teijiro, electrical engineer-in-charge of the Telegraph & Telephone Works & chief electrical engineer of the Electrical Engineering Department, Post Office, Hiroshima.
Yogoro Soda, importers of electrical goods, Kamidori Nichome Kyomachobori, Nishi-ku, Osaka.
Yokohama Electric Tramway Co., Yokohama. Engineer, T. Miyaguchi.
Yokohama Electric Wire Co., Ltd., 19, Takashimacho, Ku-chome, Yokohama.
Yokohama Union Electric Light Co., Yokohama. Engineer, K. Takahashi.
Yokosuka Electric Light Co., Yokosuka. Engineer, Y. Furukana.
Yonezawa Suiryoku Denki Kaisha, Electric Light & Power Station, Yonezawa, Yamagataken. Engineer, M. Shibuya.
Yoshida, J., engineer, Korizama Silk Spinning Co., Ltd., Korizama, Fakushimaken.
Yoshida, J., engineer, Miyagi Boseki Dento Kabushiki Kaisha, Sendai.
Yoshida, M., M.I.E.E., 102, Minamicho Kokuckome, Aoyama, Tokyo.
Yoshihiko, Takata, E.E., Post Office, Osaka.
Yoshimura Shokwai, importers of electrical goods, Saioji-cho.
Yoshino, D., M.E., electrical engineer, Bōsō Railway Co., Chibamachi, Chibaken.
Yukawa, K., director-general of Imperial Government Posts & Telegraphs, Tokyo.

Java.

Baints, S. W., manager, Intercommunale Telefoon Maatschappij, Batavia.
Bandoeng'sche Electricitets Maatschappy, Bandoeng.
Batavia Electrische Tram-Maatschappij, Batavia. (Telegs.: "Baeltram." Local Teleph. No. 767.)
Becker & Co., electric light contractors, Sourabaya.
Bletterman, V. E., inspector, Postal & Telegraph Service, Weltevreden.
Blitar Telefoon Maatschappij, Blitar.
Braat & Co., electricians, Boomstraat, Sourabaya.
Cheribonsche Telephon Maatschappy, Cheribon.
Cordesius, M., chief railway electrician, Sourabaya.
De Graaf, J., electrician, Post & Telegraph Office, Weltevreden.
Gelpke, A. A. A. Sollewyn, inspector, Postal & Telegraph Service, Batavia.
Grundel, J., consulting engineer & agent for electrical machinery, Sourabaya. (Telegs.: "Grundel.")
Heinzelmann, N., director of Government Telephones, Batavia.
Hekking & Co., electric light contractors, Sourabaya.
Hendry, J. C., superintendent, Eastern Extension Telegraph Co., Banjoewangie.
Hermsen, D., electrician, Probolingo.
Jansen, W. P. S., divisional inspector of Dutch Indian Government Telegraphs, Batavia.
Japara Telefoon Maatschappij, Japara. F. F. G. Muschter, manager.
Kediri Telefoon Maatschappij, Kediri. L. M. Tijl, jun., manager.
Kraksaan Telephone Co., Probolinggo.
Loriaux, J. C., dealer in electrical supplies, Batavia.

Java—*continued.*

Lutz, A. J., electrician, Kon. Paketvaart Co., Batavia.
Maatschappy "De Vlyt," electrical & mechanical engineers, Semarang. (Telegs.: "Vlyt, Semarang." Teleph. Nos. 79 & 98.)
Maatschappy tot voortzetting der zaken van van der Linde & Teves, engineers & electricians & dealers in electrical stores, Sourabaya & Semarang. (Telegs.: "Lindeteves, Sourabaya.")
Maintz & Co., electrical agents, Batavia, Semarang & Sourabaya.
Malang en Loemadjang Telefoon Mty., Malang.
Nolst Trenité, F. (R. Neth. N.), electrical engineer, Batavia.
Onnen, Dr. S. R. J., manager, Batavia Elektrische Tram-Maatschappij, Batavia.
Pekalongansche Telephoon Maatschappy, Pekalonga.
Pownall, C. H., telephone concessionaire, Banjoewangi.
Preanger Telefoon Maatschappij, Bandoeng.
Royal Institution of Engineers, Netherlands Indian Section, Batavia.
Senstius, Ch., electrician, Soerakarta.
Solo Electriciteits Maatschappij, electric light contractors, Solo; & Sverakarta.
Solo'sche Electriciteits Maatschappy, Sverakarta.
Sprong, M. A. Van der, inspector, Dutch-Indian Government Posts & Telegraphs, Sourabaya.
Stieltjes, J. J., chief inspector, Neth. Ind. Post & Telegraph Service, Batavia.
Tegalsche Telefoon Maatschappij, Tegal. J. Th. Hesselberg, president.
Telefoon Maatschappy der Vorstenlanden Semarang, Soerakarta & Djokja-Karta.
Tours, J. D., telegraph engineer, Post & Telegraph Office, Weltevreden.
Van der Goot, F., engineer-in-chief, Post & Telegraph Office, Weltevreden.
Van Kuyk, J. G., telegraph engineer, Post & Telegraph Office, Weltevreden.
Viehs, F., electrician, Malang.
Wren, George G., superintendent & representative in Netherlands India, Eastern Extension Telegraph Co., Batavia.

Korea.

American Korean Electric Co., Seoul.
Bostwick, H. R., vice-president American Korean Electric Co., Seoul.
Chemulpo Electric Co., Ltd., Chemulpo. (Teleph. No. 224.) Engineer, R. Ogawa, M.E.
Collbran, H., general manager, American Korean Electric Co., Seoul.
English, H. G., superintendent electrician, American Korean Electric Railway, Seoul.
Ikeda, J., Director-General of Posts, Telegraphs & Telephones of the Residency General, Seoul.
McLellan, R. A., chief engineer, The American Korean Electric Co., Seoul.
Meyer, E., Co., agents for Siemens & Halske, & Felten & Guilleaume, manufacturers of marine cables, &c., Chemulpo. (Telegs.: "Barbarossa, Chemulpo.")
Morris, J. H., assistant manager American Korean Electric Railway, Seoul.
Mukden Electricity Works, Mukden. Proprietors, Imperial Chinese Government. Engr., F. B. Rigby.
Ogawa, R., M.E., engineer, The Chemulpo Electric Co., Ltd., Chemulpo.
Okamoto, Keijiro, M.E., electrical engineer-in-chief of the Post Office, Seoul.
Ouriu, S., director of Japanese posts & telegraphs, Fusan.
Rigby, F. B., engineer, Imperial Chinese Government Electricity Works, Mukden.
Sakai, S., electrical engineer of the Post Office, Seoul.
Siemens-Schuckert Kankoku Denki Gomei Kaisha, Chemulpo, Korea (Telegs.: "Siemens, Chemulpo"); also at 48, Tsukiji, Tokio, Japan. (Telegs.: "Siemens, Tokyo." Teleph. No. 744, Shimbashi.)
Tadaharu, U., telegraph engineer, Central Department of Posts & Telegraphs, Seoul.

Labuan.

Young, W. R., superintendent, Eastern Extension Telegraph Co.

Perim Island.

Caine, G. W., superintendent, Eastern Telegraph Co.

Persia.

Baggaley, H., assistant superintendent, Persian Telegraph Section, Indo-European Telegraph Dept.
Barker, R. C., C.I.E., M.I.E.E., director Persian Section, Indo-European Telegraph Department, Teheran.
Campbell, R. C., engineer & electrician, Indo-European Telegraph Department, Persian Gulf Section.
Capstick, E., assistant superintendent, Indo-European Telegraph Department, Persian Gulf Section.
Evans, F. G., assistant superintendent, Persian Section, Indo-European Telegraph Department.
Jones, F. H., chief engineer, I.G.T.S. "Patrick Stewart," Persian Gulf Section, Indo-European Telegraph Department.
Kelly, J. H. C., superintendent, Indo-European Government Telegraph Dept., Persian Gulf Section.
King-Wood, W., C.I.E., superintendent, Indo-European Telegraph Department, Persian Gulf Section.
MunGavin, George W., superintendent, Indo-European Telegraph Department, Persian Gulf Section.

Persia—*continued.*

O'Maley, J. A., 2nd officer, I.G.T.S. *Patrick Stewart*, Persian Gulf Section, Indo-European Telegraph Department.
Smith, H. Whitby, director, Persian Gulf Section, Indo-European Telegraph Department.
Stainton, B. W., assistant superintendent, Indo-European Telegraph Department, Persian Section.
Tanner, J. W., assistant superintendent, Persian Section, Indo-European Telegraph Department.
Tebbutt, T. F., A.I.E.E., assistant superintendent, Indo-European Telegraph Dept., Persian Gulf Section.
Tindall, W. A., commander I.G.T.S. *Patrick Stewart*, Persian Gulf Section, Indo-European Telegraph Department.
Townsend, F. W., first officer, I.G.T.S. *Patrick Stewart*, Persian Gulf Section, Indo-European Telegraph Dept.
Twells, J. O., assistant superintendent, Persian Gulf Section, Indo-European Telegraph Department.
Wartenby, J., assistant superintendent, Indo-European Telegraph Department, Persian Section.
Wilson, S. Newcome, A.M.I.E.E., assistant superintendent, Indo-European Government Telegraphs, Persian Gulf Section.

Philippine Islands.

Belden, H. A., representative J. G. White & Co., Manila.
Cebu Telephone Co., 8, calle Legaspi, Cebu.
Crane, T. C., superintendent, Eastern Extension Telegraph Co., Iloilo.
Desnouée, E., superintendent, Commercial Pacific Cable Co., Manila.
Farrant, D. A. G. de Horsey, A.M.I.E.E., Cebu.
Grant, L. T., A.M.AM.I.E.E., consulting engineer, Manila.
Jones, H. W., superintendent Eastern Extension Australasia & China Telegraph Co., Ltd., Manila.
Iloilo Electric Co., Iloilo (Panay).
Kerr, F., Eastern Extension Telegraph Co., Manila.
Loader, J. F., A.M.I.E.E., F. Wilson & Co., Manila.
Manila Electric Railroad & Light Co., electric light contractors, Manila. (Telegs.: "Meralco, Manila.")
McGeachin, W. R., A.AM.I.E.E., engineer, Manila Electric Railroad & Light Co., Manila.
Millis, John, M.AM.I.E.E., major of Engineers, U.S.A., Manila.
Perez, Marcial, A.M.AM.I.E.E., Manila Electric Railroad & Light Co., Manila.
Philippine Island Telephone & Telegraph Co., Manila.
Reber, Samuel, M.AM.I.E.E., Lieut.-Colonel U.S.A., Headquarters Div. of Phil., Manila.
Sidler, A., consulting engineer, Germann & Co., Ltd., electrical engineers & agents, 3, Pasage de Perez Manila.
Thompson, F. H., electrical engineer, 76, Escolta, Manila.
Visayan Electric Co., Cebu.

Siam.

Aage Westenholz, general manager Siam Electricity Co., Ltd., Bangkok.
Aitchison, John, A.M.I.E.E., electrical engineer, Bangkok Dock Co., Bangkok.
Brask, A., electrical engineer, Siam Electricity Co., Bangkok.
Burgis, E. S., electrical engineer, Howarth Erskine, Ltd., Bangkok.
Collmann, Th., *ad interim* Director-General of Posts & Telegraphs, Bangkok.
Diemer-Hansen, L., A.I.E.E., A.AM.I.E.E., chief electrical engineer, Siam Electricity Co., Ltd., Bangkok. (Telegs.: "Gaelic, Bangkok.")
Drewett, Geo. Herbert Sands, A.M.I.E.E., c/o Bangkok Dock Co., Ltd., Bangkok.
Khoon, Banharn, inspector of posts & telegraphs, Korat, Bangkok.
Lobeek, R., telegraph inspector, Royal Railway Department, Bangkok.
Osgood, E. P., electrical engineer, Sanitary Department, Bangkok.
Shaw, F. B., A.M.I.C.E., electrical engineer, Public Works Department, Bangkok.
Siam Electricity Co., Ltd., Bangkok. (Telegs.: "Gaelic, Bangkok.") Electrician, L. Diemer-Hansen.
Siamese Tramway Co., Ltd., Bangkok.
Sund, P., engineer, Siam Electricity Co., Bangkok.

Siberia.

Due Boje, S. T., acting controller, Great Northern Telegraph Co., Ltd., Kiachta.
Kalmberg, C. C., superintendent, Great Northern Telegraph Co., Ltd., Wladiwostock.
Mortensen, V. H. G., electrician, Great Northern Telegraph Co., Ltd., Wladiwostock.
Munck, H. C. C. S., superintendent, Great Northern Telegraph Co., Ltd., Irkutsk.

Straits Settlements.

Allan & Irving, electrical & general engineers, 31, Beach-st., Penang.
Almeida & Co., consulting engineers & auctioneers, 2, Malacca-st., Singapore.
Anderson & Co., engineers & machinery agents, 5, Battery-rd., Singapore.

Straits Settlements—*continued.*

Association of Engineers, Dispensary-bldg., Singapore. (G. A. Watt, hon. sec.) (Telegs.: "Engine, Singapore." Teleph. No. 114.)

Barnett, C. W., consulting engineer, Logans'-bldgs., Beach-st., Penang.

Barnett & Stark, consulting engineers, Beach-st., Penang.

Benton, F. J., A.I.E.E., Eastern Extension Telegraph Co., Singapore.

Bicker-Caarten, H. H., A.I.E.E., c/o Syme & Co., Singapore.

Brooks, H., electrical engineer, c/o Allen & Irving, Penang.

Buckell, C. P., A.I.E.E., superintendent of Government telegraphs & Telephone Exchange, Penang.

Buckland, R. G. S., superintendent, Eastern Extension Telegraph Co., Penang. (Teleph. No. 356.)

Coates, W. H. C., A.M.I.E.E., c/o Siemens Bros. Dynamo Works, Ltd., Beach-st., Penang.

Cox, Frank B., electrical engineer, Howarth Erskine, Ltd., Singapore.

Crawford, C. R., manager of Electrical Department, Allen & Irving, 31, Beach-st., Penang.

Cuff, H. M., electrician, Eastern Extension Telegraph Co., Singapore.

Cuylenburg, C. M. van, A.M.I.E.E., Public Works Department, Singapore.

Darby, J. C. H., A.I.E.E., Eastern Extension Telegraph Co., Singapore (*on furlough*).

Edmonds, H. R., A.I.E.E., Duff Development Co., Kuala Lebir, viâ Singapore.

Engineers' Institute, Leith-st., Penang. Jno. S. Shearer, president; X. R. Drummond, secretary.

Federated Engineering Co., Ltd., 13, Battery-rd., Singapore; Works: High-st. & at Kuala Selangor.

Finnie, W. E., M.I.MECH.E., M.S.E., M.I.S.INST., general manager, Howarth Erskine, Ltd., Singapore.

Fisher & Foster, engineers, Mount Wallich, Anson-rd., Singapore.

Fitzgerald, T., assistant superintendent, Posts & Telegraphs, Selangor & Kuala Lumpur.

Gahagan, A. Y., A.I.E.E., manager, Straits District, Eastern Extension Telegraph Co., Singapore.

Gallinagh, J. P., electrical engineer, Singapore.

Garratt, J. H., M.I.E.E., M.I.M.E., chief engineer & general manager Singapore Electric Tramways, Ltd., Singapore.

George, F. J., assistant superintendent, Eastern Extension Telegraph Co., Penang.

George Town Municipal Electricity Works, Penang. Engineer, O. V. Thomas. (Telegs.: "Municipal.")

Gibbs, P. H., agent for the Oriental Telephone & Electric Co., Ltd., Singapore.

Giles, W. H., superintendent, Eastern Extension Australasia & China Telegraph Co., Ltd., Madras.

Hartogh, H. A., electrical engineer & agent, Union Elektricitäts Ges., Singapore.

Haslam, E. S., assistant engineer, Municipal Electricity Supply Department, Penang.

Howarth Erskine, Ltd., electrical engineers & contractors, Singapore; Penang; Ipoh; Kuala Lumpur; Bangkok; Canton; Rangoon; & Hong Kong. (Telegs.: "Erskine.")

Huttenbach Bros. & Co., electrical agents, Beach-st., Penang; & Kuala Lumpur, F.M.S.

Jones, J. H. D., A.I.E.E., electrician, Cable Depôt, Eastern Extension Telegraph Co., Singapore.

Kennedy, W., works manager, Howarth Erskine, Ltd., Singapore.

Knight, W. A. R., A.I.E.E., Eastern Extension Telegraph Co., Malacca.

Large, H. J. C., supervisor, Cable Depôt, Eastern Extension Telegraph Co., Singapore.

Mackail, J. H., A.M.I.E.E., A.M.I.MECH.E., municipal electrical engineer, Singapore. (Teleph. No. 1045.)

McLachlan, J., works superintendent, Riley, Hargreaves & Co., Ltd., Read-st., & 13, Battery-rd., Singapore.

Marsh, F. R., A.M.I.E.E., electrical engineer in the Tanjong Pagar Dock Board, Singapore.

May, S. H., assistant engineer, Municipal Electric Tramways, Penang.

Murray, J. H., electrician, Tanjong Pagar Dock Board, Singapore.

Murray, Colonel The Hon. A., V.D., C.E., M.I.C.E., F.R.C.I., Colonial engineer & Surveyor-General, "Kinloss," Singapore. (Teleph. No. 605.)

Riley, Hargreaves & Co., Ltd., engineers & general contractors, Read-st. & 5, Battery-rd., Singapore (Telegs.: "Hargreaves, Singapore"); & Ipoh & Penang.

Roberts, R. J., A.M.I.E.E., Asiatic Petroleum Co., Winchester House, Singapore.

Robinson, F. H., A.M.I.E.E, power station superintendent, Singapore Electric Tramways, Ltd., Singapore.

Robinson, P. M., A.M.I.E.E., manager, Electrical Department, Riley, Hargreaves & Co., Ltd., Singapore.

Ruddock, M. C., superintendent, Eastern Extension, &c., Telegraph Co., Singapore.

Sadler, Alfred, A.M.I.E.E., c/o Huttenbach Bros. & Co., Penang.

Sentie, A. E., secretary & manager, Howarth Erskine, Ltd., Singapore.

Sharp, W. E., superintending engineer, Howarth Erskine, Ltd., Singapore.

Singapore Electric Tramways, Ltd., Singapore. (Telegs.: "Tramways, Singapore.") General manager & chief engineer, J. H. Garratt, M.I.E.E., M.I.M.E.; power station superintendent, F. H. Robinson, A.M.I.M.E.; electrical engineer, H. G. Wightwick, A.M.I.E.E.

Singapore Foundry, Ltd., civil, mechanical & electrical engineers, Mohamed Sultan-rd., Singapore. (Telegs.: "Hocklikeok, Singapore." A.B.C. Codes, 4th & 5th editions.)

Singapore Municipal Electricity Works, Singapore. Engineer, J. H. Mackail, A.M.I.E.E., A.M.I.MECH.E.

Thomas, G. E. V., A.M.I.E.E., electrical engineer, representative Siemens Bros. Dynamo Works, Singapore.

Thomas, O. V., M.I.E.E., A.M.I.C.E., engineer-in-chief & tramways manager, Municipal Electricity Works & Tramways, Penang.

Straits Settlements—*continued.*

Thornbovow, J., Eastern Extension Telegraph Co., Port Darwin.
Tomlinson, S., M.I.C.E., hydraulic engineer, Singapore. (Telegs.: "Tomlinson." Teleph. No. 300.)
Wakeford, L. T., electrical engineer, Siemens Bros. Dynamo Works, Ltd., Singapore.
Walker, Wilfred, A.M.I.E.E., c/o Siemens Dynamo Works, Ltd., Penang.
Wightwick, H. G., A.M.I.E.E., electrical engineer, Singapore Electric Tramways, Ltd., Singapore.
Wolfe, R. T., superintendent, Eastern Extension Telegraph Co., Singapore.
Young, Robert, consulting engineer, Chamber of Commerce-bldgs., 1, Downing-st., Penang. (Telegs.: "Loco, Penang." Teleph. No. 512.)

Sumatra.

Law, C. C., electrician, Padang.
Medan Electricity Works, Medan. Electriciteit Maatschappij Medan, proprietors. (Telegs.: "Elcetron, Medan." Teleph. No. 253.) Engineer, M. Spÿkerman; electrician, C. Terlet.
Mussell, J. T., superintendent, Eastern Extension Telegraph Co., Medan.
Stewart, W. B. O., superintendent, Eastern Extension Telegraph Co., Medan, Deli.
Spÿkerman, M., engineer, Electriciteit Maatschappij Medan, Medan.
Terlet, C., electrician, Electriciteit Maatschappij Medan, Medan, Deli.

Turkey in Asia.

Anastassiades, Anastasse, chief of Telegraph Station, Vilayet d'Aïdin, Smyrna.
Issigonis Bros., electrical engineers & agents, Smyrna.
Rice, A., Papp's Engineering Works, Smyrna.
Warren, Albert A., telegraph engineer & superintendent Ottoman Railway, Smyrna.
Warren, Beattie & Co., Ltd., of Middlesborough & Newcastle, electric light & power engineers. Joint managers, A. E. & E. A. Warren, Smyrna.
Wilkinson, F., superintendent, Eastern Telegraph Co., Smyrna.

AUSTRALASIA.

Fiji Islands.

Dieketts, J. E., acting superintendent, Pacific Cable Board, Suva.

New South Wales.

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Adams, Wm., & Co., electrical engineers, 163, Clarence-st., Sydney.
Addison, B., & Co., machinery importers, 76, Pitt-st., Sydney.
Ahrbecker, H. V., electrician, Morts' Dock & Engineering Co., Cameron-st., Balmain.
Alexander, J. C., consulting engineer, Challis House, Martin-pl., Sydney. (Telegs.: "Rosola, Sydney." Teleph. No. 610.)
Allgemeine Elektricitäts Gesellschaft, 40–42, Clarence-st., Sydney. Staeker & Fischer, agents.
Alsop, William, consulting engineer & machinery agent, 101, Scott-st., Newcastle. (Telegs.: "Alsop, Newcastle, N.S.W." A1 Code used.)
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Anderson & Irving, engineers & tool dealers, Lime-st., Sydney.
Appleby, Jno. T., electrician, 33, Bolton-st., Newcastle. (Telegs.: "Appleby, Newcastle." Teleph. No. 430.)
Arnot, A. J., A.M.I.C.E., M.I.MECH.E., engineer & manager in Australasia for Babcock & Wilcox, Ltd., 427, Sussex-st., Sydney. (Telegs.: "Babcock, Sydney." Teleph. No. 1108.)
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Australian Light Equipment Co., Ltd., electric lighting contractors, 315, George-st., Sydney.
Australian Rider-Ericsson Engine Co., manufacturers & importers of hot air pumping engines & other machinery (G. Maddison, manager for Australia), 22 & 22A, Pitt-st., Sydney.
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New South Wales—*continued.*

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Barnet, J., electrical engineer, Ross-st., Forest Lodge.
Barraclough, H. A., Ltd., electrical & optical instrument importers, &c., 385, George-st., Sydney; & 232, Collins-st., Melbourne, Victoria.
Barren Jack Dam & Irrigation Scheme. Government, proprietors. Engineer, L. A. B. Wade, M.I.C.E.
Barrett, Charles, electrician, 114, George-st. West, Sydney.
Beattie, W., electrician, 171, Liverpool-rd., Ashfield.
Bell, Francis, & Co., electrical engineers, 250A, Pitt-st., Sydney.
Bellemey, S. J., B.E., electrical engineer, Municipal Electricity Works, Sydney.
Bernard, R. G., electrical engineer, "Norma," Edmund-st., Waverley, Sydney.
Besley, Hutchinson & Co., electrical agents, Vickery's-chbrs., Sydney. (Telegs.: "Track, Sydney." Teleph. No. 2660, Central.)
Bethel, G. H., medical electrician, 38, Flinders-st., Sydney.
Bevan & Co., electrical engineers, 38, York-st., Sydney.
Blackadder, James, electrician, 72, Westbourne-st., Petersham. (Teleph. No. 16.)
Blacklock, G. H., electrical engineer, R. Hornsby & Sons, Ltd., Clarence-st., Sydney.
Boden Bros. Engineering Co., engineers, Maclean.
Bohler, G., electrical engineer, Mort's Dock & Engineering Co., Ltd., Balmain, Sydney.
Booth, A. W., electrical engineer, The Avenue, Hurstville.
Bosch, Barthel & Co., importers of lathes, tools, &c., 196, Pitt-st., Sydney.
Boulton, G., electrical engineer, Mort's Dock & Engineering Co., Ltd., Balmain, Sydney.
Bown, T. J., & Co., mechanical engineers, 105-107, Bathurst-st., Sydney.
Bragg, J. W., engineer, c/o Messrs. Gibson, Battle & Co., Ltd., 7, Bent-st., Sydney.
Brain, O.W., M.I.E.E., electrical engineer to the Government Railways & Tramways, 51, Phillip-st., Sydney.
Bramble, E. W., A.I.E.E., telegraph engineer, Inspection Branch, G.P.O., Sydney.
Brennand, J. Hampton, A.I.E.E., Electricity Power House, Sydney.
Brickett, E. R., electrical engineer, Aberdare Colliery, Cessnock.
Brill, J. G., Co., Philadelphia, U.S.A. Agents: Noyes Brothers (Sydney), Ltd., Pitt-st., Sydney.
Briscoe & Co., importers of electrical apparatus, 383, Kent-st., Sydney.
British "Ever-Ready" Electrical Co., Ltd., Hoffnung's-chbrs., 163, Pitt-st., Sydney. (Telegs.: "Hopeful, Sydney." Teleph. No. 3899, Central.)
British Insulated & Helsby Cables, Ltd., Wm. Adams & Co., sole agents for Australia, 163, Clarence-st., Sydney.
British Westinghouse Electric & Manufacturing Co., Ltd., London. Agents: Noyes Bros. (Sydney), Ltd, 109, Pitt-st., Sydney.
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Broken Hill Council Electric Light & Power Station, P.O. Box 58, Broken Hill. F. J. Mars, engineer in charge & manager. (Teleph. No. 300.)
Brooks, T., electrical engineer, Electrical Engineer's Branch, Railway Dept., 51, Phillip-st., Sydney.
Broomhead, J. W., electrical engineer, 53, Weston-rd., Rozelle, Sydney. (Teleph. No. 99, Balmain.)
Brown, James, representative & agent, 121, Bathurst-st., Sydney.
Brown, T., chief engineer, Sydney Ferries, Circular Quay, Sydney.
Brown & Russell, electricians, 18A, Elizabeth-st., Sydney.
Brydon, Robert, engineer, Municipal Electricity Works, Newcastle.
Bullivants Australian Co., Ltd., wire ropes, 331, Kent-st., Sydney. Manager, H. E. Farmer.
Burgess, A. E. C., M.I.E.E., electrical engineer, 13, Royal Exchange, Bridge-st., Sydney.
Butters, J. H., A.M.I.E.E., Siemens Bros. Dynamo Works, Ltd., 16, O'Connell-st., Sydney.
Cadogan, A. L., engineer-in-chief, Hillgrove & Armidale Electricity Co., Ltd., Hillgrove.
Callender's Cable & Construction Co., Ltd. Agents: Messrs. Noyes Bros. (Sydney), Ltd., 109, Pitt-st., Sydney.
Cameron, P. H., & Co., electricians & engineers, Ash-st., Sydney. (Teleph. City 1820.)
Castle, J., & Sons, makers of electric light fittings, 32, King-st., North Newtown, Sydney.
Chant & Co., Ltd., importers of electrical supplies, High-st., West Maitland.
Christie, Andrew, agent for W. H. Allen, Son & Co., Ltd., 17, Bridge-st., Sydney.
Clark, Geo. H., electrician, 56, Smith-st., Balmain, Sydney.
Clerk, G. B., electrical engineer, 350, George-st., Sydney.
Cliff, R. C., A.M.I.E.E., A.AM.I.E.E., consulting electrical & mechanical engineer, Terry's-chbrs., Castlereagh-st., Sydney.
Clyde Engineering Co., Ltd., engineers, electrical contractors, boilermakers, &c., Clyde Works, Granville; & Sydney. (Telegs.: "Phœnix, Sydney." A1, A.B.C. & Eng. Codes. Teleph. Nos.: 999, Central; 130, Parramatta; & 31, Rookwood.)
Cochrane, E. J., A.I.E.E., chief assistant electrical engineer, Municipal Council, Sydney.
Codd, H., A.M.I.E.E., c/o G. S. Pearson, Kunaba-rd., Neutral-rd., Neutral Bay, Sydney.
Conyers, S. W., civil engineer, asst. engineer, Tramway Construction Branch, Public Works Dept., Sydney.

New South Wales—*continued.*

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Corin, Wm., M I.C.E., M.I.E.E., M.AM.I.E.E., electrical engineer, Public Works Department, Sydney.
Cormick, Jas., A.I.E.E., Electric Telegraphic Department, Sydney.
Corner, W. B., engineer, Electrical Engineer's Branch, Government Railways Dept., Phillip-st., Sydney.
Counsell, W. G., A.M.I.E.E., electrical engineer, Municipal Electric Light Station, Tamworth.
Coupland & Waddell, electrical & mechanical engineers, 1, Erskine-st., Sydney. (Teleph. City 2042.)
Cowles, George A., A.I.E.E., junior assistant electrical engineer, Electrical Engineers' Dept., Government Railways, Sydney.
Coxon, F., consulting engineer, 63, Pitt-st., Sydney.
Craven, Harry A., mfrs'. agent, 316, George-st., Sydney. (Cables: "Nevarc, Sydney." Tel. No. 4036.)
Crocker-Wheeler Co., electrical engineers, 73, Clarence-st., Sydney. Middows Bros., agents.
Crompton & Co., Ltd., electric light & power contractors (E. J. Erskine, M.I.E.E., manager), 56, Margaret-st., Sydney.
Crump, W. C., electropathist, 44, Castlereagh-st., Sydney.
Cummings, J. & J., electrical engineers, 375, George-st., Sydney.
Dalgety & Co , Ltd., electrical agents, Sydney.
Dawbarn, E. A., & Co., chemical agents, Pitt-st., Sydney. (Telegrams: "Dawn." Telephone No. 699.)
Deane, H., M.A., M.I.C.E., consulting engineer, Equitable-bldgs., George-st., Sydney. (Tel. 1831 & 4892.)
Deniliquin Electricity Works, Deniliquin. (Teleph. No. 37.) Towns Lighting & Power Co., Ltd., proprietors. Engineer, J. Colin.
Diamond, A., assistant electrical engineer, Tramway Construction Branch, Public Works, Sydney.
Dick, Kerr & Co., E S. & A. Bank-bldgs., George & King-sts., Sydney. J. R. Bainton, M.I.E.E., representative.
Dixon, R. D., Electrical Engineers' Branch, Government Tramways, Sydney.
Dodds, J. E., consulting electrical engineer, Vickery's-chbrs., Pitt-st., Sydney.
Donoghue, J. E., A.M.I.E.E., chief engineer, The Electric Light & Power Supply Corp., Ltd., Balmain, Sydney.
Doolen, W. B., electrical engineer, 343, Kent-st., Sydney.
Dorman & Smith, Ordsal Electrical Works, Salford, England. Selling agents for Australia, Haes & Eggers, 163, Clarence-st., Sydney.
Dornbusch, E. G., electrician to Gibson, Battle & Co., Ltd., 7, Bent-st., Sydney.
Eaton Bros., dealers in electric tramway supplies, North Sydney.
Edison Electric Co., electrical engineers, 1, Rowe-st., Sydney. (Telegs.: "Oldershaw, Sydney.")
Edison & Swan United Electric Light Co., Ltd., manufacturers of incandescent electric lamps & electric light fittings, 58, Clarence-st., Sydney (Telegs.: "Ediswan, Sydney." Teleph. No. 1879); Commonwealth-bldgs., Adelaide-st., Brisbane, Queensland (Teleph. No. 749); & 45, Queen-st., Melbourne, Victoria. (Teleph. No. 2815.)
Electric & General Manufacturing & Importing Co., 14, Market-st., Sydney.
Electric Light & Power Supply Corporation, Ltd., Balmain. Engineer, J. E. Donoghue, A.M.I.E.E.
Electric Supply Co., 157, Clarence-st., Sydney.
Electrical Association of N.S.W., 5, Elizabeth-st., Sydney. A. T. Amot, president; A. E. C. Burgess, hon. sec.
Electrical Engineering, Ltd., 223, Harris-st., Sydney.
Electrical Power Storage Co. (Haes & Eggers, representatives), 163, Clarence-st., Sydney.
Electrolytic Refining & Smelting Co. of Australia, Ltd., 118, Pitt-st., Sydney; & works at Port Kemble.
Empire Electric Light Co., Ltd., Margaret-lane, Sydney. *Business purchased by the Municipal Council.*
Engineering Association of N.S.W. (H. V. Ahrbecker, hon. secretary), The Exchange, Bridge-st., Sydney.
English, Wm., electrician, 6, Wilmot-st., Sydney.
Erskine, Edward J., M.I.E.E., manager, Crompton & Co., Ltd., 56, Margaret-st., Sydney.
Ey, Gustav, engineer, Victor Motor Co., Double Bay.
Federal Electrical & Engineering Works, 18, Jamieson-st., Sydney.
Ferranti Ltd., electrical engineers, E. S. & A. Bank-bldgs., King & George-sts., Sydney.
Ferrier & Dickinson, electrical agents, 12, Spring-st., Sydney. (Telegs.: "Ferreous, Sydney." Tel. 2427.)
Filmer, E. S., telephone fitter, Telegraph Dept., Newcastle.
Filmer, W. D., electrical engineers' inspector, Northern Lines, Government Railways, Newcastle.
Fisher, H. K. C., A.I.E.E., manager East. Ext. Aus. & China Telegraph Co., Ltd., Sydney.
Fitzmaurice, J. S., M.I.E.E., M.AM.I.E.E., assistant engineer, G.P.O., Sydney.
Fleming, E. G., electrical engineer, Siemens Bros. & Co., Ltd., 16, O'Connell-st., Sydney.
Fowler, John, & Co. (Leeds), Ltd., mechanical engineers, Clarence-st., Sydney.
Franki, R. J. N., A.I.E.E., Montrose, Balmain, Sydney.
Fraser, W. C., consulting engineer, 32, Clarence-st., Sydney.
Friend, W. S., & Co., importers of electrical supplies, 113, York-st., Sydney.
General Supplies Co., agents, 82, Pitt-st., Sydney. (Telegs.: "Track." Teleph. No. 2660, Central.)

New South Wales—*continued.*

Gibson, Battle & Co., Ltd., electric light & power contractors, agents for Ruston, Proctor & Co., Ltd.; Mather & Platt, Ltd.; Jeffrey Manufacturing Co., &c., 7, Bent-st., Sydney (Cables: "Gibson, Sydney." Teleph. Nos. 1356, 2663 & 4992); & 128, William-st., Melbourne, Victoria. (Telegs.: "Gibson Battle, Melbourne.")

Giles, B. S., M.I.E.E., c/o Gibson, Battle & Co., Ltd., 7, Bent-st., Sydney.

Goddard, C. M., electrical engineer, Weston.

Golding, F., A.M.I.E.E., chief electrician's branch, G.P.O., Sydney.

Goninan, A., & Co., Ltd., Electric Power Supply Station, Wickham, nr. Newcastle. (Teleph. No. 153, Newcastle.)

Goodall, T. M., & Co., machinery importers, 129, Hay-st., Sydney.

Goodwin & Son, machinery importers, Engine-st., Sydney.

Gosche, W. A., electrical engineer, 350, George-st., Sydney.

Gosche & Somer, electrical importers, 350, George-st., Sydney.

Grant, R., consulting engineer, 32, Point-st., Pyrmont.

Greville's Telegram Co., 92, Pitt-st., Sydney.

Griffith & Hassel, patent attorneys, 163, King-st., Sydney; & 9, Queen-st., Melbourne. (Telegs.: "Myall, Sydney;" "Camla, Melbourne.")

Griffiths & Edwards, electrical engineers, 250, Pitt-st., Sydney.

Guthridge, N., Ltd., winding engines, 263, George-st., Sydney; & 496, Collins-st., Melbourne, Victoria.

Haes & Eggers, electrical & mechanical engineers & agents, 163, Clarence-st., Sydney. (Telegs.: "Duplex, Sydney.")

Hale & Sons, electricians, Victoria-chbrs., Sydney.

Hall, H. H., electrical engineer, 4, Binning-st., Erskineville.

Hallicar, G., electrical engineer, Gollin & Co., 217, Clarence-st., Sydney.

Halloran, H. R., electrical engineer, Culcragie, New South Head-rd., Double Bay, Sydney.

Hamilton, G. D., electrical engineer, Sydney. (Teleph. No. 1757.)

Handley & Thomas, electrical engineers & contractors, 195, Clarence-st., Sydney.

Hanson, A. J., electrical engineer (Lawrence & Hanson), 33, York-st., Sydney.

Harrison, H., assistant electrical engineer, Electrical Engineers' Dept., Govt. Railways, Sydney.

Henderson, Stephen, consulting engineer, 350, George-st., Sydney.

Hendry, Jas., engineer, Mount Kembla Mine.

Hepburn & Spruson, consulting electrical, civil & mechanical engineers, 91, Elizabeth-st., Sydney. (Telegs.: "Patent, Sydney." Teleph. No. 2329.)

Hervey, R. A., importer & manufacturers' agent, 62, Pitt-st., Sydney. (Telegs.: "Hervey, Sydney." Teleph. No. 618.)

Hill, Dickinson & Magill, importers of electrical supplies, 99, York-st., Sydney.

Hillgrove Electricity Works, Hillgrove.

Hodkinson, Thomas, & Co., engineers, 634-646, King-st., Newtown, Sydney. (Tel. No. 45, Newtown.)

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Holding, E., electrician, 184, Darling-st., Balmain, Sydney.

Hollingdale, E. P., electrical engineer, c/o Noyes Bros. (Sydney), Ltd., Pitt-st., Sydney.

Holroyde, E. C., electrical engineer, Noyes Bros. (Sydney), Ltd., 109, Pitt-st., Sydney.

Hooper, R. J., & Co., engineers, iron & brass founders, Broken Hill.

Hordern, Anthony, & Sons, electricians, Sydney; & 9, Golden-lane, London, E.C.

Hoskins, G. & C., engineers & boiler makers, Wattle-st., Sydney. (Telegs.: "Hoskins.")

How, W. F., WH.SC., M.I.C.E., consulting engineer, Mutual Life-bldgs., George-st., Sydney.

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Howarth & Co., electrical engineers, 267, Kent-st., Sydney. (Teleph. No. 658.)

Howarth, D. B., & Son, importers of electric mining machinery, Newtown.

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Hungerford, R. B., A.I.E.E., agent, Western Electric Co. (Australia), Ltd., 163, Pitt-st., Sydney. (Telegs.: "Relay, Sydney." Teleph. No. 336, City.)

Hunt & Doddrell, electrical engineers, 134, Pitt-st., Sydney.

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Johnson, T. P., & Co., electrical contractors, 61, Druitt-st., Sydney.

Jones, Oswald, electrical engineer, 434, George-st., Sydney.

Josephson, J. P., consulting engineer, 81, Elizabeth-st., Sydney.

New South Wales—*continued.*

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Kaleski, A. E., electrical engineer (Lawrence & Hanson), 3, Wynyard-st., Sydney.
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Kendall, A. W., electrical engineer & local manager, Australian General Electric Co., 217, Clarence-st., Sydney. (Telegs.: "Indicator Senojaw, Sydney." Teleph. No. 674, N.S.)
Kent, John, manager Strand Electric Light Co., Sydney.
Kershaw, Wm., engineer, Grahamstown.
King, F. G., maker of telegraph apparatus, 85, Eveleigh-st., Redfern.
Kirkland, G., electrical engineer, Public Works Department, Sydney.
Kirkland, John, & Co., engineers, James-st., Sydney.
Kopsch, C. F. G., importing & manufacturing electrician, 8, Bridge-st., Sydney. (Teleph. City 1696.)
Laidley, R. W., consulting engineer, O'Connell-st., Sydney.
Lambton Corporation Electricity Works, Lambton.
Landgeschwerdt, E. A., assistant manager, Telephone Branch, General Post Office, Sydney.
Langer, Hermann, managing director Oxford Street Electric Lighting Co., Ltd., Sydney.
Lassetter, F., & Co., Ltd., dealers in electric light fittings, George-st., Sydney.
Lawrence & Hanson, electrical importers, 33, York-st., Sydney. (Telegs.: "Electrode, Sydney." Teleph. Nos. 74 & 1574.) Branches: 161, Queen-st., Melbourne, Victoria; & 45 & 47, Cuba-st., Wellington, N.Z.
Lempriere, W. & J., electrical agents, 506, Little Collins-st., Melbourne; & 64, Pitt-st., Sydney.
Lennon, G. R., electrical engineer, 54, Margaret-st., Sydney. (Teleph. No. 2033, City.)
Leverrier, H., electrical engineer & manager, Staerker & Fischer, Clarence-st., Sydney.
Lind, F. G., electrician, Electrical Engineer's Branch, Railway Department, 51, Phillip-st., Sydney.
Lycett, A. A., machinery importer, Jamieson-st., Sydney.
MacAlister, F. W., electrician, Electrical Engineer's Branch, Railway Dept., 51, Phillip-st., Sydney.
McArthur, W. & A., Ltd., machinery agents, 15, Macquarie-pl., Sydney. (Telegs.: "Maharajah, Sydney." Teleph. No. 2481.)
McCray, Edward, & Co., Ltd., merchants' engineers & contractors, 12, Loftus-st., Sydney.
McCreeth, Geo. W., electrical engineer, Young-st., Croydon.
McDonald, C. A., engineer & contractor, 63, Pitt-st., Sydney.
McGregor, J., electrician, Hillgrove.
Macintosh, John, & Sons, dealers in electrical supplies, 307 & 276, Pitt-st., Sydney.
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McKenzie, M., electrical engineer, Abbot-st., Randwick.
Madsen, J. P. V., A.M.I.E.E., The University, Sydney.
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Mars, F. J., electrical engineer in charge, manager Electric Light & Power Station, Broken Hill.
Martin, J., & Co., machinery importers, 161, Clarence-st., Sydney.
Martyn, E., electrical engineer, c/o J. Toder, Union Bank-chbrs., Pitt-st., Sydney.
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Milne Bros., engineers & machinery merchants, 166, Sussex-st., Sydney. (Telegs.: "Regillanum, Sydney." Teleph. No. 511.)
Milward, J., chief electrician & manager in the Pacific, Pacific Cable Board, Sydney.
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Moody & Co., electrical engineers, 343, Kent-st., Sydney.
Morgan, Percy, electrician, 19, Hathem-st., Leonhurst.
Morison, R. & J., & Bearby, engineers & boilermakers, iron & brass founders, Carrington, Newcastle. (Telegs.: "Morison, Carrington, N.S.W." A1, A.B.C., 5th edition. Teleph. No. 99.)
Morris, L. C., A.M.I.E.E., The Technical College, Sydney.
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Mort's Dock & Engineering Co., Ltd., engineers, boilermakers, &c., Balmain. (Telegs.: "Epigram, Sydney." Teleph. Nos. 178, 189, 1703 & 2692, Central.)
Moss Vale Electric Supply Co., Moss Vale. Engineer, J. Forbes.
Murphy, C. J., manager, Telegraph Branch, G.P.O., Sydney.
Myers, H. W., Electrical Engineers' Branch, Tramway Department, Phillip-st., Sydney.
Nelson, J. Y., M.I.E.E., electrical engineer & local hon. sec. Inst. E.E., G.P.O., Sydney.
New Hillgrove Proprietary Mines, Eleanora Mine.
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New South Wales—*continued.*

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Newcastle Municipal Council Electric Light & Power Station, Newcastle. Engineer, Robert Brydon.

Newman & Davies, electrical engineers, 5, Moore-st., Sydney.

Noakes, W. M., director & general manager, Clyde Engineering Co., Clyde Works, Granville & Sydney.

Noyes, E. E., electrical engineer, Yaralla-chbrs., Pitt-st., Sydney.

Noyes Bros. (Sydney), Ltd., electrical engineers, 109, Pitt-st., Sydney (Teleph. No. 1332); 15 & 17, Queen-st., Melbourne, Victoria (Teleph. No. 1380); & 75, Barrack-st., Perth, West Australia (Teleph. No. 63). (Telegs.: "Noyes," to any town. A1, A.B.C. 5th ed., Lieber's & Bedford McNeill's Codes.)

O'Donnell, F. T., electrical engineer, 29, Hunter-st., Sydney.

O'Donnell & Griffin, electrical engineers & contractors, York-pl., 105, Liverpool-st., Sydney.

Osborn & Jordan, electricians & opticians, 438, George-st., Sydney.

Oxlade, R., electrical engineer, Federal Electrical & Engineering Works, Hunter-st., Sydney; & East Esplanade, Manly, Sydney. (Teleph. No. 2581.)

Paddle, B. G., manufacturers' representative, 418, George-st., Sydney. (Telegs.: "Paddles, Sydney.")

Palace Electric Light Station, 259–261, Pitt-st., Sydney. Estate of Geo. Adams, deceased, proprietors.

Parke & Lacy Co., engineers, importers of wood working machinery, 60, Clarence-st., Sydney.

Parry, Edward, importer of electric light fittings, 71, Clarence-st., Sydney.

PATON, JAMES, & CO., electrical engineers & manufacturers' agents, 2, Martin-pl., Sydney. (Telegs.: "Patonimac, Sydney.") *See advt., page* 954.

Penrith Municipal Electric Light Station, Penrith. Engineer, D. H. Stewart.

Pepper, A. E., A.I.E.E., Roslyn, Concord, Sydney.

Perdriau Rubber Co., Ltd., rubber goods, 270, George-st., Sydney. (Telegs.: "Perdriau, Sydney." Teleph. Nos. 418 & 467.)

Pillars, W. W., engineer, Babcock & Wilcox, 427–9, Sussex-st., Sydney.

Pollock, J. A., professor of physics, The University, Sydney.

Portable Electric Light Co., battery makers, 470A, George-st., Sydney.

Powell, A., & Co., electricians, 342, Pitt-st., Sydney.

Price, A. W., electrical engineer, Crompton & Co., Ltd., 19, York-st., Sydney.

Price, N. I., A.I.E.E., c/o John Toder, Union Bank-chbrs., 68½, Pitt-st., Sydney.

Purdom, W. A., M.I.E.E., local manager, The India Rubber, Gutta Percha & Telegraph Works Co., Ltd., 279, George-st., Sydney. (Telegs.: "Silvergray, Sydney." Teleph. Nos. 882 & 2435, Central.)

Rabone, Feez & Co., agents for Messrs. Felten & Guilleaume, 20, Bond-st. (P.O. Box 482), Sydney. (Telegs.: "Rabones, Sydney." Teleph. No. 86, Central.)

Rand Drill & Rackarock Co., rock drilling & blasting (R. A. Harvey), 171, Clarence-st., Sydney. (Telegs.: "Hervey, Sydney." Teleph. No. 618, Central.)

Rausch, Carl, electrical engineer, "Wilhelmshohe," Pine-st., Randwick.

Rawson, C. S., electrical engineer, c/o Edison & Swan U. E. L. Co., Ltd., 16, Carrington-st., Sydney.

Redfern Municipal Electricity Works, Redfern. Engineer, J. W. Balfour. (Teleph. No. 177, Redfern.)

Redshaw, S., electrical engineer, Government Railways, Eveleigh Station.

Renard, Jules, & Co., machinery importers, 306, Kent-st., Sydney.

Rich & Co., electrical agents, O'Connell-st., Sydney.

Richmond, Harold H., A.I.E.E., 2, Martin-pl., Sydney.

Robins, E. E., electrical engineer, 103, King-st., Newcastle.

Rodda, G. A., electrical engineer, W. Adams & Co., Ltd., 163, Clarence-st., Sydney.

Rodgers, J. S., engineer, Newcastle.

Rogers, J. J. R. C., electrical engineer, Power House, Yaralla, Concord.

Rolfe, J., electrician, 63, Darlington-rd., Sydney.

Ross, Herbert E., consulting engineer, Equitable-bldg., Sydney. (Teleph. Central 1101.)

Roussell, E., electrical engineer, 158, Princes-st., Sydney.

Royal Society of New South Wales (H. D. Walsh, B.A.I., M.INST.C.E., president; J. H. Maiden, F.L.S., & F. B. Guthrie, F.I.C., F.C.S., hon. secretaries), 5, Elizabeth-st. N., Sydney. (Teleph. No. 1940.)

Rumford, J. B., electrical engineer, c/o Australian General Electric Co., 217, Clarence-st., Sydney.

Sandford, Wm., Ltd., tramway plant contractors, Equitable-bldgs., George-st., Sydney.

Scheele, Gibbes & Co., electrical agents, 2, Hunter-st., Sydney.

Schmidlin, F., electro-medical instrument maker & importer, Elizabeth-st., Sydney. (Teleph. No. 1861.)

Schulze, Oscar, electrical engineer & contractor, 269, Kent-st., Sydney.

Scott, E. W., manufacturing electrician, 332, Pitt-st., Sydney.

Scott, John L., electrical engineer, Elizabeth-st., Sydney.

Scrutton, R. L., & Co., iron & steel merchants, 97, Clarence-st., Sydney. Works: Ultimo. London Office: 4, St. Mary Axe, E.C.

Selfe, Norman, M.I.C.E., M.I.M.E., consulting engineer, 279, George-st., Sydney. (Teleph. City 1261.)

New South Wales—*continued.*

Sharkey, J. P., consulting engineer, Mercantile-chbrs., Castlereagh-st., Sydney.
Shaw, P. W., electric traction engineer, Public Works Department, Sydney.
Shenstone, F. B., electrician, Elec. Engineers' Branch, Railway Department, 51, Phillip-st., Sydney.
Shipham, J., electrician, Paramatta-rd., Burwood.
Siemens Bros Dynamo Works Ltd., electrical engineers, 16, O'Connell-st., Sydney (Telegs.: "Siemens, Sydney." Teleph. Nos. 2653 & 2556); & 29, William-st., Melbourne, Victoria. (Telegs.: "Siemens, Melbourne." Teleph. No. 1612.)
Silberberg, E., & Co., importers of electrical supplies, 18, Barrack-st., Sydney.
Simpson, Richard C., A.M.I.E.E., lecturer in charge Department of Electrical Engineering & Physics, Technical College, Sydney.
Simpson Bros., engineers & agents, 32 & 34, Clarence-st., Sydney.
Sinclair, R., consulting engineer, 82, Pitt-st., Sydney.
Smith, H., engineer, Sydney.
Smith & Kopsen, electrical engineers & agents, 68-70, Clarence-st., Sydney.
Spruson, Wilfred J., electrical engineer (Hepburn & Spruson), 91, Elizabeth-st., Sydney. (Telegs.: "Patent, Sydney." Teleph. No. 2329.)
Staerker & Fischer, agents for Allgemeine Electricitäts Gesellschaft, 40-42, Clarence-st., Sydney; 262, Little Lonsdale-st., Melbourne, Victoria; & Edward-st., Brisbane, Queensland.
Standard Waygood, Ltd., English, Scottish & Aust. Bank-chbrs., cor. George & King-sts., Sydney.
Stanley, Henry C., M.I.C.E., consulting engineer, representing Sir W. G. Armstrong, Whitworth & Co., Ltd., Royal-chbrs., Hunter-st., Sydney. (Telegs.: "Gong, Sydney." Teleph. No. 4214.)
Steanes, T. K., electrical engineer, & manufacturers' agent, 39, Pitt-st., Sydney. (Telegs.: "Steanes, Sydney." P.O. Box 1008.) Agent for Australia for G. Braulik.
Sterling Telephone & Electric Co. (Haes & Eggers, representatives), 163, Clarence-st., Sydney.
Stevenson & Co., electrical engineers, 248, George-st., Sydney.
Stevenson & Hislop, electrical engineers, 29, Jamieson-st., Sydney.
Stewart, D. H., chief engineer, Municipal Electricity Works, Penrith.
Stirling, D., electrician, 27, Victoria-chbrs., Sydney.
Stowe, G., engineer, Palace Electric Light Station, Pitt-st., Sydney.
Strand Electric Lighting Co., Ltd., electric light contractors, 50, Strand, Sydney. (Telegs.: "Kentbrier, Sydney.") Engineer, H. Smith. *Purchased by Municipal Council.*
Strickland, T. P., A.M.I.E.E., electrical engineer, Government Railways (Electrical Engineers' Branch), Phillip-st., Sydney.
Sultor, J. B., electrical engineer, Australian General Electric Co., 217, Clarence-st., Sydney.
Sutherland & Roberts, electrical engineers, 18, Barrack-st., Sydney.
Swinnerton, J., consulting electrician & manager Electrical Supply Co., 517, George-st., Sydney; & electrical engineer, Hernessy-st., Croydon.
Sydney Traction Station. Government, proprietors. Engineer, O. W. Brain, M.I.E.E.
Sydney Municipal Electricity Works, Sydney. (Telegs.: "Town Hall, Sydney." Teleph. Nos. 487, 932, 1803 & 2828.) Engineer, H. R. Forbes Mackay.
Sydney Technical College, Harris-st., Ultimo, Sydney. (Teleph. Central 392.) *See* SCHOOLS.
"T. T." Electric Fitting Co., electrical engineers, 230, Clarence-st., Sydney. (Teleph. No. 4387, Central.)
Tamworth Municipal Electric Light Station, Tamworth. Engineer, W. G. Counsell, A.M.I.E.E.
Tatham, George, electrician & general engineer, 50, Clarence-st., Sydney.
Thaeter, H., electrician, Norwich-chbrs., 56, Hunter-st., Sydney.
Thomas, S. W., A.M.I.E.E., Post Office, Sydney.
Thompson, F. T., electrical engineer, 167, Clarence-st., Sydney. (Teleph. No. 3378, Central.)
Thomson, J. R., consulting engineer, Union Bank-chbrs., Pitt-st., Sydney.
Thresher, H. S., electrical engineer, Water & Sewerage Board, Sydney.
Toder, John, agent for Belliss & Morcom, Ltd., 68½, Pitt-st., Sydney.
Toole, J. E., & Co., engineers & general machinery merchants, 70, Hunter-st., Sydney. (Telegs.: "Toole, Sydney." Teleph. No. 1228.)
Tornaghi, R., scientific instrument maker, Minerva Chambers, 126, Pitt-st., Sydney.
Tournay-Hinde, A. W., chief engineer, Sulphide Corp., Ltd., Cockle Creek, nr. Newcastle. (Teleph. No. 86, Newcastle.)
Transmitter, The, organ of the Electric Telegraph Society of N.S. Wales, Sydney.
Tunbridge & Tunbridge, consulting engineers, 11, Vickery's-chbrs., 76, Pitt-st., Sydney; & Flinders-st., Townsville, Queensland.
Turnbull, A. P., assistant electrical engineer, N.S.W. Government Railways, Sydney.
Unbehaun, G. E., A.M.I.E.E., Unbehaun & Robbins, 79, Scott-st., Newcastle.
Union Cable Co., Ltd., 102, Queen Victoria Market-bldgs., Sydney.
Union Importing Co., Ltd. (F. M. Lovett, manager), electricians, 371, Pitt-st., Sydney. (Telegs.: through Reuter "Restauren, Sydney." Teleph. No. 834.)
University of Sydney. For Professors, *see* SCHOOLS.

New South Wales—*continued.*

Vincent, R. J., electrical engineer, c/o Simpson Bros., Clarence-st., Sydney.
Waddington, F., manager, Portable Electric Light Co., 470, George-st., Sydney.
Wade, L. A. B., M.I.C.E., engineer, Barren Jack Dam & Irrigation Scheme.
Walkom, Arch. J., A.M.I.E.E., Electricians' Branch, G.P.O., Sydney.
Walsh, Fred, patent & trade mark attorney, George & Wynyard-sts., Sydney, & Collins-st., Melbourne. (Telegs.: "Valse, Sydney." A.B.C., 4th edit., & Western Union Codes. Teleph. Nos.: 1137, Sydney; & 4926, Melbourne.)
Warburton, G. S., electrical engineer, Woolwich.
Warburton, Franki & Co., electrical engineers, 162, Clarence-st., Sydney.
Warren, H., assistant superintendent, Eastern Extension Telegraph Co., Sydney.
Warren, Prof. W. H., M.I.C.E., professor of engineering, Sydney University, Sydney.
Warren, S., chief engineer, Siemens Bros. & Co., Ltd., 16, O'Connell-st., Sydney.
Watkins, R. G., & Co., machinery importers, 107, Kent-st., Sydney.
Watts, F., electrician, 244, Pitt-st., Sydney.
Waugh & Josephson, mechanical engineers, 344, Sussex-st., Sydney. (Telegs.: "Separator, Sydney." Teleph. No. 1216.)
Webb, A. C. F., M.I.E.E., M.AM.I.E.E., consulting electrical engineer, electrical inspector to the Fire Underwriters' Association, Queensland, Vickery's-chbrs., Pitt-st., Sydney; & Norman-chbrs., Creek-st., Brisbane, Queensland. (Teleph. No. 1952.)
Webendörfer Bros., importers of electrical apparatus, 187, Clarence-st., Sydney. (Telegrams: "Vorwaerts, Sydney." Telephone No. 2453.)
West, W. G., electrical engineer, Waugh & Josephson, St. Peter's, Sydney.
Westinghouse Electric & Manufacturing Co. of U.S.A. Agents: Noyes Bros. (Sydney), Ltd., 109, Pitt-st., Sydney.
Wickham Electricity Works, Wickham, nr. Newcastle. A. Goninan & Co., Ltd., proprietors.
Wiesener, T. F., electrical instrument maker, 334–336, George-st., Sydney.
Wildridge & Sinclair, Ltd., consulting engineers, 82, Pitt-st., Sydney. (Telegs.: "Wildridge, Sydney." Teleph. No. 1226.)
Willmot, H., electrician, Mina Rosa-st., Enfield, Sydney.
Wood, E. Clarence, B.SC., B.ENG., M.A., Elec. Engineering Laboratory, Technical College, Broken Hill.
Worthington Pump Co., Ltd., agents, Messrs. Simpson Bros., 32 & 34, Clarence-st., Sydney.
Wright, H. J., electrical engineer-in-charge, New Hillgrove Proprietary Mines, Ltd., Hillgrove.
Young Municipal Electric Light Station, Young.

New Zealand.

Ackland, A. E., manager & engineer, The National Electrical & Engineering Co., Ltd., Wellington.
Acland, Arthur, electrical engineer, Australian General Electric Co., Dunedin.
Adams Engineering Co., consulting & electrical engineers, Hutt, Wellington. C. W. Adams, manager. (Telegs.: "Accuracy, Wellington.")
Airey, M. E. F., clerk in charge Eastern Extension Australasia & China Telegraph Co., Ltd., Nelson.
Alexander, C. F. A., tramways manager, Dunedin.
Alexander, J., & Co., electricians, Mercer-st., Wellington.
Allen, Begg & Co., importers of electrical apparatus, Dunedin.
Allinson & Co., engineers & contractors, Division-st., Riccarton, Christchurch.
Andrews & Manthel, electrical engineers, Federal Engineering Works, Tory-st., Wellington. (Teleph. No. 1220.)
Armstrong, —, chief electrical engineer, Grand Junction Mine, Waihi.
Armstrong, F. W., electrical engineer & inspector, Canterbury Fire Underwriters' Association, Christchurch. (Telegs.: "Armstrong, Electrical Inspector, Christchurch." Local Teleph. No. 339.)
Auckland Electric Tramways Co., Auckland. (Telegs.: "Tramways, Auckland." Teleph. No. 318.) General manager, J. J. Walklate.
Auckland Municipal Electricity Works, Auckland. Chief engineer, Alex. Wyllie.
Auckland Technical College, Auckland. *See* SCHOOLS.
Auckland University College, courses in electricity, Auckland. *See* SCHOOLS.
Babcock & Wilcox, Ltd., boilermakers & engineers, Ballance-st., Wellington; Fort-st., Auckland; 83, Pitt-st., Sydney, N.S.W.; Montreal; Calcutta; Colombo; Fremantle; Johannesburg; Melbourne, &c.
Baillie, P. R., & Co., tramway contractors, agents for British Insulated & Helsby Cables, Ltd., Wellington.
Baird, R. M., assistant electrician, Government Telegraph & Telephone Department, Wellington.
Barron, John, electrical engineer, No. 4-st., Opoho, Dunedin.
Bauchop, D., electrical engineer, Port Chalmers.
Beal, Dupair E., station engineer, Power Station, Okere Falls, Rotorua.
Beal, E. D., electrician, Government Electricity Works, Rotorua.
Beal, L. O., jun., civil & mining engineer, 79, Princes-st., Dunedin.
Bewick, Moreing & Co., mining engineers, Palmerston-bldgs., Queen-st., Auckland.

New Zealand—*continued.*

Birch, Fredk., engineer & machinist, Blenheim.

Birks, Lawrence, B.SC., A.M.I.C.E., A.M.I.E.E., engineer-in-charge, Government Electricity Works, Rotorua. (Telegs.: "Birks, Rotorua.")

Black, Fredk., A.M.I.E.E., consulting electrical engineer, The King's Chambers, Wellington. (Telegs.: "Kilowatt, Wellington." Teleph. No. 1700.)

Black, H., engineer & manager, Borough Electrical Works, New Plymouth.

Black, James Gow, M.A., D.SC., electrician, Professor of Chemistry, Otago University, Dunedin.

Blackley, Samuel, A.M.I.E.E., general manager, Turnbull & Jones, Ltd., Wellington.

Bock, P., & Co., importers, 57, Lorne-st. W., Auckland.

Brinsley & Co., Ltd., ironfounders, 36, Cumberland-st., Dunedin.

Brittain, Arthur, importer of electrical & general machinery, Auckland. (Telegs.: "Briton, Auckland.")

Broomhall, C., electrician, N.Z. Tourist Dept., Rotorua.

Brown, A. E., A.I.E.E., c/o Samuel Brown, Ltd., Wellington.

Brown, Herbert, electrical engineer, c/o Electrical Construction Co., Queen-st., Auckland.

Brown, Prof. F. D., M.A., B.SC., lecturer on electricity, University College, Auckland.

Buckley, Timothy, electrical engineer. Elizabeth-st., Wellington.

Bull, Leslie H., electrical engineer, Cobden.

Burt, A. & T., dredging, mining, electrical & general engineers, Stuart-st., Dunedin (Telegs.: "Burt"); & Auckland, Wellington, Christchurch & Invercargill.

Cable, Matthew, A.I.E.E., Tramway Office, Harris-st., Wellington.

Cable, Wm., & Co., marine engineers, &c., Waterloo-quay, Wellington.

Campbeltown Corporation Electricity Works, Campbeltown. Engineer, R. Cruickshank.

Cannall, A. B., & Co., electrical contractors, Abbots-chbrs., Wellesley-st., Auckland.

Cederholm & Tolley, electrical engineers, 6 & 8, Manners-st., Wellington.

Central Electrical Depôt, 8, Wellesley-st. West, Auckland. Manager, A. W. Mullenger.

Chambers, Inniss & Thorne, electrical engineers, Gore-st., Auckland.

Chambers, John, & Son, Ltd., importers & agents for electrical & mechanical engineering requisites, Fort-st., Auckland; Dunedin & Christchurch.

Cheal, A. E., electrician, Borough Council Electricity Works, Hawera.

Chemical Union, Ltd. (A. Johnson, manager), Liverpool-st., Dunedin.

Chisholm, W. E., telegraph engineer, Government Telegraph & Telephone Service, Nelson.

Christchurch City Council Electric Supply Station, Gloucester-st., Christchurch. Resident electrical engineer, G. Scott.

Christchurch Electrical Construction Co., electric tramway contractors, &c., Christchurch.

Christchurch Tramway Board, Christchurch. Engineer, Scott Symington.

Clare, John, & Co., importers of electrical apparatus, 22, Durham-st., Auckland.

Clarke, Franc, electrical engineer, 165, Manchester-st., Christchurch.

Cole, T., city electrical engineer, Dunedin Tramways & Waipori Power Scheme, Dunedin.

Cooke, Howlison & Co., motor cars, rubber goods, &c., Great King-st., & Princes-st., Dunedin. (Teleph. Nos. 166 & 897.)

Cope, A. B. H., electrical engineer, Tomoana, Hawkes Bay.

Cossens & Black, Ltd., engineers & iron founders, Crawford-st., Dunedin.

Cousins & Atkin Carriage Factory, Ltd., carriage & motor builders, The Strand & Beach-rd., Mechanic's Bay, Auckland.

Craddock, Arthur R., A.I.E.E., Craddock & Co., Ltd., Christchurch.

Craddock & Co., Ltd., electrical engineers & contractors, Christchurch.

Craig, J. J., engineer, mining & general machinery merchant, Railway Wharf, Auckland; & at Wellington, Christchurch & Dunedin. (Telegs.: "Litofugs, Auckland." Teleph. No. 804.)

CREAGH, EDRIC COLLINGWOOD, consulting electrical engineer, specifications & supervision of lighting, industrial & power installations, Box 383, Dunedin.

Crookes, S. Irwin, A.M.I.E.E., F.C.S., head of the Electrical Engineering & Physics Dept., Technical College, Auckland; & 15, Palmerston-bldgs., Queen-st., Auckland.

Crosher, A. T., borough electrical engineer, Te Aroha.

Crosher, W., & Sons, electrical engineers & contractors, Electrical Depôt, High-st., Auckland. (Telegs.: "Crosher, Auckland." A.B.C. Code, 4th & 5th edits.)

Crown Iron Works, general & electrical engineers, &c., Manchester-st., Christchurch. (Telegs.: "Troup.")

Cruickshank, R., engineer, Corporation Electricity Works, Campbeltown.

Cuff, J. Clement, A.I.E.E., electrical engineer, Emerald Hill, Epsom, Auckland.

Cutten Bros., consulting engineers, Princes-st., Dunedin.

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Dalton, W. J., C.E., authorized patent agent, 266, Queen-st. (Box 236), Auckland. (Teleph. No. 944.)

Dando, H. A., M.I.E.E., Grange-rd., Morden, Auckland.

Danks, Thos., hydraulic engineer, 198–200, Lichfield-st., Christchurch.

Darnell-Smith, G. P., B.SC., F.I.C., F.C.S., assistant director of Technical Education, Auckland.

New Zealand—*continued.*

Davey, H. M., consulting engineer & patent agent, 91A, Princes-st., Dunedin. (Telegs.: "Davey, Dunedin." Teleph. Nos. 473 & 2112.)

Dawson, J., electrical engineer & manufacturers' agent, 10, Cuba-st. Extension, Wellington.

De Guerrier, F. E., A.M.I.E.E., assistant manager, Auckland Electric Tramways Co., Ltd., Auckland.

Denniston, R. B., & Co., importers, Bath-st., Dunedin. (Telegs.: "Diagonal, Dunedin." Tel. 1118.)

Dodson, H., electrical instructor, School of Mines, Thames.

Downey, C., electrician, Steuart & Fenn, Ltd., Hawera.

Dunedin City Corporation Tramways, Dunedin. City electrical engineer, E. E. Stark.

Dunedin Engineering & Steel Co., Ltd., engineers, boiler makers, metal founders, &c., Dunedin. (Telegs.: "Hydraulic, Dunedin.")

Dunedin & Suburban Gas Co., Ltd., electric light engineers & contractors, Dunedin.

Edwards, Herbert, electrician, Bullendale.

Edwards, N., electrical contractor, Custom-st., Auckland.

Ellis, Albert T., electrical instructor, Waihi School of Mines, Waihi.

Evans, Evan, A.M.I.E.E., Regan-st., Stratford, Taranaki.

Fahy, John T., A.M.I.E.E., electrician, New Zealand Railway, Wellington.

Fairfield, Geoffrey, A.M.I.E.E., electrical engineer, "Almora," Epsom, Auckland.

Farr, Clinton Coleridge, D.SC., A.M.I.C.E., A.I.E.E., Canterbury College, Christchurch.

Fear, F. J. W., engineer & importer, 99, Willis-st., Wellington. (Telegs.: "Fear." Teleph. No. 976.)

Fenn, E. J., A.I.E.E., Fort-st., Auckland.

Fischer, F. A., & Sons, electrical engineers, Emerson-st., Napier. (Teleph. No. 200.)

Fletcher, R. E., M.I.E.E., manager, National Electrical Engineering Co., Dunedin.

Fulton, James E., M.INST.C.E., consulting, civil & mechanical engineer, 155, The Terrace, Wellington. (Teleph. No. 2527.)

Furby, W. S., M.I.E.E., telegraph engineer, P.O. Box 539, Auckland.

Gannaway, John W., telegraph engineer, P.O. Box 34, Christchurch.

Garnham, Benj., engineer, &c., Blenheim.

Gell, John, M.I.E.E., telegraph engineer, Telegraph Department, Cable Bay, Nelson.

General Electric Supply Co., P.O. Box 569, Pitt-st., Auckland.

George, Geo., F.I.C., F.C.S., director of technical education & principal, Technical School, Auckland.

George, G. T., electrical engineer, High-st., Auckland.

Giles, D. E. E., A.M.I.E E., manager, Electrical Machinery Department, W. A. Ryan & Co., Auckland.

Gore Borough Electricity Works, Southland.

Gray, W. C., electrical supplies dealer, Invercargill.

Greengrass, Francis W., electrician, Greymouth.

Haddock, H. D., electrical engineer, Picton.

Hadecke, Albert, mechanical engineer, Rangiora.

Hall, John, & Co., manufacturers' agents & importers, 104, Manchester-st., Christchurch. (Telegs.: "Energy, Christchurch." Teleph. No. 711.)

Hamonds, M. W., electrical engineer, Manaia.

Harkness, B., electrical & mechanical engineer, Stratford. (Teleph. No. 16.)

Harris, Charles, electrician, Car Sheds, Ponsonby, Auckland.

Harrison, J. W., mining engineer, 222, Victoria Arcade, Auckland.

Hart, A. H., consulting engineer, Luck's-bldgs., Gloucester-st. West, Christchurch.

Hawera County Electric Co., Ltd., Hawera, Taranaki. Registered July 14, 1902. Nominal capital: £20,000 in £5 ordinary shares & £11,000 in £5 preference shares. Issued: £13,765 ordinary shares, fully paid, & £760 preference shares with £4 13s. paid. Directors: E. Payne, Esq. (chairman); J. G. Beamish, Esq.; G. Syme, Esq.; F. W. Wilkie, Esq.; J. Hunt, Esq. Engineer, G. Trevithick, A.M.I.E.E.; secretary, C. E. Gibson. Dividends: 1907, 1908 & first half of 1909, *nil.*

Hay, R., M.I.C.E., consulting engineer, Dunedin.

Heal, Jno., engineer, Electricity Works, Timaru.

Hement, T. C., A.M.I.E.E., Hereford-st., Christchurch.

Henderson, M. C., A.M.I.E.E., Corporation Electricity Dept., Dunedin.

Henry, Charles, electrician, 127, Princes-st., Dunedin South.

Holmes, R. W., M.I.C.E., engineer-in-chief, Public Works Department, Wellington.

Horton, J. J., electric light engineer, Reefton.

Inglewood Electric Light & Power Co., Ltd., Taranaki. Engineer & manager, W. E. Richardson.

Innes, W. A., electrical engineer, Chambers, Inniss & Thorn, Auckland.

Jack, J. W., general agent, Bank-chbrs., 324, Lambton Quay, Wellington. (Telegs.: "Hamish, Wellington." Lieber's & A.B.C. 5th ed. Codes. Teleph. No. 1558.)

Jameson, J. K., engineer, Yarrow-st., Invercargill.

Johnston, W., & Sons, mechanical engineers, 247–251, St. Asaph-st., Christchurch.

Jones, Patrick C., electrical engineer, Dalton-st., Napier.

Jones, Robert Clay, M.I.E.E., electrical engineer, Moss Bank, George-st., Dunedin.

New Zealand—*continued.*

King, H. S., A.I.E.E., G.P.O. Box 327, Wellington. (Telegs.: "Basileus, Wellington.")
Knight, John, electrical engineer, Stafford.
Knight, Tracy, electrician, Victoria Battery, Waikino.
Knight, L. C., & Co., electrical engineers, 188, Gloucester-st. West, Christchurch. (Telegs.: "Nights, Christchurch." Teleph. No. 1560.)
Laidlaw & Gray, engineers & agents, Rathray-st., Dunedin. (Telegs.: "Laidlaw, Dunedin.")
Langguth & Co., agents for Felten & Guilleaume Lahmeyerwerke, Auckland.
Lauchlan, G., A.M.I.E.E., lighting superintendent, Wellington City Council, Wellington.
Logan, J. K., I.S.O., local hon. sec. & A.I.E.E., superintendent of electric lines, Wellington. (Teleph. 67.)
Lord, Edward I., C.E., M.I.M.E., J.P., civil engineer, Greymouth.
Lucas Bros., mechanical engineers, &c., 156, Kilmore-st., Christchurch. (Teleph. No. 1009.)
Maben & Walsh, electrical contractors, Wellington.
McCurdy, A., electrician, Hutt Upper.
McFarlane, D., resident engineer, Calliope Dock, Devonport.
McGregor, J., & Co., Otago Foundry, Stuart-st., Dunedin.
McIver Bros., electrical engineers, Rattray-st., Dunedin.
McLaren, W. A., & Co., Ltd., engineers, 243, St. Asaph-st., Christchurch. (Telegs.: "McLaren, Christchurch." Teleph. No. 84.)
McMiken, S. D., electro-metallurgist, Komata Reefs G. M. Co., Komata.
Maginnity, A. T., telegraph engineer, Hardy-st., Nelson.
Mason, Struthers & Co., Ltd., wholesale & retail ironmongers, metal & machinery merchants, Colombo & Lichfield-sts., Christchurch (Telegs.: "Lurline, Christchurch." A1 & Western Union Codes); Fort-st., Auckland; & Main-st., Palmerston North. London office: 9, Gracechurch-st., E.C.
Meddings, W. G., M.I.E.E., Onehunga.
Methven, George & Co., engineers, iron & brass founders, Crawford-st., Dunedin.
Middleton & Co., engineers & machinery agents, 53, Cumberland-st. (P.O. Box 415), Dunedin. (Telegs.: "Middleton, Dunedin." Teleph. No. 545.)
Milne, Alex., electrical engineer for the Lyttelton Harbour Board, Simson Quay, Lyttelton.
Mitchell, Wm. John, A.M.I.E.E., electrical engineer, Union S.S. Co., Port Chalmers.
Moult, H., electrical engineer, Routh's-bldgs., Featherston-st., Wellington. (Telegs.: "Bilicarono, Wellington." Teleph. No. 2825.)
Murray, David, & Co., engineers, &c., Wanganni.
National Electrical Engineering Co., Gore-st., Auckland. Resident engineer, R. E. Fletcher, M.I.E.E.
New Plymouth Borough Council Electricity Works, New Plymouth. Engineer, H. Black.
New Zealand Electrical Construction Co., Ltd., Manchester-st., Christchurch.
New Zealand Engineering & Electrical Co., electrical & general engineers, Castle-st., Dunedin.
New Zealand Institute, Wellington. (Teleph. No. 293.)
Newton, W. J., engineer, Stratford Electric Supply Co., Stratford. (Teleph. Nos. 28, 19 & 79.)
Niven, James J., & Co., Ltd., engineers, Napier.
Ohinemuri Light & Power Co., Ltd., Paeroa.
Orchiston, J., M.I.E.E., inspector of telegraphs, Telegraph Department, Dunedin.
Otago University, chemistry, mining, mathematics, applied mechanics, metallurgy, Dunedin.
Otway, A. R., electrician, Electricity Works, Timaru.
Parr, Wm., mechanical engineer, 43, Stafford-st., Timaru.
Parrington, C. Lascelles, electrical engineer, Dunedin.
Patea Borough Council Electricity Works, Patea. Engineer, H. Priestley.
Powell, P. H., M.SC., A.M.ENG., A.M.I.E.E., A.AM.I.E.E., lecturer in electrical engineering, Canterbury College, Christchurch.
Priestley, H., A.A.M.I.E.E., engineer, Borough Council Electricity Works, Patea.
Reefton Electric Co., electric light engineers, &c., Reefton.
Reeves, —, electrician, Tramway Power House, Auckland.
Reid, Alex., electrical engineer, Raetihi.
Remlington, Geo., & Co., electrical engineers, 42, Victoria-st., Wellington.
Rich, Francis Arthur, A.AM.I.E.E., B.SC., M.A.I.M.E., M.I.M.E., Club-bldgs., Fort-st., Auckland. (Bedford McNeill Code used.)
Richardson, Stuart, M.I.E.E., A.AM.I.E.E., city electrical engineer & tramways manager, Wellington.
Richardson, W., engineer & manager Inglewood Electric Light & Power Co., Ltd., Inglewood, Taranaki.
Roberts, C. H., patent agent, 53, Esk-st., Invercargill. (P.O. Box 214. Teleph. No. 285.)
Robertson, C. C., inspector of Government Telegraphs, Nelson.
Rogers, H., superintendent, Car Sheds, Ponsonby, Auckland.
Rotorua Electric Power Plant, N.Z. Tourist Dept., Rotorua. Engineer-in-charge, L. Birks, B.SC., A.M.I.C.E.; station engineer, E. D. Beal.
Schlaadt Bros., engineers, Cumberland-st., Dunedin.
Scott, G., resident electrical engineer, City Council Electricity Works, Christchurch.

New Zealand—*continued.*

Scott Bros., Ltd., electrical engineers, 55, Manchester-st., Christchurch. (Telegs.: "Atlas, Christchurch.")
Selfe, P. H., superintendent, Eastern Extension Telegraph Co., Nelson.
Shepherd, F. R., A.AM.I.E.E., consulting electrical engineer, P.O. Box 361, Dunedin.
Simms, W. H., & Sons, agents for Messrs. Felten & Guilleaume Lahmeyerwerke Actien-Geselleschaft of Mülheim-on-Rhine, Christchurch.
Smart Brothers, electrical engineers, Broadway, Stratford (Telegs.: "Smart, Stratford." Teleph. No. 25); & Brougham-st., New Plymouth. (Telegs.: "Smart, New Plymouth." Teleph. No. 41.)
Smith, Alfred, superintendent, Pacific Cable Board, Doubtless Bay.
Smith, A., & Co., manufacturing electricians & motor experts, 189B, Manchester-st., Christchurch.
Smith & Smith, electric lighting contractors, 215, Tuam-st., Christchurch.
Stark, E. E., electrical engineer, City Corporation Tramways & Electric Power Dept., Dunedin.
Stewart, James H., electrician, Tay-st., Invercargill. (Teleph. No. 121.)
Stewart, Wm., electrician, Tauranga, Bay of Plenty.
Stokes, G. B. A., manager, United Electric Medical Supply Co., 205, Princes-st., & P.O. Box 333, Dunedin.
Stratford Electrical Supply Co., Ltd., P.O. Box 41, Stratford. (Telegs.: "Electric Supply, Stratford." Teleph. Nos.: Engineers, 79; Works, 19; Office, 28.) Registered Dec., 1899. Nominal capital: £5000 in £1 ordinary shares, of which 4039 have been issued. Directors: N. J. King, Esq. (chairman); R. H. Cameron, Esq.; J. B. Godkin, Esq.; S. H. Perritt, Esq.; A. W. Reid, Esq.; Geo. Smart, Esq.; A. W. Budge, Esq. Engineer, Walter J. Newton; secretary, J. P. Thompson. Dividends: 1907, 7 per cent.; 1908, *nil.*; 1909, 7 per cent.
Symington, Scott, engineer, Tramway Board, Christchurch.
Taylor & Oakley, engineers, 103 & 105, Colombo-st., Christchurch. (Teleph. No. 118.)
Thorne-George, Grey, A.M.I.E.E., Hall of Commerce, Auckland.
Timaru Electricity Works. Scott Bros, Ltd., props. (Teleph. No. 143.) Engr., J. Heal; elecn., A. R. Otway.
Tonkin, J. H., electrical engineer, 92, George-st., Dunedin.
Toomath, Edwd. B., electrical engineer, Aurora-ter., Wellington.
Tranter, J., & Sons, electrical & motor engineers, 99, St. Asaph-st., Christchurch.
Trevithick, G., A.M.I.E.E., engineer, Hawera County Electric Co., Ltd., Hawera, Taranaki.
Turnbull, R. T., M.I.E.E., electrical engineer, Turnbull & Jones, Ltd., Wellington.
Turnbull & Jones, Ltd., electrical engineers & contractors, Blair-st., Wellington; & at Dunedin; Christchurch; & Auckland. (Telegs.: "Turjon, Wellington.")
United Electric Medical Supply Co., 205, Princes-st., & P.O. Box 333, Dunedin. G. B. A. Stokes, man.
United Electrical Construction Co., Ltd., electrical & mechanical engineers, 87, Stuart-st., Dunedin. (Telegs.: "Haygarratt, Dunedin." A.B.C., 5th edition. Teleph. No. 717.)
Urquhart, C., electrician, Hawera County Electric Co.'s Power House, Normanby.
Ussher, E. R., district engineer, Public Works Department, High-st., Dunedin.
Vickerman, C. R., district engineer, Public Works Department, Wellington.
Waipori Falls Electric Power Co., 51, Crawford-st., Dunedin.
Wairo Electricity Works, Wairo. W. Andrews & Co., proprietors.
Waitara Electricity Works. W. Andrews & Co., proprietors.
Walker, Arthur J., A.M.I.E.E., consulting engineer, Underwriters' Association, 208, Victoria Arcade (P.O. Box 433), Auckland.
Walklate, J. J., general manager & engineer, Auckland Electric Tramways Co., Ltd., Auckland.
Ward, Hon. Sir J. Ed., K.C.M.G., Postmaster-General, Electric Telegraph & Railway Commissioner, Wellington.
Ware, W. H., A.M.I.E.E., Fire Underwriters' Association, Wellington.
Watkinson, B. T., & Son, electrical engineers, 64, Tuam-st., Christchurch. (Teleph. No. 2244.)
Wellington Municipal Electricity Works, Wellington. (Telegs.: "Generator, Wellington." Teleph. Nos. 540 & 2134.) Engineer, Stuart Richardson, M.I.E.E., A.AM.I.E.E.
Wellington (N.Z.) Municipal Electric Tramways, Wellington. Engineer & manager, Stuart Richardson, M.I.E.E., A.AM.I.E.E.
Wyllie, Alex., M.I.E.E., city electrical engineer, Auckland.
Wynne, H. J., A.M.I.C.E., signal & electrical engineer, New Zealand Railway, Wellington.

Norfolk Island.

Cuthbert, D., superintendent Pacific Cable Board.

Queensland.

Acetylene Gas Co., Ltd., importers of carbide of calcium, 48 & 50, Elizabeth-st., Brisbane.
Adams, Wm., & Co., Ltd., engrs.' furnishers, Eagle-st., Brisbane; & 521–3, Collins-st., Melbourne, Victoria.
Arundel, Wm., electrical engineer, Brisbane Tramways Co., Countess-st., Brisbane.
Badger, J. S., chief engineer & manager, Brisbane Tramways Co., Ltd., Brisbane.
Barnett, J. T., M.I.E.E., Tunlong, Tambourine Mountain.
Barton, E. G. Campbell, M.I.E.E., director City Electric Light Co., Ltd., Brisbane. (Local hon. secretary & treasurer I.E.E.)

Queensland—*continued.*

Behrends, Douglas C., A.I.E.E., Telephone Exchange, Rockhampton.
Bell, N. M., A.M.I.C.E., consulting, mechanical & civil engineer, 356, Queen-st., Brisbane (Telegs.: "Bell, Brisbane." Teleph. No. 1686); & Gympie.
Berkman, M., assistant manager of Government Telegraphs, Bowen.
Bernays, Charles E., patent attorney, consulting engineer & manufacturers' agent, 45, Adelaide-st., Brisbane. (Telegrams: "Bernays, Brisbane.")
Binnie & Co., mechanical engineers, Edward-st., Brisbane.
Brabant & Co., agents for Felten & Guilleaume Lahmeyerwerke, 76-8, Charlotte-st., Brisbane.
Bradford, John R., M.I.E.E., electrical engineer, Post & Telegraph Department, Brisbane.
Bright, Chas. E., A.M.I.E.E., Post & Telegraph Department, Brisbane.
Brisbane Tramways Co., Ltd., Brisbane. J. S. Badger, resident manager & engineer.
British Westinghouse Electric & Manufacturing Co , 45, Adelaide-st., Brisbane.
Bruce & Reeves, engineers, &c., Fitzroy Foundry, Rockhampton. (Teleph. No. 37.)
Bundaberg Foundry Co., Ltd., Bundaberg.
Burns & Twigg, engineers & boiler makers, Rockhampton.
Burton & Ruddle, electrical engineers, 193, Elizabeth-st., Brisbane.
Casperson, C. H., telegraph superintendent, Government Railways, Brisbane.
Charters Towers Electric Supply Co., Charters Towers. Engineer, F. W. Warden.
City Electric Light Co., Ltd., Ann-st., Brisbane. (Telegs.: "Herculean, Brisbane." A1 Code. Teleph. No. 403.) Registered Sept., 1896. Nominal capital: £77,500 in £1 ordinary shares, £20,000 in £1 preference shares & 2500 employees' shares. Issued: £40,000 ordinary shares, fully paid, £37,500 with 8*s.* paid, all the preference shares, & the employees' shares with £2 10*s.* per share paid. Directors: E. J. Holmes, Esq. (chairman); W. J. Young, Esq.; E. G. C. Barton, Esq. (engineer). Secretary, W. M. L'Estrange. Dividends: 1907, 6 per cent. on all shares; 1908, 6 per cent. on preference shares, 8½ per cent. on all other shares.
Connolly, J. J., dealer in electrical machinery, Mosman-st., Charters Towers.
Durant, J. H., A.M.I.E.E., Ringsfield Cottage, Wynnum, nr. Brisbane.
Electrical Association of Queensland, Courier-bldg., Brisbane.
Engineering Supply Co. of Australia, Ltd., cor. Edward & Charlotte-sts., Brisbane.
Evans, Anderson, Phelan & Co., engineers, Kangaroo Point, Brisbane.
Ferguson & Hayes, electrical engineers, George-st., Brisbane.
Finlayson Bros., consulting engineers, A.M.P.-chbrs., Brisbane.
Frankel, Philip & Co., engineers' furnishers & agents, 114, Edward-st. (P.O. Box 279), Brisbane. (Telegs.: "Frankel, Brisbane." Teleph. No. 549.)
Frew, R. D. A., A.M.I.C.E., Courier-bldgs., Brisbane.
Gibson, E. M., manager & engineer, Toowoomba Electric Light & Power Co., Ltd., Toowoomba.
Granowski, O., consulting engineer, 364, Queen-st., Brisbane (Telegs.: "Koppelrail, Brisbane." Teleph. No. 821); & 375, Kent-st., Sydney, N.S.W. (Telegs.: "Lichtpause, Sydney." Teleph. No. 2241.)
Green, H. H., electrical engineer, c/o Trackson Bros., Ltd., Brisbane.
Gulliver, T. A., district manager of Government Posts & Telegraphs, Townsville.
Hancox, S. H., teacher of electricity, Ipswich Technical College, Ipswich.
Hanna, E. L., A.M.I.E.E., manager of Telegraph Office, Brisbane.
Harriss, A. G., chief engineer, Irvinebank Mining Co., Irvinebank.
Hay, A., engineer, Mount Morgan Gold Mining Co., Mount Morgan.
Hoare, H., engineer, Rockhampton Gas & Coke Co., Ltd., Alma-st., Rockhampton.
Hockley & Co., Ltd., dealers in electrical supplies, Adelaide-st., Maryborough.
Hopper, R. W., electrician, Lake's Creek.
Ipswich Electricity Works, Ipswich. Queensland Government Railway Department, props.
Ipswich Technical College, Ipswich. *See* Schools.
Jack, W. T., Government Inspector of Works, Brisbane.
Jackson, A. G., electrical works, 65, Ann-st., Brisbane.
Johnson, F. S. N., machinery agents, Charters Towers.
Jones, E. Chetwynd, chief electrical engineer, Chillagoe Railway & Mining Co., Chillagoe.
Judd, T. C., superintendent, Pacific Cable Board, Southport.
L'Estrange, Wm. Mandeville, A.M.I.E.E., c/o City Electric Light Co., Ltd., Ann-st., Brisbane.
Lewis, G. A., engineer, Council Electricity Works, Thargomindah.
MacBrair Bros. & Co., importers of electrical appliances, &c., Charters Towers.
Macfarlane, Frank, A.I.E.E., electrician, Mount Morgan Gold Mining Co., Rockhampton.
McLennan & Co., hardware & machinery merchants, 148-156, Albert-st. (P.O. Box 257), Brisbane. (Telegs.: "McLennan, Brisbane." Teleph. No. 390.)
Mather, S. A., dealer in electrical supplies, Flinders-st., Townsville.
Matthews, George F., Engineer's Branch, Post & Telegraph Department, Brisbane.
Meggett & Lindley, electrical engineers, Brisbane.
Mills, T., jun., electrical engineer, c/o E. D. Mills & Co., Charters Towers.

Queensland—*continued.*

Mount Morgan Gold Mining Co., Ltd., Mount Morgan. Engineer, A. Hay; electrician, F. McFarlane.
Murphy, John Daniel, A.I.E.E., Telegraph Dept., Brisbane.
Nelson, W. M., A.M.I.E.E., A M.I.C.E., Gabbinbar, Toowoomba.
Nevill, F. G., signal & light engineer, Government Railways, Brisbane.
Nowlan, G. K., A.M.I.E.E., electrical engineer (Box 75), G.P.O., Brisbane.
Pagan, W., M.I.C.E., chief engineer for railways, Brisbane.
Paul & Gray, Ltd., engineers' supplies, Eagle-st., Brisbane; & Sydney.
Power, Jos., Engineering Branch, Post & Telegraph Department, Brisbane.
Queensland Electrical Association, Courier-bldg., Brisbane. C. Gasking, 220, Queen-st., Brisbane, sec.
Queensland Post & Telegraph Association, G.P.O., Brisbane. (H. A. Benjamin, general secretary.)
Reid, John, & Nephews, tramway contractors, 102–104, Edward-st., Brisbane.
Rockhampton Gas & Coke Co., Ltd., gas & electrical engineers, Alma-st., Rockhampton. Elecn., W. Kennedy; secretary, A. Lloyd. London agents: W. Coward & Co., 91, Finsbury Pavement, E.C.
Roseneder, Franz, M.I.E.E., telephone engineer, Telephone Exchange, Charters Towers.
Royal Society of Queensland, Brisbane.
Ruddle, S., electrical engineer, Elizabeth-st., Brisbane.
Ruthning Works, Ltd., electrical engineers, George-st., Brisbane.
Schick, Chr. G., electrician, 181, Albert-st., Brisbane.
Smellie & Co., machinery importers, Brisbane, Townsville, Cairns & London.
Smith & Faulkner, engineers, boiler makers & iron & brass founders, Brisbane.
Sutton, J. W., jun., A.M.I.E.E., electrical engineer, Post & Telegraph Department, Brisbane.
Synchronome Electrical Co. of Australasia, Ltd. (A. G. Jackson, manager), 65–69, Ann-st., Brisbane. (Teleph. No. 184.)
Taylor, D. G., electro-plater, George-st., Brisbane.
Thargomindah Electricity Works, Thargomindah. Shire of Bulloo, props. Engineer, G. A. Lewis.
Thompson, J., engineer, c/o Birt & Co., South Brisbane, Brisbane.
Tonks, T., manager, Brisbane Electrical Co., Elizabeth-st., Brisbane.
Toowoomba Electric Light & Power Co., Ltd., Toowoomba. (Teleph. No. 327.) Engineer, E. M. Gibson.
Towell, Wm., electrician, Brisbane-st., Ipswich.
Trackson, James, electrical engineer, Brisbane.
Trackson, Philange S., A.M.I.E.E., consulting engineer, Elizabeth-st., Brisbane.
Trackson Bros., Ltd., electrical engineers, suppliers & contractors, 48 & 50, Elizabeth-st., Brisbane.
Walker, F., A.I.E.E., State School Residence, Kelvin Grove, Brisbane.
Walkers, Ltd., engineers, Maryborough. (Telegs.: "Itolzak, Maryborough.")
Ward, A., engineer, City Electric Supply Co., Ltd., Brisbane.
Warden, F. W., engineer, Charters Towers Electric Supply Co., Charters Towers.
Watson, F. G., manager Telephone Exchange, Post & Telegraph Department, Brisbane.
Webb & Weston, consulting electrical engineers, Norman-chbrs., Brisbane.
Wells, W., dealer in electrical supplies, Maryborough.
Wilkins, H. F., Telegraph Department, Brisbane.
Williams, S., & Co., engineers & makers of windmills for electric lighting, pumping, &c., Rockhampton.
Young, W. J., electrician in charge of mains, City Electric Supply Co., Ltd., Brisbane.
Zoeller, C., & Co., importers of electro-medical & doctors' surgical instruments, &c., 296 & 298, Queen-st., Brisbane.

South Australia.

Adamson, John Holiday, A.M.I.E.E., Wallaroo & Moonta Mining & Smelting Co.
Adelaide Electric Supply Co., Ltd., Adelaide. Chief engineer, F. W. Clements, M.I.E.E.
Adelaide Municipal Tramways Trust, Adelaide. (Telegs.: "Tramways, Adelaide.") Chief engineer & general manager, W. G. T. Goodman, M.I.C.E., M.I.E.E.; chief assistant engineer, E. S. Moulden, A.M.I.E.E.; secretary, S. R. Booth, B A.
British Insulated & Helsby Cables, Ltd. (agents, Todd & Samuel), Brookman's-bldg., Adelaide.
Bullock, H. J., A.I.E.E., electrical engineer, St. Helens, Prospect, Adelaide.
Burgess, C. S., patent attorney, National Mutual-bldgs., King William-st., Adelaide. (Telegs.: "Vigilant.")
Central State Electric Co. (Thos. H. Latter), Morialta-chbrs., Victoria-sq., Adelaide.
Chapman, R. W., M.A., B.C.E., professor of engineering, University, Adelaide.
Clark, E. V., B.SC., A.M.I.C E., A.M.I.E.E., station superintendent, Municipal Tramways Trust, Adelaide.
Coghlan, James, A.M.I.E.E., resident engineer, Moyes Bros. (Melb.) Proprietary, Ltd., 7, Pirie-st., Adelaide.
Cooke, John Herbert, mechanical & consulting engineer & licensed patent agent, 75, King William-st., Adelaide. (Telegs.: "Homosum, Adelaide." Teleph. No. 970.)
Cummings, J., & Son, electrical engineers, 48, Rundle-st., Kent Town.
Dewhirst, T. Y., chief electrician, South Australian Government Railway Service, Adelaide.
Dobbie, A. W., & Co., machinists, brass founders, &c., Gawler-pl., Adelaide. (Telegrams: "Dobbie Co., Adelaide." Telephone No. 305.)

South Australia—*continued.*

Duncan, Richard A., electrical engineer, Franklin-st., Adelaide.

Eastern Extension Australasia & China Telegraph Co., Ltd., King William-st. & Stock Exchange, Adelaide. Acting superintendent, R. R. Black.

Ellis & Clark, electrical engineers & electric light contractors, 10, 12, 14 & 16, Blyth-st., Adelaide. (Telegs.: "Ellis Clark, Adelaide." Teleph. No. 751.)

Finkelstein, Mendel, A.I.E.E., electrical engineer, Bank-st., Adelaide.

Goodman, W. G. T., M.I.C.E., M.I.E.E., chief engineer & general manager, Municipal Tramways Trust, Adelaide. (Telegs.: "Tramways, Adelaide.")

Hill, James, & Sons, general merchants & machinery importers, 63, Grenfell-st., Adelaide. (Telegs.: "Hill, Adelaide." Teleph. No. 447.)

Inglis, W., A.M.I.E.E., electrical engineer, Adelaide Electric Supply Co., Grenfell-st. East, Adelaide.

Jackman, R. E., electrical engineer & importer, Leigh-st., Adelaide.

Johnson, L. M., electrician, Leigh-st., Adelaide.

Johnston, J. M. L., inspector of Posts & Telegraphs, Adelaide.

Johnstone, Edward A., A.I.E.E., 100, Currie-st., Adelaide.

Jones, A., & Sons, iron & steel founders, Victoria-st., Adelaide.

Kadina Electricity Works, Kadina. Engineer, H. R. S. Pennifold.

Klopper & Laming, electricians, Topham-st., Adelaide.

Köhler, G. C., mathematical instrument maker, Flinders-st., Adelaide.

McLaren, D. Eardley, A.M.I.E.E., Leigh-st., Adelaide. (Telegs.: "Generator, Adelaide." Tel. 1158 & 1078.)

Madsen, J. P., A.AM.I.E.E., Lecturer in Electrical Engineering, University of Adelaide, Adelaide.

Martin, Harold, & Co., electrical engineers, Port Adelaide.

May Bros. & Co., engineers, Gawler.

Mellor, T. W., electrical inspector, Municipal Tramways Trust, Adelaide.

Moncrieff, Alex. B., M.I.C.E., Commissioner of Railways, Victoria-sq., Adelaide.

Moulden, E. S., A.M.I.E.E., chief assistant engineer, Adelaide Municipal Tramways Trust, 8, King William-st., Adelaide.

Neuenkirchen, H., electrician, Gawler-pl., Adelaide.

Newton, McLaren, Ltd., electrical engineers, Leigh-st., Adelaide. (Telegs.: "Generator, Adelaide." Teleph. Nos. 1158 & 1078.)

Onslow, H. P., B.A., A.M.I.E.E., mains supt., Adelaide Electric Supply Co., Ltd., Grenfell-st., Adelaide.

Pennifold, H. R. S., engineer, Electricity Works, Kadina.

Pitcher, A. J., supervisor Eastern Extension Telegraph Co., Port Darwin.

Purvis, Wm. J., electrician, Cornwall Foundry, Hindley-st. West, Adelaide. (Teleph. No. 1069.)

Richards, J. B., assistant electrical engineer, Postmaster-General's Department, G.P.O., Adelaide.

Royal Society of South Australia, Incorp., Adelaide. (J. C. Verco, M.D., F.R.C.S., president; W. Rutt, C.E., hon. treasurer; G. G. Mayo, C.E., hon. secretary.)

Rutt, Walter, chief engineer for Railways, Adelaide.

Sharp, L. Hey, B.SC., B.E., lecturer in electrical engineering, University, Adelaide.

Shepley, Arthur, electrician, Port Pirie.

Slater & Co., electrical engineers, contractors & suppliers of electrical goods, Universal-bldgs., Grenfell-st., Adelaide. (Telegs.: "Slater, Adelaide." Teleph. No. 636.)

South Australian Electric Telegraph Association, Adelaide. T. A. Bradshaw, hon. secretary.

South Australian Institute of Surveyors (Incorporated), 9 & 10, Howard Smith-chbrs., King William-st., Adelaide. (President, A. B. Moncrieff; hon. sec., J. H. Packard.)

South Australian School of Mines & Industries, North-ter., Adelaide. (Teleph. No. 456.)

Sutherland, K. W., A.M.I.E.E., A.M.I.MECH.E., managing engr., Todd & Samuel, Brookman's-bldg., Adelaide.

Todd, Sir Chas., K.C.M.G., M.A., F.R.S., F.R.G.S., M.I.E.E., 353, Angus-st. East, Adelaide.

Todd & Samuel, electrical & general engineers, 65–70, Brookman's-bldg., Adelaide. (Cables: "Minerals, Adelaide." Western Union Code.) Agents for Brush Electrical Engineering Co., Ltd.; Babcock & Wilcox, Ltd.; A. Borsig; Arthur Koppel & Co.; British Insulated & Helsby Cables, Ltd.; Goldschmidt's Thermit Welding Process; Gwynne & Co.

Unbehaun, C. A., M.I.E.E. (local hon. sec.), electrical engineer, South Australian Government Telegraphs & Telephones, G.P.O., Adelaide. (Teleph. No. 200.)

Unbehaun & Johnstone, electrical engineers & importers, 100, Currie-st., Adelaide (Teleph. Nos. 900 & 810); & Murray-st., Perth. (Teleph. No. 1126.)

Union Engineering Co., Ltd., manufacturers & machinery importers, Morphett-st. & Cripper-pl., Adelaide.

University of Adelaide, Adelaide. For Professors, *see* CLASSIFIED SECTION.

Waddy, R. W. M., J.P., Deputy Postmaster-General, Adelaide.

Walker, Thos., district electric fitter, South Australian Government Railways, Petersburg.

Wallaroo & Moonta Mining & Smelting Co., Ltd., Electricity Works, Wallaroo Mines. Engineer, J. W. Adamson, A.M.I.E.E.

Webster, L., superintendent Eastern Extension Telegraph Co., King William-st., Adelaide.

Wheadon, F. W., A.M.I.E.E., engineer, Adelaide Electric Supply Co., Ltd., Grenfell-st., Adelaide.

South Australia—*continued.*

Wickham, C. H., rolling stock superintendent, Municipal Tramways Trust, Adelaide.
Wilkinson, T., electrical engineer, British Insulated & Helsby Cables, Ltd., Adelaide.
Williams, Fred., A.M.I.E.E., electrical engineer, British Insulated & Helsby Cables, Ltd., Adelaide.

Tasmania.

Allport, Russell, A.M.I.E.E., electrical engineer, Melville-st., Hobart.
Allport, Russell, & Co., electrical engineers, Melville-st., Hobart.
Anderson, W. J. A., A.M.I.E.E., 43, Anne-st., Launceston.
Barclay, Jas., dealer in electrical supplies, 108, Brisbane-st., Launceston.
Batchelor, J. F., electrical engineer, New Norfolk.
Benjafield, Frederick, post & telegraph master, Burnie.
Beresford, C. H., engineer, Council Electricity Works, Deloraine.
Bernard, G. C., resident engineer, Tasmanian Government Railways, Strahan.
Bertoli, A. C., engineer, Town Electricity Works, Zeehan.
Bowden, Frank P., manager Government Telegraphs, G.P.O., Hobart. (Teleph. No. 70.)
Bryan, P., inspector of lines, Government Telegraph & Telephone Service, Launceston.
Burgess, E. H., A.I.E.E., electrical engineer, Burgess Bros., Hobart.
Champion, Fred., electrician, Macquarie-st., Hobart.
Coogan, W., & Co., dealers in electrical supplies, 114, Brisbane-st., Launceston.
Crump, John, post & telegraph master, Strahan.
Davies, Cecil B., A.I.E.E., electrical engineer, Hobart Electric Tramway Co., Hobart.
Davis, Chas., dealer in electrical supplies, Elizabeth-st., Hobart.
Deeble, W. R., M.I.MECH.E., chief mechanical engineer, Tasmanian Government Railways, Launceston.
Dell, J. J., electrician, Charles-st., Launceston.
Deloraine Council Electricity Works, Deloraine. Engineer, C. H. Beresford.
Devonport Municipal Electricity Works, Devonport. Resident engineer, G. H. Lofts.
Edwards, E., inspector of telegraph & telephone lines, Hobart.
Emmett, Chas., post & telegraph master, Gormanston.
Fire Underwriters' Association of Tasmania, Macquarrie-st., Hobart. Lomas Smith, secretary; Noel Murray, inspector.
Fulton, R. N., Mount Bischoff Tin Mining Co., Waratah.
Fysh, H. K., & Co., agents for Silvertown India-Rubber Co. & general electrical supplies, Collins-st., Hobart. (Telegs.: "Fysh, Hobart." Teleph. No. 22.)
Glasgow Engineering Co., general engineers, Launceston.
Gunn, J. & T., importers of electrical apparatus, Brisbane-st., Launceston. (Telegs.: "Timber, Launceston.")
Hales, W. P., resident engineer, Tasmanian Government Railways, Launceston.
Hallam, Wm. P., electrical engineer, Government Telegraphs, G.P.O., Hobart. (Teleph. No. 493.)
Hart, W., & Sons, dealers in electrical supplies, 132, Charles-st., Launceston.
Hobart Electric Tramway Co., Ltd. (A. C. Parker, general manager), Hobart.
Hobart Gas Co. Electric Supply Works, Macquarie-st., Hobart. Engineer, H. J. Spencer, A.I.E.E.
Huckson & Hutchinson, consulting engineers, Franklin-chbrs., Macquarie-st., Hobart.
Illingworth, James, dealer in electrical supplies, Devonport.
Jackson, S., electrician, Pioneer Tin Mining Co., Bradshaw's Creek.
Jewkes, Spencer, A.M.I.E.E., station engineer, Municipal Electricity Works, Launceston.
Langford, F. L., patent agent, 12, Elizabeth-st., Hobart. (Telegs.: "Langford, Hobart." Teleph. No. 376.)
Launceston Municipal Electricity Works, Launceston. City electrical engineer, R. J. Strike, A.M.I.E.E.
Lindsay, Tulloch & Co., agents for Babcock & Wilcox, Ltd., Launceston.
Lofts, G. H., A.M.I.E.E., engineer, Town Board Electricity Works, Devonport.
McCormick, J. M., general manager of Government railways, Hobart. (Teleph. No. 313.)
McElwee, Geo., test-room electrician, City Electricity Works, Launceston.
McQueen, S., post & telegraph master, Stanley.
Marsh, H. J., & Co., dealers in electrical supplies, Murray & Collins-sts., Hobart.
Masters, A. Harold, electrician, 66, Cameron-st., Launceston.
Morey, G. E. D., Government post & telegraph inspector, Hobart.
Mount Bischoff Tin Mining Co., Waratah. Manager, J. D. Millen; engineer, R. N. Fulton.
Mount Lyell Mining & Railway Co., Ltd., Queenstown. Engineer, G. W. Wright.
Nairn, C. C., superintending engineer for existing lines, Tasmanian Government Railways, Hobart.
Normoyle, T., A.I.E.E., of Russell Allport & Co., Melville-st., Hobart.
Parker, A. C., electrical engineer (Siemens Bros. & Co., Ltd.), manager, Hobart Electric Tramway Co., Ltd., Hobart.
Pohl, I., electrician, Pioneer Tin Mining Co., Bradshaw's Creek.
Queenstown Electricity Works, Queenstown. Engineer, G. W. Wright.
Robertson Brothers, mechanical & general engineers, Macquarie-st., Hobart Town.

Tasmania—*continued.*

Rowntree, F., & Son, electrical engineers & contractors, Gladstone-st., Hobart.
Royal Society of Tasmania, Hobart.
Rutt, Pattisson Talfourd, post & telegraph master, Launceston.
Salisbury Foundry Co., importers of electrical apparatus, Charles-st., Launceston.
Self, T. E., A.M.C.E.C., electrical engineer, fitter Postal Telegraphs, Hobart.
Spencer, H. J., A.I.E.E., engineer, Hobart Electric Supply Works, Hobart.
Street, H. E., electrician, Tasmain Gold Mine, Beaconsfield.
Strike, R. J., A.M.I.E.E., city electrical engineer, Town Hall, Launceston.
Tattersall, A. W., & Co., dealers in electrical supplies, Burnie.
Todd, A. J., A.M.I.E.E., electrical engineer, 71, Collins-st., Hobart.
Watchorn & Oliver, agents & importers of electrical supplies, No. 7, Elizabeth-st., Hobart.
Wright, G. W., engineer, Electricity Works, Queenstown.
Yeates, H., optical & mathematical instrument maker, 64, Macquarie-st., Hobart.
Zeehan Municipality Electricity Works, Zeehan. Engineer, A. C. Bertoli. (Teleph. No. 93.)

Victoria.

Adams, A., electrical agent, 509, Collins-st., Melbourne. (Telegs.: "Zingari, Melbourne." Teleph. No. 4348.)
Aikman, John, dealer in electrical supplies, 55, Cardigan-pl., South Melbourne.
Alabaster, W. H., A.M.I.E.E., chief assistant engineer, Corporation Electricity Works, Melbourne.
Alcock, Alfred U., M.I.E.E., electrical engineer, 404–6, Elizabeth-st., Melbourne. (Telegs.: "Voltages, Melbourne." Teleph. No. 2767.)
Alexander, John, electrician, 7, Madeleine-st., Carlton.
Allgemeine Elektricitats Gesellschaft, 4, Somerset-pl., Melbourne. Staerker & Fischer, representatives.
Allis-Chalmers-Bullock Co., manufacturers & importers of steam, electrical & water power machinery, 115–117, Elizabeth-st., Melbourne.
American Electrical Engineering Co., 248, Little Collins-st., Melbourne.
Anderson, James, dealer in electrical supplies, 251, Dorcas-st., South Melbourne.
Anderson, W., & Sons, engineers, Lincoln-st., Richmond, & Melbourne.
Ashman, Wm. Henry, A.I.E.E., c/o Sutherland & Ashman, 369, Flinders-st., Melbourne. (Tel. No. 2117.)
Austral Otis Engineering Co., Ltd., South Melbourne. (Telegs.: "Lyndentree, Melbourne." Teleph. No. 331.)
Australian General Electric Co., Equitable-bldg., Melbourne; & Clarence-st., Sydney. Representing the General Electric Co. of New York, U.S.A., & British Thomson-Houston Co., Ltd., Rugby, England. (Telegs.: "Senojaw," Melbourne & Sydney.)
Australasian Hardware & Machinery (monthly; ann. sub., 5*s.*), Fink's-bldgs., 8, Elizabeth-st., Melbourne.
Australian Metal Co., Ltd., agents for Brown, Boveri & Co., Ltd., 113, William-st. (P.O. Box 221), Melbourne.
AUSTRALIAN MINING STANDARD & ELECTRICAL RECORD (weekly), 376, Flinders-lane, Melbourne; & 12, O'Connell-st., Sydney, N.S.W. (Ann. sub., £1 10*s.*) (Cables: "Critchpar.") London: 2, Nicholas Passage, Lombard-st., E.C. (Teleph. No. 2020, Central.) *See advt., page* 846.
Avery, D., M.SC., electro-chemist, Working Men's College, Melbourne.
Baker & Woods, electrical engineers, Hargreaves-st., Bendigo.
Ballarat School of Mines, Ballarat. *See* SCHOOLS.
Banks, Clifford, engineer & brassfounder, 12, Park-st. West., Brunswick.
Barcachi, Pietro, director, Observatory, Melbourne.
Barnet Glass Rubber Co., Ltd., insulating material manufacturers, 289, 291, 293, Swanston-st, Melbourne; & Para Rubber Works, Footscray.
Bartram, J., & Son, telephone specialists & electricians, 19–23, King-st., Melbourne.
Bear, J., F.M.I.P.A., patent agent, 369, Collins-st., Melbourne.
Beckwith, F., electrical engineer, Hamilton.
Beeman, J. S., electrical engineer, 60, Queen-st., Melbourne.
Bennie, Teare & Co., mining material & representatives of Tangyes, Ltd., Birmingham, a'Beckett-st., Melbourne (Telegs.: "Manx, Melbourne." Teleph. Nos. 459 & 433); & Sydney, Perth & Coolgardie.
Berry Bros., machinery importers, Whiteman-st., South Melbourne.
Bevan & Edwards Propty., Ltd., engineers & machinery merchants, 568–578, Latrobe-st., Melbourne. (Cables: "Mechanical, Melbourne." Western Union, A1, A.B.C., 5th ed., Lieber's & Own Codes. Teleph. No. 310.)
Blandford, William, assistant manager, Electrical Telegraph Dept., Melbourne.
Bodycomb, Bedlington, patent & trade marks attorney & consulting engineer, St. James-bldgs., cor. Bourke & William-sts., Melbourne.
Booth, J., M.C.E., B.SC., civil & electrical engineer, 25, Rathdown-st., Carlton, & Melbourne.
Booth Bros., engineers & electricians, Barker's-rd., Hawthorn.
Bourne, Robt. O., M.I.E.E., Civil Service inspector, Melbourne.

Victoria—*continued.*

Bowen, W., & Co., chemical manufacturers, 358, Collins-st. West, Melbourne.
Boyle, Chas., locksmith, engraver & electrician, 439, Little Collins-st., Melbourne.
Brearley, J. H. D., B.Sc., B.E., M.I.E.E., A.M.I.C.E., c/o Noyes Bros., Melbourne.
British Insulated & Helsby Cables, Ltd., 493–495, Collins-st., Melbourne. (H. Clement Newton, A.M.I.E.E., engineer & manager for Australasia.) (Telegs.: "Insulator, Melbourne." Teleph. No. 2215.)
British Thomson-Houston Co., electrical engineers, Equitable-bldg., Melbourne.
Brown, G. J., & Co., dealers in electrical supplies, 33–36, Eastern Market, Melbourne.
Brush Electrical Engineering Co., Ltd., 550–552, Collins-st., Melbourne; 122, Murray-st., Perth, West Australia; Parbury-bldgs., Eagle-st., Brisbane, Queensland; Canada-bldg., Hornby-rd., Bombay; P.O. Box 263, Yokohama; P.O. Box 435, Johannesburg; rua de Quitanda 37, Rio de Janeiro; Calle Bolivar 157, Buenos Aires; Calle Pelayo 12, Barcelona; 29, Broadway, New York City; & 77, Waterport-st., Gibraltar.
Burman, E. S., consulting engineer, 59, William-st., Melbourne.
Cameron & Sutherland, machinery merchants, 20–26, Queen's Bridge-st., Melbourne (Telegs.: "Expansion, Melbourne." Teleph. No. 3438); & at Ballarat, Bendigo & Sydney.
Campbell, F. A., M.C.E., director of Working Men's College, Latrobe-st., Melbourne. (Teleph. No. 828.)
Camperdown Electricity Works, Camperdown. Hampden Shire Council, props. Resident engineer, G. B. Lincolne.
Canning, W. E. (agent for W. Canning & Co., Birmingham, England), Condell's-lane, Post Office-pl. (P.O. Box 309), Melbourne. (Cablegrams: "Canning, Melbourne." Teleph. No. 1836.)
Caro Bros., importers of electrical supplies, 366, Little Collins-st., Melbourne.
Carpenter, Harry, electrical engineer, &c., Whiteman-st., South Melbourne.
Cassilis Gold Mine Co. Mine office: Tongis West, East Gippsland.
Cathcart Proprietary Gold Mining Co., Ararat. Engineer, J. Hamilton.
Cave, Hy., & Co., agents for electrical apparatus makers, 351–353, Flinders-lane, Melbourne.
Cawley, M. J., assistant manager, Government Telegraphs, Melbourne.
Chambers & Seymour, dealers in electrical supplies, 221–223, Collins-st., Melbourne.
Chick, B., electrician, 94, Wellington-st., Collingwood.
Christie, Cecil E. B., A.I.E.E., 26, Grand View Grove, Armadale, Melbourne.
Christy, F. C., consulting engineer, Box 14, Exchange, Melbourne.
Clark, Donald, electrician, School of Mines, Bendigo.
Clarke, E. S., locksmith & electrician, Ryrie-st., Geelong.
Clarke, Padley & Co., importers, machinery & electrical supplies, indentors, manufacturers' agents, &c., 533, Collins-st., Melbourne. (Cable address: "Padley, Melbourne.")
Clayton, Alfred, M.I.E.E., electrical engineer, Hampton-st., Brighton.
Clayton-Joel, W., & Co., electrical engineers, importers, manufacturers & contractors, 120, King-st., Melbourne. (Teleph. No. 2334.)
Clemenger Bros. & Co., iron & steel manufacturers, 289 & 291, City-rd., South Melbourne. (Tel. No. 3138.)
Clements, Francis W., M.I.E.E., Melbourne Electric Supply Co., Ltd., 31, Queen-st., Melbourne.
Coates, M. C., A.M.I.E.E., c/o J. Coates & Co., 99, Queen-st., Melbourne.
Cohen, N. H., A.M.I.E.E., c/o G.P.O., Melbourne.
Colin, J., engineer, Towns Lighting & Power Co., Ltd., Deniliquin.
COLLISON & CO., patent & trade mark attornies, 483, Collins-st., Melbourne; & Eagle-chbrs., King William-st., Adelaide. (Telegs.: "Collimator, Melbourne Australia." A.B.C. Code, 5th edition, & Western Union. Telephone Nos.: 3131, Melbourne; & 114, Adelaide.)
Conyers, Wm., patent agent, 483, Collins-st., Melbourne.
Cooper, John, & Sons, dealers in electrical supplies, 287–289, Elizabeth-st., Melbourne.
Corrugated Surface Condenser Co., Melbourne.
Cowan, Alex., & Sons, Ltd., agents to Crossley Bros., Ltd., for the "Otto" Gas & Oil Engines, Melbourne, Victoria, & Sydney, N.S.W. (Telegrams: "Cowans, Melbourne," or Sydney. Telephone Nos.: 54, 716 & 1470, Melbourne; & 4441, 4442 & 4443, Sydney.)
Craig, James R., A.I.E.E., electrician, Carmel, Glendearg Grove, Malvern.
Craven, John H., machinery merchant, 21–25, Kavanagh-st., South Melbourne.
Crothers, A. R., electrical engineer, Camperdown & Terang.
Crown Steel Conduit Co., electricians, &c., c/o Rowe, Drew & Co., 32, Market-st., Melbourne.
Cumming, W., & Co., wiring contractors, engineers & importers, 226, Little Collins-st., Melbourne. (Teleph. No. 2122.)
Currie & Richards, importers of electrical supplies, 473–481, Elizabeth-st., Melbourne.
Dall, J. J., machinery agent, 495, Little Bourke-st., Melbourne.
Dane, J. E., A.M.I.E.E., "Springfield," Illawarra-rd., Hawthorn, Melbourne.
Danks, A. T., engineer & electrician, 391, Bourke-st. West, Melbourne.
Danks, John, & Son, Proprietary, Ltd., hardware merchants, mechanical engineers & brass founders, 391, Bourke-st., Melbourne (Telegs.: "Danks, Melbourne." Teleph. Nos.: 124 & 192, Central; & 536, City); & 324–330, Pitt-st., Sydney, N.S.W. (Telegs.: "Danks, Sydney." Teleph. Nos. 280 & 2814.)

Victoria—*continued.*

Davies, J., & Co., machinery importers, 235, Franklin-st., Melbourne.
Davies & Kershaw, engineers & pump makers, Citizens-chbrs., 285, Collins-st., Melbourne (Telegs.: "Saturnus, Melbourne"); & Grahamstown, N.S.W.
Davies, Shephard & Co., electrical apparatus manufacturers, Clarke-st., South Melbourne. (Teleph. No. 848.)
Dawson, John Alex., J.P., M.I.E.E., managing director Electro Hydraulic Gold Dredging Co., Linton.
Day & Sloan, electrical engineers, 12, Little Bridge-st., Ballarat.
Deakin, B., M.I.M.E., M.I.E.E., Wendouree Parade, Ballarat; engineer & general manager Electricity Supply Co. of Victoria, Ltd.; Ballarat Electricity Supply Works & Tramways; Bendigo Electricity Supply & Tram Works & Electricity Supply Works, Coolgardie, Western Australia.
Deep Leads Electric Transmission Co., Charlotte Plains. Engineer, W. McFarlane.
Deniliquin Electricity Works. Towns Lighting & Power Co., Ltd., proprietors. Engineer, J. Colin.
Donald Electric Supply Co., Ltd., Donald. Engineer, F. K. Johnesen.
Dougall, William, electrician, 21, Park-st. West, South Melbourne.
Dowling, Wm. T., electrical engineer, 221, Whitehall-st., Yarraville.
Downing, F. H., electrical engineer, 23, Elizabeth-st. & Somerset-pl., Melbourne.
Draper, Thos. T., & Co., electrical, mechanical & consulting engineers, 267, Little Collins-st., Melbourne.
Duckett, E., & Sons, iron & steel merchants, 374 & 376, Lonsdale-st., Melbourne.
Edgar, F. W., electrical engineer, 11, Russell-st., Melbourne.
Edington & Son, dealers in electrical supplies, 59–61, Queen Bridge-st., & 226, Park-st., South Melbourne.
Edmiston & O'Neill, electrical engineers, Somerset-pl., Melbourne.
Edwards, J. E., telegraph & electrical engineer, 138, Little Collins-st. East, Melbourne.
Edwards, W., machinery merchant, 521, Collins-st., Melbourne.
Edwards, John E., & Co., electricians, 152, Little Collins-st., Melbourne.
Electric Apparatus Supply Co., 152, Little Collins-st., Melbourne.
Electrical Association of Victoria, Champion-bldgs., Swanston-st., Melbourne. (Teleph. No. 125.) H. R. Harper, M.I.E.E., president; hon. sec., E. H. W. Westwood, B.SC., A.M.I.E.E.
Electricity Supply Co. of Victoria, Ltd., Wendouree Parade, Ballarat (Benjamin Deakin, engineer & general manager; assistant engineer & manager, E. J. Cochrane); & Bendigo.
Electro-Dynamic Co., 404–6, Elizabeth-st., Melbourne. (Telegs.: "Voltages, Melbourne.") Manager, Geo. McFarlane; consulting electrician & director, A. U. Alcock, M.I.E.E.
Evans, Heber D., A.M.I.E.E., Commonwealth Patent Department, Melbourne.
Evans, Percy B., electrician, 5, Westbank-ter., Richmond.
Evans, Thornton & Co., general engineers & agents, Melbourne; & 349, Bartolomé Mitre, Buenos Ayres, Argentina.
Excelsior Electrical Co., electrical engineers, 430, Bourke-st., Melbourne.
Felton, Grimwade & Co., manufacturing chemists, 342, 344 & 346, Little Flinders-st., Melbourne.
Ferguson, M., engines, Footscray.
Fire Underwriters' Association of Victoria, 60, Market-st., Melbourne. Hugh MacLean, secretary; Noel Murray, electrical inspector. (Teleph. No. 1896.)
Fisher, Fredk., dealer in electrical supplies, Maryborough.
Fowler, Thos. W., M.I.E.E., electrician, 60–62, Market-st., Melbourne. (Teleph. No. 4143.)
Frankish, John Raven, A.I.E.E., Town Hall, Melbourne.
Fraser, Alex., Proprietary, Ltd., metal brokers & merchants, 368, Flinders-st., Melbourne. (Telegs.: "Jasfras, Melbourne.")
Fyvie & Stewart, agents for W. H. Allen, Son & Co., Ltd., 34, Queen-st., Melbourne; & Australian-chbrs., Martin-pl., Sydney, N.S.W.
Ganz & Co., Ltd., electrical & milling engineers, 11, Russell-st., Melbourne. (Telegs.: "Pinschof, Melbourne." Teleph. Central 690.) Agents, Pfaff, Pinschof & Co.
Gaskell, F., electrician, 60, Highbury-grove, Prahran.
Geelong, Central Electric Light Station. Melbourne Electric Supply Co., Ltd., proprietors. G. G. Jobbins, resident engineer.
Gillan, J. D., electrical inspector, Public Works Department, Melbourne.
Golden Bar Extended Mine, Chiltern.
Goodwin, L., electrical engineer, 347, Queen-st. West, Melbourne.
Gordon Technical College (Geo. R. King, director), Geelong. (Teleph. No. 177.)
Government Telephone Exchange, Wills-st., West Melbourne.
Granger, Chas., electrician, 229, Collins-st., Melbourne.
Grasset, R. J. W., electrical & mechanical engineer, 10, Railway-pl., South Yarra.
Gray, Daniel, A.I.E.E., electrician, 60, Morris-st., Williamstown.
Greenhill, John, electrical engineer, Colac.
Grundy & Co., dealers in electrical supplies, 555–557, Sydney-rd., Brunswick. (Telegs.: "Grundwerk, Melbourne.")

Victoria—*continued.*

Hake, C. N., F.C.S., electrician, Melbourne Club, Melbourne.
Hallorans, J. O., electrical engineer, Electric Supply Co. (Proprietary), Ltd., Kerang.
Hamilton, J., engineer, Cathcart Gold Mines, Ararat.
Hamilton Electric Supply Co., Hamilton. Engineer, F. Beckwith.
Hardie, James, & Co., machinery agents, 582–584, Little Collins-st., Melbourne.
Harper, H. R., M.I.E.E., city electrical engineer, Town Hall, Melbourne.
Harvey, Shaw & Co., dealers in electrical supplies, 358, Little Collins-st., Melbourne.
Haussegger, A., consulting electrical engineer, 11–17, Russell-st., Melbourne.
Haussegger, A. J., resident engineer in Australia for the Ganz Electric Co., Ltd., & Ganz & Co., Ltd., of Budapest, 11–17, Russell-st., Melbourne. (Telegs.: "Haussegger, Melbourne." Teleph. Central 690, & City 1669.)
Henley's, W. T., Telegraph Works Co., Ltd., 546–550, Collins-st., Melbourne. P. Rosling, M.I.E.E., mgr.
Hesketh, John, A.M.I.C.E., M.I.E.E., chief electrical engineer, Postmaster General's Dept., Melbourne. Local hon. secretary & treasurer of the I.E.E.
Hinwood, L. G., electrical engineer, Australian General Electric Co., Equitable-bldgs., Melbourne. (Teleph. No. 2647, Central.)
Hirsch Bros., dealers in electrical supplies, Melbourne.
Hodgson, Norman A., engineer & manager, Kerang Electric Supply Co. Pty., Ltd., Kerang.
Holloway, Claude W., electrical engineer, 493, Bourke-st., Melbourne.
Holmes, Wm. A., A.I.E.E., telegraph superintendent, Victorian Railways, Melbourne.
Holroyd, T., electrical engineer, 31, Queen-st., Melbourne.
Holt, F. L., electrical engineer, 164–166, Flinders-st., Melbourne.
Hood & Pirie, electricians, 94, Burwood-rd., Hawthorn.
Howard, T., M.I.E.E., engineer Govt. telegraphs, & hon. secretary Telegraph Elec. Society, Melbourne.
Huffer, H. J., inspecting officer, Postal & Telegraph Service, Bendigo.
Hyde, T. C., & Co., manufacturing electricians, 386, Flinders-st., Melbourne.
Hyslop, H. F., machinery importer, 352–354, Latrobe-st., Melbourne.
Ingersoll-Rand Co., makers of electric air rock drills, 41, Queen-st., Melbourne. (Telegs.: "Ingersoll, Melbourne." Teleph. No. 4623.)
Inglewood Electric Supply Co. (Proprietary), Ltd., Inglewood. Office: City-chbrs., Bendigo. Registered Jan. 23, 1905. Nominal capital: £2000 in £50 ordinary shares. Issued: £1350 fully paid. Directors: S. G. Gadd, Esq. (chairman); W. Casley, Esq.; W. Kick, Esq. Engineer, W. Thornely; secretary, J. J. Stanistreet.
Jackson, A. Henrick, B.SC., M.I.E.E., F.C.S., chemical & electrical engineer & principal of the Electrical Engineering School, 349, Collins-st., Melbourne.
Jackson, G. E., senior inspector, Postal & Telegraph Service, Melbourne.
Jaques Bros., engineers & makers of electrical shearing machines, Coppin-st., Richmond.
Jenvey, H. W., M.I.E.E., Electrical Engineer, Post & Telegraph Department, Melbourne. (Teleph. Nos. 182, 377, 635 & 419.)
Jobbins, Geo. G., A.M.I.E.E., resident engineer, Melbourne Electric Supply Co., Ltd., Corio-ter., Geelong.
Johnesen, F. K., engineer, Donald Electric Supply Co., Ltd., Donald.
Johns & Waygood, Ltd., makers of electric cranes & lifts, City-rd., South Melbourne. (Teleph. Central 677 & 817.)
Johnson & Sons, machinery importers, Tyne Foundry, Yarra Bank, South Melbourne. (Telegrams: "Sarrenta, South Melbourne." Telephone No. 241.)
Kay, Macnicol & Co., electrical & mechanical engineers, 31, Queen-st., Melbourne.
Kaye, J. G., electrical engineer, Collins-st., Melbourne.
Kerang Electric Supply Co. Pty., Ltd., Kerang. Engineer & manager, Norman A. Hodgson.
Kernot, M. E., chief engineer for railway construction, Victorian Government Railways, Melbourne. (Telegs.: "Rails, Spencer-st., Melbourne." Teleph. Central 181.)
Kernot, Wilfrid N., B.C.E., A.M.I.E.E., Technical College, Latrobe-st., Melbourne.
Key, J. F., engineer, Electricity Works, Walhalla.
Kilmore Electric Supply Co., Kilmore. Engineer, F. C. Waterfall.
King, Alexander, medical electrician, 287, William-st., Melbourne.
Kirkby, E. H., electrical engineer, c/o Wormald Bros. & Wears, 413, Collins-st., Melbourne.
Knight, J., & Co., electric battery & machine mfrs., 7, Butcher-lane, Little Collins-st., Melbourne.
Knox, Schlapp & Co., mining engineers & metallurgists, Broken Hill-chbrs., 31, Queen-st., Melbourne. (Cables: "Knox, Melbourne." Teleph. No. 776.)
Kyte, W. H., medical electrician, 31, Spring-st., Melbourne.
Lee, H. S., dealer in electrical supplies, 94–96, Skipton-st., Ballarat.
Lempriere, W. & J., mining machinery merchants & contractors, 506, Little Collins-st., Melbourne. (Telegs.: "Lemprie, Melbourne.")
Leongatha Electricity Works, Leongatha, Gippsland. Manager, — Wilson.
Leopold, E. W., electrician, Deakin-st., St. Kilda.

Victoria—*continued.*

Lincolne, G. B., engineer, Electricity Works, Camperdown.
Lockey, P. V., A.M.I.E.E., "Kinguosi," Elizabeth-st., Toorak, Melbourne.
Lockley, J. C., electrical engineer & officer-in-charge, Melbourne, Pacific Cable Board, Imperial-chbrs., 408, Collins-st., Melbourne.
Lyle, Prof. T. R., M.A., electrician, The University, Melbourne.
McCarty, F. A., consulting engineer, 31, Queen-st., Melbourne.
McCulloch Bros., electricians, Euron.
McDonald, A. H., & Co., electrical engineers, Merton-st., South Melbourne.
McElroy, P. H., electrical sundries dealer, 265, Swanston-st., Melbourne.
McFarlane, W., engineer, Deep Leads Electric Transmission Co., Charlotte Plains.
Machar & Sons, engineers, 415, Victoria-st., Abbotsford. (Telegs.: "Machar, Melbourne.")
McKenzie, David, maker of castings for electricians, Whitehall-st., Yarraville.
McKittrick, F. J. A., managing director, Australian General Electric Co., Equitable-bldg., Melbourne.
McLean Bros. & Rigg, Pty., Ltd., dealers in electrical supplies, 147–149, Elizabeth-st., Melbourne.
McLean, Wm., & Co., general electrical importers & contractors. Head offices: 115–117, Elizabeth-st., Melbourne (Telegs.: "McLeans." Teleph. Nos. 1954 & 4313); branches: Adelaide & Sydney.
McMicking & Co., agents for Ernest Scott & Mountain, Ltd., 281, Little Collins-st., Melbourne.
Macnicol, A. N., consulting engineer, Broken Hill-chbrs., Queen-st., Melbourne.
McPherson, Thos. & Son, iron & machinery merchants, 582–588, Collins-st., Melbourne.
Mais, H. C., M.I.C.E., consulting engineer, 60, Queen-st., Melbourne.
Manders, Albert S., & Co., telegraph agents, 137, Swanston-st., Melbourne.
Marconi's Wireless Telegraph Co., 113, Queen-st., Melbourne. Captain Walker, representative.
Matear, G. H., inspector, Postal & Telegraph Service, Melbourne.
Mathews, Prof., School of Mines, Stawell.
Melbourne City Council Electric Supply Station, Spencer-st., Melbourne. (H. R. Harper, M.I.E.E., chief engineer.) Offices: Town Hall, Melbourne. (Teleph. Nos. 153, 320, 3074 & 1223.)
Melbourne Electric Supply Co., Ltd., 31, Queen-st., Melbourne. F. W. Clements, engineer & manager.
Melbourne Electrical Engineering School, Mercantile-chbrs., 349, Collins-st., Melbourne. *See* SCHOOLS.
Melbourne University, Melbourne.
Mercer, W., electrician, 435, Brunswick-st., Fitzroy.
Merriman Bros. & Co., engineers & dealers in supplies, 611A, Little Lonsdale-st., Melbourne.
Michell, A. G. M., M.C.E., civil & mechanical engineer, Commercial Union-bldgs., 413, Collins-st., Melbourne. (Teleph. No. 3931. Cable address: "Zangvogel, Reuter's.")
Miller & Annear, electricians, 126, Toorak-rd. East, South Yarra, Melbourne.
Miller & Co., Prop., Ltd., machinery merchants & importers, 33 to 47, Armstrong-st., Ballarat.
Mogridge & Paterson, electricians, 28, Brook-st., South Melbourne.
Monsbourgh, Alex. E., electrician, 25, Dawson-st., Ballarat.
Moody, F. H., medical manufacturing electrician, 100, Exhibition-st., Melbourne. (Teleph. No. 3793.)
Moolort Electric Works, power for mining only, Moolort. Engineer, J. Lindsay; electrical engineer-in-charge, A. Falkenbach, A.M.I.E.E.
Moors, Henry, M.I.E.E., Chief Secretary's Office, Melbourne.
Morey, E., & Co., machinery importers, Ballarat.
Morris & Meeks, iron, steel & machinery merchants, Carron Iron Yard, 372, Little Collins-st., & 409, Bourke-st., Melbourne.
Morrison, G. S., branch manager, Siemens Bros. & Co., Ltd., William-st., Melbourne.
Murdoch, A. D., manager & electrical engineer, North Melbourne Electric Tramways & Lighting Co., Ltd., Essendon.
Murray, Cecil L., electrical engineer, 60, Market-st., Melbourne; & at Johannesburg, Transvaal.
Murray, K. L., M.I.E.E., Jumbunna Coal Co., Queen-st., Melbourne.
Murray, Noel, A.M.I.E.E., consulting electrical engineer, electrical inspector to the Fire Underwriters' Associations of Victoria & Tasmania, 60, Market-st., Melbourne. (Teleph. No. 1896, Central.)
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University of Melbourne, Melbourne. *See* SCHOOLS.
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Victorian Electrical & Telegraphic Journal, G.P.O., Melbourne.
Victorian Institute of Engineers, 57, Swanston-st., Melbourne. J. A. Smith, president; D. O. Stirling, hon. secretary.
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Walhalla Electricity Works, Walhalla. Engineer, J. F. Key; electrician, H. A. Phillips.
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Cottesloe Electric Light, Gas & Power Co., Ltd., Cottesloe. (Teleph. No. 131.) Engineer, J. H. James; electrician & chairman, L. J. B. Wall, M.I.E.E., M.AM.I.E.E.
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Katanning Electricity Supply Works, Austral-ter., Katanning. F. & C. Piesse, proprietors.
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Western Australia—*continued.*

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Leonora Electricity Works, Leonora. Bewick Moreing, Ltd., proprietors.
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Bretschneider & Co., Cairo, Egypt.
Briggs, H., Corner House (P.O. Box 1976), Johannesburg, Transvaal.
Brown, James, 121, Bathurst-st., Sydney, N.S.W.
Bucke, W. A., A.AM.I.E.E., Canadian General Electric Co., 37, Isabella-st. East, Toronto, Canada.
Cachard, G., Ste. Electrique de la Basse Egypt, Tantah, Egypt.
Canning, W. E., Post Office-pl., Melbourne, Victoria.
Carlowitz & Co., 16, Kinkiang-rd., Shanghai, China.
Cave, H., & Co., 351–353, Flinders-lane, Melbourne, Victoria.
China General Engineering Co., 15, Canton-rd., Shanghai, China.

Agents—Electrical—*continued.*

Christie, Andrew, 17, Bridge-st., Sydney, N.S.W.
Cipriani, W., & Co., 121, calle San Martin, Buenos Ayres, Argentina.
Conrad, Son, & Co., Georgetown, British Guiana.
Cowan, Alex., & Sons, Ltd., Melbourne, Victoria.
Dalgety & Co., Ltd., Sydney, N.S.W.
Delaporte, Pablo, Apartado 647, Havana, Cuba.
D'Ornellas, C. E., B. Mitre 519, Buenos Ayres, Argentina.
Ferrier & Dickinson, 12, Spring-st., Sydney, N.S.W.
Fleming, John, & Co., Indiarubber & G. P. & Tel. Works Co., Elphinstone-circle, Bombay, India.
Fuhrken & Bechtel, 928, Calle Alsina, Buenos Ayres, Argentina.
Fysh, H. K., & Co., Collins-st., Hobart, Tasmania.
Fyvie & Stewart, 34, Queen-st., Melbourne, Victoria; & Australasia-chbrs., Martin-pl., Sydney, N.S.W.
General Supplies Co., 82, Pitt-st., Sydney, N.S.W.
Gibb, Livingstone & Co., Hong-Kong Electric Co., Ltd., Hong-Kong, China.
Gibbs, P. H., Singapore, Straits Settlements.
Goldfields Diamond Drilling Co., Ltd., P.O. Box 114, Kalgoorlie, West Australia.
Guinle & Co., rua Ouvidor 61B, Rio de Janeiro, Brazil.
Hammond, F. W., 6 & 7, Takiyamacho, Kyobashi-ku, Tokio, Japan.
Hartogh, H. A., Singapore, Straits Settlements.
Hawaiian Electric Co., 223–227, King-st. (P.O. Box 144), Honolulu, H.I.
Henry & Cia., Necochea 655, Buenos Ayres, Argentina.
Hervey, R. A., 71, Clarence-st., Sydney, N.S.W.
Hosking, Corlett & Co., P.O. Box 5912, Johannesburg, Transvaal.
Hoyer, W., P.O. Box 804, Sydney, N.S.W.; & Brisbane, Queensland.
Hungerford, R. B., 163, Pitt-st., Sydney, N.S.W.
Huttenbach Bros. & Co., Beach-st., Penang, Straits Settlements.
Jack, J. W., Bank-chbrs., 324, Lambton Quay, Wellington, N.Z.
Jenkins & Co., Smith-st. & Milne-st., Durban, Natal; & Johannesburg, Transvaal.
Kilburn & Co., 4, Fairlie-pl., Calcutta, India.

Agents—Electrical—*continued.*

Kirby, Edgar, P.O. Box 394, Alexandria, Egypt.
Knight, Schoolbred & Co., Maipu 131, Buenos Aires.
Kuster, R., & Cie., Boulac, Cairo, Egypt.
Laidlaw & Gray, Rathray-st., Dunedin, New Zealand.
Langguth & Co., Auckland, N.Z.
Lempriere, W. & J., 506, Little Collins-st., Melbourne; & 64, Pitt-st., Sydney, N.S.W.
Lindsay, Tulloch & Co., Launceston, Tasmania.
Lumley, Frank, F.R.G.S., M.I.E.E., Casilla 18D, Santiago, Chili.
McCormick, K. C., & Co., Palace-chbrs., Maritana-st., Kalgoorlie, West Australia.
McEwen, W. R., Mercantile-chbrs., St. George's-st., Cape Town, South Africa.
McLauchlan, Machado & Cia., rua de S. Pedro 37, Rio de Janeiro, Brazil.
McMicking & Co., 381, Little Collins-st., Melbourne, Victoria.
Maintz & Co., Sourabaya, Java.
Martin Bros., Casilla 181, Valparaiso, Chili.
Meyer, E., & Co., Chemulpo, Korea.
Middows Bros., 73, Clarence-st., Sydney, New South Wales.
Morrison & Co., Valparaiso, Chili.
Nicely, R. R., 4, St. James'-bldgs., Melbourne, Victoria.
Octavius Steel Co., Calcutta, India.
Oki & Co., 19, Shinsakana-cho, Kyobashi, Tokyo, & Osaka, Japan.
Parcus, A., calle Moreno 477, Buenos Ayres, Argentina.
Paton, James, & Co., 2, Martin-pl., Sydney, N.S.W. *See advt., page* 954.
Perks, Dane & Co. Proprietary, Ltd., 15, Queen-st., Melbourne, Victoria; & 267A, Sussex-st., Sydney, N.S.W.
Perrot, F. R., Hay-st., Perth, West Australia.
Pyke, James W. (Siemens Bros. & Co.), 232, St. James-st., Montreal, Canada.
Quiñones, R. L., 68, Independencia, Cardenas, Cuba.
Rabone, Feez, & Co., 20, Bond-st., Sydney, N.S.W.
Rich & Co., O'Connell-st., Sydney, N.S.W.
Richmond, Harold H., A.I.E.E., 2, Martin-pl., Sydney, N.S.W.
Robinson, J. K. (Westinghouse Electric Co.), Iquique, Chili.
Rowe, Wm. Chas., 32, Market-st., Melbourne, Victoria.
Saavedra, Benard & Ca., Casilla 948, Valparaiso, Chili.
Scheele, Gibbes & Co., 2, Hunter-st., Sydney, N.S.W.
Schiller & Co., 36, Szechuen-rd., Shanghai, China.
Schröder, C. M., & Co., Calle Melchormals, Lima, Peru.
Schulthess, Ch., & Co., Chareh Boulac 8, Cairo, Egypt.
Shaw, A. H., & Malloch, King-st., Perth, West Australia.

Agents—Electrical—*continued.*

Siemens-Schuckert Werke, G. m. b. H., 48, Tsukiji, Tokyo, Japan.
Simms, W. H., & Sons, Christchurch, New Zealand.
South African General Electric Co., 166, Commissioner-st. (P.O. Box 1905), Johannesburg, Transvaal.
Splatt, Wall & Co., Perth, West Australia.
Staerker & Fischer, 40–42, Clarence-st., Sydney, N.S.W.
Steanes, T. K., 39, Pitt-st., Sydney, N.S.W.
Takata & Co., 1, Yurakucho, 1 Chome, Kojimachi-ku, Tokyo; also at Osaka & Yokohama, Japan.
Tanaka, H. S., & Co., Minami Kinrokucho, Shimbashi, Tokyo, Japan.
Todd & Samuel, 65–70, Brookman's - bldg., Adelaide, South Australia.
Toder, John, 68½, Pitt-st., Sydney, N.S.W.
Tsingtauer Industrie u. Handels Ges., Kiauchau, China.
Valobra, C., 1368, calle Bolivar N., Buenos Ayres, Argentina.
Watchorn & Oliver, 7, Elizabeth-st., Hobart, Tasmania.
Wischer, W. H., Degraves-st., Melbourne, Victoria.
Wood, J. S., & Sons, Ltd., 13, Norwich Union-bldgs., Fox-st., Johannesburg, Transvaal.
Wormald Bros. & Wears (Mather & Platt, Ltd.), 413, Collins-st., Melbourne, Victoria.
Worthington Pump Engine Co., Ltd., 32 & 34, Clarence-st., Sydney, N.S.W.

Alarms (Electric)—Burglar, Fire, Safe, Ship, Train, &c.

F.—Avertisseurs élec. pour incendie, contre les voleurs, pour navires et trains, &c.
G.—Elektrische Alarm-Apparate—Diebstahl, Feuer, Schiff, Eisenbahn.

Anderson, A., 91, Bay-st., Toronto, Canada.
Holmes Electric Protection Co. of Toronto, Ltd., 5, Jordan-st., Toronto, Canada.

Alternate Current Generators.

F.—Alternateurs—Fab. d'.
G.—Wechselstrom Dynamos—Fab. von.

McLauchlan, Machado & Cia., rua de S. Pedro 37, Rio de Janeiro, Brazil.

Alternate Current Motors.

F.—Moteurs pour courant alternatif.
G.—Wechselstrom Motoren.

McLauchlan, Machado & Cia., rua de S. Pedro 37, Rio de Janeiro, Brazil.

American Machinery Agents.

F.—Machines Américains—Agents de.
G.—Amerikanische Maschinen—Agenten.

Turri, G. G., & Co., 364–366, Collins-st., Melbourne, Victoria.

Annunciators (Electric)—Makers of.

F.—Tables indicateurs—elec.—Fab. de.
G.—Anzeiger (Elektr.)—Fab. von.

Apparatus Makers—Electrical.

F.—Appareils électr.—Fab. d'.
G.—Elektr. Apparate—Fab. von.

Armbrust, R., Campinas, Brazil.
Consolidated Electric Co., Toronto, Canada.
Davies, Shephard & Co., Clarke-st., South Melbourne, Victoria.
Denyusha, 6, Minami Kinrokucho, Kyobashiku, Tokyo, Japan.
Fontan, Pablo, Cuyo 864, Buenos Ayres, Argentina.
Ford Bros., Church-st., Pietermaritzburg, South Africa.
Henwood, P., Son, Soutter & Co., Pietermaritzburg & Durban, Natal.
Joyner, Chas., & Co., Ltd., 71, Clarence-st., Sydney, N.S.W.
Krüger, H., & Co., 729 & 725, Florida, Buenos Ayres, Argentina.
Miyoshi & Co., Shinborigashi, Shiba, Tokyo, Japan.
Pechin, C., Oran, Algeria.
Shibahara, K., Moto Kagomachi, Nagasaki, Japan.
Silberberg, H. B., & Co., 443, Bourke-st., Melbourne, Victoria.

Art Metal Workers & Artistic Fittings.

F.—Artistes en ouvrages metalliques et accessoires artistiques.
G.—Kunst Metall Arbeiter u. Künstlerische Armaturen—Fabr.

White, Ernest C., M.E., Winnipeg, Man., Canada.

Asbestos Manufacturers & Merchants.

F.—Asbest—Fabr. & March d'.
G.—Amiante—Fabr. und Händler.

Asbestos & Asbestic Co., Ltd., Danville, Quebec, Canada; & Hopetoun House, 5, Lloyd's-ave., London, E.C.
Bell's Asbestos Australian Agency, Ltd., Beach-st. (P.O. Box 91), Fremantle, West Australia.

Automatic Electric Signalling Apparatus Makers.

F.—Appareils électr. de signaux automat.—Fab. de.
G.—Elektr. Signal Apparate(automatisch)—Fab. von.

Automatic Railway Signal Co., Ltd., 806, N.Y. Life-bldg., Montreal, Canada.

Batteries—Dry, Galvanic, Primary & Storage.

F.—Piles—Sèches, Galvaniques, Primaires et Accumulateurs.
G.—Batterien—Trockene, Galvanische, Primäre & Accumulatoren.

Berlin Electrical Mfg. Co., Ltd., Toronto, Ont., Canada.
Canadian Electric Novelty Co., 334, Spadina-ave., Toronto, Ont.
Crofton Storage Battery Co., 423-425, West Queen-st., Toronto, Ont., Canada.
Electric Ignition Co., Berlin, Ont.
Electrical Specialties, Ltd., 12, Shuter-st., Toronto, Canada.
Galvanic Battery Works, 145, Wellington-st. West, Toronto, Canada.
Knight, J., & Co. (galvanic), 7, Butcher-lane, Little Collins-st., Melbourne, Victoria.
Portable Electric Light Co., 470A, George-st., Sydney, N.S.W.
Sage, A. J., & Co., Melbourne, Victoria.
Toronto Electric Storage Battery Co., 342, Adelaide-st. West, Toronto, Canada.

Bell Fitters & Contractors—Electric.

F.—Sonneries electriques—Poseurs et Entrepreneurs de.
G.—Elektrische Glocken—Einrichter und Unternehmen.

Bell Manufacturers—Electric.

F.—Sonneries électriques—Fab. de.
G.—Glocken-Fabrikanten—Elektrische.

Braga, F. F., 46, rua Gonçalves Dias, Rio Janeiro, Brazil.

Blasting Apparatus Makers—Electric.

F.—Appareils pour l'etirage à la poudre—électriques.
G.—Sprengapparate Elektr.—Fabr.

Hamilton Powder Co., 45, C. P. R. Telegraph-bldg., Montreal, Canada.

Boiler Makers.

F.—Chaudières—Fabr. de.
G.—Dampfkessel—Fabr. von.

Albion Iron Works Co., Ltd., Vancouver, B.C., Canada.
Babcock & Wilcox, Ltd., 83, Pitt-st., Sydney, N.S.W.; & New York Life-bldg., Montreal, Canada.
Burns & Twigg, Rockhampton, Queensland.
Clyde Engineering Co., Ltd., Clyde Works, Granville, N.S.W.
Davey, Paxman & Co., Ltd. (P.O. Box 2303), Johannesburg, Transvaal.

Boiler Makers—*continued.*

Montpellier, A., Victoria 2839, Buenos Ayres, Argentina.
Morison, R. J., & Bearby, Carrington, Newcastle, N.S.W.

Bolts, Screws, Nuts, &c.—Makers of.

F.—Boulons, ecrous, vis—Fab. de.
G.—Bolzen, Schrauben, Muttern—Fab. von.

Sociedad Anonima Talleres Metalúrgicos antes Rezzonico, Ottonello & Co., Buenos Ayres.

Brackets & Pendants.

See ELECTROLIERS.

Brass Founders, Finishers & Manufacturers to the Electrical Trades.

F.—Fondeurs et manufactures de laiton pour les commerçants en électricité.
G.—Messing—Giesser & fabr.

Bash, A., & Co., B. Mitre 472, Buenos Ayres, Argentine Republic.
Mitchell, R., & Co., Ltd., Montreal, Canada.
Morrison, James, Brass Manufacturing Co., Ltd., Toronto, Canada.
Walton & Scott, 458, Bourke-st., & 175, Queen-st., Melbourne, Victoria.

Cable Manufacturers.

F.—Cables électr.—Fabr. de.
G.—Kabel Fabr.

British Insulated & Helsby Cables, Ltd., Brookman's-bldg., Adelaide, South Australia.
Callender's Cable & Construction Co., Ltd., 109, Pitt-st., Sydney, N.S.W.; Killick-bldg., Fort, Bombay; & Mangrove-lane, Calcutta.
Canadian British Insulated Co., Ltd., Montreal, Que.
Phillips, Eugene F., Electrical Works, Ltd., Montreal, Canada.

Carbide of Calcium.

F.—Carbure de Calcium.
G.—Carbid.

Acetylene Gas Co., Ltd., 48 & 50, Elizabeth-st., Brisbane, Queensland.
Carbide of Calcium Co., Reconquista 424, Buenos Ayres, Argentina.

Carbon Makers & Suppliers.

F.—Charbons—Fab. et Marchands de.
G.—Kohlen—Fabr. u. Händler.

Cia. Industriale de Electricidad del Rio de la Plata, Belgrano 432, Buenos Ayres, Argentina.

Castings for Dynamos.

F.—Fonte pour Dynamos.
G.—Giessereien für Dynamos.

Central Stations—Electric Lighting, Power & Traction.

See ELECTRICITY WORKS.

Chemical Manufacturers, Merchants & Agents.

F.—Produits chimiques—March. et Agents de.
G.—Chemikalien—Fabr. und Händler.

Bowen, W., & Co., 358, Collins-st. West, Melbourne, Victoria.
Canada Chemical Manufacturing Co., London, Ont., Canada.
Dawbarn, E. A., & Co., Pitt-st., Sydney, New South Wales.
Felton, Grimwade & Co., 342, 344, 346, Little Flinders-st., Melbourne, Victoria.

Clocks & Synchronization—Electric.

F.—Horloges électriques et synchronisation.
G.—Elektrische Uhren und Zeitmesser.

Conduits & Culverts.

F.—Conduites (souterraines) de drainage et poterie pour cables elec.—Fab. de.
G.—Leitungen (unterirdische) & Abzug Röhren—Fabr. von.

Conduits Co., Ltd., Toronto, Canada.
Crown Steel Conduit Co., c/o Rose, Drew & Co., 32, Market-st., Melbourne, Victoria.

Contractors—Electric Light & Power.

F.—Eclairage électrique—Entrepreneurs d'.
G.—Unternehmer—Elektr. Licht.

Abamevali, C., Merida, Venezuela.
Angarita & Co., San Cristobal, Venezuela.
Arnhold, Karberg & Co., Shanghai, China.
Becker & Co., Soerabaya, Java.
Bulmer, H. E. P., 30, York-ave., Montreal, Que., Canada.
Carrillo, J. F., Caracas, Venezuela.
Compagnie Centrale d'Eclairage par le Gaz, Sharia, Kamel, Ezbekieh, Cairo, Egypt.
Compagnie d'Aqueduc La Providence de St Hyacinthe, St. Hyacinthe, Quebec, Canada
COMPAGNIE EGYPTIENNE THOMSON-HOUSTON, 13, rue Soliman Pacha, Cairo; & 29, rue de la Porte Rosette, Alexandria, Egypt. *See advt.*, OPPOSITE.
Companhia Mineira de Electricidade, Juiz de Fora, Minas Geraes, Brazil.
Companhia Urbana, Para, Brazil.

Contractors—Electric Light & Power— *continued.*

Compañia de Electricidad de la Provincia de Buenos Aires, Adrogue, Province of Buenos Ayres.
Compañia de Luz y Fuerzo Motriz de Cordoba, Cordoba.
Compañia de Transmision Electricia de Potencia, Apartado 95, Pachuca, Mexico.
Compañia Luz Electrica de la Serena, Serena, Chili.
Crawford & McIntyre, Durham, Ontario, Canada.
Crompton & Co., Ltd., 56, Margaret-st., Sydney, N.S.W.
Daley, John, Digby, N.S., Canada.
D'Anna, V., & Tonelli, A., Chareh, Nubar Pacha, Cairo, Egypt.
De Witt Electric Co., Truro, N.S., Canada.
Dunedin & Suburban Gas Co., Ltd., Dunedin, New Zealand.
Empresa Nacional "Luz Electrica," Dayman 105, Montevideo, Uruguay.
Fiat Lux Co., Porto Alegre, Rio Grande do Sul, Brazil.
Gamboa, N. de, y Ca., Cienfuegos, Cuba.
Gellender, E. H., & Co., Ltd., Newcastle & Dundee, Natal.
Gibson, Battle & Co., Ltd., 7, Bent-st., Sydney, N.S.W.
Guinle & Cia., Rio de Janeiro, Brazil.
Harrison, W. C., Norwood, Ontario, Canada.
Hekking & Co., Soerabaya, Java.
Hutton Electric Light Co., Brampton, Ont., Canada.
Keith & Fitzsimmons Co., Ltd., 111, King-st. W., Toronto, Canada.
Leamington Light & Heat Co., Ltd., Leamington, Ont., Canada.
London Electric Co., Ltd., London, Ont., Canada.
McGuire, W. J., Ltd., 86, King-st., Toronto, Canada.
McLauchlan, Machado & Cia., rua de S. Pedro 37, Rio de Janeiro, Brazil.
Maio, A. O., & Co., Alagoas, Brazil.
Manila Electric Railroad & Light Co., Manila, P.I.
Monaco, L., & L. Costa, Tantah, Egypt.

Contractors—Electric Light & Power— *continued.*

Nesbit, G. K., Cowansville, Quebec, Canada.
Paton, James, & Co., 2, Martin-pl., Sydney, N.S.W. *See advt., page* 954.
Pearson, E. W., 413, Collins-st., Melbourne, Victoria.
Ponce Railway & Light Co., Ponce, Puerto Rico.
Reefton Electric Co., Reefton, New Zealand.
Saboia, Paulo, 65, rua General Camara, Rio Janeiro, Brazil.
Sayer Electric Co., 30, Victoria-sq., Montreal, Que., Canada.
Schlosser, Carlos, & Co., 64, rua Alfandega, Rio Janeiro, Brazil.
Shanghai Electric & Asbestos Co., Ltd., 4, Peking-rd., Shanghai, China.
Trajano Medeiros & Co., 65, rua General Camara, Rio Janeiro, Brazil.
Vancouver Power Co., Ltd., Vancouver, B.C., Canada.
Velasco, F., Arequipa, Peru.
Victorian Electric Light, Heat & Power Distributing Corporation, Broken Hill-chbrs., Melbourne, Victoria.

Contractors—Installation.

F.—Installation—Entreprenеurs d'.
G.—Unternehmer—Einsetzung.

Ackroyd, P., 184, Bank-st., Ottawa, Ont., Canada.
Acme Electric Co., Moose Jaw, Sask.
Alexander, A. E., & Son, Campbellton, N.B., Canada.
Allen, G. W., Brantford, Ont., Canada.
Anderson, O. S., 105, Borden-st., Toronto, Ont., Canada.
Andy, M., Quebec, Canada.
Armstrong, J., Fort William, Ont., Canada.
Armstrong, F., Co., Ltd., Queen-st. W., Toronto, Ont., Canada.
Baldwin, B. H., 98, Bank-st., Ottawa, Ont., Canada.
Balne, A. S., 330, Dorchester-st., West, Montreal, Canada.
Barber, A. F., Electric Co., Vancouver, B.C., Canada.

COMPAGNIE EGYPTIENNE THOMSON-HOUSTON.

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Cable Address: "EGYTOMSON."

Contractors—Installation—*continued.*

Barrett, J. W., 18, Crown-st., Quebec, Canada.
Beattie, G. J., Toronto, Ont., Canada.
Belleau, W., 363, St. Jean-st., Quebec, Canada.
Bennett, F. K., Brandon, Man., Canada.
Bennett, J., Temple-bldg., Montreal, Canada.
Bennington, W., Stratford, Ont., Canada.
Bertschinger, A. H., 76, Queen-st., Ottawa, Canada.
Besner & Charles, Valleyfield, Que., Canada.
Bethune, G. T., New Castle, N.B., Canada.
Binns, G. A., Newmarket, Ont., Canada.
Blouin, L., 67, Bayard-st., Quebec, Canada.
Bonter, H., Trenton, Ont., Canada.
Bouclé, Ed., Santa Elena 16, Cienfuegos, Cuba.
Boudreault, O., 147, St. Paul-st., Qubeec, Can.
Bowers, J. D., Strathcona, Alberta, Canada.
Bremner Electric Co., Edmonton, Alberta, Canada.
Brisco, F., Chatham, Ont., Canada.
Brousseau, G., 83, St. Paul-st., Quebec, Canada.
Brown, H., & Son, Carleton Place, Ont., Canada.
Burns, J. D., Wingham, Ont., Canada.
Burrows & Parmelee, Haileybury, Ont., Canada.
Byng, G., jun., Bobcaygeon, Ont., Canada.
Byrnes, J., 78, Lewis-st., Ottawa, Ont., Canada.
Campbell, T., Midland, Ont., Canada.
Campbell & Campbell, Vancouver, B.C., Canada.
Canada Light & Equipment Co., Ltd., 75, Yonge-st., Toronto, Canada.
Canadian Electric Co., Sault Ste. Marie, Ont., Canada.
Carter, R. F., Electric Co., Niagara Falls, Ont., Canada.
Century Electric Co., 579, St. Paul-st., Montreal, Canada.
Chalmers, J., St. Marys, Ont., Canada.
Chambly Electric Co., 55, St. Antoine-st., Montreal, Canada.
City Electric Co., Edmonton, Alta., Canada.
Clark, Jas., Windsor, Ont., Canada.
Colville Electric Co., Toronto, Ont., Canada.
Commeford, J. W., jun., 292, College-st., Toronto, Canada.
COMPAGNIE EGYPTIENNE THOMSON-HOUSTON, 13, rue Soliman Pacha, Cairo; & 29, rue de la Porte Rosette, Alexandria, Egypt. *See advt., page* 959.
Cossey, R., Berlin, Ont., Canada.
Costello & Crowe, 265, Rideau-st., Ottawa, Can.
Cotten, F. W., & Co., 862, Cadieux-st., Montreal, Canada.
Crawford & Lappin, St. Catharine's, Ont., Canada.
Crosbie, T., Perth, Ont., Canada.
Culley, Breay & Miller, Hamilton, Ont., Canada.
Cumming, W., & Co., 226, Little Collins-st., Melbourne, Victoria.
Cunningham & Butcher, Paris, Ont., Canada.
Darling, J., St. Mary's, Ont., Canada.
David, A., Montreal, Que., Canada.
Deakin, C. E., 11, St. Sacrement-st., Montreal, Canada.
De Long & Peel, Toronto, Ont., Canada.
Dick & Yates, 245, Church-st. Central, Pretoria, Transvaal.

Contractors—Installation—*continued.*

Dion, N., Fraserville, Que., Canada.
Doeringer, A. W., Brantford, Ont., Canada.
Dominion Engineering & Construction Co., Ltd., 38, Sovereign Bank-bldg., Montreal, Canada.
Donaldson & Wark, Hamilton, Ont., Canada.
Doull, W. P., Charlottetown, P.E.I.
Eastern Electrical Engineering Co., 316, Lagauchetière West, Montreal, Canada.
Electric Construction Co., Berlin, Ont., Canada.
Electric Repair & Supply Co., Sherbrooke, Que., Canada.
Electrical Construction Co. of London, Canada.
Electrical Machinery Co. of Toronto, Toronto, Ont., Canada.
Electrical Maintenance & Repairs Co., Toronto, Ont., Canada.
Electrical Wiring, Fixtures & Supply Co., Toronto, Ont., Canada.
Ellacott, J. A., & Co., Ottawa, Ont., Canada.
Enterprise Electric Co., Calgary, Alta., Canada.
Everitt, W. S., Thamesville, Ont., Canada.
Farman & Dipper, Grimsby, Ont., Canada.
Fearon, Daniel, & Co., Shanghai, China.
Federal Electric Construction Co., Toronto, Ont., Canada.
Fleming, H., 108, Davis-st., Sarnia, Ont., Canada.
Flint & Forrest, 5, Clossé-st., Montreal, Canada.
Fox, L., New Market, Ont., Canada.
Gagnon, J. A., 733, Notre Dame-st., Montreal, Canada.
Gagnon, S., 1924, St. Lawrence-boul., Montreal, Canada.
Gay, C., 779, St. Andre-st., Montreal, Canada.
Giguere, L. C., 316, St. Joseph-st., Quebec, Canada.
Giguerre, P. P., Quebec, Que., Canada.
Gledhill, J. W., Huntsville, Ont., Canada.
Goodyear, C., 56, Albert-st., Winnipeg, Man., Canada.
Grace, Wm., Co., 316, Coristine-bldg., Montreal, Canada.
Granby Electrical Works, Granby, Que., Canada.
Grandview Electric Co., 1530, Venables-st., Vancouver, B.C., Canada.
Gray, R. A. L., & Co., 85, York-st., Toronto, Canada.
Gruneberg, A., Market-st., King Williams Town, Cape Colony.
Guelph Electric & Motor Co., Guelph, Ont., Canada.
Halliday Electric Co., Kingston, Ont., Canada.
Hammond & McIntosh, Fernie, B.C., Canada.
Harris, J. W., Co., Ltd., 7, St. Elizabeth-st., Montreal, Canada.
Hastings, W. J., Montreal, Que., Canada.
Hempel, C., 95, Aguiar, Havana, Cuba.
Hicks Electric Co., 249, Langauchetiere-st. West, Montreal, Canada.
Hinners & Fiedler, Fort William, Ont., Canada.
Home Electric Co., Konora, Ont., Canada.
Hubbell, E. S., & Sons, Thamesville, Ont., Canada.

Contractors—Installation—*continued.*

Hughes, J. W., 367, Craig-st. W., Montreal, Que., Canada.
Huth & Co., Valparaiso, Chili.
Ideal Electric Mfg. Co., London, Ont., Canada.
Jackson, T., 11, Soransen-ave., Toronto, Ont., Canada.
Jennings, S. W., 4, St. Antoine-st., Montreal, Canada.
Johnson, A. H., & Co., Ltd., 22, Dorp-st., P.O. Box 894, Cape Town, S. Africa.
Johnson, T. P., & Co., 61, Druitt-st., Sydney, N.S.W.
Jones, F. E., 156, Prince William-st., St. John, N.B., Canada.
Jones & Glassco, 334, Notre Dame-st., Montreal, Canada.
Keeling, C. H., 178, Bank-st., Ottawa, Canada.
Kent Electric Co., 165, Queen-st. W., Toronto, Ont., Canada.
Ketcheson, C. W., 426, Manwing-ave., Toronto, Ont., Canada.
Laidlaw, R. A., 976, Granville-st., Vancouver, B.C., Canada.
Lang, N., Vancouver, B.C., Canada.
Langevin, N., Valleyfield, Que., Canada.
Lapierre, C., 1094, St. Denis-st., Montreal, Canada.
Lee, C. C., Goderich, Ont., Canada.
Lethbridge Electric Co., Lethbridge, Alberta, Canada.
Leveille, F. X., 47, Baude-st., Que., Canada.
Locke, W., & Co., Lahore, India.
Lonergan, T. D., 42, St. John-st., Quebec, Can.
Lyall, Peter, & Sons, 88, King-st., Montreal, Canada.
Lyons Electric Co., Brantford, Ont., Canada.
Maben & Walsh, Wellington, New Zealand.
McCallum, W. R., Ottawa, Ont., Canada.
McCullough, W., Toronto, Ont., Canada.
McFadgen & McQuade, Collingwood, Ont., Canada.
McGregor, J. F., Campbellford, Ont., Canada.
MacGregor & Reid, 428, George-st., Peterborough, Ont., Canada.
Mackay, W. A., & Co., Sydney, N.S., Canada.
McLean & Dawson, Guelph, Ont., Canada.
McLinden, W. J., Owen Sound, Ont., Canada.
McPherson, F. R. J., Peterborough, Ont., Canada.
MacPherson, W. F., Prescott, Ont., Canada.
Malcolmson, D., Prince Albert, Sask., Canada.
Marshall, D. W., Sarnia, Ontario, Canada.
Maybee, A. E., & Co., 254, St. Clarens-ave., Toronto, Ont., Canada.
Moncel, R., Electrical Co., 157, Craig-st. W., Montreal, Canada.
Moose Jaw Electric Co., Moose Jaw, Sask., Canada.
Morgan & Co., Ltd., Montreal, Que., Canada.
Morin, T., Levis, Que., Canada.
Morley, H. B., Armstrong, B.C., Canada.
Morrison, A. J., & Co., 399, Spadina-ave., Toronto, Canada.
Mount Bros., 4278, St. Catherine-st., Montreal, Canada.

Contractors—Installation—*continued.*

Mowbray, T., & Co., New Westminster, B.C., Canada.
Moxley, S. N., 237, Gloucester-st., Ottawa, Can.
New York Electrical Installation Co., 4, Wilmot-st., Sydney, N.S.W.
Newman, W. H., Electric Co., Kingston, Ont., Canada.
Northern Novelty Works, Dawson, Yukon, Canada.
Northwest Electric Co, Ltd., Edmonton, Alberta, Canada.
O'Leary, H., Richibucto, N.B., Canada.
O'Leary, W. J., & Co., 36–40, Recollet-st., Montreal, Canada.
Painchaud, J. R., Three Rivers, Que., Canada.
Parks, H. B., 215, Rideau-st., Ottawa, Ont., Canada.
Paton, James, & Co., 2, Martin-pl., Sydney, N.S.W. *See advt., page* 954.
Perry Bros., Moncton, N.B., Canada.
Picard & La Londe, 122, William-st., Montreal, Canada.
Picard, O., & Fils, 119, St. John-st., Quebec, Canada.
Pinder, W. R., Goderich, Ont., Canada.
Plante, O., & Cie., 259, St. John-st., Quebec, Canada.
Provost, J. E., 137, Cascades-st., St. Hyacinthe, Canada.
Purvis Bros., Sudbury, Ont., Canada.
Quebec Electric Co., 111, St. John-st., Quebec, Canada.
Reeder Electrical & Manufacturing Co., Ltd., 1526, Queen-st. West, Toronto, Canada.
Reeder & Jackson, Toronto, Ont., Canada.
Richey, H. R., Co., Ltd., Montreal, Que., Canada.
Ritchie Plumbing & Heating Co., Toronto, Ont., Canada.
Rivière du Loup Electrical & Iron Works, Fraserville, Que., Canada.
Robinson, A., Kenora, Ont., Canada.
Robinson Bros, 410, Spadina-ave., Toronto, Canada.
Rochon, W., 454, Parc Lafontaine, Montreal, Canada.
Rose Innes & Co., Valparaiso, Chili.
Roy, A., Hull, Que., Canada.
Royal Electric Co., Berlin, Ont., Canada.
Rufino, A. de Almeida & Cia., Ribeirão Preto, Estado de S. Paulo, Brazil.
Saskatoon Electric Supply Co., Saskatoon, Sask., Canada.
Saucier, L., Vankleek Hill, Ont., Canada.
Scott & Rubenstein, 342, St. James-st., Montreal, Canada.
Seguin, A. J., Ottawa, Ont., Canada.
Shaw, E. A., & Co., 33, Burg-st., Cape Town.
Shipman Electrical Co., 403, Portage-ave., Winnipeg, Man., Canada.
Simoneau, L. E., 442, Richmond-st., Montreal, Canada.
Simoneau, N., 583, Notre Dame-st. W., Montreal, Canada.
Smith & Smith, 215, Tuam st., Christchurch, N.Z.

Contractors—Installation—*continued.*

Snider, J., New Market, Ont., Canada.
Sole, W. P., & Co., Mutual-bldgs., Port Elizabeth.
Soo Electric Co., Sault Ste. Marie, Ont., Canada.
Stacey, H. C., 544, Quebec-ave., Toronto, Can.
Standard Electric Co., 775, Berri-st., Montreal, Canada.
Star Electric Co., Winnipeg, Man., Canada.
Stevenson Malcolm Co., Guelph, Ont., Canada.
Stuart, Jas., Electric Co., Ltd., 324, Smith-st., Winnipeg, Man., Canada.
Sumner Co., Moncton, N.B., Canada.
Tata & Sons, Bombay, India.
Taylor, C. E., Edmonton, Alberta, Canada.
Taylor, J., Toronto, Ont., Canada.
Thomas, Geo. P., Windsor, Ont., Canada.
Thompson, C. A., New Market, Ont., Canada.
Thompson, J. R., 56, Quesnelle-st., Montreal, Canada.
Thrall, Chas., & Co., Apartado 734, Neptuno, cor. of Monserrate, Havana, Cuba.
Tippet, F. H., & Co., 65, Prince William-st., St. John, N.B., Canada.
Toronto Electric Construction Co., 74, Adelaide-st., East, Toronto, Canada.
Torrey, J. H., 362, Portage-ave., Winnipeg, Man., Canada.
Trott, G. H., Bothwell, Ont., Canada.
United Electric Co., 166, Pacific-ave., Winnipeg, Man., Canada.
Urgel, Beaupre, Three Rivers, Que., Canada.
Van Voorhis Bros., Monterey, Mexico.
Vandry & Matte, St. Jean-st., Quebec, Canada.
Vezina, C., 117, Du Pont-st., Quebec, Canada.
Vickerson Electric Co., 24 & 26, St. George-st., Montreal, Canada.
Victor Uslaender & Co., R. Primeiro de Março 60, Rio, Brazil.
Vogel, C. H., Carstairs, Alta., Canada.
Volta Electric Repair Works, 86, Adelaide-st. W., Toronto, Ont., Canada.
Wagner, G. J., Guelph, Ont., Canada.
Wainwright & Morrison, Cedar-st., Sudbury, Ont., Canada.
Walsh & Co., 33-35, Vitie-st. West, Montreal, Canada.
Waltz, A. C., & Co., Port Arthur, Ont., Canada.
Warren, Beattie & Co., Ltd., Smyrna.
Watt, J., & Sons, Chatham, Ont., Canada.
Weaver, L. E., Hespeler, Ont., Canada.
Webb, H., St. John, N.B., Canada.
Welbanks & Lacroix, Prince Albert, Sask., Canada.
Weller, Jas., Chelsea Cottage, Dixon-st., Cape Town.
West Electric Co., 803, Bathurst-st., Toronto, Can.
Westmount Plumbing & Heating Co., Ltd., Westmount, Que., Canada.
Wilhelmy, C., Peterboro, Ont., Canada.
Willard, N., & Co., Prescott, Ont., Canada.
Willetts, H. H., 1154, Ontario E., Montreal, Can.
Windover, W., Frankford, Ont., Canada.
Woodman Bros., cor. Main & Catharine-st. East, Hamilton, Ont., Canada.

Contractors—Installation—*continued.*

Woods, Monahan & Co., 21, Burg-st., Cape Town, Cape Colony.
Worsell, J. H., & Son, Goderich, Ont., Canada.
Worth & Martin, Toronto, Ont., Canada.
Wright, R., Battleford, Sask., Canada.
Wyatt, G. H., A.M.I.E.E., Adelaide-bldgs., cor. Eloff & Fox-sts., Johannesburg, Transvaal.
Yarmouth Cycle Co., Yarmouth, N.S., Canada.
Young, A., Wingham, Ont., Canada.

Contractors—Telegraph.

F.—Télégraphes—Entrepreneurs de.
G.—Telegraphenbau—Unternehmer.

Contractors—Telephone.

F.—Téléphones—Entrepr. de.
G.—Telephon—Unternehmer.

Empreza Telephonica de Pernambuco, Pernambuco, Brazil.
Government Telephone Exchange, Wills-st., West Melbourne, Victoria, Australia.
Paton, James, & Co., 2, Martin-pl., Sydney, N.S.W. *See advt., page* 954.

Cranes (Electric)—Makers of.

F.—Grues Electriques—Fab. de.
G.—Krahnen—Elektrische.

COMPAGNIE EGYPTIENNE THOMSON-HOUSTON, 13, rue Soliman Pacha, Cairo; & 29, rue de la Porte Rosette, Alexandria, Egypt. *See advt., page* 959.
Johns & Waygood, Ltd., City-rd., S. Melbourne, Victoria.
Malloch, W., & Co., 84-94, Fullarton-st., London, Ont., Canada.
Miller Bros. & Toms, 110-122, King-st., Montreal, Canada.
Smart-Turner Machine Co., Ltd., Hamilton, Ont., Canada.

Cut-Outs—Makers of.

F.—Coupe-Circuits fusibles—Fab.
G.—Strom-Unterbrecher—Fabr. von.

Driving Band Makers—Cotton.

F.—Courroies—Coton—Fab. de.
G.—Treibriemen Fab.—Baumwolle.

Sadler & Haworth, Montreal & Toronto, Ontario, Canada.

Driving Band Makers—Indiarubber & Gutta-Percha.

F.—Courroies—Caoutchouc—Fab. de.
G.—Treibriemen Fab.—Gummi.

Canadian Rubber Co. of Montreal, Ltd., Montreal, Canada.
Gutta-Percha & Rubber Manufacturing Co. of Toronto, Ltd., 47, Yonge-st., Toronto, Ont., Canada.

Driving Band Makers—Leather.

F.—Courroies—Cuir—Fab. de.

G.—Treibriemen Fab.—Leder.

Beardmore Belting Co., 39, Front-st. East, Toronto, Canada.

Goodhue, J. L., & Co., Danville, Quebec, Canada.

Dynamo & Electric Machine Manufacturers.

F.—Dynamos—Fab. de.

G.—Dynamos—Fab. von.

Allis-Chalmers-Bullock, Ltd., Montreal, Canada.

Canadian Crocker-Wheeler Co., Ltd., Montreal, Que.

Canadian Electrical & Motor Co., Ltd., 468, King-st. West, Toronto, Canada.

Queen City Motor & Dynamo Co., 20, Pearl-st., Toronto, Canada.

Sleeper & Akhurst, Coaticook, Quebec, Canada.

Electricians.

F.—Electriciens.

G.—Elektriker.

Ahearn, J. J., Ottawa Electric Rly. Co., Ottawa, Canada.

Ahrbecker, H. V., Morts' Dock & Engineering Co., Cameron-st., Balmain, Sydney, N.S.W.

Alexander, H., Nanaimo Electric Light, Power & Heating Co., Ltd., Nanaimo, B.C., Canada.

Alexander, John, 7, Madeline-st., Carlton, Victoria.

Alexander, J., & Co., Mercer-st., Wellington, New Zealand.

Alexander & Miller, Peterborough, Ont., Canada.

Anderson, G. M., Sorel Electric Light Co., Sorel, Que., Canada.

Andrews, J. Norman, Robinson Gold Mining Co., Johannesburg, Transvaal.

Antony, Jules, 17, rue Henri Martin, Alger, Algeria.

Appleby, Jno., 33, Bolton-st., Newcastle, N.S.W.

Asataro, Shimada, Hakata Electric Light Co., Fukuoka, Japan.

Aven, A. M., Delhi Light & Power Co., Delhi, Ont., Canada.

Ayres, W. J., P.O. Box 92, Pernambuco, Brazil.

Bagnall & Hilles, 42, Yokohama, Japan.

Baldwin Bros., Ottawa, Ont., Canada.

Barcachi, P., Observatory, Melbourne, Victoria.

Barr, W., 758, Yonge-st., Toronto, Canada.

Barrett, C., 114, George-st., W. Sydney, N.S.W.

Bassett, Thos., Corporation Electricity Works, Collingwood, Ont., Canada.

Baylis, Jas. A., Bell Telephone Co., Montreal, Canada.

Beal, E. D., Government Electricity Works, Rotorua, N.Z.

Beattie, W., 171, Liverpool-rd., Ashfield, N.S.W.

Beaupré, M., 13, St. Antoine-st., Three Rivers, Que., Canada.

Electricians—*continued.*

Beckwith, J. W., Bridgetown Electric Light & Power Co., Bridgetown, N.S., Canada.

Beech, H., Sons of Gwalia Gold Mines, Gwalia, West Australia.

Bertrand, J., & Cie., ave. de Carthage, Tunis.

Bille, H., Great Northern Telegraph Co., Shanghai, China.

Bird, T. G., City Council, Grand Forks, B.C., Canada.

Black, James Gow, M.A., D.SC., Otago University, Dunedin, New Zealand.

Blackadder, J., 72, Westbourne-st., Petersham, N.S.W.

Boivin, O., Cie. Electrique de la Baie St. Paul, Baie St. Paul, Que., Canada.

Bowler, P., New Westminster, British Columbia, Canada.

Boyle, Chas., 439, Little Collins-st., Melbourne, Victoria.

Braat & Co., Boomstraat, Sourabaya, Java.

Bradum, J. E., Corporation Electricity Works, Wingham, Ont., Canada.

Braniff, G. O., & Co., 19, Cadena, Mexico.

Brown, A. G., Amherstburgh Electric Light, Heat & Power Co., Amherstburgh, Ontario, Canada.

Brown, A. E., Electricity Works, Timaru, New Zealand.

Brown, D. W., Calgary Water Power Co., Calgary, Alberta, Canada.

Brown, D. W., Eau Claire Light & Power Co., Eau Claire, Calgary, Alberta.

Brown, H. A., St. John Railway Co., St. John, N.B., Canada.

Brown, Lester, The Kent Electric Co., Ltd., Richibucto, N.B., Canada.

Browne, R. Jamieson, M.I.E.E., Grindlay & Co., Calcutta, India.

Burns, F. R., Macleod Electric Light & Power Co., Macleod, Alberta, North West Territory, Canada.

Byron, Wm., Renfrew Power Co., Ltd., Renfrew, Ont., Canada.

Callaghan, H. J., Power Station, 12, Albert-rd., Allahabad, India.

Cambridge, F. A., Winnipeg, Man., Canada.

Cameron, P. H., & Co., Ash-st., Sydney, N.S.W.

Campbell, H. A., A.I.E.E., West India Electric Co., Ltd., & Jamaica Light & Power Co., Ltd., Kingston, Jamaica.

Carreras, J., Cerrito 713, Buenos Aires, Argentina.

Champion, F., Macquarie-st., Hobart, Tasmania.

Cheal, A. E., Borough Council Electricity Works, Hawera, New Zealand.

Cheong, Kee, China Light & Power Co., Canton, China.

Chick, B., 94, Wellington-st., Collingwood, Victoria.

Chisholm, W. W., Windsor, Essex & Lake Shore Railway Co., Kingsville, Ont., Canada.

Choate, C., Lincoln Electric Light & Power Co., Ltd., St. Catherine's, Ont., Canada.

Electricians—*continued.*

Christensen, A., Great Northern Telegraph Co., Ltd., Amoy, China.
Christiany, B. M., Florida 183, Buenos Aires, Argentina.
Cifuentes, C., Compañia de Energia Electrica, Bogota, Colombia.
Clark, D., School of Mines, Bendigo, Victoria.
Clark, Geo. H., 56, Smith-st., Balmain, Sydney, N.S.W.
Clark, R. C. G., A.I.E.E., P.O. Box 3494, Johannesburg, Transvaal.
Clarke, E. S., Ryrie-st., Geelong, Victoria.
Cockroft, E. E., Consolidated Mining & Smelting Co. of Canada, Ltd., Trail, British Columbia, Canada.
Collins, T., Mount Forest Electric Light Co., Mount Forest, Ont., Canada.
Connelly, J. P., Punjab Government Electricity Works, Lahore, India.
Copeland, R. H., New Modderfontein Gold Mining Co., Ltd., Johannesburg, Transvaal.
Cordesius, M., Sourabaya, Java.
Cornish, V. K., Eastern Telegraph Co., Suez, Egypt.
Couillard & Leppaille, Belgrano 462–70, Buenos Ayres, Argentina.
Cowles, G. A., Electrical Engineer's Dept., Government Railways, Sydney, N.S.W.
Crandall, T. O., Corporation Electricity Works, Picton, Ont., Canada.
Cregan, J. H., Demerara Electric Co., Georgetown, British Guiana.
Crosby, J. W., Halifax Electric Tramway Co., Halifax, N.S., Canada.
Crosby, W., Municipal Electricity Works, Perth, Ont., Canada.
Cross, W. G. H., Central & South American Telegraph Co., San Juan del Sur, Nicaragua.
Cuduey, A., Maple Leaf Rubber Co., Ltd., Electricity Works, Port Dalhousie, Ontario, Canada.
Cuff, H. M., Eastern Extension Telegraph Co., Singapore.
Cuff, R. S., United River Plate Telephone Co., Ltd., Rivadavia 1193, Buenos Ayres, Argentina.
Danks, A. T., 391, Bourke-st. West, Melbourne, Victoria.
Davids, W. de F. B., City of Santos Improvements Co., Ltd., Santos, Brazil.
Davidson, Alexander, Anglo-American Telegraph Co.'s cable ship *Minia*, Halifax, N.S., Canada.
Davis, Ira T., Canada Electric Co., Ltd., Amherst, N.S., Canada.
Dean, G. W., Central Argentine Railway Co., Rosario de Santa Fé, Argentina.
De Graaff, J., Post & Telegraph Office, Wetlevreden, Java.
Deladwantage, E., Central Heat, Light & Power Co., Ltd., Montreal, Canada.
Del Campo, F., Alsina 971, Buenos Aires, Argentina.

Electricians—*continued.*

Delisle, E., Cie. d'Electricité de Roberval, Roberval, Que., Canada.
Dell, J. J., Charles-st., Launceston, Tasmania.
De Pool, J. R., Maracaibo, Venezuela.
Dewhirst, T. Y., Railways Dept., Adelaide, South Australia.
Diemer Hansen, L., Siam Electricity Co., Ltd., Bangkok, Siam.
Dobson, J., Electricity Works, Beaverton, Ont., Canada.
Dodd, Maynard, A.I.E.E., Commercial Pacific Cable Co., Honolulu, H.I.
Dominion Electric Manufacturing Co., Ltd., 955, St. James-st., Montreal, Canada.
Dornbusch, E. G., c/o Gibson, Battle & Co., Ltd., 7, Bent-st., Sydney, N.S.W.
Dougall, Wm., 21, Park-st. W., S. Melbourne, Victoria.
Downey, C., Steuart & Fenn, Ltd., Hawera, New Zealand.
Duncan, T. Y., Yukon Electrical Co., Ltd., White Horse, Yukon Ter., Canada.
Duran, Lieut., Argentine Navy, Buenos Ayres, Argentina.
Edridge, B., Rosario Electric Tram Co., Rosario, Argentina.
Edwards, H., Bullendale, N.Z.
Edwards, J. E., & Co., 152, Little Collins-st., Melbourne, Victoria.
English, H. G., American-Korean Electric Co., Seoul, Korea.
English, Wm., 6, Wilmot-st., Sydney, New South Wales.
Ermoli, B., 1337, calle Paraguay, Buenos Ayres, Argentina.
Everall, W. M., Hong Kong Electric Co., Hong Kong, China.
Evertsz, Jan F., Curaçao Electric Light Co., Curaçao, D. West Indies.
Fabre Frères & Vinson, 22, rue de Constantine, Alger, Algeria.
Fahy, John T., A.M.I.E.E., New Zealand Railway, Wellington, N.Z.
Farnsworth, F. B., Corporation, Granby, Que., Canada.
Farquharson, H. L., Corporation Electricity Works, Fort William, Ont., Canada.
Faubert, H., Beauharnois Electric Light Co., Beauharnois, P.Q., Canada.
Fiske, W. H., Toronto Railway Co., Toronto, Ont., Canada.
Fleet, W. D., Canadian Copper Co., Copper Cliff, Ont., Canada.
Fletcher, W. J., Alliston Electric Light Co., Alliston, Ont., Canada.
Flood, M., Corporation Electricity Works, Owen Sound, Ont., Canada.
Foster, G. E., Municipality, Niagara Falls, Ont., Canada.
Fowler, T. W., M.I.E.E., 60–62, Market-st., Melbourne, Victoria.
Fox, L. V., Electricity Works, Kuala Lumpur, Federated Malay States.

Electricians—*continued.*

Frayme, J., Electricity Works. Lujan, Argentina.
Frizzell, F. W., Corporation Electricity Works, Glace Bay, N.S., Canada.
Frohn, A. J. F., Medan, Sumatra.
Frost & Shiphan, 629, Hay-st., Perth, Western Australia.
Fujita, P., Kyushu Railway & Electric Department, Kyushu, Japan.
Fyfe, J. J., A.M.I.E.E., The Burma Ruby Mines, Ltd., Mogok, Upper Burma.
Garcia, D., Rivadavia 1620, Buenos Aires, Argentina.
Garrido & Castro, Mejico 1736, Buenos Aires, Argentina.
Gaskell, F., 60, Highbury-grove, Prahran, Victoria.
Gerrard, F. B., c/o Commercial Cable Co., Hazelhill, Nova Scotia, Canada.
Gilbert, B., Benjamin Mfg. Co., Ltd., Yarker, Ont., Canada.
Giles, B. A., Argentine Railway Co., Buenos Ayres.
Gill, H. J., R.I. Marine Dockyard, Bombay, India.
Godineau, G., Chinese Engineering & Mining Co., Ltd., Tientsin, China.
Godwin, S. J., Bengal Telephone Co., Calcutta, India.
Goto, Ichiro, Kobe Electric Railway Co., Kobe, Japan.
Graciosetti, F., Cia. Luz Electrica, Rio Grande do Sul, Brazil.
Grady, T. B., Summerside Electric Co., Summerside, P.E.I., Canada.
Granger, C., 229, Collins-st., Melbourne, Victoria.
Gray, D., 60, Morris-st., Williamstown, Victoria.
Greene, H. G., Brome Lake Electric Power Co., Waterloo, Que., Canada.
Greengrass, Francis W., Greymouth, New Zealand.
Griswald, F. L., M.A., S.C.E., La Rioja, Argentina.
Gross, Geo., Electricity Works, Waterloo, Ont., Canada.
Guldenzoph, C., Minas, Uruguay.
Hahn, A., & Sons, Cangallo 1873, Buenos Ayres, Argentina.
Hake, C. N., F.C.S., Melbourne Club, Melbourne, Victoria.
Hamada, H., Mitsu Bishi Dockyard & Engine Works, Nagasaki, Japan.
Hamilton, Wm., Woodstock Electric Railway, Light & Power Co., Woodstock, N.B., Canada.
Hammerton, C. W., P.O. Box 188, Johannesburg, Transvaal.
Hanada, F., Hokkai Electric Co., Sapporo & Hokkaido, Japan.
Harriss, Chas., Car Sheds, Ponsonby, Auckland, N.Z.
Harvey, G. A., Niagara Falls Park & River Railway Co., Niagara Falls, Ont., Canada.
Hayes, F., Chatham Gas Co., Ltd., Chatham, Ont., Canada.

Electricians—*continued.*

Henry, C., 127, Princes-st., Dunedin South, N.Z.
Hermsen, D., Probolingo, Java.
Hillgartner, S., Electricity Works, Hanover, Ont., Canada.
Hirose, T., 19, Kuramaye, Asakusa-Ku, Tokyo, Japan.
Hogg, Jno. W., Corporation Electric Light & Power Works, Fraserville, Que., Canada.
Holding, E., 184, Darling-st., Balmain, Sydney, N.S.W.
Holm Hansen, J., Paraguay 1042, Buenos Aires, Argentina.
Hood & Pirie, 94, Burwood-rd., Hawthorn, Victoria.
Hopper, R. W., Lake's Creek, Queensland.
Hordern, Anthony, & Sons, Sydney, N.S.W.
Hotson, A. D., 976, Burrow-st., Vancouver, B.C., Canada.
Hunt, A. O., London Electric Co., London, Ont., Canada.
Hunt, W. S., A.M.I.E.E., A.AM.I.E.E., Taquah Mining & Exploration Co., Ltd., Tarkwa via Sekondi, Gold Coast, West Africa.
Isaac, H. M., Elec. Works, Whitby, Ont., Canada.
Isaka, Y., E.E., Ise Electric Railway Co., Yamada Ise, Japan.
Ishizu, R., Toyama Electric Co., Toyama, Japan.
Jackson, S., Pioneer Tin Mine, Bradshaws Creek, Tasmania.
Jacobsen, W. F., Siam Electricity Co., Bangkok, Siam.
Jensen, Ove., Postal Telegraphs, Accra, Gold Coast, West Coast Africa.
Job, S., Corporation Electricity Works, Pietermaritzburg, Natal.
Johnson, L. M., Leigh-st., Adelaide, S. Australia.
Jost's Fan Supply & Engineering Co., Ltd., Hornby-rd., Bombay, India.
Kalbus, R., Rivadavia 1319-21, Buenos Aires, Argentina.
Kamiya S., Tsushin Kyoku, Tokyo, Japan.
Kawasaki, R., M.E., Nippon Electric Co., Ltd., 2, Mita, Shikokumachi, Shibaku, Tokyo, Japan.
Keane, G. E., Municipal Tramways & Electric Lighting Board, Fremantle, W. Australia.
Kegan, J. H., Electricity Works, North Hatley, Que., Canada.
Kerhly, C., Cuyo 1386, Buenos Aires, Argentina.
Kirkpatrick, R. A., Lardeau Light & Power Co., Ferguson, B.C., Canada.
Kissack, J. T., Tweed Electric Light & Power Co., Tweed, Ont., Canada.
Klopper & Laming, Topham-st., Adelaide, S. Australia.
Knight, Tracey, Victoria Battery, Waikino, New Zealand.
Knight, W., Electricity Works, Burks Falls, Ont., Canada.
Kobori, Juki, Uji River Electric Co., Ltd., Hichiijo, Kyoto, Japan.
Kring, C. G. C., Great Northern Telegraph Co., Ltd., Nagasaki, Japan.
La Rosa, F., Arequipa, Peru.

Electricians—*continued.*

Larroy, P., Moreno 945, Buenos Aires, Argentina.
Lauchlan, G., A.M.I.E.E., City Council, Wellington, N.Z.
Law, C. C., Padang, Java.
Leech, R., Barrackpore Electric Supply Co., Ltd., Barrackpore, Calcutta, India.
Leopold, E. W., Deakin-st., St. Kilda, Victoria.
Lewis, G. H. A., Corporation Electricity Works, King William's Town, Cape Colony.
Lowden, E. A., Town Council Electricity Works, Neepawa, Man., Canada.
Lowe, Geo., Cobourg Water & Electric Co., Cobourg, Ont., Canada.
Lussmann, R., Siemens Schuckert Werke, Tientsin, China.
Lutz, A. J., Kon. Paketvaart Co., Batavia, Java.
MacAlister, F. W., Electrical Engineers' Branch, Rly. Dept., 51, Phillip-st., Sydney, New South Wales.
McBean, A. F., Western Counties Electric Co., Brantford, Ont., Canada.
McCann, J., Knights Deep, Ltd., Germiston, S. Africa.
McCrossan, J. A., Vancouver, B.C., Canada.
McCulloch Bros., Euron, Victoria.
McCurdy, A., Hutt Upper, N.Z.
McElwee, Geo., City Electricity Works, Launceston, Tasmania.
Macfarlane, Frank, A.I.E.E., Mount Morgan Gold Mining Co., Rockhampton, Queensland.
McGregor, J., Hillgrove, N.S.W.
McKavannagh, T., Anglo-American Telegraph Co.'s cable ship *Minia*, Halifax, N.S.
McKay, A. N., Town Council Electricity Works, Chatham, N.B., Canada.
Mackenzie, H., Electrical Engineers' Branch, Rly. Dept., 51, Phillip-st., Sydney, N.S.W.
McLeay, R. C., Electricity Works, Watford Ont., Canada.
McLeod, G., Sandwich, Windsor & Amherstburg Railway, Windsor, Ont., Canada.
McMackon, W. H., Ridgetown Electric Light Co., Ridgetown, Ont., Canada.
McNeil, J. A., Electricity Works, Paisley, Ont., Canada.
McPhee, Jas., Corporation Electricity Works, Nelson, B.C., Canada.
Madden, R. H., St. Jerome Power & Electric Light Co., Ltd., St. Jerome, Que., Canada.
Mallette, A., J. T. Ayers' Electricity Works, Lachute, Argenteuil Co., P.Q., Canada.
Martin, F. L., Electricity Works, Cargill, Ont., Canada.
Marx, F., Eastern Telegraph Co., Alexandria, Egypt.
Masters, A. H., 66, Cameron-st., Launceston, Tasmania.
Mawson, S. H., Electrical Engineers' Branch, Rly. Dept., 51, Phillip-st., Sydney, N.S.W.
Melville, M. J., Town of Carman Electric Light (Municipal), Carman, Man., Canada.
Mercer, W., 435, Brunswick-st., Fitzroy, Victoria.

Electricians—*continued.*

Meteor Cycle & Electric Machine Co., Toronto, Ont., Canada.
Migliavacca, A., Cuyo 1700, Buenos Aires, Argentina.
Miller & Annear, 126, Toorak-rd. East, S. Yarra, Victoria.
Milward, J., Pacific Cable Board, 40, Hunter-st., Sydney, N.S.W.
Miranda, L., Victoria 314, Buenos Aires, Argentina.
Mitchell, F. T., Simmer Deep, Ltd., Germiston, Transvaal.
Mitchell Electric & Machinery Co., Winnipeg, Man., Canada.
Mogridge & Paterson, 28, Brook-st., South Melbourne, Victoria.
Mole, Ed., Seaforth Electric Light, Heat & Power Co., Ltd., Seaforth, Ont., Canada.
Molina, F., La Vela, Venezuela.
Monsbourgh, Alex. E., 25, Dawson-st., Ballarat, Victoria.
Monties, Raoul, Cie. du Gaz, Cairo, Egypt.
Moore, W. J., Georgia Bay M. & P. Co., Meaford, Ont., Canada.
Morgan, Percy, 19, Hathem-st., Leonhurst, N.S.W.
Morley, J., Electricity Works, New Hamburg, Ont., Canada.
Morris, J. W., Reid Newfoundland Co., St. John's, Newfoundland.
Mortensen, W. H. G., Gt. Northern Telegraph Co., Ltd., Wladiwostock, Russia.
Mukerjee, K. L., & Co., 29, Pollock-st., Calcutta, India.
Murray, J. H., Tanjong Pagar Dock Board, Singapore, Straits Settlements.
Murray, James, & W. H. Weir, 12, Government-pl., Calcutta, India.
Myers, G. H., 301, Albert-st. W., Brunswick, Victoria.
Nahman, R., Chareh Boulac, Cairo, Egypt.
Nakano, H., M.E., M.I.E.E., Imperial University, Tokyo, Japan.
Nash, E. L., Lunenburg Gas Co., Lunenburg, N.S., Canada.
Neuenkirchen, H., Gawler-pl., Adelaide, S. Australia.
Nightingall, V., 265, Little Bourke-st., Melbourne, Victoria.
Niwa, S. D., M.E., M.I.E.E., Tamahoricho, Tamatsukuri, Osaka, Japan.
Noakes, L., Camp's Bay Electric Tramways Co., Ltd., Cape Town, Cape Colony.
Noakes, W. M., Clyde Engineering Co., Granville & Sydney, N.S.W.
North, C., City Electricity Works, Revelstoke, B.C., Canada.
Northgrave, W., Electricity Works, Waterloo, Ont., Canada.
Nunns, A. J. D., P.O. Box 193, Germiston, Transvaal.
Obrien, Chas., Corporation Electricity Works, Saskatoon, Sask., Canada.
O'Connor, L., Corporation, Thorold, Ont., Canada.

Electricians—*continued.*

Oddie, James, J.P., F.R.G.S., Ballarat, Victoria.
Ohto, T., Hyogo Electric Railway Co., Hyogo, Japan.
O'Hallarn, Wm., Corporation, Newmarket, Ont., Canada.
Ono, S., Hokkai Electric Co., Sapporo & Hokkaido, Japan.
Ormsby, A. W., City Electricity Works, Edmonton, Alberta, Canada.
Osborn & Jerdan, 438, George-st., Sydney, N.S.W.
Otsu, B., Sapporo Hydro Electric Co., Sapporo & Hokkaido, Japan.
Otto, Carl M., 256, Elizabeth-st., Melbourne, Victoria.
Otway, A. R., Electricity Works, Timaru, N.Z.
Ouillet, P., Cie. des Eaux et de l'Electricité de Chicoutimi, Chicoutimi, Que., Canada.
Page, J. W., Burke-rd., Hawthorn, Victoria.
Paget, P. W., Marconi Wireless Telegraph Station, Glace Bay, Cape Breton, N.S., Canada.
Paine, C. A., Europe & Azores Telegraph Co., Horta, Fayal, Azores.
Pais, M., Cia. Luz Electrica, Rio Grande do Sul, Brazil.
Parker, F. F., Lancaster Gold Mine Co., Krugersdorp, Transvaal.
Pask, T. P., A.M.I.E.E., Natal Government Railways, Durban, Natal.
Pepper, A. E., Roslyn, Concord, Sydney, N.S.W.
Perochena, M., Bolivar 630, Buenos Aires, Argentina.
Philip, R. W., Electricity Works, Grand Valley & Arthur, Ont., Canada.
Philips, E. J., Electricity Works, Berlin, Ont.
Phillips, A. E., Box 396, G.P.O., Melbourne, Victoria.
Phillips, G. H., A.M.I.E.E., Kuala Lumpur, Federated Malay States.
Phillips, H. A., Electricity Works, Walhalla, Victoria.
Pippy, W. J., Edison Electric Light & Power Co., Spring Hill, N.S., Canada.
Pohl, I., Pioneer Tin Mining Co., Bradshaw's Creek.
Pohl, J., Victoria Deep Leads Gold Mining Co., Baringhup, Victoria.
Pominville, G., Cie. de Gaz, Electricité et Pouvoir, St. Hyacinthe, Que., Canada.
Porter, Cecil, C.S.A.R., Pretoria, Transvaal.
Potter, J. T., Walkerton Elec. Light & Power Co., Ltd., Walkerton, Ont., Canada.
Pratt, R. J., M.AM.I.E.E., Honolulu Iron Works Co., Honolulu, Hawaii.
Prior, W., Corporation Electricity Works, Bloemfontein, Orange River Colony.
Prior, W. J., Corporation Electricity Works, Bloemfontein.
Prout, Jas., Forest Electric Light Co., Forest, Ont., Canada.
Purdy, J. G., Bear River & Digby Light, Heat & Power Co., Bear River, N.S., Canada.
Purvis, W. J., Cornwall Foundry, Hindley-st. West, Adelaide.

Electricians—*continued.*

Ramirez, A. V., Cia. de Luz Electrica y Fuerza Motriz, Monclova, Mexico.
Rebuffo, F. A., Cerrito 338, Buenos Aires, Argentina.
Reiber, Wm., Waterloo, Ont., Canada.
Richman, Geo., Harbour Electricity Works, Port Elizabeth, Cape Colony.
Ritchie, F. J., Electricity Works, Markdale, Ont., Canada.
Ritchie & Jackman, 197, Murray-st., Perth, West Australia.
Robertson, J. A., Vankleek Hill Electric Co., Vankleek Hill, Ont., Canada.
Rogers, W. C., Corporation Electricity Works, Kingston, Ont., Canada.
Rolfe, J., 63, Darlington-rd., Sydney, N.S.W.
Romero, P. M., Quito Electric Light & Power Co., Apartado 82, Quito, Ecuador.
Ruckauf, M., Buenos Ayres, Argentina.
Ruston, B., Corporation Electricity Works, Mitchell, Ont., Canada.
Saccaggio, P. C., Estacion Talleres, F.C. Sud, Buenos Ayres, Argentina.
St. Denis, J. A., St. François Hydraulic Co., Thetford Mines, Que., Canada.
Sather, S. P., Geldenhuis Deep Electricity Works, Geldenhuis Deep, South Africa.
Schick, Chr. G., 181, Albert-st., Brisbane, Queensland.
Schmidlin, F., Elizabeth-st., Sydney, N.S.W.
Schumann, G., La Industrial del Oeste, Ltd., Rojas, Argentina.
Schwartz, F. J. F., Bell Telephone Co., Montreal, Canada.
Scott, D. Bryce, Intercolonial Railway, Moncton, New Brunswick, Canada.
Senstius, Ch., Soerakarta, Java.
Shejiro, Ito, Miyagi Boseki Dento Kabushiki Kaisha, Sendai, Japan.
Shenstone, F. B., Electrical Engineers' Branch, Railway Dept., 51, Phillip-st., Sydney, N.S.W.
Shepley, Arthur, Port Pirie, S. Australia.
Shirai, S., Kyoto Electric Light Co., Kyoto, Japan.
Sida, H., Yonezawa Suiryoku denki Kaisha, Yonezawa, Yamagataken.
Simmons, W. C., Corporation Electricity Works, Bracebridge, Ont., Canada.
Sims, C. W., 44, The Avenue, Windsor, Victoria.
Sink, N. E., Potchefstroom Consumer's Light & Power Co., Ltd., Potchefstroom, Transvaal.
Sloan, J. H., Corporation Electricity Works, Tottenham, Ont., Canada.
Smart, E., Victoria Falls Power Co., Ltd., Johannesburg, Transvaal.
Smith, C. E., Rosario Electric Co., Casilla Correo 137, Rosario, Argentina.
Snider, W., Leamington Light & Heat Co., Ltd., Leamington, Ont., Canada.
Soni, F. A., Telégrafos Federales, Mexico.
Souza, Dr. E., Light & Power Co., Caixa 162, São Paulo, Brazil.
Sovereign, J. C., Simcoe Gas & Water Co., Simcoe, Ont., Canada.

Electricians—*continued.*

Spain, H. G. G., Postal Telegraphs, Brit. Guiana.
Spillmann, F., River Plate Electricity Co., Ltd., Tucuman, Argentina.
Stevenson, W. J., Clinton Electric Light Co., Clinton, Ont., Canada.
Stewart, J. H., Tay-st., Invercargill, N.Z.
Stewart, W., North Bay Light, Heat & Power Co., North Bay, Ont., Canada.
Stewart, Wm., Tauranga, Bay of Plenty, N.Z.
Stiff, F. B., P.O. Box 2538, Johannesburg, Transvaal.
Stirling, D., 27, Victoria-chbrs., Sydney, N.S.W.
Street, H. E., Tasmain Gold Mine, Beaconsfield, Tasmania.
Strickland, H. E. S., 27, Wellington-st. East, Toronto, Canada.
Stubbs, J. Hamilton, Kootenay Electric Co., Ltd., Kaslo, B.C., Canada.
Summerveldt, W. S., Electricity Works, Sutton, Ont., Canada.
Sweeting, J. Brock, Central & South American Telegraph Co., Villa Maria, Cordoba, Argentina.
Takatoriy, I., Kyoto Electric Light Co., Nakatsu, Japan.
Tarder, T., Puerto Cabello, Venezuela.
Tatham, Geo., 50, Clarence-st., Sydney, N.S.W.
Taylor, T., Sherbrooke Power, Light & Heat Co., Sherbrooke, Que., Canada.
Terlet, C., Electriciteit Maatschappij Medan, Medan Deli, Sumatra.
Tetsuka, H., Hanskin Electric Railway Co., Amagasaki, & Mikage, Japan.
Thaeter, H., Norwich-chbrs., 56, Hunter-st., Sydney, N.S.W.
Thompson, Geo. W., Corporation Electricity Works, Westmount, Que., Canada.
Thornber, Percy, Summerland, British Columbia, Canada.
Toko, I., Hokkai Electric Co., Sapporo & Hokkaido, Japan.
Towell, Wm., Brisbane-st., Ipswich, Queensland.
Tuer, Thos., Port Hope Electric Light & Power Co., Ltd., Port Hope, Ont., Canada.
Turnbull, A. P., N.S.W. Government Railways, Sydney, N.S.W.
Turville, Dixon & Kemp, 138, Queen-st., Melbourne, Victoria.
Unbehaun, C. A., M.I.E.E., G.P.O., Adelaide, S. Australia.
Urquhart, C., Borough Council Electricity Works, Patea, N.Z.
Veeder, Wm. G., Electricity Works, Jhelum, India.
Viehs, F., Malang, Java.
Wadden, C. E., New Glasgow Electric Co., Ltd., New Glasgow, N.S., Canada.
Wadman, F., Cape Town, Cape Colony.
Walkom, A. J., Electricians' Branch, G.P.O., Sydney, N.S.W.
Wallace, R., Electricity Works, Warburton, Victoria.
Walters, Chas. A., Napanee Electric Light Co., Napanee, Ont., Canada.

Electricians—*continued.*

Ward, W., Hong Kong & Whampoa Dock Co., Queen's-bldgs., New Praya, Hong Kong, China.
Waterbury, N., Hamilton, Grimsby & Beamsville Electric Railway Co., Hamilton, Canada.
Watson, C. W., Electricity Works, Orangeville, Ont., Canada.
Watts, F., 244, Pitt-st., Sydney, N.S.W.
Wesselhoeft, R., Andersen, Meyer & Co., 4, Yuenmingyen-rd., Shanghai.
Westman, A. W., Windsor, Essex & Lake Shore Railway Co., Kingsville, Ont., Canada.
Wells, T. D., Municipal Electricity Works, Kroonstad, Orange River Colony.
Wheeler, F. A., Bermuda Electric Light, Power & Traction Co., Hamilton; & Pembroke.
Wickins, H. R., A.I.E.E., c/o Brister & Co., President-st., Johannesburg, Transvaal.
Wickson, A. M., Ontario Parliament-bldg., Toronto, Ont., Canada.
Williams, W., Sarnia Gas & Electric Light Co., Sarnia, Ont., Canada.
Willis, W. J., Corporation, Barrie, Ont., Canada.
Willmot, H., Mina Rosa-st., Enfield, Sydney, N.S.W.
Wilson, S., Selkirk Electric Co., Ltd., Selkirk, Man., Canada.
Wolfe, Augustus, Post & Telegraph Office, Bairnsdale, Victoria.
Wolff, L. H, Honolulu Rapid Transit & Land Co., Honolulu, Hawaii Ter.
Woodward, P. J., Marconi's Wireless Telegraph Co., High Power Station, Glace Bay, N.S., Canada.
Wright, F., Monterey Ry. Electric Light & Power Co., Monterey, Mexico.
Wright, H. H., Renfrew Electric Co., Ltd., Renfrew, Ont., Canada.
Wyatt, T. H., Victoria Falls Power Co., Ltd., P.O. Box 217, Germiston, Transvaal.
Yamada, Y., Hokkai Electric Co., Sapporo & Hokkaido, Japan.
Young, W. J., City Electric Supply Co., Ltd., Brisbane, Queensland.
Young, W. R., Eastern Extension Telegraph Co., Cocos.

Electricians—Consulting.

F.—Électriciens—Consultants.
G.—Elektriker—Beratende.

Swinnerton, J., Electrical Supply Co., 517, George-st., Sydney, N.S.W.

Electricians—Experts.

F.—Électriciens—Experts.
G.—Elektriker Fachkundige.

Shaw, William B., Montreal Electric Co., 425, St. James-st., Montreal, Canada.

Electricians—Manufacturing.

F.—Électriciens—Fab.
F.—Elektriker—Fab.

Cortlandt Electrical Manufacturing Co., Ltd., 106, Lombard-st., Toronto, Ont., Canada.
Dorman & Smith, Ordsal Electrical Works, Salford, England. Selling agent for Australia, Haes & Eggers, 163, Clarence-st., Sydney, N.S.W.
Eastman Machine Co., 59, Adelaide-st. West, Toronto, Ont., Canada.
Empire Electric Co. of Ottawa, Rideau-st., Ottawa, Ont., Canada.
Hoffmeister, R., Vancouver, B.C., Canada.
Hyde, T. C., & Co., 386, Flinders-st., Richmond, Victoria.
King Electrical Works, Ltd., 6, Chenneville-st., Montreal, Canada.
Kopsch, C. F. G., 8, Bridge-st., Sydney, N.S.W.
Mayne, Blackadder & Co., 100, Westbourne-st., Petersham, N.S.W.
Moody, F. H., 100, Exhibition-st., Melbourne, Victoria.
Northern Electric & Manufacturing Co., Ltd., cor. Notre Dame & Guy-st., Montreal, Canada.
Schilder, C., 1019, Lavalle, Buenos Ayres, Argentina.
Scott, E. W., 332, Pitt-st., Sydney, N.S.W.
Smith, A., & Co., 189 B., Manchester-st., Christchurch, N.Z.
Thomson, Fred., & Co., 326, 328 & 330, Craig-st., Montreal, Canada.
Westinghouse Electric & Manufacturing Co., 947, Calle Cuyo, Buenos Ayres, Argentina.

Electricians—Medical.

F.—Électriciens—de Médecin.
G.—Elektrotherapie.

Bethel, G. H., 38, Flinders-st., Sydney, N.S.W.
Crump, W. E., 44, Castlereagh-st., Sydney, N.S.W.
Guimarães, Dr. Modesto, General Camara 82, Rio de Janeiro, Brazil.
Hess, O., & Cia., Florida 667, Buenos Ayres, Argentina.
King, A., 287, William-st., Melbourne, Victoria.
Kyte, W. H., 31, Spring-st., Melbourne, Victoria.
Lutz y Schulz, Florida 171, Buenos Ayres, Argentina.
Machado, Dr. A. V. W., R. Primeiro de Marco 8, Rio, Brazil.
Russell, W. H., 366A, Bourke-st., Melbourne, Victoria.

Electricity Meters—Makers of.

F.—Compteurs d'électricité—Fab. de.
G.—Elektricitäts Messer—Fab. von.

Peterborough Meter Co., Ltd., Peterborough, Ont., Canada.

Electricity Works.

F.—Usines électriques.
G.—Elektricitäts Centrale.

ABBREVIATIONS.

L. Light.	*K.W.* kilowatts.
P. Power.	*ph.* phase.
T. Traction.	*py.* periodicity.
a. alternating.	props. proprietors.
c. continuous.	res. resident.
engr. engineer.	*v.* volts.
inc. incandescent.	

Acadia Edison Electric Light Co. *See* Wolfville.
Acton, Corporation of, Acton, Ont., Canada. L. *a.*, 1-*ph.*, 66 *py.*, 1150–115 *v.*, 50 *K.W.* Engr., E. E. Macklin.
Adelaide Electric Supply Co., Ltd., Adelaide, S. Australia. L. P. *a.*, 1-*ph.*, 50 *py.*, 2000–200 *v.*; *c.*, 3-wire, 200 & 400 *v.*, 3600 *K.W.* Temporary supply for T. *c.*, 600 *v.* Supply to Port Adelaide, *a.*, 1-*ph.*, 4500–400 & 200 *v.* F. W. Clements, M.I.E.E., chf. engr.; F. W. Wheadon, A.M.I.E.E., res.
Adelaide, South Australia. The Municipal Tramways Trust, props. T. *a.*, 3-*ph.*, 25 *py.*, 1100-600 *v. c.*, 4500 *K.W.* Engr., W. G. T. Goodman, M.I.C.E., M.I.E.E.
Adrogue, Azul, Quilmes, San Nicolas, Tres Arroyos. Cia. de Electricidad de la Prov. de Buenos Ayres, proprietors.
Ahmedabad, Poona & Karachi, India. *Licenses for* L. P. T. *applied for by Killick, Nixon & Co.*
Aidzu Denryoku Kabushiki Kwaisha, Wakamatsu Fukushimaken, Japan. Niwayama Co., props. L. P. *a.*, 3-*ph.*, primary 2000 *v.*, secondary 110 & 220 *v.*, 70 *K.W.* Engr., I. Ogura.
Alberto Torres, Brazil, Guinle & Co. props., L.P.
Alexandria, Egypt. Cie. Centrale d'Eclairage par le Gaz, 25, rue Cherif Pacha, Alexandria. *a.*, 40 *py.*, 400 *v.*
Alexandria, Egypt. Société Ane. des Tramways d'Alexandrie, props. 500 *v.*, 2000 *K.W.* Gen. man., J. G. Jacob des Combes; engr.-in-chf., A. Woller.
Alexandria Corp., Alexandria, Ont., Canada. L. *a.*, 2-*ph.*, 60 *py.*, 2200–110 *v.*, 120 *K.W.*
Alexandria & Ramleh Electric Railway, Alexandria, Egypt. *a.*, 3-*ph.*, 25 *py.*, 6500 *v.*, transformed to *c.*, 550 *v.*, 1500 *K.W.* Gen. man., J. G. Jacob des Combes; engr.-in-chf., A. Woller.
Algoma Central & Hudson Bay Railway Co., Sault Ste. Marie, Ont., Canada.
Algoma Power Co., Ltd., Berlin; & Michipicoten River, Ont., Canada.
Aliwal North Municipality, Aliwal North, Cape Colony. L. P. *c.*, 3-wire, 230 & 460 *v.*, 90 *K.W.* Consulting engrs., Burstall & Monkhouse; res. engr., D. Pressly.
Allahabad, India. Public Works Dept., props. L. P. *c.*, 220 *v.*, 20 *K.W.* Engr., H. J. Callaghan.
Alliston Electric Light Co., Alliston, Ont., Canada. L. *a.*, 2-*ph.*, 133 *py.*, primary 1040 *v.*, secondary 110 *v.*, 60 *K.W.* Engr., J. Trueman; elecn., W. J. Fletcher.

Electricity Works—*continued.*

Alma Ville, Que., Canada. L. *supply by St. Maurice Light & Power Co.*

Almonte Corp., Almonte, Ont., Canada. L. *c.*, 3-wire, 110 & 125 *v.*, 200 *K.W.* Man., D. Forgie.

Alton. *See* Orangeville.

Alvinston Power Co., Ltd., Alvinston, Ont., Canada. L. *c.*, arc 80 *v.*, inc. 106 *v.*, 24 *K.W.* Engr., H. R. Carruthers.

Amagasaki, Japan. Hanshin Denki Tetsudo K. K., props. T. *a.*, 3-*ph.*, 50 *py.*, 3500-110 *v.*; & *c.*, 600 *v.*, 2400 *K.W.* Engr., S. Misaki; elecn., H. Tetsuka.

American Korean Electric Co. *See* Seoul.

Amherst, Nova Scotia. Canada Electric Co., Ltd., proprietors. L. *c.*, 120 *v.*, 200 *K.W.* Engr., C. L. Bert; elecn., Ira T. Davis.

Amherstburgh Electric Light, Heat & Power Co., Ltd., Amherstburgh, Ont., Canada. L. *a.*, 1-*ph.*, 133 *py.*, 1104-104 *v.*, 75 *K. W.* Elecn., A. G. Brown.

Amritsar, India. *The elec. licence has been confirmed.*

Anglo-Argentine Electricity Co., Reconquista 325, Buenos Aires. *See* Chascomus, Concepcion, Concordia, Gualeguay & Tandil.

Annapolis Royal Municipality, Annapolis Royal, N.S., Canada. L. *a.*, 3-wire, 2-*ph.*, 66 *py.*, 2200-104 *v.*, 200 *K.W.* Engr., S. Rippay.

Antananarivo, Madagascar. *E. L. concession has been granted to La Soc. Civile d'Études de Concessions et Travaux, Paris.*

Antigonish Elec. Co., Antigonish, N.S., Canada. L. *c.*, Edison 3-wire, 110 *v.*, 50 *K.W.* Elecn., S. A. Hulbert.

Antofagasta, Chili. Cia. Alumbrado y Fuerza Motriz Electricos de Antofagasta, props. No. 1, L. *c.*, 3-wire, 220 *v.* arc. & inc.; P., 220 & 440 *v.*, 360 *K.W.* No. 2, L. *c.*, 220 *v.* arc. & inc.; P., 220 & 440 *v.*, 350 *K.W.* Engr., J. L. Grigioni; asst., G. W. Kidd.

Antung, China.

Aomori Electric Lighting Co., Aomori, Japan. L. *a.*, gen. 3-*ph.*, dis. 1-*ph.*, 60 *py.*, 6600-2000-100 *v.*, 200 *K.W.*

Ararat, Victoria. Cathcart Gold Mining Co., props. *a.* L., 1-*ph.*, 50 *py.*, 550-100 *v.*; P., 3-*ph.*, 50 *py.*, 550 *v.*, 112 *K.W.* Engr., J. Hamilton.

Arcadia, Natal. *Works to be erected shortly.*

Arnprior Electric Light & Power Co., Ltd., Arnprior, Ont., Canada. L. P. *a.*, 1-*ph.*, 125 *py.*, primary 1100 *v.*, secondary 52 & 104 *v.*, 180 *K.W.* Engr., J. R. Dodd.

Ashcroft, B.C., Canada. Ashcroft Water, Electric & Improvement Co., proprietors. L. P. *a.*, 3-*ph.*, 60 *py.*, 2200-104 *v.*, 100 *K.W.* Engr., H. H. Bales.

Asuncion, Paraguay. *Mr. E. Moeller has been granted permission to transfer his concession for E. supply & T. to Asuncion City Improvements, Electric Light, Power & Tramways Co.*

Atami Dento Kabushiki Kaisha, Atami Machi Idzu, Japan. L. *a.*, 1-*ph.*, 80 *py.*, 1010 *v.* T. Yamagata, engr.

Athabaska Water & Power Co. *See* Victoriaville.

Electricity Works—*continued.*

Atlin, B.C. British Columbia Power & Manufacturing Co., Ltd., proprietors. L. *c.*, 110 *v.*, 50 *K.W.* A. H. Hartshorn, manager.

Auckland, N.Z. *A new station of* 4000 *K.W. in progress.* *c.*, L. 230 *v.*, P. 460 *v.*, 675 *K.W.* City elec. engr., Alex. Wyllie, M.I.E.E.

Auckland Electric Tram Co., Auckland, N.Z. T. *c.*, 550 *v.*, 2100 *K.W.* Gen. man., J. J. Walklate.

Aurora, Ont., Canada. Schomburg & Aurora Railway Co., proprietors. *c.*, 500 *v.*

Aurora, Ont., Canada. W. H. Birchard, proprietor & electrician. L. *a.*, 2-*ph.*, 125 *py.*, primary 1000 *v.*, secondary 104 *v.*, 60 *K.W.*

Aylmer Municipal Plant, Aylmer, Ont., Canada. L. *a.*, monocyclic, 60 *py.*, 1040-104 *v.*, 120 *K.W.* Engr., J. L. Millard.

Aylmer, Que., Canada. Hull Electric Co., props. L. *a.*, 1-*ph.*; P. *c.*, 600 *v.*; T. Engr., Geo. G. Gale.

Aylmer, Que., Canada. Canadian Pacific Railway Co., props. *a.* L., 1- & 2-*ph.*, 60 *py.*, 2200-115 *v.*; P., 2- & 3-*ph.*, 60 *py.*, 10,000, 2200-115 & 550 *v.*; T., 3-*ph.*, 60 *py.*, 10,000-550 *v. c.*, 2850 *K.W.* Engr., G. Gordon Gale.

Aylmer, Que., Canada. Hull Electric Railway Co., props. T. *c.*, 500 *v.*

Ayton, Ont., Canada. Wenger Milling Co., proprietors. L.

Azul, Argentina.

Bahia Blanca, Argentina. Ferrocarril de Buenos Aires al Pacifico, props. L. P. *a.*, 3-*ph.*, 50 *py*, 220 *v.*, & *c.* P., 380 *v.* T., 5000 *K.W.* *Under construction. Bulk supply given to the Cia. Sud Americana de Luz y Fuerza, & T.* Engr., Pakenham Beatty.

Bahia Blanca, Argentine Republic. South American Light & Power Co., props. *a.*, 2 & 3-*ph.*, 4-wire, 50 *py.*, 6600 & 500 *v.* Engr., Pakenham Beatty.

Bahia, Brazil. *A large hydro-electric installation in connection with the Yaragnaso Waterfalls is now being started.*

Bahia Tramway, Light & Power Co., Bahia, Brazil. *Under construction.* L. P. *a.*, 3-*ph.*, 60 *py.*, 2300-104 *v.* L., 104 & 208 *v.* P., & *c.* P. T., 600 *v.*, 1500 *K.W.* Engr., J. V. Brandao.

Baie St. Paul, Que., Canada. Cie. Electrique de la Baie St. Paul, props. L. *a.*, 2-*ph.*, 2000-104 *v.*, 250 *K.W.* Elecn., O. Boivin.

Bairndale, Victoria. *E. L. under consideration.*

Bakan Electric Light Co., Ltd., Shimonosaki, Japan. L. P. *a.*, 1-*ph.*, 80 & 60 *py.*, primary 2000 *v.*, secondary 100 *v.*

Ballarat & Bendigo, Victoria. Electricity Supply Co. of Vic., Ltd., props. L. P. *c.*, 3-wire, 220 & 440 *v.*; T., 500-550 *v.*, 2400 *K.W.* Engr. & gen. man., Benj. Deakin, M.I.E.E., M.I.M.E.

Balmain, N.S.W. The Electric Light & Power Supply Corp., Ltd., props. L. *a.*, 1, 2 & 3-*ph.*, 50-*py.*, 240 *v.*; P., 3-*ph.*, 50 *py.*, 415 *v.*, 900 *K.W.* Engr., J. E. Donoghue, A.M.I.E.E.

Bandoeng 'sche Electricitets Maatschappy Bandoeng, Java. *a.*, 3-wire, 3-*ph.*, 100 *py.*, 6000-220 & 110 *v.*, 750 *K.W.*

Electricity Works—*continued.*

Bangalore, India. Mysore Govt., props. 3-*ph.*, generation at 2200 *v.*, step-up to 35,000 transformed to 2300 *v.*; L., 60 *py.*, 220 *v.*; P., 25 *py.*, 2300 & 220 *v.*, 7000 *K.W.* Chief elec. engr., H. P. Gibbs; supt. engr., Capt. W. S. Traill, R.E.

Bangkok, Siam. Siam Electricity Co., Ltd., props. L. P. *a.*, 2-wire, 1-*ph.*, 100 *py.*, 2000–100 *v.*; P. T. *c.*, 550 *v.*, 2300 *K.W.* Chief engr., W. F. Jacobsen; elecn., L. Diemer-Hansen.

Barbadoes, W. Indies. *An E. L. & P. order has been passed.*

Barberton, Transvaal. Moodie's Gold M. & E. Co., Ltd., proprietors. L. P. *a.*, 3-*ph.*, 50 *py.*, generated at 220 *v.*, transformed up to 11,000 *v.* on line, & transformed down to 200 *v.* for L. & P., 320 *K.W.* Engr., J. G. B. Sutherland.

Barrackpore Electric Supply Co., Ltd., Barrackpore, Calcutta, India. L. P. *c.*, 3-wire, 220 & 440 *v.*, 80 *K.W.* Sta. engr., L. H. B. Sandwell; elecn., R. Leech.

Barren Jack Dam & Irrigation Scheme, N.S.W. P. W. D. Govt., N.S.W., props. *c.* L., 110 *v.*; P., 500 *v.*, 375 *K.W.* Engr., L. A. B. Wade, M.I.C.E.

Barrie Corp., Barrie, Ont., Canada. L. *c.* arc, *a.*, 2-*ph.*, 66 *py.*, primary 2000 *v.*, secondary 100 *v.*, 450 *K.W.* Engr., J. A. Hare; elecn., W. J. Willis.

Batavia, Java. Nederlandsch-Indische Elec. Maatschappij, props. *a.*, 2-wire, 50 *py.*, 110 *v.*, 556 *K.W.* Chief engr., J. Verdam.

Bathurst Electric & Water Power Co., Bathurst, N.B., Canada. L. *a.*, 1-*ph.*, 60 *py.*, 2300–110 *v.*, 60 *K.W.* Engr., P. J. Leger.

Battleford Municipality, Battleford, Sask., Canada. L. *a.*, 3-*ph.*, 60 *py.*, & *c.*, 2200–110 *v.* Engr., F. K. Martin.

Beaconsfield, Tasmania. Tasmania Gold Mining & Quartz Crushing Co., props. L. P. T. *a.*, 1-*ph.*, 90 *py.*, primary 2000 *v.*, secondary 110 *v.*; P. T. *c.*, 300 *v.*, 100 *K.W.* Engr., J. Ingram.

Beaconsfield, nr. Kimberley, South Africa. *The Town Council is considering an offer from De Beers Co. for electric lighting the town.*

Beamsville, Ont., Canada. *See* Hamilton.

Bear River & Digby Light, Heat & Power Co., Bear River, N.S. L. *a.*, 1-*ph.*, 1154–104 *v.* Elecn., J. G. Purdy.

Beauharnois Electric Light Co., Beauharnois, P.Q., Canada. L. *a.*, 2-*ph.*, 133 *py.*, 112 *v.*, 275 *K.W.* Engr., D. Terrien; elecn., H. Faubert.

Beaverton, Ont., Canada. Alex. Dobson, proprietor. P. *c*, 250 *v.*; T. *a.*, 2-*ph.*, 100 *v.*, 75 *K.* Elecn., J. Dobson.

Bedford, Cape Colony. *E. L. under consideration by Municipality.*

Bedford, P.Q., Canada. Corey & Campbell, props.

Beeton Municipality, Beeton, Ont., Canada. L. *a.*, 1-*ph.*, 60 *py.*, 1000–110 *v.*, 30 *K.W.* Engr., H. Harman.

Beira, East Africa. *E. L. under consideration.*

Belgrano, Flores, Limirs & Palermo. *The Cia. Alemana have offered to take over these Municipal Electricity Works.*

Electricity Works—*continued.*

Belize Ice & Electric Light Co., Ltd., Belize, British Honduras. L. P. *c.*, 220 & 440 *v.*, 500 *K.W.* Man., P. D. Lyons.

Belleville. *See* Trenton.

Belleville Gas Co., Belleville, Ont., Canada. L.

Belmont, Ont., Canada. Belmont Gold Mine, Ltd., props. L.

Benares, India. E. L. & T. *Licence granted.*

Bendigo, Victoria. *See* Ballarat.

Bendigo, Victoria. New Moon Gold Mining Co., props. P. *c.*, 150 *K.W.*

Bengal-Nagpur Railway Co., Loco & Carriage Workshops, Khargpur, India. L. P. *c.*, 2-wire, 220 & 440 *v.*; & *a.* P., 3-*ph.*, 18 *py.*, 2300–140 *v.*, 700 *K.W.* Engr., E. Stanley Franklin, M.I.E.E., M.I.MECH.E.

Benguella; Catumbella; & Lobito, Portuguese West Africa. *Concession granted.*

Benjamin Manufacturing Co., Ltd. *See* Yarker.

Berlin City, Berlin, Ont., Canada. L. P. *c.*, 250 & 500 *v.*; *a.*, 3-*ph.*, 60 *py.*, 2200–110 & 220 *v.* L., 250 & 500 *v.* P., 600 *K.W.* Engr., E. Freis; elecn., E. J. Philips.

Berlin & Waterloo Street Railway, Berlin, Ont., Canada. *c.*, 500 *v.*, 160 *K.W.*

Bermuda Electric Light, Power & Traction Co., Hamilton, Bermuda. *See also* Pembroke.

Berthienville, Que., Canada. L. *supply by St. Maurice Light & Power Co.*

Bethlehem, Orange River Colony. Municipality, props. *c.* L., 250 *v.*, 20 *K.W.* Engr., J. Gault.

Bhopal, India. H.H. Nawab Sultan Jehan Begum, G.C.I.E., prop. L. P. *a.*, 1-*ph.*, 50 *py.*, 660 *v.*, & *c.*, 108 *K.W.* Engr., Sorab Faridoon.

Bic Electric Co., Bic, Que., Canada. L. *a.*, 2-*ph.*, 2000 *v.*, 45 *K.W.*

Bikanir, India. State, props. L. *a.*, 3-*ph.*, 50 *py.*, 2000–200 *v.*, 340 *K.W.* Engr., G. R. Drummond.

Blenheim Corp., Blenheim, Ont., Canada. L. *a.*, 1-*ph.*, 36 *py.*, 2200–110 *v.*, 75 *K.W.* Engr., C. E. Wharram.

Blind River Light, Heat & Power Co., Blind River, Ont., Canada. L. P. *c.*, 110 & 220 *v.*

Blindman River Electric Power Co. *See* Lacombe.

Bloemfontein Corporation. L. P. *a.*, 3-*ph.*, 50 *py.*, 2000–200 *v.* L., 346 *v.* P., 1600 *K.W.* Engr., G. A. Stewart; elecn., W. Prior.

Bluff, N.Z. L.

Blyth Electric Light Plant Co., Blyth, Ont., Canada. L. *a.*, 125 *py.*, 1040–110 *v.*

Bobcaygeon Town, Bobcaygeon, Ont., Canada. L. *a.*, 3-*ph.*, 2200–110 *v.*

Bogota, Colombia. Compañia de Energia Electrica, props. L. P. *a.*, 3-*ph.*, 60 *py.*, 1500–150 *v.*, 1715 *K.W.* Engr., A. Wolcken; elecn., C. Cifuentes.

Bogota, Colombia. *Concession for electric tramway has been granted to the Bogota Street Railway of New Jersey.*

Boksburg, Transvaal, S. Africa. L. *c.*, 3-wire, 250 *v.*, 800 *K.W.* Engr., E. S. Curtis.

Electricity Works—*continued.*

Bombay Electric Supply & Tramways Co., Ltd., Bombay, India. L. P. T. *a.*, 3-*ph.*, 50 *py.*, 5500 *v* transformed to *c.*, 3-wire, 230 *v.* & 460 *v.* L. & P.; 550 *v.* T., 4800 *K.W.* Engr., A. T., Cooper, M.I.E.E., M.I.MECH.E., M.AM.I.E.E.

Bombay Hydro-Electric Supply. *Station to be erected near Khapoli. Transmission at* 45,000 *v.*

Bothwell Corporation, Bothwell, Ont., Canada. L. *c.*, 110 *v.*, 40 *K.W.* Engr., E. Gilbert.

Boulder Municipality, Boulder, West Australia. L. & P. *c.*, 3-wire, 220 & 440 *v.*, 400 *K.W.* Engr. & manager, H. G. Alder.

Boundary Falls, Canada. P. *distributed from lines of West Kootenay Power & Light Co. by the South Kootenay Water Power Co.*

Bowmanville Elec. Light Co., Bowmanville, Ont., Canada. L. *a.*, 2-*ph.*, 133 *py.*, primary 1150 *v.*, secondary 104 *v.*, 90 *K.W.* Engr., R. Holditch.

Bracebridge Corp., Bracebridge, Ontario. L. P. *a.*, 2-*ph.*, 60 *py.*, 2080–104–500 *v.*, 550 *K.W.* Engr., Wm. C. Simmons.

Bragança, Brazil. Cia. Paulista de Electricidade, props. *a.*, 50 *py.*, 200 *v.* Chief engr., Dr. D. A. Matheus.

Brakpan, S. Africa. Victoria Falls Power Co., Ltd., props. L. P. *a.*, 3-*ph.*, 50 *py.*, primary 10,000 & 40,000 *v.*, secondary volts various, 9000 *K.W.* Engr., B. J. Donnellan.

Brampton Electric Co. *See* Huttonville.

Brampton Electric Light Co., Brampton, Canada. L. *a.*, 3-*ph.*, 60 *py.*, 22,000–110 *v.*, 1000 *K.W.*

Brandon Electric Light Co., Ltd., Brandon, Man., Canada. L. *c.*, 125 *v.*; P., 220 *v.*; L. *a.*, 3-*ph.*, 60 *py.*, primary 1040 *v.*, secondary 110 *v.*, 880 *K.W.*; P. *c.*, 220 *v.*

Brantford, Ont., Canada. Grand Valley Railway Co., props. *c.*, 500 *v. Under construction.*

Brantford, Ont., Canada. Western Counties Electric Co., Ltd., props. L. P. *a.*, 3-*ph.*, 60 *py.*, 2500–110 *v.*, 1200 *K.W.* Elecn. & supt., A. F. McBean.

Brantford Electric & Operating Co., Ltd., Brantford, Ont.. Canada. *a.*, 2-*ph.*, 133 *py.*, 2400 *v.*, 1080 *K.W.*

Brantford St. Rly. Co., Brantford, Ont., Canada. T. *c.*, 500 *v.*, 200 *K.W.* Engr., J. Steeves.

Bridgetown Electric Light & Power Co., Bridgetown, N.S., Canada. L. *c.*, 110 *v.*, 30 *K.W.* Elecn., J. W. Beckwith.

Bridgewater Town Council, Bridgewater, Lunenburg Co., N.S., Canada. L. *a.*, 2-*ph.*, 20 *py.*, 110 *v.*, 100 *K.W.* Elecn., L. C. Gelling.

Bright, Victoria. *Current for* L. *will probably be generated at the mines of Hunter, Buckley & Hunter.*

Brighton Municipality, Brighton, Ont., Canada. L. *a.*, 2-*ph.*, 133 *py.*, primary 2080 *v.*, secondary 104 *v.*, 60 *K.W.* Engr., W. D. Brooks.

Bright's Light & Power Co., Ltd., 785, Victoria, Buenos Ayres.

Brisbane, Queensland, City Electric Light Co., Ltd., proprietors. L. *c.*, 3-wire, arc inc. & P., 220 *v.*, 1200 *K.W.* Engr., A. Ward; elecn., W. J. Young. Units generated, 2,000,000.

Electricity Works—*continued.*

Brisbane Tramways Co., Ltd., Brisbane, Queensland. T., 550 *v.* Engr., J. S. Badger.

British Columbia Electric Railway Co., Ltd., Vancouver, B.C. Branch: Victoria, New Westminster. *See* Vancouver & Victoria.

British Columbia Power & Mfg. Co. *See* Atlin.

Brockville Corp., Brockville, Ont., Canada. L. *a.*, 2-*ph.*, 60 *py.*, primary 2300 *v.*, secondary 104 *v.*, 350 *K.W.* Engr., C. T. Wilkinson.

Broken Hill Council, Broken Hill, N.S.W. L. small P. *a.*, 1-*ph.*, primary 1100 *v.*, secondary 110 *v.*, 120 *py.*; P., 110 or 220 *v.*, 225 *K.W.* Engr., F. J. Mars.

Brome Lake Electric Light & Power Co. *See* Waterloo, Foster & Knowlton.

Brunswick, Victoria. *Nothing decided upon.*

Brussels Electric Light Co., Brussels, Ont., Canada. W. M. Sinclair, prop. L. *a.*, 2-*ph.*, 250 *v.*, 60 *K.W.* Engr., John Fisher.

Buckingham Elec. Light Co., Buckingham, Que. A. Maclaren, proprietor. L. series arc & *a.*, 2-*ph.*, 60 *py.*, 2300–110 *v.*, 300 *K.W.*

Buenos Ayres, Argentina. Cia. Alemaña Transatlantica, props. *c.*, 3-wire, 110 & 220 *v.*, 2500 *K.W.* Consulting engr., A. H. Preece.

Buenos Ayres, Argentina. La Capital Traction & Electric Co., props. *Leased by the German Transatlantic Electric Co.* 550 *v.*, 1450 *K.W.* Chief engr., J. T. Cornish; T. man., H. C. Bocquet.

Buenos Ayres Electric Tramways Co., Buenos Ayres. *Current at* 550 *v. supplied by Cia. Alemaña Transatlantica de Electricidad.* Res. engr., W. N. Brand; T. man., V. A. Brown.

Buenos Ayres-Lacroze Tramways, Buenos Ayres, Argentina. T. *c.*, 550 *v.*, 3100 *K.W.* Chief elec. engr., V. A. Brown.

Buenos Ayres. *The City Council have approved ad referendum contract, which permits the Buenos Ayres & Belgrano, the Buenos Ayres Electric & the Belga-Argentine Cos. to be incorporated with the Anglo-Argentine Tramways Co.*

Bulawayo, Rhodesia. Bulawayo Waterworks Co., Ltd., proprietors. L. *a.*, 1-*ph.*, 125 *py.*, primary 2080 *v.*, secondary 104 *v.*, 680 *K.W.* Engr., R. L. Graddon-Pettle.

Bunbury Electric Light & Power Co., Bunbury, West Australia. L. *c.*, 3-wire, 220 *v.*, 60 *K.W.* Engr., A. Williamson.

Burks Falls, Ont., Canada. The Knight Bros. Co., props. L. *a.* inc., 1-*ph.*, 125–133 *py.*, 1040–104 *v.*, 120 *K.W.*; P. *c.*, 500 *v.*, 112 *K.W.* Elecn., W. Knight.

Burma Electric Tramways & Lighting Co., Ltd. *See* Mandalay.

Cache Bay, Ont., Canada. *Lighted by Sturgeon Falls E. L. & P. Co., Ltd., q.v.*

Cairo, Egypt. Sté. Anc. des Tramways du Caire, proprietors. T. *c.*, 500–550 *v.*, 4500 *K.W.*

Cairo Electric Railway & Heliopolis Oasis Co. *See* Choubrah.

Calcutta Electric Supply Corp., Ltd., Calcutta, India. L. P. *c.*, 3-wire, 450–225 *v.* inc. 225 *v.*, 6411 *K.W.* Engr., S. G. L. Eustace, A.M.I.E.E.

Electricity Works—*continued.*

Calcutta Tramways Co., Ltd., Calcutta, India. *a.*, 3-*ph.*, 25 *py.*, 6600 *v.*, transformed to *c.*, 500 *v.*, 2650 *K.W.* Tramway manager, M. Wells.

Caledon, Cape Colony. E. L. *under consideration by Council.*

Calgary Corp., Calgary, Alberta, Canada. L. P. *a.*, 3-*ph.*, 60 *py.*, 2200–220 & 104 *v.*, 2000 *K.W.*; T. *c.*, 600 *v.* Engr., J. F. McColl; elecn., Chas. Obrien.

Calgary Water Power Co., Ltd., Calgary, Alberta, Canada. L. P. *a.*, 3-*ph.*, 60 *py.*, 2200–100 *v.* L., 220 *v.* P., 1085 *K.W.* Engr., T. Strom; elecn., D. W. Brown.

Callao, Peru. *Electric energy supplied by Santa Rosa Electrical Co.*

Camp's Bay Tramway Co., Ltd. *See* Cape Town.

Campana, Argentina. *E. supply under consideration.*

Campbellford Municipality, Campbellford, Ont. L. *a.*, 1-*ph.*, 60 *py.*, primary 3450 *v.*, secondary 230 *v.* & *c.* 115 *v.*, 120 *K.W.* Engr., J. H. Beatty.

Campbellton City, Campbellton, N.B., Canada. L. *a.*, 2-*ph.*, 133 *py.*, primary 2200 *v.*, secondary 110 *v.*, 160 *K.W.* Engr., H. G. V. Fairer.

Campbeltown Corporation, Campbeltown, N.Z. L. *c.*, 3-wire, 220 *v.*, 36 *K.W.* Engr., R. Cruickshank.

Camperdown, Victoria. Hampden Shire Council, props. L. P. *c.*, 220 *v.*, 40 *K.W.* Res. engr., G. B. Lincolne.

Campos, Rio de Janeiro, Brazil. Cia. Força e Luz de Campos, props. L.

Canada. *The Hydro-Electric Power Commission expect to supply E. in bulk to the city of Toronto by December*, 1909.

Canada Electric Co., Ltd. *See* Amherst.

Canadian Copper Co., Copper Cliff, Ont., Canada. *a.*, 3-*ph.*, 25 *py.*; L., 2200-110 *v.*; P., 2200 & 550 *v.*; T., 30,000 *v.*, 250 *v. c.*, 6000 *K.W.* Elecn., W. D. Fleet.

Canadian Electric Light Co., Ltd. *See* Levis.

Canadian Electric & Water Power Co., Ltd. *See* Perth.

Canadian Niagara Power Co., Niagara Falls, Ont., Canada. L. P. T. *a.*, 3-*ph.*, 25 *py.* primary 11,000 *v.*, secondary 2200 *v.*, 41,000 *K.W.* Hydraulic engr., H. W. Buck.

Cananea, Senora, Mexico. Consolidated Copper Co., props. *a.*, 3-*ph.*, 60 *py.*, 2300–220 *v.* L. 440 *v.* P.; & *c.* L. P. T., 250 *v.*, 1437 *K.W.* Engr., H. C. L. Gooding.

Cannington, Ont., Canada. A. Dobson & Co., props. *a.* L., 2-*ph.*, 130 *py.*, 1100-104 *v.*; P. *c.*, 500 *v.*, 150 *K.W.* Engr., A. Dobson.

Canton, China. China Light & Power Co., Ltd., props. L. P. *a.*, 3-*ph.*, 60 *py.*, 2200-100 *v.*, 1080 *K.W.* Engr., Tsun Nam Fung; elecn., Kee Cheong.

Cape Breton Electric Co., Ltd. *See* Sydney, N.S.

Cape Explosives Works, Ltd., Power Station, Somerset West, Cape Colony. L. P. *a.*, 3-*ph.*, 50 *py.*, 440–220 & 110 *v.*, 1000 *K.W.* Engr., R. S. Mansel, A.I.E.E.

Electricity Works—*continued.*

Cape Peninsular Lighting Co., Ltd. *See* Claremont & Wynberg.

Cape Town. Camp's Bay Tramways Co., Ltd., props. T. *c.*, 550 *v.*, 375 *K.W.* Cons. engr., A. S. Giles.

Cape Town, South Africa. Cape Govt. Railways, props. L. series arc, *c.*, 550 *v.*, inc. 110 *v.*, & *a.*, 1-*ph.*, 100 *py.*, 2200-110 & 100 *v.*; P. *a.*, 1-*ph.*, 100 *py.*, 2200-110 & 100 *v.*; & *c.*, 550 & 110 *v.*, 600 *K.W.* Engr., J. Denham.

Cape Town Corp., Dock-rd., Cape Town. L. P. *c.*, 3-wire, arc & inc. 220 & 440 *v.*, 2000 *K.W.* Engr., W. F. Long, A.M.I.E.E.

Cape Town Docks. Govt., props. L. arc, P. *c.*, 550 *v.*, & *a.*, 2-*ph.*, 50 *py.*, primary 2200 *v.*, secondary 110 *v.*, 1610 *K.W.* Elec. engr., C. Proeter Banham, M.I.E.E. *Supply in bulk from Corp.*

Cape Town Tramway Cos., The, Cape Town. T. *c.*, 500 *v.*, 1650 *K.W.* Engr., A. S. Giles.

Caracas, Venezuela. Cia. Ana. "La Electricidad de Caracas," props. L. *a.*, 1-, 2- & 3-*ph.*, 60 & 125 *py.*, 2600–104 *v.*; P., 3-*ph.*, 55 *py.*, 4500–110 *v.*, 1185 *K.W.* Engr., R. Zuloaga.

Caracas Gas & Elec. Light Co., Caracas, Venezuela, P. *a.*, 3-*ph.*, 50 *py.*, 4500–190 *v.*

Caracas Tramways, Caracas, Venezuela. *a.*, 3-*ph.*, 50 *py.*, 5000-500/550 *v. c.*, 550 *K.W.* Engr., E. H. Ludford.

Carberry Municipality, Carberry, Man., Canada. L. *a.*, 3-*ph.*, 60 *py.*, 2200–110 *v.*

Carbonear, Newfoundland. United Towns Electric Co., props. L. *a.*, 3-*ph.*, 60 *py.*, 6600, 2300–208 & 204 *v.*

Cardenas; Guanabacoa; & Matanzas, Cuba. Deutsche - Cubanische Elektrizitäts Ges. m. b. H., props. L. *c.*, 220 *v.*, 2028 *K.W.* Engr., E. Plessmann.

Cardinal Electric Light Co., Ltd., Cardinal, Ont., Canada. L. *a.*, 2-*ph.*; & *c.*, 125 *v.*; P., 500 *v.*

Cargill, Ont., Canada. H. Cargill & Sons, props. L. *c.*, 3-wire, 125 & 250 *v.*, 60 *K.W.* Elecn., F. L. Martin.

Carleton Place Electric Light Co., Carleton Place, Ont., Canada. L. *c.* arc, *a.* inc., 1-*ph.*, 125 *py.*, primary 1080 *v.*, secondary 108 *v.*, 135 *K.W.* Engr., J. Bennett.

Carlton Electric Light & Power Co., Carlton, St. John, N.B., Canada. L. *a.*, 1-*ph.*, 125 *py.*, 2000–100 *v.*, 200 *K.W.* *Owned & operated by St. John Railway Co.*

Carman Municipality, Carman, nr. Winnipeg, Man., Canada. L. P. *c.*, 220 *v.*, 85 *K.W.* Engr., H. Greenham; elecn., M. J. Melville.

Cascade City. West Kootenay Power & Light Co., Ltd., props. *a.*, 2200–20,000 *v.*, 2250 *K.W.* Chief engr., L. A. Campbell.

Cascade Water, Power & Light Co., Cascade, B.C., Canada. L. P. *a.*, 3-*ph.*, 60 *py.*, primary 2000 *v.* (trans. 20,000 *v.*), 2250 *K.W.* Elec. engr., Wm. Anderson.

Cassilis Gold Mine, Victoria. L. *a.*, 3-*ph.*, 50 *py.*, 110 *v.*; P., 3-*ph.*, 50 *py.*, 12,500 *v.*, 500 *K.W.* Engr., F. J. Coote, M.E.

Electricity Works—*continued.*

Cataract Electric Co., Ltd. *See* Orangeville.

Cathcart, Cape Colony. *Concession lapsed. A scheme again under consideration.*

Cauvery Falls, Mysore, India. Government, proprietors. P. *a.*, 3-*ph.*, 2200 *v.*, 25 *py.*, 4320 *K.W.* Res. engr., Alex Ekstrom.

Cawnpore, India. Indian Electric Supply & Traction Co., Ltd., props. L. P. *c.*, 3-wire, 225 & 450 *v.*; T., 500 *v.*, 855 *K.W.* Supervising engrs., Kilburn & Co., Calcutta; chief engr., P. G. Moore.

Caylloma Silver Mines, Peru. Soc. Esplotadora de Caylloma, props. L. P. *a.*, 3-*ph.*, 50 *py.*, 440 *v.*, 90 *K.W.* Chief engr., A. Fox, A.M.I.C.E. *Under construction.*

Cebu, Philippines. Visayan Electric Co., props. *a.*, 2-*ph.*, 60 *py.*, 220-220 *v.*, 115 *K.W.*

Celaya, Mexico. Cia. de Fuerza y Luz Electrica de Celaya, props. L. P. *a.*, 3-*ph.*, 60 *py.*, 3300-110 *v.* L., 220 *v.* P., 3000 *K.W.* Engr., Jorge S. Herbert. *This Company lights* Apaseo, Cortazur, Guage, Jaral, Salamanca, Sta. Cruz & Valle de Sartiago.

Central Electric Co. *See* Portage-la-Prairie.

Central Heat, Light & Power Co., Ltd. *See* Montreal.

Central Light & Power Co. *See* Wolseley.

Central Ontario Power Co. *See* Peterborough.

Centreville Municipality, Centreville, N.B., Canada. L. *c.*, 3-wire, 110 *v.* arc. & inc., 60 *K.W.*

Chacabuco Electricity Works (owned by Sociedad Anon. Alumbrado Electrico), Chacabuco, Prov. of Buenos Ayres, Argentina.

Chacabuco, Chili. L. *The Municipality have received a proposal for the construction of an electric tramway.*

Chambers Electric Light & Power Co. *See* Truro, N.S.

Chambly Mfg. Co., Richelieu Village, Que., Can. P. *a.*

Charlotte Plains, Victoria. Deep Leads Electric Transmission Co., Ltd., props. P. for mining purposes only; *a.*, 3-*ph.*, 60 *py.*, primary 6600 *v.*, secondary 440 & 200 *v.*, 1200 *K.W.* Engr. W. McFarlane.

Charlottetown Light & Power Co., Charlottetown, P.E.I., Canada. L. P. *a.*, 1-*ph.*, 133 *py.*, primary 1100 *v.*, secondary 104 *v.*, 500 *K.W.* Engr., B. Callahan.

Charlton, Victoria. *E. supply under consideration.*

Charters Towers Electric Supply Co., Charters Towers, Queensland. L. *a.*, 1-*ph.*, 83 *py.*, 2000-100 & 200 *v.*, 230 *K.W.* F. W. Warden, engr.

Chascomus, Argentina. Anglo-Argentine Electricity Co., props. L. *c.*, 230 *v.*, 130 *K.W.* Engr., P. Petrowitsch.

Chatham Corporation, Chatham, Ont., Canada. L. *c.*, arc 46 *v.*, 90 *K.W.* Engr., L. A. Trott.

Chatham Gas Co., Ltd., Chatham, Ont., Canada. L. P. *a.*, 2-*ph.*, 60 *py.*, primary 2000-104 *v.* L., 220 *v.* P., 400 *K.W.* Engr., E. Grandbois; elecn., F. Hayes.

Electricity Works—*continued.*

Chatham Town Council, Chatham, N.B., Canada. L. *a.*, 1-*ph.*, 133 *py.*, 1100-110 *v.* Engr., A. N. McKay.

Chatham, Wallaceburg & Lake Erie Railway Co., Chatham, Ont., Canada. T. *c.*, 550 *v.*

Chemulpo Electric Co., Ltd., Chemulpo, Corea. L. P. *c.*, 500 *v.*, 200 *K.W.* Engr., R. Ogawa, M.E.

Chesley Electric Light Co., Chesley, Ont., Canada. L. *a.*, 2000-104 *v.*; *c.*, 500 *v.*, 125 *K.W.*

Chicoutimi, Que., Canada. Compagnie des Eaux et de l'Electricité de Chicoutimi, props. L. P. *a.*, 2-*ph.*, 133 *py.*, primary 2400 *v.*, secondary 110 *v.*; P. *c.*, 500 *v.*, 350 *K.W.* Engr., J. G. Grenon; elecn., P. Ouillet.

Chilian Electric Tramway & Light Co., Ltd. *See* Santiago.

China Light & Power Co., Ltd. *See* Canton; & Kowloon.

Chinkiang Electric Light Co., Chinkiang, China. L.

Chivilcoy, Buenos Aires. Soldani & Trant, props. L. *c.*, 440 *v.*, 225 *K.W.*

Choubrah, nr. Cairo, Egypt. Cairo Electric Railway & Heliopolis Oasis Co., props. *a.* L. P., 3-*ph.*, 50 *py.*, 10,000-195 *v.*; T., 10,000-700 *v. c.*, 6100 *K.W.* *Lines under construction.*

Christchurch City Council, Gloucester-st., Christchurch, N.Z. L. P. *c.*, 2-wire, 220 *v.*, 450 *K.W.* Res. elec. engr., G. Scott.

Christchurch Tramway Board, Christchurch, N.Z. *c.*, 600 *v.*, 1500 *K.W.* Engr.-in-chief, Scott Symington.

Citizens' Electric Co., Ltd. *See* Smith's Falls.

Citizens' Light & Power Co., Ltd., Lachine Rapids Co. & Hydraulic & Land Co., Montreal, Que. L. P. series arc & *a.*, 3-*ph.*, 500 *v.* *Operated by Montreal Light, Heat & Power Co.*

City Electric Light Co. *See* Brisbane.

Claremont, Cape Colony. Cape Peninsula Lighting Co., Ltd., proprietors. L. P. *c.*, 3-wire, 220 & 440 *v.*, 805 *K.W.*; *a.*, 3-*ph.*, 60 *py.*, 3300 *v.* for transm. to Wynberg sub-sta. Engr., C. M. Read.

Claremont Municipality, Claremont, West Australia. L. *c.*, 3-wire, 230 & 460 *v.*, 110 *K.W.* Engr., F. Wilkinson, A.M.I.E.E.

Clinton Electric Light Co., Clinton, Ont., Canada. L. *a.*, 1-*ph.*, 133 *py.*, primary 1040 *v.*, secondary 106 *v.*; P. *c.*, 250 *v.*, 200 *K.W.* Engr., W. J. Nedyer; elecn., W. J. Stevenson.

Coaticook Municipality, Coaticook, Que., Canada. L. *c.* arc, *a.*, 1-*ph.*, 125 *py.*, 1000-104 *v.*; P. *c.*, 500 *v.*

Cobar Electric Supply Co., Cobar, N.S.W. L. P. *a.*, 3-*ph.*, 80 *K.W.* *Not yet constructed.*

Cobourg Utilities Co., Cobourg, Ont., Canada. L. *a.*, 1-*ph.*, 133 *py.*, 1040-104 *v.*, 240 *K.W.*

Cobourg Water & Electric Co., Ltd., Cobourg, Ont., Canada. L. *a.*, 1-*ph.*, 133 *py.*, primary 1040 *v.*, secondary 104 *v.*, 240 *K.W.* Engr., I. Crozier; elecn., G. Lowe.

Coburg, Ont., Canada. Northumberland-Durham Power Co., props.

Electricity Works—*continued.*

Coburg, Victoria. *L. & T. under consideration.*

Colborne Electric Light Co., Colborne, Ont., Canada. L. *a.*, 2-*ph.*, 125 *py.*, 2080–110 *v.*, & *c.*, arc 50 *v.*, inc. 110 *v.*, 72 *K.W.* Engr., S. E. Turpin.

Colima, Mexico. Cia. de Pontencia Electrica de Colima, props. L. P. T. *a.*, 3-*ph.*, 60 *py.*, 2000–110 *v.* L., 220 *v.* P., 15,000 *v.* T., 450 *K.W.* Engr., M. Beyer.

Collie Burn Colliery, West Australia. P.

Collingwood City, Ont., Canada. L. *a.*, 1-*ph.*, 125 *py.*, primary 1080 *v.*, secondary 104 *v.*, 180 *K.W.* Engr., J. Rose; elecn., T. Bassett.

Colombo Electric Tramways & Lighting Co., Ltd., Colombo, Ceylon. L. P. *a.*, 1-*ph.*, 60 *py.*, 2000–100 *v.*; *c.*, L. inc. 220 *v.*, arc 500 *v.*; P., 440 *v.*; T., 550 *v.*, 1200 *K.W.* Engr., L. H. Combe.

Colombo Gas & Water Co. *See* Kandy.

Colon, Argentina. *E. works under consideration by municipality.*

Cie. Centrale du Gaz. *See* Port Said.

Cie. Centrale d'Eclair. par le Gaz. *See* Alexandria.

Cie. d'Electricité. *See* Las Palmas.

Cie. de Lumière Elec. Impèriale. *See* Montreal.

Cie. des Eaux et de l'Electricité de Chicoutimi. *See* Chicoutimi.

Compagnie Electrique de Bizerte, Bizerta, Tunis.

Cie. Electrique de la Baie St. Paul. *See* Baie St. Paul.

Cie. Elec. de Roberval. *See* Roberval.

Compagnie Generale d'Électricité. *See* Lourenço Marques.

Companhia de Luz Electrica, Sorocaba, Brazil.

Cia. de Pontencia Elec. de Colima. *See* Colima.

Cia. Gas y Luz Electrica de Parana. *See* Parana.

Cia. General de los Tranvias Electricos del Rosario. *See* Rosario.

Companhia Força e Luz Porto-Alegrense. *See* Porto Alegre, Brazil.

Cia. Hidro-Electrica Qucretaro. *See* Las Rosas.

Cia. Luz Elec. *See* Rio Grande do Sul.

Companhia Luz Electrica, São Carlos do Pinhal, Estado de São Paulo, Brazil.

Companhia Luz Electrica, Amparo, São Paulo.

Companhia Luz Electrica, Iacarchy, São Paulo.

Companhia Luz Elec. Piracicaba, São Paulo, Brazil.

Compañia Allemana Transatlantica de Electricidad, Florida 735, Buenos Ayres.

Cia. Anon. "La Elec. de Caracas." *See* Caracas.

Compañia de Energia Electrica. *See* Bogota.

Cia. de Fuerza y Luz Electrica de Celaya. *See* Celaya.

Compañia de Gas y Electricidad de la Havana. *See* Havana.

Compañia de la Luz Electrica de Las Palmas, Las Palmas, Gran Canaria, Canary Isles.

Compañia de Luz Electrica, Cartagena, Colombia.

Cia. de Luz Electrica, Esperanza, Prov. Ste. Fé.

Compañia de Luz Elec., Sante Fé, Argentina.

Compañia de Luz Electrica, Sta. Cruz de la Palma, Canary Islands.

Electricity Works—*continued.*

Cia. de Luz Electrica y Fuerza Motriz. *See* Monclova.

Cia. de Plantaciones "Cecilia," Ltd. *See* Quezaltenango.

Cia. del Gas y de Luz Elec., Caracas, Venezuela.

Cia. Durangueña de Luz Elec. *See* Durango.

Cia. Elec. de Viña del Mar. *See* Viña del Mar.

Companhia Força e Luz de Jahu, Jahu, Brazil. L. P.

Cia. Luz Electrica. *See* La Serena.

Companhia Luz e Força de Riberão Preto, Riberão Preto, Brazil.

Cia. Luz Electrica, Pocos de Caldas, Brazil.

Cia. Paulista de Electricidade. *See* Bragança, Descalvaldo, Franca, Itapira, Limeira, Piracicaba.

Concepcion del Uruguay, Argentina. Anglo-Argentine Elec. Co., props. L. P. *c.*, 3-wire, 220 & 440 *v.*, 120 *K.W.* *Another* 120 *K.W. set to be installed.* Engr., Ed. A. Evans.

Concordia, Argentina. Anglo-Argentine Electricity Co., props. L. *c.*, 220 & 440 *v.*, 250 *K.W.* Engr., J. H. Bouwer.

Coolgardie, W. Australia. Electric Supply Co. of W. Australia, Ltd., props. L. P. *c.*, 2-wire, 220 *v.*, 220 *K.W.* Res. engr., M. L. Reid.

Cordoba Electric Light & Power Co., Cordoba, Argentina. *a.*, 3-*ph.*, 60 *py.*, generated at 700 *v.*, stepped up to 10,000 *v.*, & reduced to 2080 for sub-stations. 4-wire, 220 & 115 *v.*, 2280 *K.W.* Consulting engr., J. T. Cornish; chief engr., A. d'Abbadie.

Cordoba Light & Power Co., Reconquista 20, Buenos Ayres.

Cornwall, Ont., Canada. Stormont Electric Light & Power Co., props. L. *a.*, 2-*ph.*, 133 *py.*, primary 1100–104 *v.*; P., 3-*ph.*, 60 *py.*, 1100–550 & 220 *v.*; 120 *K.W.* Wm. Hodge, manager.

Cornwall Street Railway, Light & Power Co. Ltd., Cornwall, Ont., Can. T. *c.*, 550 *v.*, 220 *K.W.* Wm. Hodge, engr. & manager.

Coronel Suarez, Argentine. *Supply of electricity was expected to be available at end of* 1907.

Costa Rica Electric Light & Traction Co., Ltd., San José; & Cartago, Costa Rica.

Cottesloe E. L., Gas & P. Co., Ltd., Cottesloe, West Australia. L. P. *c.*, 3-wire, 220 *v.*, 100 *K.W.* Engr., J. H. James; elecn., L. J. B. Wall, M.I.E.E., M.AM.I.E.E.

Cowansville Municipality, Cowansville, Que., Canada. L. *c.*, 110 *v.*

Cradock, Cape Colony. *E. L. under consideration.*

Cranbrook Electric Light Co., Ltd., Cranbrook, B.C., Canada. L. *a.*, 2-*ph.*, 60 *py.*, 2500–110 *v.*, 147 *K.W.*

Creemore, Ont., Canada. S. Plews, prop. L.

Crow's Nest Pass E. L. & P. Co., Ltd. *See* Fernie.

Cumberland Electric Co., Ltd., Cumberland, B.C., Canada. L. *a.*, 1-3-*ph.*, 60–125 *py.*, 2200–110 *v.*, 240 *K.W.* Engr., J. D. Winningham.

Curaçao, Dutch West Indies. S. E. L. Maduro & Sons, props. L. P. *a.*, 1-*ph*, 60 *py.*, 1000–100 *v.*, 160 *K.W.* Engr., J. F. Evertsz.

Electricity Works—*continued.*

Curepipe, Mauritius. Mauritius General Electric Supply Co., props. *a.*, 3-*ph.*, 50 *py.*, 230 *v.*, 200 *K.W.* Chief engr., J. E. Tarley.

Dacca, Bengal, India. The Dacca Electric Light Trustees, proprietors. L. P. *c.*, 3-wire, 450–225 *v.*, 250 *K.W.* Chief engr., I. Scott Mackenzie, B.E., A.M.I.E.E.; second engr., D. H. Kerr.

Damascus, Asia Minor. Société Impériale Ottomane des Tramways d'Eclairage et de Force Elec. de Damas, props. *T. under construction.*

Danville, P.Q., Canada. Thos. Crockett, prop. L. *a.*, 1-*ph.*, 125 *py.*, 2080–104 *v.*

Dar-es-Salaam, German East Africa. *E. L. supplied by Deutsche Ost-Afrikanische Eisenbahngesellschaft.*

Darjeeling Municipality, India. L. P. *a.*, 1-*ph.*, 83.3 *py.*, primary 2300 *v.*, secondary 220 *v.* L., P. 200 to 235 *v.*, 360 *K.W.* Engr., G. P. Robertson.

Dartmouth Electric Light, Heating & Power Co., Dartmouth, N.S., Canada. L. P. *a.*, 1-*ph.*, 60 *py.*, primary 2200 *v.*, secondary 110 *v.* L., 220 *v.* P., 260 *K.W.*

Dawson City Electric Light & Power Co., Ltd., Dawson, Yukon, Canada. J. A. Williams, prop. L. P. *a.*, 3-*ph.*, 60 *py.*, 2300–110 *v.* L., 440 *v.* P., 500 *K.W.* Transmission line, 12,000 *v.* Engr., A. Lee.

Dayton, Ont., Canada. Adams Bros., props.

De Beers Co. *See* Kimberley.

Deep Leads Electric Transmission Co. *See* Charlotte Plains.

Delagoa Bay Development Corp., Ltd. *See* Lourenço Marques.

Delagoa Bay Electric Tram Co. Delagoa Bay Development Corp., props. P. T. *c.*, 550 *v.*, 400 *K.W.* Engr. & man., Jno. Mackenna, A.I.E.E.

Delhi Electric Tramways & Lighting Co., Ltd., Delhi, India. L., 3-wire, *c.*, 250 *v.*; P. T. 500 *v.*, 555 *K.W.* Res. engr., J. G. Griffin, A.M.I.E.E.

Delhi Light & Power Co., Delhi, Ont., Canada. L. P. *a.*, 3-*ph.*, 60 *py.*, 2200–110 *v.*, 200 *K.W.* Engr., Geo. E. Quance; elecn., A. M. Aven.

Deloraine Council, Deloraine, Tasmania. L. *c.* arc. & inc., 220 *v.*, 30 *K.W.* Engr., C. H. Beresford.

Demerara Electric Co., Ltd. *See* Georgetown.

Demerdache, nr. Cairo, Egypt. Cairo Elec. Railways & Heliopolis Oases Co., props. *Temporary. A permanent station is being erected at Choubrah.* *c.* L. P., 500 *v.*; T., 550 *v.*, 350 *K.W.*

Deniliquin, Victoria. Towns Lighting & Power Co., Ltd., props. L. P. *c.*, 240 *v.*, 50 *K.W.* Engr., J. Colin.

Descalvaldo, Brazil. Cia. Paulista de Electricidade, props. *a.*, 3-*ph.*, 50 *py.*, 4000–50 *v.* Chief engr., J. Ferranini.

Deschenes, Que., Canada. Hull Electric Co., props. *a.* L., monocyclic & 2-*ph.*, 60 *py.*, 2200–115 *v.*; P. T., 3-*ph.*, 60 *py.*, 10,000–2200 & 550 *v.*; & *c.* T., 550 *v.*, 2850 *K.W.* Supt., G. Gordon Gale.

Electricity Works—*continued.*

Devonport, Tasmania. Town Board, props. L. P. *c.*, 3-wire, 220 & 440 *v.*, 96 *K.W.* Engr., G. H. Lofts.

Digby Electric Co., Digby, N.S., Canada. L. *a.*, 2000–104 *v.*, 65 *K.W.* Engr., A. D. Daley.

D'Israeli, Que., Canada. St. Francis Hydraulic Co., proprietors. L. P. T. *a.*, 3-*ph.*, 66 *py.*, 2000–110 *v.* L., 550 *v.* P. T., 1000 *K.W.* Engr., A. G. Sangster.

Dixville, P.Q., Canada. J. B. Parker, prop. L. *c.*, 110 *v.*

Dominion Power & Transmission Co. *See* Hamilton.

Donald Electric Supply Co., Ltd., Donald, Victoria. L. *c.*, 230 *v.*, 32 *K.W.* Engr., F. K. Johnson.

Drayton, Ont., Canada. L. *a.*, 2-*ph.*, 80 *py.*, primary 1040 *v.*, secondary 104 *v.*, 30 *K.W.* Engr., R. O. Hube.

Dresden Corporation, Dresden, Ont., Canada. L. *a.*, 1-*ph.*, 100 *py.*, primary 1040 *v.*, secondary 104 *v.*, 60 *K.W.* Engr., Chas. Eberlee.

Drouin. *L. to be undertaken by Bulu Bulu Shire Council.*

Drummondville Town Council, Drummondville, Que., Canada. L. *a.*, 1- & 3-*ph.*, 60 & 133 *py.*, 2000–100 *v.*; P., 3-*ph.*, 60 *py.*, 2000–500 *v.* & *c.*, 550 *v.*, 450 *K.W.*

Dundalk Town Council, Dundalk, Ont., Canada. L. *a.*, 2-*ph.*, 2400–104 *v.*, 30 *K.W.*

Dundee Elec. Lighting Co., Dundee, Natal. L. inc. P. *c.*, 200 *v.*, 65 *K.W.* Engr., C. A. Hopton, A.I.E.E.

Dunedin City Corporation, Dunedin, N.Z. L. P. T. *a.*, 3-*ph.*, 50 *py.*; L., 230 *v.*; P., 3300–400 *v.*; T., 35,000 *v.*; *c.*, 550 *v.*, 2600 *K.W.* Engr., E. E. Stark. *Permanent works not yet erected.*

Dunnville Electric Light Co., Ltd., Dunnville, Ont., Canada. L. *a.*, 1-*ph.*, 60 *py.*, 2080–104 *v.*, 150 *K.W.* Engr., E. G. Ward.

Durango, Mexico. Cia. Durangueña de Luz Electrica, props. L. *a.*, 60 & 125 *py.*, 1150–104 *v.*, & *c.*, 2-wire, 400 *K.W.* Cons. engr., J. Guerrero; chief engr., E. D. Carnaghan.

Durban (Natal) Municipality. L. (arc) P. & T. *c.*, 550 *v.*; & *a.*, 1-*ph.*, 62 *py.*, primary 2750 *v.*, secondary 100 & 200 *v.*, 3750 *K.W.* Engr., J. Roberts.

Durban, Natal. Natal Govt. Rlys., props. L. arc & inc. P. *c.*, 210 *v.*, *a.* 3-*ph.*, 50 *py.*, 6600–115 *v.*, 750 *K.W.* Engr., F. W. Mills, A.M.I.E.E.

Durham Electric Co., Durham, Ont., Canada. L. *a.*, 1-*ph.*, 60 *py.*, 2300–104 *v.*, 150 *K.W.* Man., N. McIntyre.

Dutton Electric Light Co., Ltd., Dutton, Ont., Canada. L. *a.*, 1-*ph.*, 125 *py.*, primary 1100 *v.*, secondary 110 *v.* Engr., Alex. Law.

Eaglehawk, Victoria. *E. L. under consideration by the Council.*

East London Harbour, East London, Cape Colony. L. P. *c.*, 500 *v.*, 220 *v.* inc. L., 580 *K.W.* Elec. supt., H. Collens.

Electricity Works—*continued.*

East London Municipality, Cape Colony. *c.* L. arc, P. T., 550 *v.*; L. & P. *a.*, 1-*ph.*, 50 *py.*, primary 2200 *v.*, secondary 110 & 220 *v.*, 950 *K.W.* Engr., J. Mordy Lambe. *A new station to be erected.*

East Rand Proprietary Mines, Ltd., East Rand, Transvaal. 3-*ph.*, 25 *py.*, 3000–200 *v.* L. P., 8000 *K.W.* Engr., L. H. Wilms.

East Toronto Municipality, East Toronto, Ont., Canada. *Supply in bulk from Toronto Electric Light Co.* Consulting engr., John Galt.

Eau Claire Light & Power Co., Calgary, Alberta, Canada. L. P. T. *a.*, 3-*ph.*, 60 *py.*, 2200–110 *v.* L., 220 *v.* P. Engr., Th. Strom; elecn., D. W. Brown.

Echuca, Victoria. *The Council are considering a scheme.*

Edison Electric L. & P. Co. *See* Spring Hill.

Edmonton City, Edmonton, Alberta, Canada. L. P. T. *a.*, 3-*ph.*, 60 *py.*, 2200–110 *v.* L., 220 *v.* P., 575 *v. c.* T., 1500 *K.W.* Engr., C. Cope; elecn., A. W. Ormsby.

Eganville, Ont., Canada. Star Electric Co., props.

Egerton Tramway Co. *See* New Glasgow.

Electric Supply Co. of Western Australia, Ltd. *See* Coolgardie.

Electric Traction Co. of Hong Kong, Ltd. *See* Hong Kong.

Electrical Development Co. of Ontario. *See* Niagara Falls & Toronto.

Electriciteit Maatschappij Medan. *See* Medan.

Electricity & Ice Supply Co. *See* Ismailia.

Electricity Supply Co. of Victoria, Ltd. *See* Ballarat; & Bendigo.

Elmvale Electric Light Co., Elmvale, Ont., Canada.

Eltham. *County Council have a scheme for a light electric railway & to supply L.*

Emard, Que., Canada. St. Paul Electric Light & Power Co., props. L. *a.*, 3-*ph.*, 60 *py.*, 2300–110 *v.*, P. 550 *v.*

Embabaan, Swaziland. The Swaziland Corp., Ltd., props., Forbes Main Reef Mine. *c.* L. inc., 110 *v.*, P. 500 *v.*, 100 *K.W.* Engr., S. H. Boright.

Embro, Ont., Canada. L. *c.*, 106 *v.* G. H. Boxall, prop.

Emerson, Man., Canada. *Scheme on foot for establishing water & plant on Rosean River.*

Emprezade Electricidade, Bello-Horizonte, Brazil.

Empresa de Luz Electrica, San Juan, Argentina.

Empresa de Luz y Fuerza Elec. *See* Guayaquil.

Empresa de Luz y Fuerza (Soc. Anon.), Mendoza, Argentine Republic.

Empresa Electrica. *See* Iquitos.

Empresa Electrica de Guatemala. *See* Guatemala.

Empresa Electrica de Sta. Rosa. *See* Lima.

Empresa Força e Luz Elec., Limeira, São Paulo.

Empresa Luz Electrica de Mercedes, B. Ayres.

Empreza Luz Electrica Ouro Preto, Brazil.

Empresa Luz Electrica, San Antonio de Areco, Argentina.

Empresa Luz Electrica, Zarate, Buenos Ayres.

Empreza de Luz y Fuerza Elec. *See* Guayaquil.

Electricity Works—*continued.*

Erin, Ont., Canada. *See* Orangeville.

Erindale. Stark Telephone L. & P. Co., props.

Esperanza Municipality, Esperanza, S. America. L. arc & inc.

Essenden, Victoria. L. *to be undertaken by the North Melbourne Elec. Light & Tramway Co., Ltd.*

Essex Electric Light & Power Co., Essex, Ont., Canada. C. E. Naylor, prop. L. *a.*, 1-*ph.*, 133 *py.*, primary 1100 *v.*, secondary 104 *v.*; *c.* inc., 125 *v.*, 60 *K.W.* Engr., W. M. Chase.

Eugenia, Ont., Canada. Georgian Bay Power Co., props. L. P. *Works under construction.*

Excelsior Light, Heat & Power Co. *See* Lucan.

Exeter, Ont., Canada. Snell & Zuefle, props. L. *a.*, 1-*ph.*, 125 *py.*, 1040–110 *v.*; *c.*, 500 *v.* arc, 1040 *v.* inc. Engr., C. Zuefle.

Falls of Iguazá, Argentine Republic. *It is proposed by Mr. F. K. Cassels to generate electrical energy for distribution in the Republic.*

Falls Power Co. *See* Welland.

Farnham, Que., Canada. G. Ponlin, prop. L. *a.*, 2-*ph.*, 33 *py.*, primary 2000 *v.*, secondary 100 *v.*, 60 *K.W.* Engr., W. C. Girard.

Fenelon Falls Corp., Fenelon Falls, Ont., Canada. L. P. *a.*, 3-*ph.*, 60 *py.*, 550–110 *v.*, 420 *K.W.*

Fergus, Ont., Canada. Dr. A. Groves, owner. L. *c.*, 125 *v.*, & *a.*, 2-*ph.*, 133 *py.*, primary 2080 *v.*, secondary 104 *v.*, 175 *K.W.* Engr., Jos. Wilson.

Ferguson, B.C., Canada. Lardeau Light & Power Co., proprietors. L. *a.*, 1-*ph.*, 133 *py.*, 1040–104 *v.*, *c.* inc. 104 *v.*, 30 *K.W.* Elecn., R. A. Kirkpatrick.

Fernie, B.C., Canada. Crow's Nest Pass Electric Light & Power Co., Ltd., proprietors. L. *a.*, 2-*ph.*, 66 *py.*, 2400–110 & 220 *v.*; *c.* L. P. T., 250 *v.*, 700 *K.W.* Chief engr., J. McEvoy; gen. supt., H. H. Depew. *Plant sold to city & will be rebuilt in near future.*

Ferrocarril de Buenos Aires al Pacifico. *See* Bahia Blanca.

Florencio Varela, Argentina. *E. L. & T. under consideration.*

Footscray, Victoria. *Works to be erected.*

Forest Electric Light Co., Forest, Ont. L. *a.*, 2000–104 *v.* Elecn., Jas. Prout.

Fort Electric Co., Ltd., Fort Saskatchewan, Alberta, Canada.

Fort Saskatchewan Electric Co., Fort Saskatchewan, Alberta, Canada. L. *a.*, 1-*ph.*, 133 *py.*, 2200–110 *v.*

Fort William, Bengal. Military Works Dept., props. L. *c.*, 3-wire, 440 *v.*, 200 *K.W.*

Fort William, Corporation of, Fort William, Ont., Canada. L. *a.*, 2-*ph.*, 60 *py.*, primary 2080 *v.*, secondary 104 & 208 *v.*; P. *a.*, 3-*ph.*, 60 *py.*, 2200 & 550 *v.*; T., 500 *v.*, 600 *K.W.* Engr., H. G. Hancock; elecn., H. L. Farquharson. *Current supplied by Kaministiquia Power Co.*

Fort William, Ont., Canada. Kaministiquia Power Co., Ltd., proprietors. *a.* L. P., 3-*ph.*, 60 *py.*, 2300–110 *v.* L.; 110 & 550 *v.* P.; transmission at 25,000 *v.*, 10,000 *K.W.* Cons. engr., R. S. Kelsch; man., W. L. Bird.

Electricity Works—*continued.*

Foster, P.Q., Canada. Brome Lake Electric Power Co., props.

Fowlds & Co., Ltd. *See* Hastings, Ont.

Franca, Brazil. Cia. Paulista de Electricidade, props. L. P. *a.*, 3-*ph.*, 50 *py.*, 6000-200 *v.*, 700 *K.W.* Resident engineer, J. A. de Camargo.

Frank & Blairmore, N.W.T., Canada. *Electricity supplied by Pass Power & Lighting Co., Ltd. & Grant Bros. Electric Supply Co.* L. *a.*, 1-*ph.*

Frankford Electric Light Co., Ltd., Frankford, Ont., Canada. L. *a.*, 3-*ph.*, 133 *py.*, 2000-110 *v.*, 30 *K.W.*

Fraserville Municipality, Fraserville, Que., Canada. L. *a.*, 2-*ph.*, 133 *py.*, primary 2400 *v.*, secondary 104 *v.*, 200 *K.W.* Elecn., J. W. Hogg.

Fredericton Municipality, Fredericton, N.B., Canada. L. *a.*, 2-*ph.*, 60 *py.*, 1100-104 *v.*, 600 *K.W.*

Fredericton Gas & Electric Light Co., Fredericton, N.B., Canada. L. *a.*, 1-*ph.*, 60 *py.*, primary 2200 *v.*, secondary 110 *v.*; & *c.*, 110 *v.* arc & inc., 385 *K.W.* Engr., H. D. White.

Freetown, Sierra Leone. African Direct Telegraph Co., Ltd., props. (private use only). L. *c.*, 100 *v.*, 8 *K.W.* Engr., G. R. Scovell.

Fremantle Municipal Tramways & Electric Lighting Board, Fremantle, Western Australia. L. *a.*, 1-*ph.*, 50 *py*, 2200-220 *v.*; P., 2- & 3-*ph.*, 50 *py.*, 2200-220 & 440 *v.*; T., 550 *v.*, 600 *K.W.* Manager & engr., A. Mitchell, M.I.E.E.; elecn., G. E. Keane.

Fukagawa Electric Light Co., Fukagawa, Tokyo, Japan. L. P. *a.*, 1- & 3-*ph.*, 60 & 125 *py.*, 2000-100 & 200 *v.*, 270 *K.W.* Engineer, S. K. Oguinoto.

Fukiu, Japan. *See* Kyoto Electric Light Co.

Fukuoka, Japan. Hakata Electric Light Co., props. L. *a.*, 1-*ph.*, 60, 100 & 133 *py.*, 2200-100 *v.*; P., 3-*ph.*, 60 *py.*, 220 *v.*, 740 *K.W.*; & Omuta, *a.*, 1-*ph.*, 133 *py.*, 100 *v.*, 120 *K.W.* Engr., Kahachiro Seki; elecn., Shimada Asataro.

Galle, Ceylon. *A scheme is under consideration by the Municipality.*

Gallegos, Argentina. *A concession applied for by Mr. Glynn.*

Galt Gas Light Co., Ltd., Galt, Ont., Canada. L. *a.*, 2-*ph.*, 125 *py.*, 1040-104 *v.*, 275 *K.W.* Engr., R. Elliott.

Galt, Preston & Hespeler Street Railway Co., Galt, Ont., Canada. T. *c.*, 500 *v.*, 185 *K.W.* Elecn., M. Kirkwood.

Gananoque Electric Light & Water Supply Co., Gananoque, Ont., Canada. L. *c.*, 3-wire, 115 *v.*; P., 115 & 230 *v.*, 200 *K.W.* Engr., B. Heaslip.

Gas, Electric & Power Co. *See* St. Hyacinthe.

Geelong, Victoria, Melbourne. Melbourne Electric Supply Co., Ltd., proprietors. L. P. *c.*, 3-wire, 220 & 440 *v.*, 500 *K.W.* F.W. Clements, M.I.E.E., chief engr.; G. G. Jobbins, A.I.E.E., resident engineer.

Electricity Works—*continued.*

Georgetown Electric Light & Power Co., Ltd., Georgetown, Ont., Canada. L. *a.*, 133 *py.*, 2000-104 *v.* Engr., B. Foster.

Georgetown, Demerara. Demerara Electric Co., Ltd., props. L. P. *a.*, 1-*ph.*, 125 *py.*, primary 1040 *v.*, secondary 104 *v.*; P. & T. *c.*, 500 *v.*, 1420 *K.W.* Engr., J. E. Thompson; elecn., J. H. Cregen.

George Town Municipality, George Town, Penang, Malay Peninsular. *c.*, 3-wire; L., 220 *v.*; T., 500-550 *v.*, 500 *K.W.* Chief engr., O. V. Thomas.

Georgian Bay Power Co., 123, Bay-st., Toronto, Canada. *See* Eugenia.

Germiston, Transvaal. *Municipal* L. & T. *under consideration.*

Gibraltar (owned by Sanitary Commissioners). *c.* L. arc, inc. & P., 440 *v.*; L. P. *a.*, 1-*ph.*, 76 *py.*, primary 2000 *v.*, secondary 110 *v.*, 1000 *K.W.* Elec. engr., R. Wheeler.

Gifu Electric Light Co., Ltd., Gifu, Japan.

Glace Bay Corp., Glace Bay, N.S., Canada. L. *a.*, 2-ph., 60 *py.*, 2200-104 *v.*, 400 *K.W.* Engineer, L. K. Frizzell; elecn. & supt., F. W. Frizzell.

Glencoe Electric Light Co., Glencoe, Ont., Canada. L. *c.*, 110 *v.* Chief engineer, A. Copland.

Goderich Corporation, Ont, Canada. L. *c.*, arc 45 *v.*, inc. 104 *v.*, & *a*, 1-*ph.*, 125 *py*, primary 2000 *v.*, secondary 104 *v.*, 142 *K.W.* Engr., J. B. Kelly.

Gore Borough, Southland, N.Z. L. P. *a.*, 1-*ph.*, 60 *py.*, 5000 *v.*, transformed to *c.*, 3-wire, 220-110 *v.*, 75 *K.W.*

Graaf Reinet, Cape Colony. *Municipal Council have decided to call for tenders for* L.

Grahamstown, Cape Colony. *E. L. under consideration by Municipality.*

Granby Town, Granby, Que., Canada. L. *a.*, 1-*ph.*, 40 *py.*, 2080-104 *v.*, 100 *K.W.* Engr., A. J. Seale; elecn., F. B. Farnsworth.

Grand Falls, N.B., Canada. *It is proposed to erect a power station of* 60,000 *K.W. to transmit P. in N.B. & Maine.*

Grand Forks City Council, Grand Forks, B.C., Canada. L. P. *a.*, 3-*ph.*, 60 *py.*, 2200-110 & 220 *v.*, 180 *K.W. Energy in bulk from West Kootenay Power Co.* Engr., F. Read; elecn., T. G. Bird.

Grand Mère, Que., Canada. *Supply by St. Maurice Light & Power Co. a.*, 3-*ph.*, 30 *py.*, 2200-110 *v.* L., 220 *v.* P., 175 *K.W.*

Grand Trunk Railway, Sarnia, Ont., Canada. *a.*, 1-*ph.*, 25 *py.*, line volts 3300; motors 235 *v.*

Grand Valley & Arthur, Ont., Canada. J. Philip, proprietor. L., 2200-104 *v.*, 75 *K.W.* Engr., Jas. Williams; elecn., R. W. Philip.

Grand Valley Railway Co. *See* Brantford.

Gravenhurst Town, Gravenhurst, Ont. L. P. *a.*, 2-*ph.*, 60 *py.*, primary 2000 *v.*, secondary 104 *v.*, 100 *K.W.* Engr., W. Wright.

Electricity Works—*continued.*

Great Falls Power Co. *propose to erect station on the Winnipeg River.*

Greenpoint & Sea Point, nr. Cape Town. *Cape Town Corporation are providing E. L. scheme.*

Greenwood City Waterworks Co., Greenwood, B.C., Canada. *a.* L. P., 3-*ph.*, 60 *py.*, 2200–110 *v.* L., 4400–220 *v.* P., 150 *K.W. Power purchased from Cascade Water Power & Light Co.* Engr., E. E. Warren.

Greytown Corp., Greytown, Natal. L. *c.*, 210–190 *v.*, 32 *K.W.* Engr., W. H. Blatchford.

Grimsby, Ont., Canada. J. W. Van Dyke, prop.

Guadalajara, Mexico. Cia. de Tranvias, Luz y Fuerza de Guadalajara, props. *a.*, 100 *py.*, 20,800/2040–104 *v.*, 1800 *K.W.* Chief engr., M. L. Schiaffino; res. engr., C. Guzman.

Gualeguay, Argentina. Anglo-Argentine Electricity Co., props. L. *c.*, 220 & 440 *v.*, 90 *K.W.* Engr., J. H. Bouwer.

Guanajuato Power & Elec. Co., Guanajuato, Mex. *Station under construction on the banks of the River Angulo in the State of Michoacan.*

Guatemala. Empresa Electrica de Guatemala, props. *a.*, 3-*ph.*, 50 *py.*, 3 × 20,000 *v.* L., 3 × 1000 & 120 *v.* P., 1760 *K.W.* Chief engr., Max Obst.

Guayaquil, Ecuador. *A concession has been granted to Sr. E. Estrada to utilise the waters of the river Chimbo to generate P.*

Guayaquil, Ecuador. Empresa de Luz y Fuerza Elec., props. L. *a.*, 1-*ph.*, 42 *py.*, 3000–120 *v.*, 450 *K.W.* Engr., H. Fontaine.

Guelph Corporation, Guelph, Ont., Canada. L. *a.*, 1-*ph.*, 125 *py.*, 1040–104 & 208 *v.*; T. *c.*, 500 *v.*, 450 *K.W.* Engr., J. J. Heeg.

Guelph Radial Railway Co., Guelph, Ont., Canada. T. *c.*, 550–600 *v.*, 175 *K.W.*

Guildford, West Australia. *The Council have obtained tenders for erection of Electricity Works.*

Gwalior, India. *Concession granted for L.P.T. to the Ajmere Import & Export Co.*

Haileybury Electric Co., Haileybury, Ont., Canada. L. *a.*, 3-*ph.*, 60 *py.*, 2200–110 *v.*, 200 *K.W.*

Haiphong, Tonquin. Soc. Indo-Chinoise d'Electricité, props. *c.*, 3-wire, 120 *v.*, 1000 *K.W.* Consulting engr., M. Laporte; chief engr., Veyrenc; elecns., Perrin, Masse.

Hakamatsu Denki K. K., Hakamatsu, Japan. L. P. *a.*, 3-*ph.*, 2000–100 or 200 *v.*, 70 *K.W.* Elecn., I. Ogura.

Hakata Electric Light Co. *See* Fukuoka.

Hakodate, Japan. Oshima Hydro-Electric Power Co., props. L. P. *a.*, 3-*ph.*, 60 *py.*, 2300 *v.*, 1890 *K.V.A.* Engr., T. Otawara.

Halifax Elec. Tramway Co., Halifax, N.S., Can. L. P. T. *a.*, 3-*ph.*, 60 *py.*, primary 2300 *v.*, secondary 104 *v.* L. & P.; & *c.* L., inc. 75 *v.*, arc 2300 *v.*; P., 525 *v.*; T., 575 *v.*, 1800 *K.W.* Engr., P. A. Freeman; elecn., J. W. Crosby.

Hamilton Electric Supply Co., Hamilton, Victoria, Australia. Engr., — Beckwith.

Electricity Works—*continued.*

Hamilton & Barton Electric Railway Co., Hamilton, Ont., Canada. *Current supplied by Hamilton Cataract Power, Light & Traction Co., Ltd.*

Hamilton, Bermuda. Bermuda Electric Light, Power & Traction Co., Ltd., props. L. P. *a.*, 3-*ph.*, 60 *py.*, 2300–110 *v.*, 150 *K.W.* Engr., H. G. W. Spurling; elecn., F. A. Wheeler.

Hamilton, Ont., Canada. Dominion Power & Transmission Co., Ltd., props. P. T. *c.*, 600 *v.*

Hamilton Cataract Power, Light & Traction Co., Ltd., Hamilton, Ont. *a.*, 3-*ph.*, 66⅔ *py.*, 2200 *v.*; 2-*ph.* at sub-sta. transformed to L., 110 *v.*, & T., 550 *v.*, 6000 *K.W.*

Hamilton, Chedoke & Ancaster Railway Co., Hamilton, Ont., Canada. *Current supplied by Hamilton Cataract Power, L. & T. Co., Ltd.*

Hamilton, Grimsby & Beamsville Electric Railway Co., Hamilton, Canada. T. *c.*, 500 *v.*, 250 *K.W.* Engr., W. Jones; elecn., N. Waterbury.

Hamilton Radial Elec. Rly. Co., Hamilton, Ont., Canada. (Controlled by Hamilton Cataract Power, L. & Traction Co., Ltd.) T. *c.*, 500 *v.*

Hamilton Street Railway Co., Hamilton, Ont., Canada. (Controlled by Hamilton Electric Light & Cataract Power Co.) T. *c.*, 500 *v.*

Hankow Light & Power Co., Ltd., Hankow, China. L. P. *c.*, 220 & 440 *v.*, 375 *K.W.* Engr., A. J. Fippard.

Hankow Water Works & Electric Light Co., Ltd., Hankow (Native City), China. L. P. *c.*, 3-wire, 220 & 440 *v.*, 1500 *K.W.* Engr., F. Fairley, M.I.E.E., A.M.I.M.E.

Hanoi, Tonquin. Société Fonciered l'Indo-Chine, props. T. *c.*, 550–500 *v.*, 420 *K.W.*

Hanoi, Tonquin. Soc. Indo-Chinoise d'Electricité, props. *c.*, 3-wire, L. 240 *v.*, P. T. 550 *v.*, 450 *K.W.*

Hanover, Ont., Canada. H. Gruetzner, prop. L. P. *a.*, 3-*ph.*, 1040 & 2080–104 *v.*, 150 *K.W.* Supt.engr., C. Herbecker; elecn., S. Hillgartner.

Hanshin Electric Railway Co., Amagasaki; & Mikage, Japan. T. *c.*, 600 *v.*; & L. *a.*, 3-*ph.*, 50 *py.*, 3500–110 *v.*, 2400 *K.W.* Engr., S. Misaki; elecn., H. Tetsuka.

Harrismith Corporation, Harrismith, Orange River Colony. L. *a.*, 1-*ph.*, 50 *py.*, primary 2000 *v.*, secondary 200 *v.*, 185 *K.W.* Engr., W. B. Brady, A.M.I.E.E.

Harriston, Ont., Canada. G. Leighton, prop. L. *a.*, 1-*ph.*, 1040–104 *v.*; & *c.* arc, 50 *v.*, 40 *K.W.* Engr., C. Zuefle.

Hastings, Ont., Canada. H. W. Fowlds & Co., proprietors. L. *c.*, 120 *v.*, 50 *K.W.*

Havana, Cuba. Cia. de Gas y Electricidad de la Havana, props. P. T., 3-*ph.*, 50 *py.*, 6000–220 *v.*; & L. T., 1-*ph.*, 60 *py.*, 104 *v.*, 2600 *K.W.* Engrs., Livesey, Son & Henderson.

Havana Elec. Rly. Co., Havana, Cuba. *c.*, 500 *v.*

Hawaiian Electric Co. *See* Honolulu.

Hawera County Electric Co., Ltd., Hawera, Taranaki, N.Z. L. P. *a.*, 3-*ph.*, 50 *py.*, 5500–220 *v.* L., 380 *v.* P., 130 *K.W.* Engr., G. Trevithick, A.M.I.E.E.

Electricity Works—*continued.*

Hawkesbury Electric Light & Power Co., Ltd., Hawkesbury, Ont., Canada. L. P. *a.*, 3-*ph.*, 60 *py.*, 10,000-2300-110 *v.* L., 575 *v.* P., 1100 *K.W.* Engr., Jno. Knox.

Hawthorn, Victoria. *E. supply & tramways under consideration by Council.*

Heidelburg, Transvaal. *Electric light to be installed.*

Heilbron Municipality, Heilbron, Orange River Colony. L., 2-wire *c.*, 20 *v.*, 40 *K.W.* Engr. & man., L. L. Blasson.

Helouan, Egypt. Thos. Cook & Son, props. L. *c.*, 2-wire, 220 *v.*, 383 *K.W.* Engr., R. H. Walker.

Hensall, Ont., Canada. Thos. Welsh, proprietor. L. *a.*, 1040-110 *v.*

Hespeler Town Council, Hespeler, Ont., Canada. L. *a.*, 1-*ph.*, 60 *py.*, 2080-104 *v.*

Hillgrove, N.S.W. L. P. *c.*, 3-wire, 3000 & 1500 *v.*; & *a.*, 1-*ph.*, primary 2000 *v.*, secondary 110 *v.*, 200 *K.W.* E. J. Erskine, M.I.E.E., engr.

Hilo Electric Light Co., Hilo, Hawaii Ter. L. *a.*, 1-*ph.*, 60 *py.*, 2200-110 *v.*; P., 2-*ph.*, 60 *py.*, 2200-110 & 220 *v.*, 600 *K.W.* Engr., J. C. Mocine.

Himeji Electric Light Co., Ltd., Himeji, Japan. L. *a.*, 1-*ph.*, 125 *py.*, primary 1040 *v.*, secondary 104 *v.* Engr., S. Kamjé.

Hiroshima Elec. Light Co., Hiroshima, Japan. L. *a.*, 3-*ph.*, 60 *py.*, 2000 *v.* Engr., K. Oda. *Power bought in bulk from Water Power Co.*

Hiroshima Water Electric Power Co., Hiroshima, Japan. L. P. *a.*, 10,000 *v.* for transn., 3-*ph.*, 60 *py.*, 100, 200 & 500 *v.* for motors, 750 *K.W.* Engr., T. Tanabe.

Hobart Electric Tramway Co., Ltd., Hobart, Tasmania. P. T. *c.*, 500 *v.*, 375 *K.W.* A. C. Parker, manager.

Hobart, Tasmania. Hobart Gas Co., props. L. P. *a.*, 1-*ph.*, 90 *py.*, primary 2000 *v.*, secondary 110 *v.*, 492 *K.W.* Engr., H. J. Spencer, A.I.E.E. *Alterations & extensions in hand. Frequency to be changed to* 50.

Hokkai Electric Co. *See* Sapporo.

Hokuyetsu Elec. P. Co. *See* Nagaoka Yechigo.

Holguin, Cuba. *E. L. works to be erected.*

Hong-Kong Electric Co., Ltd., Hong-Kong. L. *c.* & *a.*, 1-*ph.*, 75 *py.*, primary 2000-100 & 200 *v.*, 3160 *K.W.* Engr., W. H. Wickham.

Hong Kong. Electric Traction Co. of Hong Kong, Ltd., proprietors. 500 *v.*, 600 *K.W.* Chief engr., J. J. Stodart Kennedy.

Honolulu, Hawaii Ter. Hawaiian Electric Co., props. L., 1-*ph.*, 60 *py.*, 2200-110 & 220 *v.*; P., 1- & 2-*ph.*, 60 *py.*, 2200-110 & 220 *v.*, 1600 *K.W.* Engr., O. R. Williams.

Honolulu, Hawaii Ter. Government, props. L. *a.*, 3-*ph.*, 60 *py.*, 2200-110 *v.*, 400 *K.W.* Engr., W. L. Frazie.

Honolulu Rapid Transit & Land Co., Honolulu, Hawaii. L. P. T. *c.*, 550 *v.*, 900 *K.W.* Engr., R. Menaugh; elecn., L. H. Wolff.

Hooghly River, India. *A scheme is under consideration for supplying c. current at* 600 *v. or polyphase current at* 10,000 *v. A licence has been granted & 18 months' extension.*

Electricity Works—*continued.*

Horta Electric Light Co., Horta, Fayal, Azores. L. *c.*, 500 *v.*, 100 *K.W.* Engr., J. Raposode Medeiros.

Howick Falls Power Co., Ltd., Howick, Natal. L. *a.*, 3-*ph.*, 50 *py.*, 8000 *K.W.* *Scheme in course of flotation.*

Howrah, Bengal. L. T. *under construction.*

Hull Electric Co., Hull, Que., Canada. L. *See also* Aylmer & Deschenes.

Hull, Que., Canada. Ottawa & Hull Power & Manufacturing Co., props. L. *a.*, 1-, 2- & 3-*ph.*, 60 *py.*, 2200-10,000 *v.*, 6500 *K.W.*

Hull Electric Railway Co. *See* Aylmer.

Huntingdon, Que., Canada. A. Chambers, proprietor. L. *a.*, 1-*ph.*, 1000-110 *v.*

Huntsville Town Council, Huntsville, Ont., Canada. L. *a.*, 1-*ph.*, 125 *py.*, 1040-104 *v.*, 180 *K.W.* Engr., G. Rolston.

Huttonville, Ont., Canada. Brampton Elec. Co., props. L. P. *a.*, 3-*ph.*, 2300-110 *v.*, 1000 *K.W.* Engr., Bert Ostrander; elecn., G. Ostrander.

Hyogo, Japan. Sanyo Railway Co., props. L. *c.*, arc 100 & 200 *v.*, inc. 110 & 220 *v.*; P. *c.*, 110 & 250 *v.*; & *a.*, 3-*ph.*, 60 *py.*, 550 *v.*, 595 *K.W.* Chief engr., H. Iwasaki; elecn., T. Okamoto.

Hyogo-Akashi Electric Railway, Hyogo, Japan. P. T. *a.*, 3-*ph.*, 50 *py.*, 3500-100 *v.* P., 600 *v. c.* T., 2000 *K.W.* Engr., Y. Okitsu; elecns., T. Oto & S. Minura.

Indian Electric Supply & Traction Co., Ltd. *See* Cawnpore.

Indian Head Municipality, Indian Head, Sask., Canada.

Industrial del Oeste, Ltd. *See* Rojas.

Indwe, Cape Colony. Indwe Railway Collieries & Land Co., Ltd., proprietors. *c.* L. P. T., 450-500 *v.*, 400 *K.W.* Engr., C. Mullins.

Ingersoll Electric Power & Light Co., Ltd., Ingersoll, Ont., Canada. L. P. *a.*, 3-*ph.*, 60 *py.*, 2300-110 & 220 *v.*, 2000 *K.W.* Engr., H. Richardson.

Inglewood Electric Light & Power Co., Ltd., Taranaki, N.Z. L. P. *a.*, 3-*ph.*, 50 *py.*, 3200-220 *v.* L., 380 *v.* P., 120 *K.W.* Engr., W. E. Richardson.

Inglewood Electric Supply Co. (Proprietary), Ltd., Inglewood, Victoria. L. *c.*, 220 *v.*, 25 *K.W.* Engr., W. Thorneby.

International Railway Co. *See* Niagara Falls.

International Transit Co. *See* Sault Ste. Marie.

Interurban Elec. Co. *See* Toronto West.

Invercargill, N.Z. T. *under consideration.*

Ipswich, Queensland. Govt. Rly. Dept., proprietors. T. *a.*, 2-*ph.*, 60 *py.*, 220 *v.*, 1800 *K.W.* *Under construction.*

Iquique Lighting Co., Iquique, Chili. *A concession has been granted to Don V. Hudtuvalcker.*

Iquitos, Peru. Empresa Electrica, Ltda., props. L. P. *c.*, 200 & 225 *v.*, 235 *K.W.* Engr., A. S. Bytton.

Electricity Works—*continued.*

Iroquois Corp., Iroquois, Ont., Canada. L. *a.*, 2-*ph.*, 2400–110 or 220 *v.*, & *c.* arc 72 *v.*, 72 *K.W.* Engr., R. Barton.

Ise Electric Railway Co., Yamada, Ise, Japan. L. *a.*, 1-*ph.*, 80 & 60 *py.*, 2000–100 *v.*; P., 3-*ph.*, 60 *py.*, 2300–220 *v.*; & T. *c.*, 500–575 *v.*, 417 *K.W.* Engr., S. G. Sekoguchi; elecn., Y. Isaka. *A* 300 *K.W. engine generator set* 3-*ph.*, 2300 *v. for L. & P. to be purchased.*

Ismailia, Egypt. Electricity & Ice Supply Co., props. L. *c.*, 3-wire, 220 *v.* Engr., M. Fehr.

Itapira, Brazil. Cia. Paulista de Electricidade, props. *a.*, 3-wire, 50 *py.*, 5000–220 *v.* Chief engr., B. M. de Moraes.

Ituziango, Argentina. L.

Jamalpur, India. East Indian Railway Co. L. P. *a.*, 3-*ph.*, 220 *v.*, 110 *K.W.* Engr., H. L. Tyson-Wolff.

Japan. *An Anglo-Japanese water-power plant to be constructed, with* 3 *generating stations. The first to be completed in the near future will contain six* 3-*ph.*, 25 *py.*, 6600 *v. generators direct—coupled to* 13,500 *H.P. vertical water wheels, together with* 2 *exciters & transformers. Current will be stepped down to* 6600 *v., & distributed in Tokio, Yokohama, &c.*

Jerusalem. *Erection of works, & tramway between Jerusalem & Jaffa under consideration.*

Jhelum, India. L. P. *a.*, 3-*ph.*, 25 *py.*, 2300 & 110 *v. Supply to Baramulla, Srinagar, Kashmir, Jaimmu & Kashmir States.* Engr., Wm. T. Taylor, M.I.E.E.; elecn., Wm. G. Veeder.

Johannesburg. Victoria Falls Power Co., Ltd. L. P. T. *a.*, 3-*ph.*, 50 *py.*, 10,000 & 40,000 *v.*, 18,000 *K.W.* Man., H. Spengel, M.I.E.E.

Johannesburg Municipality, Transvaal. L. P. *a.*, 1-*ph.*, 50 *py.*, 3300–200 *v.* L., 200 or 400 *v.* P.; & *c.* L. & P., 230 & 460 *v.*; T., 500 *v.*, 4500 *K.W.* Engr., J. H. Dobson. T. man., —Tyrrel.

Johannesburg, Transvaal. Robinson Gold Mining Co., props. *c.*, 3- & 5-wire, 120, 240, 360 & 480 *v.*, 916 *K.W.* Chief elec. engr., J. Norman Andrews.

Joinville, Brazil. L.

Joliette (Town) Elec. Light Plant, Joliette, Que., Canada. *a.* L., 2-*ph.*, 60 *py.*, 2400–104 *v.*; P., 2500–110 *v.*; P., 2-*ph.*, 30 *py.*, 2500–110 *v.*, 162 *K.W.* A. Normand, engr.

Joshin Electrical Tramway Co. has projected a line from Takasaki to Uyeda, Japan.

Jubbelpore, India. *Licence granted for* E. T.

Jumbunna, Victoria. Jumbunna Coal Co., proprietors. P. *a.*, 3-*ph.*, 30 *py.*, 440 *v.*, 100 *K.W.* Engr., A. C. Wallace.

Kadina, South Australia. L. *c.*, 220 *v.*, 28 *K.W.* Engr., H. R. S. Pennifold.

Kagoshima Elec. Co., Kagoshima, Japan. L. P. *a.*, 3-*ph.*, 60 *py.*, 3500–104 *v.* L., 208 *v.* P., 400 *K.W.* Engr., K. Okada.

Kakabeka Falls. *See* Fort William.

Kalgoorlie, West Australia. Municipality, props. L. P. *c.*, 3-wire, 220 & 440 *v.*, 650 *K.W.* *To be extended to* 1140 *K.W.* Engr., D. Curle Smith.

Electricity Works—*continued.*

Kalgoorlie Electric Power & Lighting Corporation, Ltd., Kalgoorlie, West Australia. L. *a.*, 1-*ph.*, 40 *py.*, primary 550 *v.*, secondary 110 & 229 *v.*; P. *a.*, 3-*ph.*, 40 *py.*, primary 3300 *v.*, secondary 600 *v.*; T. *c.*, 550 *v.*, 3000 *K.W.* Engr., C. E. Crocker, M.I.E.E. *P. supplied to* T.

Kalgoorlie Electric Tramways, Ltd., Maritana-st., Kalgoorlie, Western Australia. 500 *v.* P. *supplied by Kalgoorlie Electric Power & Lighting Corp., Ltd.* Supt., W. H. Stanley.

Kalk Bay & Muizenburg Municipality, Kalk Bay, Cape Colony. L. P. *a.*, 3-*ph.*, 50 *py.*, 3000–110 *v.* L., 190 *v.* P., 300 *K.W.* Cons. engr., E. G. Clifford-Jones, M.I.E.E.; engr., G. H. Swingler; elecn., F. E. Burgoyne.

Kaministiquia Power Co., Ltd. *See* Fort William & Kakabeka Falls.

Kamloops City, Kamloops, B.C., Canada. L. *a.*, 1-*ph.*, 133 *py.*, primary 1040 *v.*, secondary 104 *v.*, 180 *K.W.* Engr., C. L. Wain.

Kanagawa Electric Co., Kanagawa, Japan.

Kanai Electric Co. *See* Wainiha.

Kanazawa Elec. Light & Power Co., Kanazawa, Japan. L. P. *a.*, 3-*ph.*, 60 *py.*, 1000–100 *v.*, 480 *K.W.*

Kandy, Ceylon. Colombo Gas & Water Co., Ltd., props. L. P. *c.*, 3-wire, 200 & 400 *v.*, 200 *K.W.* Res. engr., R. W. Baird.

Kankinarrah Jute Mills, Calcutta, India. L. P.

Kaslo, B.C., Canada. Kootenay Electric Co., Ltd., proprietors. L. P. *a.*, 2-*ph.*, 60 *py.*, primary 1100 *v.*, secondary 104 *v.*, 120 *K.W.* Elecn., J. Hamilton Stubbs.

Katanning, West Australia. *c.* L. P., 220 *v.*, 60 *K.W.* Engrs., F. & C. Piesse.

Keihin Electric Traction Co., Ltd., Kawasaki, Kanagawa-ken, Japan. T. *c.*, 550 *v.*, 1000 *K.W.* Engr., S. Nakazawa.

Kemptville Milling, Light, Heat & Power Co., Kemptville, Ont., Canada. L. (series inc., 32-C. P.) & P. *a.*, 1- & 3-*ph.*, 60 *py.*, primary 10,000 *v.*, secondary 110, 230 & 2300 *v.*, 300 *K.W.* Engr., J. Maxwell.

Kenora Corporation, Kenora, Ont., Canada. L. *a.*, 1-*ph.*, 60 *py.*, 110 *v.*; P. *a.*, 3-*ph.*, 60 *py.*, 2200–220 *v.*, 2000 *K.W.* Engr., C. E. McMurdie; man., H. P. Thomas, B.SC.

Kent Electric Co. *See* Richibucto.

Kentville E. L. & P. Co., Kentville, N.S. L. *c.*, 3-wire, 106 *v.* for motors. C. L. Baird, engr.

Kerang Electric Supply Co., Pty., Ltd., Kerang, Victoria. L. P. *c.*, 220 *v.*, 90 *K.W.* Engr., N. A. Hodgson.

Khartoum, Egypt. Government, proprietors. L. P. *a.*, 3-*ph.*, 50 *py.*, 3000–220 *v.*, 150 *K.W.* *Extension of* 600 *K.W. in hand.* Engr., J. E. Williams.

Kiaochau, China. German Government, props. Engr., M. Henke.

Kilmore Electric Supply Co., Kilmore, Victoria. L. P. *c.*, 230 *v.*, 18 *K.W.* Engr., F. C. Waterfall.

Electricity Works—*continued.*

Kimberley, South Africa. *De Beers Co. supply current.* *c.*, 3-wire, 440 *v.*, 430 *K.W.*

Kimberley & Alexandersfontein Electric Railway, South Africa. De Beers Con. Mines, Ltd., props. *c.*, 550 *v.* Engr., R. H. Smith.

Kimberley, South Africa. De Beers Consolidated Mines, proprietors. L. P. *a.*, 3-*ph.*, 50 *py*, 5000 *v.*, transformed as required; T. *c.*, 500 *v.*, 4500 *K.W.* *Current supplied to town.* Res. engr., R. H. Smith.

Kincardine Corporation, Kincardine, Ont. L. *c.* arc, inc. & L. P. *a.*, 2-*ph.*, 60 *py.*, 2300–104 *v.*, 150 *K.W.* Engr. & elecn., A. Ingram.

Kingston, Jamaica. West India Electric Co., Ltd., & Jamaica Electric Light & Power Co., Ltd., props. L. P. T. *a.*, 3-*ph.*, 60 *py.*, 1040–104 *v.* L., 104 & 208 *v.* P., & T. 15,000 *v.* transmitted 23 miles & converted to *c.* 500 *v.*, 1200 *K.W.* Engrs., D. Aiken & N. B. Tucker; elecns., R. Duperdouzel & H. A. Campbell.

Kingston Corporation, Kingston, Ont., Canada. L. P. *c.*, 110–220 *v.*, *a.*, 1-*ph*, 60 *py.*, 110 *v.*, 1200 *K.W.* *Current supplied to T. c.*, 500 *v.* Engr., Jno. Evans; elecn., W. C. Rogers.

Kingston, Portsmouth & Cataraqui Street Railway Co., Kingston, Ont., Canada. 500 *v.* Manager, B. W. Folger. *Power purchased from Kingston Corp.*

Kingsville Electric Light Co., Ltd, Kingsville, Ont., Canada. L. *a.*, 1-*ph.*, 133 *py.*, 110 *v.*, 75 *K.W.* Engr., Wm. Mathieson.

Kingsville, Ont., Canada. Windsor, Essex & Lake Shore Railway Co., props. P. T. *a.*, 1-*ph.*, 25 *py.*, 13,200–6600 *v.*, 1500 *K.W.* Elecns., A. W. Westman & W. W. Chisholm.

King Williams Town Corporation, King Williams Town, Cape Colony. L. *a.*, 1-*ph.*, 50 *py.*, primary 2100–2200 *v.*, secondary 220–225 *v.*, 200 *K.W.* Engr.-in-charge P. sta., A. Scott; elecn.-in-charge outside distribution, G. H. A. Lewis.

Kirin, China. L. *a.*, 3-*ph.*, 50 *py.*, 5000 *v.*, 330 *K.W.*

Klerksdorp, Transvaal. *No electric lighting scheme yet approved by Town Council.*

Knight Bros. Co. *See* Burks Falls.

Knowlton, Quebec, Canada. Brome Lake Electric Power Co., proprietors. L. P. *a.*, 3-*ph.*, primary 2000 *v.*, secondary 104 & 208 *v.*, 150 *K.W.* Engr., A. W. Pettes.

Kobe Electric Light Co., Kobe, Japan. A. Station: Iriye-dori, Hiogo. B. Station: Wakinohama-cho, Kobe. L. P. *a.*, 2-*ph.*, 60 *py.*, primary 1000 *v.*, secondary 100 *v.*, 3310 *K.W.* Engr., Y. Atagi.

Kobe Electric Railway Co., 4, 5, 6, Azuma-dori 1-chome, Kobe, Japan. L. P. T. *a.*, 3-*ph.*, 50 *py.*, 3500–550 *v.* L., 110 *v.* P., & *c.* T., 550 *v.*, 1000 *K.W.* Chief engr., Ichiro Goto. *Under construction.*

Kobe, Japan. Sanyo Railway Co., props. L. P. *a.*, 3-*ph.*, 60 *py.*, 550–110 *v.* L.; & L. P. *c.*, 110 & 220 *v.*, 610 *K.W.* Engr., H. Iwasaki; elecn., T. Okamoto.

Electricity Works—*continued.*

Kōfū Electric Light & Power Co., Yamanashiken, Japan. L. P. T. *a.*, 3-*ph.*, 60 *py.*; L., 2000–100 *v.*; P., 3480–100 or 220 *v.*; T., 11,000 *v.*, 550 *K.W.* Engr., S. Muta.

Kokura Electric Light Co., Kokura, Japan. L. T. *a.*, 1-*ph.*, 60 *py.*, 2000–100 *v.*; & L. *c.*, 100 *v.*, 60 *K.W.* Engr., M. E. Hayashi.

Kolar Mines Power Station, Ltd., Oorgaum, Mysore State, India. *a.* L., 1-*ph.*, 50 *py.*, 200 *v.*; P., 3-*ph.*, 25 *py.*, 3300, 2200–440, 220 *v.*, 2200 *K.W.* Chief engr., F. Michell Nicholl, A.M.I.E.E., A.M.I.MECH.E.; station engr., J. Murray Hincks, A.I.E.E., A.M.I.MECH.E.

Kookynie Electric Co., Kookynie, West Australia. *c.*, 2-wire, 220 *v.*, 50 *K.W.* Engr., S. Tatham.

Kootenay, Canada. *A large water power plant is being installed for lighting every city, town & camp in S.E. Kootenay.*

Kootenay Electric Co. *See* Kaslo.

Koriyama, Fukushimaken, Japan. Koriyama Silk Spinning Co., Ltd., proprietors. L. P. *a.*, 3-wire for motors, 4-wire for light, 3-*ph.*, 60 *py.*, 10,000 *v.* (generator, 2000 *v.*), 220 *v.* for motors, 850 *K.W.* Engr., J. Yoshida.

Korumburra, Victoria. *E. supply under consideration.*

Kowloon, China. China Light & Power Co., Ltd., props. L. P., 2-*ph.*, 60 *py.*, 3000–100 *v.*, 300 *K.W.* Res. engr., G. H. Hales.

Kroonstad Municipality, Kroonstad, Orange River Colony. L. P. *c.*, 3-wire, 230 *v.*, 180 *K.W.* Engr., J. Vowles; elecn., T. D. Wells.

Krugersdorp, Transvaal. Lancaster Gold Mining Co., Ltd., props. *a.*, 3-*ph.*, 50 *py.*, 2200–120 & 500 *v.*, 697 *K.W.* Chief elecn., F. F. Parker; res. engr., R. H. Gilmour.

Krugersdorp Municipality, Krugersdorp, Transvaal. L. *c.*, 3-wire, 230–460 *v.*, 120 *K.W.* Engr., R. A. Webster; chief elecn., R. W. Fletcher.

Kuala Lumpur, Selangor, Federated Malay States. Government, proprietors. L. P. *c.*, 3-wire, 230 & 460 *v.*; & *a.*, 4-wire, 3-*ph.*, 40 *py.*, 5500–230 *v.* L., 420 *v.* P., 1000 *K.W.* Consulting engrs., Preece & Cardew, London; engrs.-in-charge, J. C. M. Matthews, A.M.I.E.E., & D. Kelleway; elecn., L. V. Fox. *Supplementary steam-plant & battery in course of erection.*

Kumamoto Electric Light Co., Ltd., Kumamoto, Japan. L. *a.*, 2-*ph.*, 60 *py.*, 2300–100 *v.*, 200 *K.W.*

Kyoto, Japan. *Power station under construction.*

Kyoto City, Suirijimusho, Kyoto, Japan. L. P. *a.*, 2- & 3-*ph.*, 50, 60 & 133 *py.*, primary 2000 & 3500 *v.*, secondary 100 & 110 *v.* L., 230 & 500 *v.* P., & *c.* 500 *v.*, 1765 *K.W.* Engrs., T. Otaki & K. Sakaida.

Electricity Works—*continued.*

Kyoto Electric Light Co., Kyoto, Japan. L. *a.*, 1-, 2- & 3-*ph.*, 60, 85 & 133 *py.*, primary 2000 *v.*, secondary 100 *v.*; P., 3-*ph.*, 60 *py.*, 2000, 3500–100 & 200 *v.*, 700 *K.W.* *New water-power station at Fukui*, 3-*ph.*, 60-*py.*, 16,500 *v.*, 800 *K.W.*, *transmitted to Kyoto & transformed down to* 3500 *v.* Engr., T. Kogi; elecn., S. Shirai. Sub-Station, Nakatsu. *See also* Otsu.

Kyoto Electric Traction Co., Kyoto, Power House at Higashikujo, Kyoto, Japan. T. *c.*, 500 *v.*, 550 *K.W.* Chief engr. & elecn., Ichiro Goto.

Kyoto & Osaka Railway, Kyoto, Japan. *a.*, 3-*ph.*, 2500 *v.*, *to be transformed to c.*, 2500 *v.*, 2550 *K.W.* *Under construction.*

Kyushu Railway & Elec. Dept., Kyushu, Japan. L. *a.*, 1- & 2-*ph.*, 60 *py.*, 1000–100 *v.*; & *c.*, 100 *v.*, 330 *K.W.* Elecn., P. Fujita.

Labrador Elec. & Pulp Co. *See* Murray Bay; & Pointe au Pic.

La Capital Traction & Electric Co. *See* Buenos Ayres.

Lachine Corp. Electric Plant, Lachine, Que. L. P. *a.*, 3-*ph.*, 110–500 *v.* Engr., D. Leclair.

Lachine Rapids Hydraulic & Land Co., Ltd., Montreal, Canada. L. P. *a.*, 3-*ph.*, 60 *py.*, 500 *v.*

Lachute, Argenteuil Co., P.Q., Canada. J. T. Ayers, prop. L. *c.*, 2000 *v.* Engr., S. Desjardins; elecn., A. Mallette.

Lachute, Que., Canada. J. Palliser, prop. L. *a.*, 2-*ph.*, 125 *py.*, 1000–52 *v.*, 75 *K.W.*

Lacombe, Alberta, Canada. Blindman River Electric Power Co., Ltd., proprietors. L. *a.*, 3-*ph.*, 60 *py.*, 2080–104 *v.*; P., 1- or 3-*ph.*, 60 *py.*, 2080–100–500 *v.*; T., 3-*ph.*, 60 *py.*, 6600 *v.*, 150 *K.W.* Engr., E. J. Tett.

La Cruz (Quillota), Linares, Los Angeles & Providencia, Chili. *Concessions for supplying E. L. have been granted to the Cia. General de Electricidad Industrial.*

Ladybrand, S. Africa. *E. L. under consideration by the T.C.*

Ladysmith, Natal, Municipality. L. P. *c.*, 3-wire, 200 *v.*, 100 *K.W.* Engr., M. McDonough.

La Florida, Chili. Electric Traction & Lighting Co., props. *Current will be transmitted at* 12,000 *v. to be transformed at* 3 *sub-stations.*

Lagos, West Africa. Southern Nigerian Government, props. L. *a.*, 2-wire, 1-*ph.*, 80 *py.*, 1000–100 *v.*, 210 *K.W.* Engr., W. S. Halliwell.

Lahore, India. *E. L. & T. under consideration.*

Lahore, India. Punjab Govt. Public Works Dept., props. L. *c.*, 200 *v.*, 35 *K.W.* Engr., W. R. Wilson, M.I.E.E.; elecn., J. P. Connelly.

Lake Superior Power Co. *See* Sault Ste. Marie.

Lake Titicaca, S. America. *There is a scheme of Prof. E. Guarini to utilise the waters of this lake for electrical purposes.*

Lakefield Light & Power Co., Lakefield, Ont., Canada. L. *a.*, 1-*ph.*, 125 *py.*, 1040–104 *v.*, 60 *K.W.* Engr., Wm. J. Leggott.

Lambton Corporation, Lambton, N.S.W. *a.*, 1-*ph.*

Electricity Works—*continued.*

La Paz, Bolivia. Peruvian Corp., Ltd., props. T., 500 *v.*, 300 *K.W.* Res. engr., Sidney C. Shepperd.

La Plata, Argentina. River Plate Electricity Co., props. *a.* L. P., 1-*ph.*, 50 *py.*, 3300–440 *v.*; T., 500–550 *v.*, 2000 *K.W.* Engr., V. Lindop; elecn., B. C. Wilson.

La Plata, Argentina. *Mr. A. Limousin has been authorised to erect an electric power station from which the Government will take current for L.*

Laprida, Argentina. *E.L. station to be erected.*

Lardeau Light & Power Co. *See* Ferguson.

La Serena, Chili. Cia. Luz Electrica de La Serena, props. *c.*, 3-wire, 250–220 *v.*, 200 *K.W.* Chief engr., C. A. Johannsen.

Las Flores, Argentina. *A company has been formed to establish works.*

Lashgar Municipality, Lashgar, Gwalior, India. L. *c.*, 3-wire, 450 *v.*, 305 *K.W.* *Concession for* T. *granted.*

Las Palmas, Canary Island. Cie. d'Electricité, props. *a.*, 2200 *v.*

Las Rosas, nr. Queretaro, Mexico. Cia. Hidro-Eléctrica Querétara, props. Transmission from Las Rosas to Queretaro, 3-*ph.*, 50 *py.*, 33,000 *v.*; L. P. *a.*, 3-*ph.*, 50 *py.*, 2100–220 *v.*, 1500 H.P. Engrs., L. de Lozanna & Wm. Honey.

La Transatlantica. *See* Montevideo.

Launceston Municipality, Launceston, Tasmania. L. P. *a.*, 3-*ph.*, 50 *py.*, primary 5000 *v.*, secondary 110 *v.*, 190 *v.* for P., 1200 *K.W.* Enclosed street arc lamps on *a.* constant current series system supplied from 50 light transformers, primaries 3-*ph.*, secondaries 2-*ph.* R. J. Strike, A.M.I.E.E., city electrical engr.; Spencer Jewkes, A.M.I.E.E., A.AM.I.E.E., sta. engr. T. *to be constructed.*

Laurentian Water & Power Co. *See* St. Agathe des Monts.

Laval Electric Co. *See* St. Thérèse.

Leamington Light & Heat Co., Ltd., Leamington, Ont., Canada. L. *a.*, 1-*ph.*, 133 *py.*, 110 *v.*, 135 *K.W.* Engr., J. Snider; elecn., W. Snider.

Leederville Municipal Council, Leederville, West Australia. *c.* L., 220 & 440 *v.*; P., 440 *v.*, 230 *K.W.* Engr., J. C. Phillips, M.AM.I.E.E.

Leongatha, Gippsland, Victoria. L. *c.*, 2-wire, 200 *v.*, 20 *K.W.* Manager, — Wilson.

Leonora, West Australia. Bewick Moreing, Ltd., proprietors. L. *c.*, 220 *v.*

Lethbridge Electric Co., Ltd., Lethbridge, Alberta, Canada. L. P. *a.*, 2-*ph.*, 60 *py.*, 2200–110 *v.* L., 220 *v.* P., 370 *K.W.* Engr., M. Freeman.

Levis County Railway, Levis, Que., Canada. *Power from Canadian Electric Light Co., Ltd.*

Levis, Que., Canada. Canadian Electric Lighting Co., props. L. P. T. *a.*, 3-*ph.*, 60 *py.*, 2200–104 *v.* L., 10,000–575,220 & 110 *v.* P., 2500 *K.W.* Chief engr., D. S. Barton.

Light, Heat & Power Co. of Lindsay, Ltd., Lindsay, Ont., Canada. L. P. *a.*, 3-*ph.*, 60 *py.*, primary 1040 *v.*, secondary 104 *v.*, P. 220 *v.*, 800 *K.W.* Engr., W. E. Reesor.

Electricity Works—*continued.*

Lima, Peru. Empresa Electrica de Sta. Rosa, props. *a.*, 1- & 3-*ph.*, 60 *py.*, 2080-104 *v.*, 5000 *K.W.* Engr., A. L. Kenyon.

Limeira, Brazil. Cia. Paulista de Electricidade, props. *a.*, 60 *py.*, 10,000-200 *v.*, 250 *K.W.*

Lincoln Elec. L. & Power Co. *See* St. Catherine's.

Listowel Gas & Electric Light Co., Ltd., Listowel, Ont., Canada.

Little Current, Ont., Canada. Monthrop, Sharp & Jackson, proprietors.

Liverpool Town Council, Liverpool, N.S., Canada. L. P. *a.*, 2-*ph.*, 60 *py.*, 2080-104 *v.* L., 104 & 500 *v.* P., 450 *K.W.* Elecn., A. H. Drew.

Llai-Llai, Chili. *Concession for E. L. & P. granted to the Soc. Fab. de Sacos Roberto L. Beausire.*

Lloydminster, Sask., Canada. Morison Bros., props.

Loja, Ecuador. L. *The Cia. Luz Electrica have a contract with the Municipality.*

London, Aylmer & North Shore Electric Railway Co., Aylmer, Ont., Canada. *c.*, 500 *v.*

London Electric Co., Ltd., London, Ont., Canada. L. *c.* arc 75 *v.*, & *a.*, 1-*ph.*, 125 *py.*, primary 1150 *v.*, secondary 106-110 *v.*; P. *c.*, 250 & 500 *v.*, 1800 *K.W.* Engrs., R. A. Lyons & Wm. Baker; elecn., A. O. Hunt.

London, Ont., Canada. Power Equipment Co., props. *c.* L., 110 *v.*; P., 220 *v.*

London, St. Thomas, Port Stanley Railway, Ont., Canada. *Under construction.* P. will be transmitted by *a.*, 3-*ph.*, 25 *py.*, 10,000 *v.*, transformed to 1000 *v.*

London Street Railway Co., London, Ont., Canada. T. *c.*, 550 *v.*, 980 *K.W.*

Longford, Tasmania. *The Council have decided on a 3-wire system at 250 v.*

Los Andes, Chili. *The Cia. Electrica de los Andes have secured a concession to utilise waters of the river Aconcagua for generating electrical energy for L. & T.*

Lourenço Marques. Delagoa Bay Development Corp., props. T., 550 *v.*, 400 *K.W.* Engr., J. McKenna; gen. man., R. Pallastrelli.

Lourenço Marques, Delagoa Bay, E. Africa. Cie. Gen. d'Elec., props. L. P. *a.*, 1-*ph.*, 50 *py.*, 2000-120 *v.*; *c.*, 120 or 240 *v.*, 315 *K.W.* Engr., A. E. Val Davies.

Lower Bonnington Falls. West Kootenay P. & L. Co., Ltd., props. *a.*, 3-*ph.*, 60 *py.*, 1100-20,000 *v.*, 3000 *K.W.* Chief engr., L. A. Campbell.

Lucan, Ont., Canada. Excelsior Light, Heat & Power Co., props. L. *a.*, 60 *py.*, 1040-110 *v.*

Lucknow, India. *Works under consideration.*

Lucknow, Ont., Canada. W. Stewart & Son, props. L. *c.*, 1500 *v.* arc, 110 *v.* inc., 40 *K.W.*

Lujan, Argentina. J. M. Dominici, prop. & engr. L. *c.*, 220 & 440 *v.*, 175 *K.W.* Elecn., J. Frayme.

Lundy's Lane Elec. Railway, St. Catherine's, Ont., Canada. 600 *v.* Engr., W. H. Horton. *Current supplied by Niagara, St. Catherine's & T. Ry. Co.*

Lunenburg Gas Co., Lunenburg, N.S., Canada. L. *a.*, 3-*ph.*, 60 *py.*, primary 3120 *v.*, secondary 104 *v.*, 200 *K.W.* Elecn., E. L. Nash.

Electricity Works—*continued.*

Macao, China. Société Electrique d'Extreme-Orient, props. L. *a.*, 3-*ph.*, 50 *py.*, 3000-115 *v.*, 250 *K.W.* Engr., — Lapouyade.

Maccan, N.S., Canada. Maritime Coal Railway & Power Co., props. L. *a.*, 3-*ph.*, 60 *py.*, 11,000 *v.*, 500 *K.W.*

Maceio, Brazil. J. Basto & Co., props. L. *a.*, 1-*ph.*, 100 *py.*, 2000 & 1000-100 *v.*, 425 *K.W.* Engr., A. McPherson, A.M.I.E.E.

Macleod Electric Light & Power Co., Macleod, Alberta, Canada. L. *a.*, 3-*ph.*, 60 *py.*, 2200-110 *v.*, 110 *K.W.*, *extending to* 390 *K.W.* Engr., A. H. Altham.

Madoc Municipality, Madoc, Ont., Canada. L. *c.*, inc. 220 *v.*, 65 *K.W.* Engr., Frank Smith.

Madras Electric Supply Corp., Madras, India. L. P.

Madras Electric Tramways (1904), Ltd., The, Madras, India. 500 *v.*, 870 *K.W.* Chief engr., J. F. Jones.

Magog Corporation, Que., Canada. L. P. *a.*, 2-*ph.*, 125 *py.*, primary 2300 *v.*, secondary 104 *v.* L., 500 *v.* P. Engr., R. Pratte.

Mahone Corp., Mahone, N.S., Canada. 1-*ph.*, 60 *py.*, primary 2300 *v.*, secondary 110 *v.*, 75 *K.W.*

Maibashi Electric Light Co., Maibashi, Japan.

Maine & New Brunswick Electric Power Co., Andover, N.B., Canada. *Proposed to furnish* L. *& P. to chief towns in Aroostook Co., Maine; & Perth & Andover, N.B.*

Malta. Civil Government, owners. L. P. *a.*, 1-*ph.*, 100 *py.*, 2200-105 & 200 *v.*, 575 *K.W.* G. E. Muller, engr.

Malta. H. M. Dockyard. *c.* L., 220 *v.*, P., 440 *v.*, 1300 *K.W.* Engr., G. D. Leys, A.M.I.E.E.; 1st asst., F. C. Forster, A.M.I.E.E.

Malta Tramways. Macartney, McElroy & Co., London, props. 550 *v.*

Manaia, N.Z. *See* Hawera County Electric Co.

Manaos, Brazil. Amazonas State, props. L. *a.*, 1-*ph.*, 125 *py.*, 2080, 1150-110 *v.*; & *c.* arc L., 6250, 4000 *v.*; P. T., 550 *v.*, 1170 *K.W.* Engr., A. Lavandeyra.

Mandalay. Burma Electric Tramways & Lighting Co., Ltd., props. T. *c.*, 500 *v.*, 600 *K.W.* Manager & engr., Ernest J. Aldworth.

Manila Elec. Railway & L. Co., Manila, Philippines. *a.*, 2-*ph.*, 60 *py.*, 3300-110 & 220 *v.* L., 220 *v.* P.; *c.* T., 550 *v.*, 5750 *K.W.*

Manitoba Elec. & Gas Light Co. *See* Winnipeg.

Mansourah Electric Supply Co., Mansourah, Egypt. L. P. *c.*, 220-440 *v.*, 200 *K.W.* Chief engr., T. O. Mullings; engr., F. G. Sibbald.

Maracaibo Electric Light Co., Maracaibo, Venezuela.

Maritime Coal Railway & Power Co., Ltd., Chigneeto, N.S., Canada. L. P. T. *a.*, 3-*ph.*, 60 *py.*, 11,000-2200-220 *v.*, 1000 *K.W.* P. *supplied to Amherst.* Supt., F. H. Mitchell.

Markdale, Ont., Canada. Minnis Bros., props. L. *a.*, 1-*ph.*, 133 *py.*, 10,000-104 *v.*, 60 *K.W.* Engr., F. J. Ritchie.

Electricity Works—*continued.*

Markham Corporation, Markham, Ont., Canada. L. *a.*, 3-*ph.*, 133 *py.*, primary 1200 *v.*, secondary 110 *v.*, 20 *K.W.* Engr., W. Morrison.

Marmora Electric Co., Marmora, Ont., Canada. L. *a.*, 1-*ph.*, 1040-104 *v.*

Mascara, Algeria. Merlo Sean, prop. L. *a.*, 3-*ph.*, 50 *py.*, 9200-120 *v.*; P. *a.*, 3-*ph.*, 50 *py.*, 550-10,000 & 550-120 *v.*, 250 *K.W.*, *extending to* 400 *K.W.* Engr., H. Meybohm, jun.

Matabele, East Griqualand. *Scheme under consideration.*

Matsue Electric Light Co., Matsue, Shimaneken, Japan. L. *a.*, 1-*ph.*, 125 *py.*, primary 1010 *v.*, secondary 100 *v.*; 1-*ph.*, 133 *py.*, 1050-105 *v.*, 110 *K.W.* Elecn., S. Nishiyama.

Matsumoto Electric Light Co., Matsumoto, Shinano, Japan. L. P. *a.*, 3-wire, 3-*ph.*, 60 *py.*, primary 2000 *v.*, secondary 100 or 200 *v.*, 370 *K.W.* Chief elec. engr., T. Miura.

Mattawa E. L. & P. Co., Ltd., Mattawa, Ont. L. P. *a.*, 2-*ph.*, 60 *py.*, primary 2040 *v.*, secondary 104 *v.*, 100 *K.W.* Engr., Thos. Harwood.

Mauritius. *See* Port Louis.

Mauritius General Elec. Supply Co. *See* Curepipe.

Mauritius Hydro Elec. Co., Rose Hill, Mauritius. L. *a.*, 1-*ph.*, 60 *py.*, 2080-115 *v.*, 135 *K.W.*

Mayagnez, Porto Rico. L. P.

Meaford, Ont. The Georgian Bay Milling & Power Co., Ltd., props. L. *a.*, 1-*ph.*, 60 *py.*, primary 2200 *v.*; P., 3-*ph.*, 60 *py.*, 2300-110 *v.*; & *c.* L., arc 85 *v.*, inc. 110 *v.*, 290 *K.W.* Elecn., W. J. Moore.

Medan, Deli, Sumatra. Elecctriciteit Maatschappij Medan, props. L. *a.*, 1-*ph.*, 100 *py.*, 1000-110 *v.*, 264 *K.W.* Engr., M. Spÿkerman; elecn., C. Terlet.

Mègantic (Lac.) Crompton Co., Quc., Canada. Cie. Eclairage de Mègantic, props. L. *a.*, 1-*ph.*, 125 *py.*, 2000-110 *v.*; *c.* L., 110 *v.*, 90 *K.W.* Engr., J. E. Choquette.

Melbourne, Victoria. North Melbourne Electric Tramways & Lighting Co., Ltd., proprietors. *c.* L., 230 & 460 *v.*; P., 460 *v.*; T., 550 *v.*, 1000 *K.W.* Engr., A. D. Murdoch.

Melbourne City Council, 210, Spencer-st., Melbourne. L. P. T. *a.* outlying districts, 1-*ph.*, 50 *py.*, primary 4000 *v.*, secondary 200 & 400 *v.*; & centre of city, *c.*, 3-wire, *v.* various, inc. & motors 230 & 460 *v.*, 5506 *K.W.* H. R. Harper, M.I.E.E., engr.

Melbourne Electric Supply Co., Ltd., Melbourne, Victoria. L. P. *a.*, 3-wire, 1-*ph.*, 50 *py.*, primary 4000 *v.*, secondary 200 *v.*, & 400 *v.* for motors, 3675 *K.W.* F. W. Clements, M.I.E.E., engr. *See also* Geelong.

Menzies, West Australia. *E. L. under consideration by Municipality.*

Mercedes, San Luis, Argentina. *The Cia. Industrial de Electricidad del Rio de la Plata have obtained the contract for L.*

Merrickville Electric Light & Power Co., Merrickville, Ont., Canada. L. *c.*, arc 110 *v.*, inc. 90-120 *v.*, 30 *K.W.* Elecn., E. J. Kyle.

Electricity Works—*continued.*

Merriton Electric Light Co., Merriton, Ont., Canada. L. *a.*, 125 *py.*, 2200-104 *v.*

Merriton Municipality, Merriton, Ont., Canada. L.

Mexican Light & Power Co., Ltd., San Jose Real 22, Mexico. L. *a.*, 3-*ph.*, 50 *py.*, 3000-120 *v.*; P., 3-*ph.*, 50 *py.*, 60,000-3300 *v.*, 40,000 *K.W.*; & *a.*, 3-*ph.*, 50 *py.*, 3 × 1500-3 × 120 *v.*, 3000 *K.W.* Gen. man., R. F. Hayward; engr., — Neugebauer.

Middleburg, Transvaal. *The Town Council are considering the question of establishing works.*

Midland Elec. Lt. Co., Midland, Ont., Canada. L. T. *a.*, 1-*ph.*, 125 *py.*, 1040-104 *v.* Engr., Wm. McTavish.

Midland Junction Municipal Council, Midland Junction, West Australia. L. *a.*, 1-*ph.*, 125 *py.*, 1040-104 *v.*, 50 *K.W.* Engr., E. H. Bindley.

Millbrook, Ont., Canada. J. Davidson & G. F. Harrington, props. L. *a.*, 1-*ph.*, 133 *py.*, 1100-110 *v.*; *c.*, 125 *v.*

Mille Roche, Ont., Canada. St. Lawrence Power Co., proprietors. L. P. *a.*, 3-*ph.*, 60 *py.*; L., 2000-110 *v.*; P., 10,000-550 *v.*, 2000 *K.W.* Engr., W. L. Macfarlane.

Milton Electric Light & Power Co., Ltd., Milton, Ont., Canada.

Milton Town, Milton West, Ont., Canada. L. *c.*, inc. 110 *v.*, arc 125 *v.* Engr., R. Ellis.

Mitchell Corporation, Ont. L. *c.* arc & inc. 110 *v.*, & 1-*ph.*, 60 *py.*, 1040-110 *v.*, 75 *K.W.* Engr., R. Harris; elecn., B. Ruston.

Miyagi Boseki Dento Kabushiki Kaisha, Sendai, Japan. L. P. T. *a.*, 3-*ph.*, 60 *py.*, 2000-100 *v.* L., 100 & 200 *v.* P. Engr., J. Yoshida.

Miyagi Spinning & Lighting Co. *See* Sendai.

Mogok, Upper Burma. The Burma Ruby Mines, Ltd., props. L. P. *a.*, 2-*ph*, 60 *py.*, 2200-100 *v.* L., 220 *v.* P., 360 *K.W.* Engr., A. H. Morgan, A.M.I.C.E., M.I.M.M.; elecn., J. J. Fyfe, A.M.I.E.E.

Moji Electric Light Co., Moji, Japan. L., 1-*ph.*, 1000-100 *v.*; & *c.* L., 100 *v.*, 160 *K.W.* Chief engr., N. Sokurai.

Mombasa, British East Africa. *E. L. under consideration.*

Monclova, Mexico. Cia. de Luz Electrica y Fuerza Motriz, props. L. *a.*, 2-*ph.*, 50 *py.*, 2400-110 *v.*, 120 *K.W.* Elecn., A. V. Ramirez.

Moncton, City of, Water & Light Department, Moncton, N.B. L. *c.* arc, *a.*, 2-*ph.*, 60 *py*, primary 1100 *v.*, secondary 104 *v.*; P., 500 *v.*, 510 *K.W.* J. Edington, engr.

Montague Electric Co., Ltd., Montague, P.E.I., Canada.

Montego Bay Electric Light & Power Co., Montego Bay, Jamaica. *Works not yet erected.*

Monterey Electric Light & Power Co., Monterey, Mexico. *a.* L., 2-*ph.*; P., 1- & 2-*ph.*, 60 *py.*, 2080-104 & 208 *v.*, 1000 *K.W.* Engr., E. D. Baxter; elecn., F. Wright. *Undertaking to be acquired by the Monterey Railway, Light & Power Co., Ltd.*

Electricity Works—*continued.*

Montevideo, Uruguay. Government, props. L. *a.*, 1-*ph.*, 50 *py.*, 2500–110 *v.*; & *c.*, 110 *v.*, 850 *K.W.* Engrs., Invernizzi & Foerster.

Montevideo, Uruguay. "La Transatlantica," props. T. *c.*, 550–580 *v.*, 3000 *K.W.* Engr., H. D. Shepherd.

Montevideo, Uruguay. Sociedad Comercial de Montevideo, props. T. *c.*, 550 *v.*, 4750 *K.W.* Engr., T. Harison Jones.

Montmagny, Que., Canada. Montmagny Light & Pulp Co., proprietors. L. *a.*, 3-*ph.*, 60 *py.*, primary 2080 *v.*, secondary 104 *v.*, 100 *K.W.*

Montreal, Canada. Central Heat, Light & Power Co., Ltd., props. *c.* L., 110 & 220 *v.*; P., 220 *v.*, 1000 *K.W.* Engr., J. Russell; elecn., E. Deladwantage.

Montreal, Canada. Compagnie de Lumière Electrique Imperiale, proprietors. L. *a.*, 1-*ph.*, 60 & 133 *py.*, 2400–52 & 104 *v.*, 750 *K.W.* *Operated by Montreal Light, Heat & Power Co.*

Montreal, Canada. North River Power Co., Ltd., props. L. P. T. *a.*, 3-*ph.*, 60 *py.*, 2300–110 *v.* L., 220 *v.* P., 8800 *v.* T., 360 *K.W.* Engr., Bert Fogarty.

Montreal Gas Co., Montreal, Canada. *Operated by Montreal Light, Heat & Power Co.*

Montreal Light, Heat & Power Co., Montreal, Canada. *c.* L. arc, 2000 *v.*; P., 500 *v.*, 3-wire; & *a.* L., 1-*ph.*, 63 *py.*, 2300–110 *v.*; P., 2- & 3-*ph.*, 63 *py.*, 2300–110 *v.*, 39,500 *K.W.* President, H. S. Holt; general supt., R. M. Wilson.

Montreal Park & Island Railway Co., Street Railway-chbrs., 78, Craig-st. West, Montreal, Canada. 550 *v.*

Montreal & St. Lawrence Light & Power Co., Montreal, Canada. *Operated by Montreal Light, Heat & Power Co.*

Montreal, Que., Canada. Saraguay Electric Light & Power Co., props. L. *a.*, 3-*ph.*, 60 *py.*, 11,500–2300–110 *v.*

Montreal Street Railway Co., Montreal, Canada. T. *a.*, 2- & 3-*ph.*, 60 *py.*, 2500 *v.*; *c.*, 575 *v.*, 10,500 *K.W.* Supt., A. S. Byrd. *New power house under construction.*

Montreal, Que., Canada. Shawinigan Water & Power Co., props. P. *a.*, 2- & 3-*ph.*, 30 & 60 *py.*, 2200, 12,500, 25,000 & 50,000 *v.*; T. *c.*, 500 *v.* Transmission lines to Montreal 85 miles, & to Thetford Mines & Asbestos 130 miles, 50,000 *v.*, 3-*ph.*; shorter lines, 25,000 *v.*, 45,000 *K.W.* Engr., J. A. Walls.

Montreal Suburban Tramway & Power Co. *Worked by Montreal Street Railway Co.*

Montreal Terminal Railway Co., Montreal, Canada. T. *c.*, 575 *v.*

Moolort, Australia. D. L. E. T. Co., proprietors. P. for mining only, 3-*ph.*, 60 *py.*, primary 6600 *v.*, secondary 440 *v.*; & *c.*, 160 & 240 *v.*, 1200 *K.W.* Engr., J. Lindsay; elec. engr.-in-charge, A. Falkenbach, A.M.I.E.E.

Moose Jaw City, Moose Jaw, Saskatchewan, Canada. L. P. *a.*, 2-*ph.*, 60 *py.*, 2300–110 & 220 *v.*, 1250 *K.W.* Engr., C. K. Reading.

Electricity Works—*continued.*

Morden Municipality, Morden, nr. Winnipeg, Manitoba, Canada. L. *a.*, 1-*ph.*, 133 *py.*, 1100–104 *v.* Man., J. H. Forster.

Moree, N.S.W. *E. under consideration by Municipal Council.*

Morelia, Mexico. Michoacan State Government, proprietors. L. *c.*, 200 *v.*, & *a.*, 140 *py.*, 1200–100 *v.* Chief engr., C. E. Allen.

Morrisburg Town, Morrisburg, Ont., Canada.

Moss Vale Electric Supply Co., Moss Vale, N.S.W. L. P. *a.*, 1-*ph.*, 100 *py.*, primary 1000 *v.*, secondary 100 *v.*, 50 *K.W.* Engr., J. Forbes.

Mossel Bay, Cape Colony. *E. L. under consideration by Council.*

Mount Forest Electric Light Co., Mount Forest, Ont., Canada. L. *a.*, 1-*ph.*, 33 *py.*, 1000–104 *v.* Engr., W. J. Hansey; elecn., T. Collins.

Mount Kembla Mine, New South Wales. L. P. *a.*, 3-*ph.*, 50 *py.*, 2200–220 *v.*; & *c.* L., 110 *v.*; P., 500 *v.*, 280 *K.W.* Engr., Jas. Hendry.

Mount Lyell Mining & Railway Co., Ltd., Queenstown, Tasmania. L. P. *a.*, 3-*ph.*, 50 *py.*, 3000–550 *v.* P., 550–220 & 110 *v.* L., 1350 *K.W.* Engr., G. W. Wright.

Mount Morgan, Queensland. Mount Morgan Gold Mining Co., proprietors. *c.* L., 230 & 500 *v.*; P. T., 500 *v.*, 2600 *K.W.* Engr., A. Hay; elecn., F. McFarlane.

Mukden, Manchuria. Imperial Chinese Govt., props. L. P. *a.*, 3-*ph.*, 50 *py.*, 2200–110 *v.*, 300 *K.W.* Elec. engr., F. B. Rigby.

Murray Bay, Que., Canada. Labrador Electric & Pulp Co., proprietors. L. *a.*, 3-*ph.*, 60 *py.*, 4400–110 *v.*

Mussoorie Municipal Board, Mussoorie, India. L. P. *a.*, 3-*ph.*, 50 *py.*, 6600–220 *v.* L., 380 *v.* P., 450 *K.W.* Engr., F. A. Menzies, A.M.I.E.E.

Mysore, India. *The Mysore Government have agreed to supply current to Mysore City Municipality for L.*

Nagano Electric Light Co., Nagano, Japan. L. *a.*, 3-*ph.*, 60 *py.*, 3480–100 *v.*, 490 *K.W.*

Nagaoka Yechigo, Japan. Hokuyetsu Electric Power Co., props. *a.*, 3-*ph.*, 60 *py.*, 11,000–100 *v.*, 540 *K.W.*

Nagasaki Elec. Light Co., Ltd., Nagasaki, Japan. L. *a.*, 1-*ph.*, 125 & 60 *py.*, 2300–100 *v.*, 515 *K.W.* Engr., Y. Hashimoto.

Nagoya Electric Light Co., Nagoya, Japan. L. P. *a.*, 3-wire, 2- & 3-*ph.*, 60 *py.*, 2300 & 3450–100 *v.* L., 110, 220 & 440 *v.* P., 2550 *K.W.* Engr., T. Okamoto, M.E.

Nagoya, Japan. *A hydro-electric plant is being installed. Energy will be generated at 6600 v. by 2500 K.W., 3-ph., 60 py.*

Nagoya Electric Railway Co., Nagoya, Japan. T. *c.*, 500 & 550 *v.* Engr., S. Tsukino.

Nagpor, Central Provinces, India. *Works & tramways under construction.*

Nairobi Electric Power & Lighting Co., Ltd., Nairobi, British East Africa. L. P. *a.*, 3-*ph.*, 50 *py.*, 10,000, 2500–200 *v.*, 450 *K.W.* Engr., Chas. Udall, A.M.I.E.E.

Electricity Works—*continued.*

Nakatsu, Japan. Kyoto Electric Light Co., props. L. *a.*, 2-*ph.*, 133 *py.*, 2000 *v.*, 60 *K.W.* Engr., K. Ota; elecn., I. Takatoriy.

Nanaimo Elec. Lt., Power & Heating Co., Ltd., Nanaimo, B.C., Canada. L. *a.*, 1- & 3-*ph.*, primary 2300 *v.*, secondary 110 *v.*, 270 *K.W.* Engr., F. W. Byers; elecn., H. Alexander.

Nanking, China. *Electricity works to be erected.*

Napanee Municipality, Napanee, Ont., Canada. L. *a.*, 2-*ph.*, 60 *py.*, 2300-110 *v.*, 250 *K.W.* Elecn., Chas. A. Walters.

Nara Electric Light Co., Ltd., Nara, Japan. L. *a.*, 1-*ph.*, 60 *py.*, primary 1000 *v.*, secondary 52 *v.* Engr., R. Muramatsu.

Nassau, Bahamas. Colonial Govt., props. L. *c.*, 200-220 *v.*, 135 *K.W.* Engr., P. H. Burns.

Natal Government Railways. *See* Durban.

Natal Harbour Works, Durban, Natal. *Power supplied by Natal Government Railways.*

Necaca, Water-power. L. P. T. *a.*, 3-*ph.*, 50 *py.*, 4000 *v.*, *stepped up to* 60,000 *v.*, 30,000 *K.W. Transmitted* 94 *miles to Mexico City & transformed down. Auxiliary steam plant*, 10,000 *K.W. at Nonoalco & San Lazaro in Mexico City.*

Nederlandsch-Indische Elec. Maatschappij. *See* Batavia.

Neepawa Town Council, Neepawa, Man., Canada. L. *a.*, 1-*ph.*, 2080-110-220 *v.*, 100 *K.W.* Elecn., E. A. Lowden.

Nelson Corporation, Nelson, B.C., Canada. L. P. T. *a.*, 3-*ph.*, 60 *py.*, 12,000-2200-110 *v.* L., 220 & 440 *v.* P.; *c.* L., 220 *v.*; T., 550 *v.* Supt., R. A. Brown.

Nelson Elec. Tramways Co., Ltd., Nelson, B.C., Can. T. *a.*, 3-*ph.*, 60 *py.*, 21,000-2300 *v.*; *c.*, 550 *v.*, 350 *K.W.*

New Amsterdam Corp., Berbice, Guiana. L. P. *a.*, 1-*ph.*, 60 *py.*, 2000-104 *v.*, 120 *K.W.* H. D. Scudamore, engr.

New Glasgow, N.S., Canada. Egerton Tramway Co., props. T. *c.*, 500 *v.*

New Glasgow Electric Co., New Glasgow, N.S., Can. L. *a.*, 2-*ph.*, 60 *py.*, primary 2080 *v.*, secondary 104 *v.*, 375 *K.W.* Engr., D. Ormiston; elecn., C. E. Wadden.

New Hamburg, Ont., Canada. J. Morley, prop. & elecn. L. *a.*, 1-*ph.*, 60 *py.*, 1040-110 *v.*

New Hillgrove Proprietary Mines, Eleanora Mine, N.S.W.

New Liskeard Light, Heat & Power Co., New Liskeard, Ont., Canada. L. *a.*, 3-*ph.*, 60 *py.*, 2200-110 *v.*, 640 *K.W.*

New Plymouth Boro' Council, New Plymouth, N.Z. L. P. *a.*, 1-*ph.*, 50 *py.*, 2000-220 & 440 *v.*, 180 *K.W.* Engr., H. Black.

New South Wales Government Tramways. *See* Sydney.

New Westminster (city), B.C., Canada. L. *c.* arc, 72 *v.*, inc. 110 *v.*; L. P. *a.*, 2- & 3-*ph.*, 60 *py.*, primary 1000 *v.*, secondary 110 *v.*, 10,000 *K.W.* Supt., P. T. Bowler.

Electricity Works—*continued.*

New Zealand Electric Power Distribution Schemes. *The Government having decided not to undertake the work of utilising water power has passed the necessary legislation to allow of private enterprise dealing with it.* Engr.-in-chief, R. W. Holmes.

Newcastle, Ont., Canada. D. J. Galbraith, proprietor. L.

Newcastle Electric Lighting Co., Newcastle, Natal. L. *c.*, 220 & 500 *v.*, 120 *K.W.* Engr., E. H. Gellender.

Newcastle Town Council, Newcastle, Northumberland Co., N.B., Canada. L. *a.*, 2-*ph.*, 60 *py.*, 2200-110 *v.*, 225 *K.W.*

Newcastle Municipal Council, Newcastle, N.S.W. L. P. *c.* for arc, & *a.*, 3-*ph.*, 133 *py.*, primary 1000 *v.*, secondary 50, 110 & 220 *v.*, 100 *K.W.* Engr., R. Brydon.

Newfoundland. *The Newfoundland General Electric Co. intend to petition the Legislature for a charter under which a company is to be formed to light Bonavista, Catalina, King's Cove & Trinity.*

Newmarket Town Council, Newmarket, Ont., Canada. L. *a.*, 2-*ph.*, 133 *py.*, 2000-100 *v.*; & *c.*, 100 *v.*, 150 *K.W.* Engr., T. Davidson; elecn., Wm. O'Hallarn.

Newtown, N.S.W. *E. L. & P. under consideration by Council.*

Nhill Electric Light Co., Propty., Ltd., Nhill, Victoria. L. P. *c.*, 3-wire, 100 *v.*, 32 *K.W.* Engr., Colin R. Locklcy.

Niagara Falls. *See* Canadian Niagara Power Co.

Niagara Falls, Canada. The Electrical Development Co. L. *a.*, 3-*ph.*, 25 *py.*, 60,000, 12,000 *v.*, & *c.*, 125 *v.*, 8000 *K.W.* Elec. engr., H. P. Rust.

Niagara Falls, Ont., Canada. International Railway Co., props. *c.*, 600 *v.*, 2500 *K.W.* Elecn., G. A. Harvey.

Niagara Falls, Ont., Canada. Ontario Power Co., proprietors. L. P. T. *a.*, 3-*ph.*, 25 *py.*, 12,000-60,000 *v.*, 66,000 *K.W.* Engr.-in-charge, V. G. Converse.

Niagara Falls Municipality, Niagara Falls, Ont., Canada. L. *a.*, 1-*ph.*, 25 *py.*, primary 2200 *v.*, secondary 110 *v.*; P., 3-*ph.*, 25 *py.*, primary 2200 *v.*, secondary 220 & 440 *v.*, 400 *K.W.* Elecn., G. E. Foster.

Niagara Falls Park & River Railway Co., Niagara Falls, Ont., Canada. T. *c.*, 500 *v.*, 2700 *K.W.* Elecn., G. A. Harvey.

Niagara, St. Catherine's & Toronto Railway Co. *See* St. Catherine's.

Nikko Electric Light Co., Nikko, Japan.

Niwayamo Co. *See* Aidzu Denryoku Kabushiki Kwaisha.

Normanby, N.Z. *See* Hawera Elec. Light Co., Ltd.

North Bay Light, Heat & Power Co., North Bay, Ont., Canada. L. *a.*, 2-*ph.*, 60 *py.*, primary 2000 *v.*, secondary 104 *v.*, 250 *K.W.* Engr., W. Wilkinson; elecn., W. Stewart.

North Hatley, Que., Canada. Eastern Township Electric Co., props. L. P., 3-*ph.*, 25 *py.*, 2000-104 *v.* L., 240 *v.* P., 300 *K.W.*

Electricity Works—*continued.*

North Hatley, Que., Canada. L. A. Taylor & W. D. Cussien, props. L. *a.*, 2- & 3-*ph.*, 133 *py.*, 2200–104 *v.*; P., 3-*ph.*, 25 *py.*, 2200–140 *v.*; 300 *K.W.* Engr., E. Bean; elecn., J. H. Kegan.

North Melbourne Elec. Tramways & Light Co., Ltd. *See* Melbourne.

North River Power Co., Ltd. *See* Montreal.

North Shore Power Co. *See* Three Rivers.

North Sydney, N.S., Canada. *See* Sydney.

North Vancouver & Moodyville. Vancouver Power Co., props. L. P. T. *a.*, 3-*ph.*, 60 *py.*, 1000–110 *v.* L., 220 & 440 *v.* P., T. 22,000 *v.*, *c.* 550 *v.* Elecn., W. T. Woodroofe.

Northam Municipal Council, Northam, West Australia. L. *c.*, 3-wire, 440 *v.*, 200 *K.W.* Engr., R. Wallace.

Northumberland-Durham Power Co., Port Hope, Ont., Canada. *See* Coburg.

Norwich, Ont., Canada. Prop. & elecn., H. Webster. L. *a.*, 1-*ph.*, 125 *py.*, 1040–104 *v.*, 45 *K.W.* Engr., W. Daykin.

Norwood, Ont., Canada. W. C. Harrison, prop. L. *a.*, 1-*ph.*, 133 *py.*, 1000–120 *v.*

Nuwara Eliya, Ceylon. *A scheme has been adopted for E. L.*

Oakville, Ont., Canada. Lawrence Est. Stratford, prop. L. *a.*, 1-*ph.*, 125 *py.*, primary 1040 *v.*, secondary 104 *v.*, 60 *K.W.* Engr., R. S. Wilson.

Odawara Electric Co., Odawara, Japan. L. P. T. *a.*, 3-*ph.*, 30 *py.*, 3200–100 *v.* L., 173 *v.* P., & *c.* T. 550 *v.*, 600 *K.W.*

Ohinemuri Light & Power Co., Ltd., Paeroa, N.Z.

Okaiawa, N.Z. *See* Hawera County Electric Co.

Okayama Electric Light Co., Ltd., Okayama, Japan. L. *c.*, 100 *v.*, & *a.*, 1-*ph.*, 60 *py.*, 1000–100 *v.*, 170 *K.W.* Engr., N. Fujimura.

Olds Gas Power Co. *See* Saskatoon.

Onomichi Elec. Light Co., Onomichi, Japan. L. *c.* Edison 3-wire, 100 *v.* Engr.-in-chief, S. Esawa.

Ontario Elec. Light & Power Co., Ltd. *See* Beamsville.

Ontario Power Co. *See* Niagara Falls.

Ootacamund, Coonoor & Wellington, India. *E. L. under consideration.*

Orangeville, Ont., Canada. Cataract Electric Co., Ltd., props. L. *a.*, 1- & 3-*ph.*, 60 *py.*, 2200–110 & 220 *v.*, 120 *K.W.* *Current supplied to Alton; Cataract; & Erin.*

Orangeville, Ont., Canada. C. W. Watson, prop. L. *a.*, 2-*ph.*, 133 *py.*, 1040–104 *v.*

Orillia City, Orillia, Ont., Canada. L. *a.*, 2-*ph.*, 66 *py.*, 2000–104 *v.*, 1500 *K.W.*

Oruro, Bolivia. L.

Osaka Electric Light Co., 60, Nakanoshima, 5 Chome, Osaka, Japan. L. series arc, 1500–2250 *v.*; *a.*, 1-, 2- & 3-*ph.*, 60 & 125 *py.*, 1150 & 2300–104 *v.*; P., 3-*ph.*, 60 *py.*, 2300–230 *v.*, 8110 *K.W.* *A fifth station of* 17,000 *K.W. under construction.* Chief engr., K. Kimura.

Oshawa Electric Light Co., Oshawa, Ont., Canada. L. P. *a.*, 2-*ph.*, 2000 *v.*, 125 *py.*, 350 *K.W.* Engr., C. S. Edmondson.

Electricity Works—*continued.*

Oshawa Railway Co., Oshawa, Ont., Canada. T. *c.*, 550 *v.*, 200 *K.W.*

Oshima Hydro Electric Power Co. *See* Hakodate.

Otaru, Japan. D. Kurahashi, prop. L. P. *a.*, 3-*ph.*, 50 *py.*, 230–1000 *v.* L., 225 or 115 *v.* P., 250 *K.W.*

Otonabee Power Co., Ltd. *See* Peterborough.

Otsu, Shigaken, Japan. Kyoto Electric Light Co., proprietors. L. P. *a.*, 3-*ph.*, 50 *py.*, primary 3500 *v.*, secondary 110 *v.*, & 104 *v.* for motors. Engr., S. Yesawa.

Ottawa Corp., Ottawa, Ont., Canada. L. P. T. *a.*, 2-*ph.*, 60 *py.*, 2200–104 *v.*, 2000 *K.W.* Elec. supt., J. E. Brown.

Ottawa Electric Co., Ottawa, Ont., Canada. L. *a.*, 1-*ph.*, 60 *py.*, primary 2200 *v.*, secondary 107 *v.*; P. *a.*, 2-*ph.*, 60 *py.*, primary 2200 *v.*, secondary 440 *v.*, 5000 *K.W.* A. A. Dion, general supt.

Ottawa Elec. Railway Co., Ottawa, Ont., Canada. T. *c.*, 500 *v.*, 1500 *K.W.* Engr., J. Murphy.

Owen Sound Corporation, Owen Sound, Ont., Canada. L. P. *a.*, 3-*ph.*, 60 *py.*, primary 2200 *v.*, secondary 104 *v.* L., 550 *v.* P., 712 *K.W.* Elecns., M. Flood & Jos. McLinden.

Oxford Elec. Light Co., Oxford, N.S., Canada.

Oxford Street Electric Lighting Co., Ltd., Sydney, N.S.W. L. *c.*, 230 *v.*; & P., 220 *v.*, 150 *K.W.* H. Langer, engr. *Absorbed by City Council.*

Paarl, Cape Colony. *E. L. under consideration by the Town Council.*

Paisley Electric Light Co., Paisley, Ont. L. *a.*, 2-*ph.*, 33 *py.*, 2080–104 *v.*, 75 *K.W.* Elecn., Jno. A. McNeil.

Pakenham, Ont., Canada. Proprietors, The Dowd Milling Co., Ltd. L. *a.*, 2-*ph.*, 1000–110 *v.*; P. *c.*, 220 *v.*, 50 *K.W.*

Palace Electric Light Station, 253, Pitt-st., Sydney, N.S.W. Estate of George Adams, deceased, proprietors. L. P. *c.*, 100 *v.*, 500 *K.W.* G. T. Stowe, engr.

Palmerston Electric Light Dept., Palmerston, Ont., Canada. L. *a.*, 2-*ph.*, 60 *py.*, 2080–104 *v.* Supt., W. J. Hansey.

Para Electric Railways & Lighting Co., Ltd., Para, Brazil. L. T. *c.*, 2200-120 *v.*, 1200 *K.W.*

Parana, Argentina. Cia. Gas y Luz Electrica de Parana, proprietors. L. P. *c.*, 230 & 460 *v.*, 180 *K.W.* Engr., Chas. Holzer. T. *to be constructed & works to be enlarged.*

Parana, Argentina. *The Municipality are considering the erection of Works.*

Paris Corporation, Paris, Ont., Canada. L. *c.* arc, & L. P. *a.*, 2-*ph.*, 125 *py.*, primary 2080 *v.*, secondary 110 *v.* L., 500 *v.* P., 150 *K.W.* Engr., G. W. Wheeler.

Parkhill, Ont., Canada. H. C. Baird & Son, props. L. *c.*, 220 *v.* Engr., G. W. Van Alstine.

Parral, Mexico. *An electric power station is to be erected.*

Parry Sound Corporation, Parry Sound, Ont., Canada. L. P. *a.*, 3-*ph.*, 60 *py.*, primary 2200 *v.*, secondary 110 *v.* L., 220 & 500 *v.* P., 425 *K.W.* Engr., G. Groves.

Electricity Works—*continued.*

Parsboro Town, Parsboro, N.S., Canada. L., 1- & 2-*ph.*, 133 *py.*, 2240-104 *v.*, 95 *K.W.* Engr., J. Choisnet.

Patea Borough Council, Patea, N.Z. L. P. *a.*, 1-*ph.*, 50 *py.*, primary 3000 *v.*, secondary 100 *v.*, 45 *K.W.* Engr., H. Priestley.

Patiala, India. *The hydro-electric power undertaking is expected to be in operation by the end of* 1909.

Peking Chinese Electric Light Co., Peking, China. L. P. *a.*, 1-*ph.*, 50 *py.*, 3000-220 *v.*, 335 *K.W.* Engr., Y. G. Haverkate.

Peking Electric Co., Ltd., Peking, China. L. P. *c.*, 3-wire, 220 & 440 *v.*, 160 *K.W.*

Pembroke, Bermuda. Bermuda Electric Light, Power & Traction Co., props. L. *a.*, 3-*ph.*, 60 *py.*, 2300-110 *v.*, 100 *K.V.A.* Engr., H. G. W. Spurling; elecn., F. A. Wheeler.

Pembroke Elec. L. Co., Pembroke, Ont., Canada. L. *c.* & *a.*, 3-*ph.*, 60 *py.*, 2200-104 *v.*, 150 *K.W.*

Penetanguishene & Midland Electric Street Railway Light & Power Co., Ltd., Penetanguishene, Ont., Canada. L. P. T. *c.* arc & inc., 1000 *v.*; & *a.*, 2-*ph.*, 133 *py.*, primary 1040 *v.*, secondary 104 *v.*, 150 *K.W.*

Penrith Municipal Council, Penrith, N.S.W. L. P. *a.*, 1-*ph.*, 125 *py.*, primary 1000 *v.*, secondary 50 & 100 *v.*, 68 *K.W.* Chief engr., D. H. Stewart.

Perganimo, Argentina. A. A. Gimbatti, prop. L. *c.*, 2 × 115 *v.*, 305 *K.W.* Engineer, Robt. Onofri.

Perth, Ont., Canada. Canadian Electric & Water Power Co., Ltd., proprietors. L. P. T. *a.*, 2-*ph.*, 133 *py.*, primary 2400 *v.*, secondary 104 *v.* L. T., 500 *v.* P., 460 *K.W.* Engr., R. J. Smith.

Perth Corp., Perth, Ont., Canada. L. *c.*, 2000 *v.* Elecn., W. Crosby.

Perth Electric Tramway, Ltd., Perth, W. Australia. T. *c.*, 550 *v.*, 1200 *K.W.* Man. & engr., H. J. Somerset, M.I.E.E.

Perth Gas Co., Ltd., Perth, West Australia. L. P., 3-wire, *c.*, 440-220 *v.*, 2500 *K.W.* Engr., H. Broadbent, M.I.E.E., A.M.I.MECH.E.

Perth, West Australia. *E. L. under consideration.* City electrical engineer, H. Edmiston.

Peterborough, Ont., Canada. Auburn Power Co., Ltd., proprietors.

Peterborough, Ont., Canada. Central Ontario Power Co., props. 5000 H.P.

Peterborough, Ont., Canada. Otonabee Power Co., Ltd., props. L. P. *a.*, 3-*ph.*, 60 *py.*, 2040-110 & 220 *v.*, 1250 *K.W.* Elecn., Ed. Guerin.

Peterboro' Light & Power Co., Peterboro', Ont., Canada. L. P. *a.*, 3-*ph.*, 60 *py.*, primary 2200, 110 & 220 *v.* L., 110-550 *v.* P., 2500 *K.W.* Engr., J. H. Larmuth; elecn., H. O. Fisk. P. *supplied by Otonabee Power Co.*

Peterborough Radial Railway Co., Peterborough, Ont., Canada. T. *c.*, 500 *v.*, 240 *K.W.* Engr., J. H. Larmouth; elecn., H. O. Fisk.

Petone, N.Z. *A bill is before Parliament to obtain permission to join with the Boro' of Lower Hutt & operate tramways & supply L.*

Electricity Works—*continued.*

Petrolia Electric Light, Heat & Power Co., Ltd., Petrolia, Ont., Can. P. *c.*, 550 *v.*; L. *a.*, 1-*ph.*, 60 & 125 *py.*, primary 1100 *v.*, secondary 107 *v.*, 210 *K.W.* Supt., H. Day; engrs., J. Hilles & H. Connors.

Phœnix Electric Lighting Co., Ltd., Phœnix, B.C., Canada. L. *a.*, 3-*ph.*, 60 *py.*, 2100-100 *v.* Engr., W. C. Hower.

Picton Corporation, Picton, Ont., Canada. L. *a.*, 2-*ph.*, 60 *py.*, primary 2200 *v.*, secondary 110 *v.*, 295 *K.W.* Engr., H. W. Smith; elecn., T. O. Crandall.

Picton Town Council, Picton, N.S., Canada. L. *a.*, 3-*ph.*, 60 *py.*, 2200-220 *v.*, 150 *K.W.* Cons. engr., R. S. Kelsch.

Pietermaritzburg, Natal. Natal Govt. Railways, props. L. P. *a.*, 3-*ph.*, 60 *py.*, primary 2000 *v.*, secondary 115 & 200 *v.* L. P., 200 *v. c.* L. arc, 300 *K.W.* Engr., G. Stoby, M.I.M.E., A.I.E.E.

Pietermaritzburg Corp., Natal. L. P. T. *a.*, 1-*ph.*, 100 *py.*, primary 2000 *v.*, secondary 200 & 100 *v.* L., 200 *v.* P.; T. *c.*, 500-550 *v.*, 1570 *K.W.* Tramways manager, P. Finlayson.

Pietersburg, Transvaal. *E. L. under consideration by the T. C.*

Pilgrim's Rest, Lydenburg, Transvaal. Transvaal Gold Mining Estates, Ltd., proprietors. L. P. *a.*, 3-*ph.*, 50 *py.*, 3000, 120 & 220 *v.*; *c.*, L. 120 & 220 *v.*, P. 220 & 550 *v.*, T. 550 *v.* Elecl. engr., W. Elsdon-Dew, M.I.E.E.

Pioneer Tin Mining Co., Bradshaw's Creek, Tasmania. 3-*ph.*, 50 *py.*, 6500-110 *v.*, 1000 *K.W.* Elecn., I. Pohl.

Piracicaba, Brazil. Cia. Paulista de Electricidade, props. *a.*, 3-*ph.*, 50 *py.*, 4000-200 *v.* Engr., A. A. B. Penteado.

Pisagua, Chili. Corp., props. L.

Plessisville, Que., Canada. La Fonderie de Plessisville, proprietors. L. *a.*, 1-*ph.*, 125 *py.*, 2200-104 *v.*

Pointe-au-Pic, Que., Canada. Labrador Electric & Pulp Co., props. L. *a.*, 3-*ph.*, 60 *py.*, 4400-220 & 110 *v.*

Pondicherry, India. L. *c.*, 220 *v.*, 28 *K.W.*

Poona, India. *The Municipality have accepted the offer of Killick, Nixon & Co. in part for E. L. & P.*

Port Arthur Corporation, Port Arthur, Ont., Canada. L. P. T. *a.*, 3-*ph.*, 60 *py.*, 104 or 500 *v.* Supt., T. H. M'Caulay. *An arrangement has been made to take a supply from the Kanimistiquia Power Co.*

Port Dalhousie, St. Catherine's & Thorold Electric Street Railway Co., St. Catherine's, Ont., Canada. T. *c.*, 600 *v.* Engr., W. H. Horton. *Current supplied by Niagara, St. Catherine's & Toronto Railway Co.*

Port Dalhousie, Ont., Canada. Maple Leaf Rubber Co., Ltd., proprietors. L. *c.*, 2400-110 *v.*, 150 *K.W.*

Port Dover Electric Co., Port Dover, Ont., Canada. L.

Port Elgin, Ont., Canada. *See* Saugeen Electric Light & Power Co., Ltd.

Electricity Works—*continued.*

Port Elizabeth Electric Tramway Co., 4, Main-st., Port Elizabeth, S. Africa. Cape Electric Tramways Co., proprietors. T. *c.*, 500-600 *v.*, 400 *K.W.* J. A. Barkley, gen. man. & engr.

Port Elizabeth Harbour, Port Elizabeth, Cape Colony. *c.* L. inc., 110 *v.*, arc & P. 250 *v.*, 236 *K.W.* Elecn., Geo. Richman.

Port Elizabeth Municipality, Port Elizabeth, South Africa. L. P. *c.*, 3-wire, 250 & 500 *v.*, 1200 *K.W.* Engr., H. J. Holder, A.M.I.E.E.

Port Hope Electric Light & Power Co., Ltd., Port Hope, Ont., Canada. L. *a.*, 3-*ph.*, 60 *py.*, 2200-104 *v.*, & *c.*, L. 104 *v.*, P. 110 *v.*, 200 *K.W.* Engr., V. B. Coleman; elecn., Thos. Tuer.

Port Louis, Mauritius. L. *a.*, 1-*ph.*, 5000 *v.*

Port Perry Town, Port Perry, Ont., Canada. L. P.

Port Said, Egypt. Cie. Centrale du Gaz, props. L. P. *c.*, 3-wire, 220 *v.*, 200 *K.W.* Engr., L. David.

Port of Spain, Trinidad. Trinidad Electric Co., Ltd., props. L. P. *a.*, 1-*ph.*, 60 *py.*, 2300-110 & 220 *v.*; & *c.* P. T., 550 *v.*, 1200 *K.W.* Gen. man. & cons. engr., F. W. Teele, M.SC.

Port Sudan, Egypt. *c.*, 550 *v.*, 500 *K.W.*

Portage La Prairie, Man., Canada. Central Electric Co., props. L. *a.*, 133 *py.*, 104 *v.*

Porto Alegre, Rio Grande do Sul, Brazil. Cia. Força e Luz Porto Alegrense, proprietors. P. T. *c.*, 550 *v.* Engr., Chas. F. Pepper. *Lighting projected for* 1910.

Porto Alegre, Rio Grande do Sul, Brazil. Fiat Lux Co., props. *Concession expired.*

Porto Rico Power & Light Co., San Juan, Porto Rico.

Posadas, Misiones Territory, Argentina. L.

Potchefstroom Consumers' Light & Power Co., Ltd., Potchefstroom, Transvaal. L. P. *c.*, 3-wire, 245 *v.*, 115 *K.W.* Engr., W. D. Ross; elecn., N. E. Sink.

Power Equipment Co. *See* London.

Premier Electric Light & Power Co., Ltd. *See* Wallaceburg.

Prescott Municipality, Prescott, Ont., Canada. L. *a.*, 1-*ph.*, 125 *py.*, primary 1040 *v.*, secondary 104 *v.*, 160 *K.W.* H. Reney, engr.

Preston City, Preston, Ont., Canada. L. *a.*, 125 *py.*, 2080-104 *v.*

Pretoria Cantonments, Transvaal. War Office, props. *c.* L., 3-wire, 250 *v.*; P., 250 & 500 *v.*, 240 *K.W.* Engr.-in-charge, J. E. Mandlen.

Pretoria Corporation, Pretoria, Transvaal. L. P. *c.*, 3-wire, 250 & 500 *v.*, 2300 *K.W.* Engr. & man., T. C. Wolley Dod, A.M.I.E.E.; asst., S. L. Faithfull. T. *under construction.*

Prince Albert Municipality, Prince Albert, Sask., Canada. *a.*, 2-wire, 3-*ph.*, 60 *py.*, 2200-104 *v.*, 335 *K.W.* Engr., O. Klein.

Puan, Argentina. *Messrs. Larravide & Mullen have secured a concession for E. L.*

Puebla Tramways, Light & Power Co., Puebla, Mex. Manager, M. Ulmer.

Electricity Works—*continued.*

Puerto Cabello, Venezuela. M. A. Villaroel & Co., props. L. *a.*, 2-*ph.*, 60 *py.*, 2300-110 *v.*, 80 *K.W.* Engr., R. O. Tanner.

Qu'Appelle, Sask., Canada. Moore Milling Co., props. L. *c.*, 220 *v.*

Quebec, Canada. Quebec Railway, Light & Power Co., proprietors. L. P. *a.*, 2-*ph.*, 66 *py.*, primary 2000 *v.*, secondary 104 *v.*; T. *a.*, 3-*ph.*, 66 *py.*, 23,000 *v.*, & *c.*, 550 *v.*, 6000 *K.W.* Lewis Burran, engr. *Extensive developments have been commenced.*

Quebec, Canada. Quebec Jacques-Cartier Electric Co., proprietors. L. P. *a.*, 3-*ph.* transmission, 22,000 *v.* & 2-*ph.* distribution, 60 *py.*, primary 2200 *v.*, secondary 110 *v.* L., 110 & 550 *v.* P., 2200 *K.W.* Engr., L. Denis.

Queenstown, Cape Colony. *The question of E. L. stands in abeyance.*

Queenstown, Tasmania. *Current for electric lighting supplied by* Mount Lyell Mining & Railway Co., Ltd. *a.*, 3-*ph.*; L., 45 *py.*, 550 & 3000-110 & 220 *v.*; P., 50 *py.*, 550-220 *v.*, 1640 *K.W.* Engr., G. W. Wright.

Quezaltenango, Guatemala. Cia. de Plantaciones "Cecilia," Ltd., props. L. P. *a.*, 2-*ph.*, 60 *py.*, 2000-100 *v.*, 210 *K.W.* Engr., H. Noerbel.

Quito Electric Light & Power Co., Apartado 82, Quito, Ecuador. Guapulo Plant: L. P. *a.*, 3-*ph.*, 60 *py.*, 6600-110 *v.*, 400 *K.W.* Engr., N. V. Wray; elecn., P. M. Romero. Piedrihita Plant: L. *c.* arc, 3000 *v.*, & *a.*, 1-*ph.*, 60 *py.*, 2300-100 *v.*, 120 *K.W.*

Rafaela, Santa Fe, Argentina.

Rangoon Electric Tramway & Supply Co., Ltd., Rangoon, Burma. L., 185 *v.* L., 200 *v.* P.; P. *a.*, 3-*ph.*, 50 *py.*, 2300 *v.*; T. *c.*, 550 *v.*, 3500 *K.W.* Engr., J. L. Dyson.

Rat Portage, Ont., Canada. Transposed to Kenora, *q.v.*

Raub Pahang, Malay Peninsular. Raub Australian Gold Mining Co., Ltd., props. L. P. *a.*, 2-*ph.*, 53 *py.*, 5000-220 *v.*, 750 *K.W.* Engr., F. L. Milne.

Redfern Municipality, Redfern, N.S.W. L. *a.*, 1-*ph.*, 70 (changing over to 60) *py.*, primary 1100 *v.*, secondary 100 & 200 *v.*, about 180 *K.W.* 150 arc lamps for street L., series *a.* system, with constant current transformers, fitted. J. W. Balfour, engr.

Regina Corporation, Regina, Sask., Canada. L. P. *a.*, 1- & 3-*ph.*, 60 *py.*, 2200-110 & 220 *v.*, 400 *K.W.* Engr., E. W. Bull.

Reid Newfoundland Co. *See* St. John's.

Rejkjavik, Iceland. *E. L. or gas scheme under consideration by the T. C.*

Renfrew Electric Co., Ltd., Renfrew, Ont., Canada. L. P. *a.*, 1-*ph.*, 60 *py.*, 1040-110 *v.*; P. *c.*, 110 *v.*, 100 *K.W.* Engr., G. Fife; elecn., H. H. Wright.

Renfrew Power Co., Ltd., Renfrew, Ont., Canada. L. *a.*, 2-*ph.*, 150 *py.*, 2300-110 *v.*, 700 *K.W.* Elecn., Wm. Byron.

Resistencia, Argentina.

Electricity Works—*continued.*

Revelstoke City, Revelstoke, B.C., Canada. L. P. *a.*, 1- & 3-*ph.*, 125 & 60 *py.*, 2200–110 & 220 *v.*, 380 *K.W.* Engr., C. North.

Ribeirao Preto, Brazil. Rufino de Almeida & Co., props. *a.*, 3-*ph.*, 50 *py.*, 2000 & 2200–120 *v.*, 100 *K.W.* Cons. engrs., Siemens & Halske.

Richibucto, N.B., Can. Kent Electric Co., Ltd., props. L. *a.*, 1-*ph.*, 133 *py.*, 2200–110 *v.*, 120 *K.W.* Engr., C. Amireaux; elecn., L. Brown.

Richmond County Electric Co., Richmond, Que., Canada. L. P. *a.*, 2-*ph.*, 133 *py.*, primary 2000 *v.*, secondary 100 *v.*, 120 *K.W.*

Ridgetown Electric Light Co., Ridgetown, Ont., Can. L. *a.*, 2-*ph.*, 133 *py.*, 2080–104 *v.*, 75 *K.W.* Engr., W. H. Rous; elecn., W. H. McMackon.

Rio Claro, Brazil. Th. Wille & Co., Santos, props. *a.*, 3-wire, 50 *py.*, 4500–120 *v.*, 580 *K.W.* Cons. engr. & man., E. von Frankenberg.

Rio de Janeiro Tramway, Light & Power Co., Ltd., 78, Avenida Central, Rio de Janeiro, Brazil. 3-*ph.* gen. at 6000 *v.* Stepped up for long distance transmission at 80,000 *v. a.* for L. & small motors, 3-*ph.*, 440 *v.* for larger motors; *c.* for T. Cons. engr., Dr. F. S. Pearson.

Rio Grande do Sul, Brazil. Cia. Luz Electrica, props. L. P. *a.*, 3-*ph.*, 60 *py.*, 2300–115 *v.*; *c.* T., 550 *v.*, 300 *K.W.* Engr., Dr. F. M. Pereira e Souza; elecns., M. Pais & F. Graciosetti.

Rio Santiago, La Plata. *The Navy Dept. is drawing up plans for erection of P. house.*

River Plate Electricity Co., Ltd. *See* La Plata & Tucuman.

Roberts Heights, Transvaal. War Dept., props. L. *c.*, 3-wire, 240 *v.*, 240 *K.W.*

Roberval, Que., Canada. Cie. d'Electricité de Roberval, proprietors. L. *a.*, 1-*ph.*, 2080–104 *v.*, 180 *K.W.* Elecn., E. Delisle.

Rochester, Victoria. Towns Lighting & Power Co., Ltd., props. L. P. *c.*, 240 *v.*, 50 *K.W.* *Under construction.*

Rockhampton, Queensland. Gas & Coke Co., props. L. P. *c.*, 3-wire, 110 *v.*, 50 *K.W.* Engr., H. Hoare.

Rojas, Argentina. La Industrial del Oeste, Ltd., props. L. P. *c.*, 220 & 440 *v.*, 1375 *K.W.* Engr., P. Möller; elecn., G. Schumann.

Roodeport, Transvaal. Lancaster Gold Mining Co., Ltd., proprietors. P. *a.*, 3-*ph.*, 50 *py.*, primary 2200 *v.*, *transformed as required.*

Roodepoort, Transvaal. *Works to be erected.*

Rosario, Argentina. *The Municipality are negotiating with the Rosario Electricity Co. for supply of current for L.*

Rosario Electric Co., Rosario de Santa Fé, Argentina. L. P. *c.*, 440 & 220 *v.*, 4660 *K.W.* Engr., A. H. Unwin; elecn., C. E. Smith.

Rosario Electric Tram Co., Rosario, Argentina. *c.*, 550 *v.*, 2250 *K.W.* Man., J. Warnant; elecn., B. Edridge.

Rosario de Sta. Fé, Argentina. Central Argentina Railway Co., props. L. *a.*, 1-*ph.*, 50 *py*, 550–220 *v.*; P., 3-*ph.*, 50 *py.*, 3300–550 *v.*, & *c.* 440 *v.*, 1700 *K.W.* Engr., H. Pearse; elecn., G. W. Dean.

Electricity Works—*continued.*

Roslyn Town Council Tramways, Roslyn, N.Z. P. *supplied from Waipori Falls.*

Rotorua, N.Z. Government, props. L. *a.*, 1-*ph.*, 50 *py.*, primary 3000 *v.*, secondary 100 *v.*, 100 *K.W.* *Extensions in hand by adding* 100 *K.W.* & *conversion to* 3-*ph.*, 50 *py.*, 6600 *v. transmission.* Engineer-in-charge, L. Birks, B.SC., A.M.I.C.E.; elecn., E. Beal.

Royal Electric Co., Montreal, Canada. *Operated by Montreal Light, Heat & Power Co.*

Rutherglen, Victoria. *E. L. decided upon.*

Sackville Electric Light & Telephone Co., Sackville, Westmorland Co., N.B., Canada. L. *a.*, 3-*ph.*, 60 *py.*, 2300–220 *v.*, 135 *K.W.* Engr., B. J. McHaffey.

St. Agathe des Monts, Que., Canada. Laurentian Water & Power Co., proprietors. L.

St. Casimir, Que., Canada. M. A. & H. Grandbois, proprietors.

St. Catharine's, Ont., Canada. Niagara, St. Catharine's & Toronto Railway Co., proprietors. T. *a.*, 3-*ph.*, 25 *py.*, 11,000 *v.*, converted to *c.* 600 *v.*, 900 *K.W.* Engr., W. H. Horton.

St. Catherine's, Ont., Canada. Lincoln Electric Light & Power Co., Ltd., props. L. P. T. *a.*, 3-*ph.*, 60 *py.*, primary 2200 *v.*, secondary 110 *v.* L., 220 *v.* P.; & *c.* P., 500 *v.*, 2000 *K.W.* Elecn., C. Choate.

St. Croix Gas Light Co. *See* St. Stephen.

St. Francois Hydraulic Co. *See* D'Israeli; Thetford Mines; & Weedon.

St. George's Electric Co., St. George's East, Beaune, Que., Canada. L. *a.*, 3-*ph.*, 60 *py.*, 15,000 *v.*, transformed to 3-wire *c.*, 500 *K.W.*

St. Hyacinthe, Que., Canada. Gas, Electric & Power Co. of St. Hyacinthe, props. L. P. *a.*, 3-*ph.*, 60 *py.*, 2080–104 *v.* L., 550 *v.* P., 600 *K.W.* Elecn., G. Pominville.

St. Jerome Power & Electric Light Co., Ltd., St. Jerome, Que., Canada. L. *a.*, 2-*ph.*, 133 *py.*, 2000–110 *v.*, 75 *K.W.* Elecn., R. H. Madden.

St. John, N.B., Canada. *See* Carlton Electric Light & Power Co.

St. John Railway Co., St. John, N.B., Canada. L. *a.*, 3-*ph.*, 60 *py.*, primary 2200 *v.*, secondary 107 *v.*; P. *c.*, 250 *v.*; T., 550 *v.*, 3000 *K.W.* Engr., T. Irwin; elecn., H. A. Brown.

St. John Street Railway Co., St. John, Newfoundland. T. *c.*

St. John's, Newfoundland. Reid Newfoundland Co., proprietors. L. P. *a.*, 3-*ph.*, transmitted 8 miles at 15,000 *v.*; distribution, primary 2240 *v.*, secondary 104 *v.*, 60 *py.*; T. *c.*, 500 *v.*, by rotary converters, 1200 *K.W.* Engr., L. A. Howland; elecn., J. W. Morris.

St. John's Electric Light Co., St. John's, Que., Canada. L. P. *a.*, 3-*ph.*, 60 *py.*, 2200–110 *v.*, 300 *K.W.* Engr., F. A. Chisholm.

St. Lawrence Power Co. *See* Mille Roche.

St. Marys, Ont. Board of Water, Light & Heat Commissioners, props. L. *a.*, 1-*ph.*, 125 *py*, primary 1040 *v.*, secondary 104 *v.* Supt., W. R. Reynolds.

Electricity Works—*continued.*

St. Maurice Light & Power Co. *See* Shawinigan Falls.

St. Paul Elec. Light & Power Co. *See* Emard.

St. Paul's Bay, Que., Canada. *See* Baie St. Paul.

St. Raymond, Que., Canada. Chas. A. Julien, props. L., 133 *py.*, 1000–104 *v.*

St. Stephen, N.B., Canada. St. Croix Gas Light Co., props. L. *a.*, 3-*ph.*, 60 *py.*, 2200–102 *v.*

St. Stephen Electric Light Co., St. Stephen, N.B., Canada. L. *a.*, 1-*ph.*, 2200–104 *v.*

St. Stephen Railway, St. Stephen, N.B., Canada. *c.*, 500 *v.*, 1000 *K.W.* Engr., C. F. Pray.

St. Therese, Que., Canada. Laval Electric Co., props. L. *a.*, 30 *py.*, 2200–110 *v.*

St. Thomas Corp., St. Thomas, Ont., Canada. L. *a.*, 2-*ph.*, 133 *py.*, 104 *v.*; *c.* L., 1050–104 *v.*; P. T., 500 *v.* Man., G. L. Oill.

St. Thomas Street Railway Co., St. Thomas, Ont., Canada. T. *c.*, 500 *v.*

Sakai, Japan. Osaka Electric Light Co., props., 2-cho, Ringinbashi-dori, Sakai, Osakafu. L. *a.*, 3-*ph.*, 60 *py.*, 2300–104 *v.* L., 400 *K.W.* Engr., Kingi Uchimura.

Saladillo, Argentina. *Electricity works to be erected shortly.*

Saldanha Bay Harbour & Railway Co., Ltd., Saldanha Bay, Cape Colony. *Electricity works & tramways under consideration.*

Salisbury, Rhodesia. Proposed system: L. *c.*, 110–220 *v.*, 150 *K.W. Works to be erected later.*

Saltillo Municipality, Saltillo, Mexico.

San Antonio de Arcea. *Municipal works to be erected.*

San Fernando, Argentina. Cia. de Luz Electrica de la Provincia de Buenos Aires, props.

San Francisco de Limache & Limache, Chili. *The Tabolan Electric Co. has obtained a decree to supply E. L. & P.*

San José, Costa Rica. Costa Rica Electric Light & Traction Co., props. *a.*, 3-wire, 60 *py.*, 2300–104 *v.*, 750 *K.W.*

San Juan, Argentina. Ugarte Sebastien y Fernandez, props. L. P., 3-*ph.*, 50 *py.*, 120 *v.*, 375 *K.W.* Chief engr., Luis Iguigirren.

San Juan, Argentina. *Concession for electricity supply granted to Ugarte & Segovia. It is proposed to utilise falls of river Estero de Sonda, whence electric current will be transmitted at* 10,000 *v.*

San Juan Light & Transit Co., San Juan, Puerto Rico. P. *a.*, 1- & 2-*ph.*, 60 *py.*, 2300–104 & 208 *v.*; T., 2- & 3-*ph.*, 60 *py.*, 20,000–550 *v. c.*

San Justa, Argentina. *Site for works secured.*

San Luis, Argentina.

S. Manoel, Brazil. Compañia Paulista de Electricidade, props. L.

San Salvador, Central America. Cia. de Alumbrado Electrico, props. L. *a.*, 2-*ph.*, 133 *py.*, 100 *v.*, 800 *K.W.* Engr., F. Klein.

Sandon Water & Light Co., Sandon, B.C., Canada. L. P. *c.*, 3-wire, 110–220 *v.*, 80 *K.W.*

Sandwich, Windsor & Amherstburg Railway. *See* Windsor.

Electricity Works—*continued.*

Santa Fé, Argentine Republic. *The German Electric Light Co. has offered to the Municipality to take over the E. L. Station & electrify one tramline.*

Santa Florentina, Chilecito, Argentina. *The water power near is being developed for the Famatina Development Corp., Ltd. Power will be transmitted electrically to La Mejicana Mines.*

Santiago, Chili. Chilian Electric Tramway & Light Co., props. L. T. *c.*, 3-wire, 460 & 550–220 *v.*, 3380 *K.W.* Engr., Luis Harnecker; man., S. Ossa.

Santos. *An hydro-electric station is in course of construction by the Santos Dock Co. at the Itatinga Falls.* L. P., 3000 *K.W.*

Santos, City of, Improvements Co., Ltd., Santos, Brazil. L. *a.*, 1-*ph.*, 50 *py.*, 3000–100, 200 & 400 *v.*; T. *c.*, 550 *v.*, 908 *K.W.* Engr., W. Kerr; elecn., W. da F. B. Davids; res. engr., J. T. Cornish, M.I.E.E.

Sanyo Railway Co. *See* Hyogo; & Kobe.

São Paulo Tramway, Lt. & Power Co., São Paulo, Brazil. L. P. T. *a.*, 1- & 3-*ph.*, 60 *py.*, 2080–110,220 & 440 *v.*, 8000 *K.W.* Cons. engr., F. S. Pearson; elecn., E. de Souza.

Sapporo & Hokkaido, Japan. Hokkai Electric Co., props. L. P. *a.*, 3-*ph.*, 60 *py.*, 2080–104 *v.* L., 208 *v.* P., 400 *K.W.* Engr., S. Kurowa; elecn., I. Toko.

Saraguay Elec. L. & P. Co. *See* Montreal.

Sarnia Gas & Elec. Light Co., Sarnia, Ont., Canada. L. P. T. *a.*, 2-*ph.*, 125 *py.*, 2200–108 *v.* L. & P.; P. T. *c.*, 500 *v.*, 600 *K.W. a.*, 360 *K.W. c.* Engr., E. B. Phelps; elecn., W. Williams.

Sarnia Street Railway Co., Ltd., Sarnia, Ont., Canada. 500 *v.*, 360 *K.W.* Engr., W. Williams.

Saskatoon, Sask., Canada. Olds Gas Power Co., props. L. *a.*, 3-*ph.*, 60 *py.*, 2300-120 *v.*, 300 *K.W.*

Saugeen Electric Light & Power Co., Ltd., Walkerton, Ont., Canada. L. *a.*, 3-*ph.*, 60 *py.*, primary 6600–2200 *v.*, secondary 104 *v.*, 300 *K.W.* Engr., John McVittie. *Supplies current for* L. *to Southampton & Port Elgin.*

Sault Ste. Marie, Ont., Canada. Tagona Water & Light Co., props. L. *a.*, 3-*ph.*, 65 *py.*, primary 2100–2200 *v.*, secondary 104 *v.*; P. *c.*, 550 *v.*, 900 *K.W.* Engr., L. H. Davis.

Sault Ste. Marie, Ont., Canada. International Transit Co., proprietors. P. *supplied by Lake Superior Power Co.*, *c.*, L. 100 *v.*, T. 500 *v.* Chief engr., C. N. Coburn.

Sault Ste. Marie, Ont., Canada. The Lake Superior Power Co., proprietors. P. T. *c.*, 500 *v.*, 2025 *K.W.* Engr., L. H. Davis.

Schomburg & Aurora Railway Co. *See* Aurora.

Seaforth Electric Light, Heat & Power Co., Ltd., Seaforth, Ont., Canada. L. *a.*, 1-*ph.*, 1000–104 *v.* Engr., G. Crabb; elecn., Ed. Mole.

Secunderabad, India. *Licence granted for E. & T.*

Sekondi, Gold Coast, West Africa. *L. scheme under consideration.*

Electricity Works—*continued.*

Selkirk Electric Co., Ltd., Selkirk, Man., Canada. L. P. *a.*, 1-*ph.*, 125 *py.*, primary 1040 *v.*, secondary 104 *v.*, 100 *K.W.* Engr., T. Hunter; elecn., S. Wilson.

Sendai, Japan. Miyagi Spinning & Lighting Co., props. L. P. *a.*, 3-*ph.*, 60 *py.*, 2000, 2500–100 & 200 *v.*, 1900 *K.W.* Engr., Yoshida Jiro; elecn., Ito Shejiro.

Sendai Electric Light Co., Sendai, Japan. L. *a.*, 3-*ph.*, 60 *py.*, 2000-100 *v.* L., 100 & 220 *v.* P., 600 *K.W.* Engr., S. Kawamura.

Seoul, Corea. American Korean Electric Co., props. *a.*, 3-wire, 120 *py.*, 385–110 *v.* Consulting engr., H. Maki, B.A.; chief engr., R. A. McLellan.

Shanghai, China. Compagnie Française de Tramways et d'Eclairage électriques, props. L. P. T. *c.*, 500 *v.*, 282 *K.W.* Elec. engr., M. Vic.

Shanghai Municipal Council, Shanghai, China. L. P. *a.*, 2- & 3-wire, 1-*ph.*, 50 *py.*, 2000-200 & 400 *v.*; & P. T. *c.*, 500 *v.*, 4400 *K.W.* Cons. engrs., Preece & Cardew; chief engr., T. H. U. Aldridge, M.I.E.E.

Shawinigan Falls, Que., Canada. St. Maurice Light & Power Co., props. *a.*, 2-*ph.*, 30 *py.*, L. P., 2200–110 *v.* L., 220 *v.* P., 1000 *K.W.* *Current bought from Shawinigan Water & Power Co.* Engr., J. C. Smith.

Shawinigan Water & Power Co. *See* Montreal.

Shelburne, Ont., Canada. L. *c.* arc & *a.*, 1-*ph.*, 125 *py.*, primary 1040 *v.*, secondary 104 *v.*, 60 *K.W.* Engr., R. J. Small; elecn. & prop., J. Pickering.

Shelburne Electric Co., Ltd., Shelburne, N.S., Canada. L. P. *Details of electric completion not yet settled.*

Sherbrooke City Gas & Electric Dept., Sherbrooke, Que., Canada. L. P. *a.*, 3-*ph.*, 60 *py.*, primary 2200 *v.*, secondary 110 *v.* L., 110, 220, 440 & 500 *v.* P., 1340 *K.W.* Engr., A. Sangster.

Sherbrooke Street Railway Co., Sherbrooke, Que., Canada. T. *c.*, 500 *v.*

Shillong, India. *An E. L. scheme has been accepted.*

Shingu Elec. Light Co., Shingu, Japan. W. Kawamura, proprietor. L. P. *a.*, 3-*ph.*, 60 *py.*, L. 2300–100 *v.*, P. 2200–220 *v.*, 160 *K.W.* Engr., R. Yasuda.

Shiznoka Electric Light Co., Ltd., Shiznoka, Japan. L. *a.*, 1-*ph.*, 125 *py.*, primary 2000 *v.*, secondary 100 *v.*

Shubenacadie, Hants Co., N.S., Canada. Logan & Co., props. L. *c.*, 110 *v.*, 17 *K.W.* Engr., A. Miller.

Siam Electricity Co., Ltd. *See* Bangkok.

Siamese Tramway Co., Ltd., Bangkok, Siam.

Simcoe Gas & Water Co., Simcoe, Ont., Canada. L. *c.* arc, 2000 *v.* Elecn., J. C. Sovereign.

Simla, India. *Town Council's proposed system:* *a.*, 3-*ph.*, 50 *py.*, 200 *v.*, transformed to 10,000, transmitted to substa., and transformed to 2000 *v.*, distributed to 5 smaller substa., and transformed to 200 *v.*, 150 *K.W.* *Under construction.*

Electricity Works—*continued.*

Simonstown, Cape Colony. Admiralty, props. L. *c.*, 2-wire, 220 *v.* Engr., R. Wightman.

Singapore Electric Tramways, Ltd., Singapore, Straits Settlements. *c.* L., 230 & 460 *v.*; P., 460 *v.*; T., 550 *v.*, 1400 *K.W.* Gen. man., J. H. Garratt, M.I.E.E., M.I.M.E.; power sta. supt., F. H. Robinson; elecn., H. G. Wightwick, A.M.I.E.E.

Singapore Municipality. L. P. *c.*, 3-wire, 230 & 460 *v.* Engr., J. H. Mackail, A.M.I.E.E., A.M.I.MECH.E. *Current supplied in bulk by the S. Electric Tramways, Ltd.*

Skaiawa. *See* Hawera County Electric Co.

Slocan Power Co., Sandon, B.C., incorporated to construct 1000 H.P. plant for supplying mines in vicinity with e. l. & p. *a.*, 3-*ph.*

Smith's Falls, Ontario. Citizens' Electric Co., Ltd., props. L. *a.*, 1-*ph.*, primary 1000 *v.*, secondary 104 *v.*, 100 *K.W.* Engr., J. Scroggie.

Smith's Falls Electric Power Co., Smith's Falls, Ont., Canada. L. *a.*, 125 *py.*, & P. *c.*, 500 *v.* Chief engr., Jno. Davidson.

Sociedad Comercial de Montevideo. *See* Montevideo.

Sté. Ane. des Tys. d'Alexandrie. *See* Alexandria.

Sté. Ane. des Tramways du Caire. *See* Cairo.

Société Electrique d'Extreme-Orient. *See* Macao.

Sté. Electrique d'Ismailia. *See* Suez.

Société Fonciered l'Indo-Chine. *See* Hanoi.

Sté. Franco-Belge de Tientsin, Tientsin, China.

Ste. Impériale Ottomane des Tramways d'Eclairage et de Force Elec. de Damas. *See* Damascus.

Sté. Indo-Chinoise d'Electricité. *See* Haiphong & Hanoi.

Solo Electriciteits Maatschappij. *See* Svrakarta.

Somerset West. *See* Cape Explosives Works.

Soochow. L. *a.*, 3-*ph.*, 2200 *v.*, 350 *K.W.*

Sorel Electric Light Co., Sorel, Que., Canada. Power supplied in bulk from Shawinigan Water & Power Co. at 3-*ph.*, *a.*, 30 *py.*, 12,500 *v.*, transformed to *a.*, 2-*ph.*, 4-wire, 110 *v.* L., 220 *v.* P., 800 *K.W.* Supt., A. G. Coursol; chief elecn., G. M. Anderson.

Soulanges Canal Power House, Coteau du Lac, Co. Soulanges, Que., Canada. L. P. *a.*, 3-*ph.*, 60 *py.*, L. 2400–115 *v.*, P. 2400–220 & 600 *v.*, 520 *K.W.* Engr., D. Lalonde.

South Perth Electric Supply & Power Co., South Perth, West Australia. L. *c.*, 3-wire, 460 *v.*, 50 *K.W.* Engr., H. A. J. Bader.

South Western Traction Co., London, Ont., Canada. *Station to be erected* at Lambeth or Sarnia, near St. Thomas. *a.*, 25 *py.*, 10,000 *v.* transformed to 1000 *v.*

Southampton, Ont., Canada. *See* Saugeen.

Southern Cross Council, Southern Cross, Western Australia. L., 35 *K.W.*

Southern Light & Power Co., Ltd. *See* Toronto.

Spring Hill, N.S., Canada. Edison Electric Light & Power Co. of Springhill, Ltd., props. L. *a.*, 1-*ph.*, 60 *py.*, primary 2080 *v.*, secondary 104 *v.*, 120 *K.W.* Engr., A. A. Fraser; elecn., W. J. Pippy.

Electricity Works—*continued.*

Srinagar, Kashmir, India. Jummu & Kashmir State, props. L. *c.*, arc 110 *v.*, inc. 220 *v.*, 88 *K.W.* Engr., L. C. Bose, A.M.I.E.E.

Stanbridge East, Que., Canada. M. S. Cornell & Sons, props. & engrs. L. *c.*, 110 *v.*, 17½ *K.W.*

Standard Light & Power Co., Montreal, Canada. L. P. *c.*, 125 *v.* J. Black, engr.

Standerton, Transvaal. *Works to be erected.*

Stanstead E. L. Co., Stanstead, Que., Canada. L. *a.* inc., 3-*ph.*, 60 *py.*, primary 2000 *v.*, secondary 104–52 *v.*; *c.* arc, 2000 *v.*, 120 *K.W.* Manager, H. E. Cheunell.

Stark Telephone, Light & Power System. *See* Bowmanville, Erindale & Toronto.

Stave Lake Power Co., Stave Lake, B.C., Canada. *Station under construction.*

Stayner, Ont., Canada. J. Knox, prop. L., 1-*ph.*, 125 *py.*, 1040–110 *v.*, 50 *K.W.* Engr., P. Glenn.

Stellenbosch, Cape Colony. *E. L. under consideration by Council.*

Stormont Elec. Light & Power Co. *See* Cornwall.

Strand Elec. Light. Co., Sydney, N.S.W. L. P. T. *c.*, 3-wire, 110–220 *v.*, 950 *K.W.* H. Smith, engr. *Business acquired by the Council.*

Stratford Electric Supply Co., Ltd., Stratford, N.Z. L. *a.*, 2-wire, 1-*ph.*, 40 *py.*, primary 2000 *v.*, secondary 100 *v.*, 90 *K.W.* Engr., W. J. Newton.

Stratford Gas Co., Stratford, Ont., Canada. L.P. *a.*, 1-*ph.*, 125 *py.*, primary 2000 *v.*, secondary 110 *v.*; & *c.*, 220 or 110 *v.* Engr., F. R. Chowen.

Strathroy Municipal Electric Light & Water Works, Strathroy, Ont., Canada. L. P. series arc, *a.*, 2-*ph.*, 66 *py.*, primary 1040 *v.*, secondary 104 *v.*, 130 *K.W.* Engr., J. Teckoe.

Sturgeon Falls Electric Light & Power Co., Ltd., Sturgeon Falls, Ont., Canada. L. *a.*, 1-*ph.*, 133 *py.*, 1040–104 *v.*, 240 *K.W.* Engr., W. H. Young. *Light also supplied to Cache Bay, Ont.*

Stutterheim, Cape Colony. *E. plant to be installed.*

Subiaco Municipal Council, Subiaco, West Australia. L. *c.*, 3-wire, 220 *v.*; P., 220 & 440 *v.*, 192 *K.W.* Engr., W. R. Groom.

Sucre, Bolivia. *A scheme for* E. L. & P. *has been decided upon.*

Sudbury Corporation, Sudbury, Ont., Canada. L. P. *a.*, 3-*ph.*, 22,000 *v.*, transformed to 2-*ph.*, 60 *py.*, 2200–110 *v.* L., 220 *v.* P., 220 *K.W.*, *option on* 300 *K.W. if necessary for demand.* Engr., R. H. Martindale. *Power purchased from a company.*

Suez, Egypt. Société Electrique d'Ismailia, props. *a.*, 3-*ph.*, 50 *py.*, 240–220 *v.* Cons. engr., M. Grob; chief engr., N. Hartmann.

Sumitomo Bessi Copper Mine, Iyo, Japan. K. Sumitomo, prop. L. P. T. *a.*, 3-*ph.*, 30 *py.*, 3300, 370–110 *v.* L., 17,850, 3300–370 *v.* P., 11,000 & *c.* L. 110 *v.*, P. T. 220 *v.*, 2130 *K.W.* Engr., K. Nogami.

Summerside Electric Co., Summerside, P.E.I., Canada. L. *a.*, 1-*ph.*, 125 *py.*, primary 1040 *v.*, secondary 104 *v.*, 500 *K.W.* T. B. Grady, electrician & manager.

Electricity Works—*continued.*

Sunbury Municipality, Sunbury, Victoria. L.

Sunderland Electric Power Co., Ltd., Sunderland, Ont., Canada. L. P. *c.*, 220 *v.*, 300 *K.W.*

Sussex Manufacturing Co., Sussex, N.B., Canada. L. *a.*, 2-*ph.*, 133 *py.*, 2000–104 *v.*, 40 *K.W.* Engr., T. B. Bass.

Sutton, Ont., Canada. W. H. Summerfeldt & Sons, proprietors. L. P. *c.*, 220 *v.*, 50 *K.W.* Elecn., W. S. Summerfeldt.

Sverakarta, Java. Solo'sche Electriciteits Maatschappij, props. *a.*, 3-*ph.*, 100 *py.*, 3000–110 *v.*, 300 *K.W.*

Swatow Electric Light Co., Swatow, China.

Sydney & Glace Bay Railway Co., Sydney, N.S., Canada. *c.*, 500 *v.*, 550 *K.W.* Man., H. C. Foss.

Sydney, N.S., Canada. *Municipality will erect works.*

Sydney, N.S., Canada. Cape Breton Electric Co., prop. L. *a.*, 1-*ph.*, 60 *py.*, 2200–110 *v.*; P., 1- & 2-*ph.*, 60 *py.*, 2200–110 & 220 *v.*; T. *c.*, 550 *v.*, 1200 *K.W.* Elec. engr., W. Ross.

Sydney, N.S.W., Municipality. L. *a.*, 3-*ph.*, 50 *py.*, 240 *v.*; P. *a.*, 3-*ph.*, 50 *py.*, 415 *v.*; L. P. *c.*, 240 or 480 *v.*, 8040 *K.W.* Engr., H. R. Forbes Mackay.

Sydney, N.S.W. Government, proprietors. L. *c.*, 600 *v.*; P. T. *a.*, 3-*ph.*, 25 *py.*, primary 6600 *v.*, secondary 375 *v.*; T. *c.*, 600 *v.*, 19,400 *K.W.* O. W. Brain, M.I.E.E., engr.

Sydney Mines Electric Co., Sydney Mines, C.B., Canada. L. *a.*, 2-*ph.*, 60 *py.*, 2000–220 *v.*; & *c.*, 110 & 220 *v.*, 75 *K.W.* Engr., C. S. Boucher.

Tagona Water & Light Co. *See* Sault Ste. Marie.

Tampico, Mexico. *a.*, 2-wire, 125 *py.*, 2300–104 *v.*, 950 *K.W.* Engr., C. C. Freston.

Tamworth Municipality, Tamworth, N.S.W. L. *c.*, 2-wire, 240 *v.*, 147 *K.W.* Engr., W. G. Counsell, A.M.I.E.E.

Tandil, Argentina. Anglo-Argentine Electricity Co., props. L. *c.*, 440 & 220 *v.*, 150 *K.W.* Engr., J. H. Bouwer.

Tangier, Morocco. L. T. *c.*, 100 *v.*, 100 *K.W.* Engr., J. G. Canales.

Tantah, Egypt. Société Electrique de la Basse Egypte, props. *a.*, 2-*ph.*, 40 *py.*, 220 *v.*, 140 *K.W.* Engr., R. Levi.

Tavistock, Ont., Canada. J. G. Field, proprietor. L., 1000 *v.*, 30 *K.W.* Engr., A. E. Steinman.

Te Aroha Boro' Council, Te Aroha, Auckland, N.Z. L. *a.*, 1-*ph.*, 50 *py.*, 3000–440 *v.*, 100 *K.W.* Engr., A. T. Crosher.

Teeswater Electric Light Co., Teeswater, Ont., Canada. George S. Fowler & James Gallagher, proprietors. L. P. *a.*, 2-*ph.*, primary 1100 *v.*, secondary 110 *v.*, 400 *K.W.*

Tegucigalpa, Honduras. L.

Tehri-Garwhal, India. *A small water-power scheme now being carried out for L. town & Maharajah's palace.* 120 *v.*, 18 *K.W.* Engrs., Enever Bros. & J. Butler.

Tepic, Mexico. D. G. Aguirre (successors), props. L. P. *a.*, 1-*ph.*, 60 *py.*, 6600, 2080–110 & 220 *v.*, 700 *K.W.* Engr., A. Ecroyd.

Electricity Works—*continued.*

Terang, Victoria. Hampshire Shire Council, props. L. P. *c.*, 220 *v.*, 30 *K.W.* Cons. engr., Thos. W. Fowler.

Terrebonne Electric Light Co., Terrebonne, Que., Canada. L. *a.*, 2-*ph.*, 133 *py.*, 1040-104 *v.*, 75 *K.W.*

Thamesville Corporation, Thamesville, Ont., Canada. L. *a.*, 1-*ph.*, 125 *py.*, 1040-104 *v.*, 60 *K.W.* Engr., W. McKenzie.

Thargomindah, Queensland. Bulloo Shire Council, proprietors. *c.*, 2-wire, 200-220 *v.*, 10 *K.W.* Engr., G. A. Lewis.

Thessalon Town Council, Thessalon, Ont., Canada. L. *a.*, 1-*ph.*, 125 *py.*, 1040-104 *v.*, 60 *K.W.* Engr., E. E. Thompson.

Thetford Mines, Que., Canada. St. Francois Hydraulic Co., proprietors. L. P. *a.*, 3-*ph.*, 60 *py.*, 15,000-2200 *v.*, 1000 *K.W.* Elecn., J. A. St. Denis.

Thornbury Electric Light Co., Thornbury, Ont., Canada. L. *c.* arc.

Thorold City, Thorold, Ont., Canada. L. *a.*, 1-*ph.*, 133 *py.*, primary 2200 *v.*, secondary 110 *v.*, 120 *K.W.* Elecn., L. O'Connor.

Three Rivers, Que., Canada. North Shore Power Co., props. L. *a.*, 2-*ph.*, 33 *py.*, primary 2000 *v.*, secondary 104 *v.*; P. *a.*, 3-*ph.*, 60 *py.*, primary 2500 *v.*, 1520 *K.W.* Engr., C. Degrez.

Tientsin, China. French Municipality, props. *c.*, 3-wire, 220 *v.* Chief engr., Geo. Proust; res. engr., Pierre Carmoy.

Tientsin Gas & Electric Light Co., Ltd., Bruce-rd., Tientsin, China. L. *c.*, 220 & 440 *v.*, 375 *K.W.* Engr., G. Paton, A.M.I.M.E.

Tilbury, Ont., Canada. T. C. Vickerman, prop. L.

Tilsonburg, Ont., Canada. J. J. & W. E. Barkey, props. L. P. *a.*, 1-*ph.*, 133 *py.*, primary 2080 *v.*, secondary 105 *v.*, 125 *K.W.*

Timaru, N.Z. Scott Bros., Ltd., props. L. P. *c.*, 3-wire, 220 & 440 *v.*, 180 *K.W.* Engr., John Heal; elecn., A. R. Otway.

Tokushima Electric Light Co., Tokushima, Japan.

Tokyo, Japan. *The Municipal Council have agreed to purchase local electric tramways.*

Tokyo Railway Co., Tokyo, Japan. P. *a.*, 3-*ph.*, 25 *py.*, primary 6600 *v.*, secondary 360 *v.*; T. *c.*, 575 *v.*, 3600 *K.W.*; & *a.*, 3-*ph.*, 60 *py.*, 3500 *v.*, & *c.* 500 *v.*, 7600 *K.W.* Engrs., M. Enya, Y. Kasuya, K. Yoshimura, Y. Yamaki, I. Fujioka.

Tokyo Electric Light Co., 3, Yūraku-chō Sanchōme, Kojimachi-Ku, Tokyo, Japan. L. *c.*, 100 *v.*; & *a.*, 1- & 3-*ph.*, 100 & 50 *py.*, primary 3000 & 2000 *v.*, secondary 100 *v.*; P. *c.*, 200 *v.*, 9100 *K.W.* steam plant. 18,000 *K.W.* water power plant. Chief engr., I. Nakahara.

Toowoomba Electric Light & Power Co., Ltd., Toowoomba, Queensland. L. P. *c.*, 220-240 *v.*, 244 *K.W.* Engr., E. M. Gibson.

Electricity Works—*continued.*

Toronto, Canada. Southern Light & Power Co., Ltd., proprietors. L. P. T. *a.*, 3-*ph.*, 60 *py.*, 13,500 *v.*, L. 4000-2000-110 *v.*, P. 2000-500 & 250 *v.*, 2400 *K.W.* Engr., G. L. Kitchen.

Toronto, Ont., Canada. Electrical Development Co. of Ontario, proprietors. P. *a.*, 3-*ph.*, 25 *py.*, 60,000-12,000 *v.*, 40,000 *K.W.* Engr., W. B. Boyd. *a. current generated at* 12,000 *v. transmitted from step-up station at* 60,000 *v.*, 3-*ph.*, 85 *miles to Toronto, where it is stepped down for Railway & Light Co. Toronto Power Co., Ltd., operates this plant under a lease.*

Toronto, Ont., Canada. Stark Telephone, Light & Power System, props.

Toronto Electric Light Co., Adelaide-st. E., Toronto, Ont., Canada. L. *a.*, primary 2000 *v.*, secondary 114 *v.*; & *c.*, 110 *v.*; for P., 500 & 250 *v.*, 7400 *K.W.* Chief engr., R. G. Black.

Toronto Junction Municipality, Toronto Junction, Ont., Canada.

Toronto Railway Co., Toronto, Ont., Canada. T. *a.*, 3-*ph.*, 25 *py.*, 12,000-350 *v.*; & *c.*, 575 *v.*, 5000 *K.W.* Elecn., W. B. Boyd.

Toronto Suburban Street Railway Co., Toronto Junction, Ont., Canada. T. *c.*, 550 *v.*, 400 *K.W.*

Toronto, West, Ont., Canada. Interurban Electric Co., Ltd., props. L. P. *a.*, 2-*ph.*, 60 *py.*, 2200-110 & 220 *v.*, 2000 *K.W.* Engr., Thos. Henry.

Toronto & York Radial Railway, Toronto, Canada. T. *a.*, 3-*ph.*, 60 *py.*, 16,500 *v.*-600 *v. c.*, 1220 *K.W.*

Tosa Electric Railway Co., Kochi, Japan. L. *a.*, 1-*ph.*, 60 *py.*, 2000-100 *v.*, 60 *K.W.*

Tottenham Corporation, Tottenham, Ont., Canada. *c.*, L. 110 *v.*, P. 220 *v.*, 65 *K.W.* Engr., C. Livingstone; elecn., J. H. Sloan.

Townsville, Queensland. *Arrangements have been made for the construction of* T.

Toyama Electric Co., Toyama, Japan. L. P. *a.*, 3-*ph.*, 60 *py.*, 2080-104 *v.* L., 104 or 230 *v.* P., 150 *K.W.* Engr., K. Yanagita; elecn., R. Ishizu.

Toyohashi Elec. Light Co., Ltd., Toyohashi, Japan. *a.*, 1-*ph.*, 80 *py.*, 2080 *v.*, secondary, L. 104 *v.*, P. 200 *v.*; *c.*, L. 100 & 200 *v.*, P. 200 *v.*, T. 11,000-2080 *v.*, 500 *K.W.* Engr., T. Onishi.

Trail, B.C., Canada. Consolidated Mining & Smelting Co., props. *a.* L. P., 3-*ph.*, 60 *py.*, 2200-110 *v.* L., 20,000-600 *v.* P., 450 *K.W.* Engr., J. R. M'Dougall; elecn., E. E. Cockroft.

Trail, B.C., Canada. L. *West Kootenay Power & Light Co. supply at* 20,000 *v. transformed to* 2000 *v.*

Trawool Power Scheme. *Under consideration by the State Government of Victoria, Australia.*

Trenton Electric & Water Co., Ltd., Trenton, Ont., Canada. L. P. *a.*, 3-*ph.*, 60 *py.*, primary 2080 *v.*, secondary 115 *v.*, 550 *K.W.* L. & P. *supplied to Belleville.* Elecn., A. T. Hicks.

Electricity Works—*continued.*

Trinidad Electric Co., Ltd. *See* Port of Spain.

Truro, N.S. Chambers Elec. L. & P. Co., props. *c.* L., 120 *v.*; P. T., 250 *v.*, 500 *K.W.*

Tucuman, Argentina. *E. L. & P. Station & T. concession granted to Mr. B. S. Garcia will be taken over by the Cia. Alemana Transatlantica de Electricidad.*

Tucuman, Argentina. River Plate Electricity Co., Ltd., props. L. P. *c.*, 220 & 440 *v.*, 774 *K.W.* Engr., H. Field; elecn., F. Spillmann.

Tweed Electric Light & Power Co., Tweed, Ont., Canada. L. *a.*, 1-*ph.*, 133 *py.*, primary 2200 *v.*, secondary 104 *v.*, 75 *K.W.* Elecn., J. T. Kissack.

Twillingate Elec. Co., Twillingate, Newfoundland.

Uitenhage, Cape Colony. *The General Electric Co. have obtained a concession for L.*

Uji River Electric Co., Ltd., Hichijo, Kyoto, Japan. Current generated: *a.*, 25 *py.*, 3-*ph.* at 3500 *v.* transmitted to Kyoto at 17,500 *v.*, & Osaka at 60,000 *v.* Distribution: P., 3-*ph.*, 25 *py.*, 3500 & 250 *v.*; to T. Companies through rotary converters *c.* 550 *v.*; to E. L. Co. transformed to 1- or 2-*ph.*, 60 *py.*, 25,000 *K.W.* Chief engr., I. Ishiguro; elecn., Juki Kobori.

Umtali & Massikessi, South Africa. *Private Co. has received* L. *&* P. *concessions from Mozambique Co., generating* P. *from Massikessi Falls. No works erected.*

Upper Bonnington Falls. West Kootenay Power & Light Co., Ltd., props. *a.*, 3-*ph.*, 60 *py.*, 2200–60,000 *v.*, 11,250 *K.W.* P. *transmitted* at 60,000 & 20,000 *v.* to Rossland & Trail; & to Nelson at 20,000 *v.* Chief engr., L. A. Campbell.

Ushak, Asia Minor. *E. L. works under construction.*

Usina Municipal Luz Electrica, 289, Garantias, San Nicolas, Argentine Republic.

Uxbridge, Ontario, Canada. I. J. Gould, proprietor. L. *a.*, 1-*ph.*, 60 *py.*, primary 1040 *v.*, secondary 104 *v.*, 60 *K.W.* Engr., J. Mcphail.

Valencia, Venezuela. Cia. Ana. Electricidad de Valencia, props. L. *a.*, 3-*ph.*, 50 *py.*, 2300–120 *v.* L., 20,000/2300 *v.* P., 500 *K.W.* Engr., C. Stelling.

Valleyfield City, Valleyfield, Que., Canada. L. *a.*, 2200–110 *v.*; & *c.*, arc 2200 *v.*, inc. 110 *v.*

Valleyfield Electric Co., Ltd., Valleyfield, Que., Canada. L. *c.*, 3-wire, 110 *v.*; P., 220 *v.*; L. P. *a.*, 3-*ph.*, 60 *py.*, 2200–110 & 220 *v.*, 150 *K.W.* Engr., J. E. Marchard.

Valparaiso Gas Co., Valparaiso, Chili. *Plant sold to Valparaiso Electric Tramway Co.*

Vancouver, B.C., Canada. British Columbia Electric Railway Co., Ltd., props. L. *a.*, 1-*ph.*, 60 *py.*, 2200–110 *v.*; P. *a.*, 3-*ph.*, 60 *py.*, 2200–220 *v.*; T. *c.*, 550 *v.*, 7500 *K.W.* Gen. man., R. H. Sperling; gen. supt., Jas. Milne.

Vancouver (North). British Columbia Electric Railway Co., Ltd., props. L. P. T. *a.*, 3-*ph.*, 60 *py.*, 2000–110 *v.* L., 110 & 220 *v.* P., 20,000–550 *v.* T., 1000 *K.W.* Gen. supt., Jas. Milne.

Electricity Works—*continued.*

Vancouver Power Co., Vancouver, B.C., Canada. L. P. T., *a.* 3-*ph.*, 60 *py.*, 2000–110 *v.* L., 220–440 *v.* P., 22,000–550 *v. c.* P. T., 6000 *K.W.* Supt., W. T. Woodroofe. *See also* North Vancouver.

Vankleek Hill Electric Co., Ltd., Vankleek Hill, Ont. L. P. *a.*, 2-*ph.*, 60 *py.*, 10,000 & 2000–115 & 240 *v.*, 200 *K.W.* Elecn., J. A. Robertson. *Sub-station only.* P. *bought from Hawkesbury E. L. & P. Co.*

Vegreville Electric Light & Power Co., Vegreville, Alberta, Canada.

Vera Cruz, Mexico. *E. L. & T. under construction.*

Vernon City Council, Vernon, B.C., Canada. Elec. engr., W. F. Cook.

Victoria, B.C., Canada. British Columbia Electric Railway Co., proprietors. *a.* L. P., 3-*ph.*, 60 *py.*, 2200–110 *v.* L., 220 *v.* P.; & *c.* P. T., 500 *v.*, 4600 *K.W.* Engr., G. M. Tripp.

Victoria City Council, Victoria, B.C., Canada. L. *a.*, 2-*ph.*, 2000 *v.*, 300 *K.W.* Engr., M. Hutchison.

Victoria Falls Power Co. *See* Brakpan & Johannesburg. *A central power house of some* 90,000 *K.W. capacity is to be erected in the Klip River Valley.*

Victoriaville, Que., Canada. Athabaska Water & Power Co., props. *Current for P. & L. bought from Shawinigan Falls Co. at* 50,000 *v. stepped down to* 2000–110 *v.*, 30 *py.*

Villa Franca do Campo, Paraguay. *a.*, 3-wire, 50 *py.*, 3100–115 *v.* Engr. & prop., José Cordeiro.

Viña del Mar, Valparaiso, Chili. Cia. Electrica de Vina del Mar, props. *c.* L., 250 *v.*, P. 250 & 500 *v.*, 300 *K.W.* Engr., W. L. King.

Visayan Electric Co. *See* Cebu.

Vladivostock, Siberia. *Works & tramways to be constructed.*

Vryburg, Cape Colony. *E. L. under consideration.*

Waihi Grand Junction Gold Co.'s Mine, Waihi, N.Z. P., 3-*ph.*, 50 *py.*, 550 *v.*; *c.* L. series arc 220 *v. Under construction.* Cons. engr., Percy Allen, Runcorn, Cheshire; engr., A. E. Armstrong.

Wainiha & Eleele, Kanai, Hawaii Ter. Kanai Electric Co., props. L. P., 3- to 1-*ph.*, 25 *py.*, 2200–110 & 220 *v.* L.; 33,000 *v.*, 3-*ph.*, P., 2400 *K.W.* Engr., C. Grant.

Waipori Falls Electric Power Co., 51, Crawford-st., Dunedin, N.Z. *The rights of this Co. have been acquired by the Corporation. Proposed scheme:* L. P. *a.*, 3-*ph.*, 50 *py.*, 20,000 *v.*, transformed to *c.*, 3-wire, 200 & 440 *v.*, 2000 *K.W.* Elecn., E. E. Stark. *Works under construction.*

Wairo, N.Z. W. Andrew & Co., props. 3-wire, 110 & 220 *v.*

Waitara, N.Z. W. Andrew & Co., props. *c.*, 3-wire, 220 & 110 *v.*

Wakamatsu Electric Light Co., Wakamatsu, Japan.

Wakayama Hydro Electric Co., Wakayama, Japan. *a.*, 3-*ph.*, 50 *py.*, 12,000 *v.*, transformed to 3000–100 *v.* L., 500 & 200 *v.* P., 550 *v. c.* T., 1100 *K.W.* Engr., R. Iwasawa.

Electricity Works—*continued.*

Walhalla, Victoria. Long Tunnel Mining Co., Ltd., props. L. *a.*, 1-*ph.*, 50 *py.*, 110 *v.*; P., 3-*ph.*, 50 *py.*, 550 & 2200 *v.*; *c.* L., 220 *v.*, 346 *K.W.* Engr., J. F. Key; elecn., H. A. Phillips.

Walkerton. *See* Saugeen E. L. & P. Co.

Walkerton Electric Light & Power Co., Ltd., Walkerton, Ont., Canada. L. *a.*, 1-*ph.*, 125 *py.*, 1040–104 *v.*, 120 *K.W.* Elecn., J. T. Potter.

Walkerville, Ont., Canada. Hiram Walker & Sons, Ltd., props. L. P. *a.*, 2-*ph.*, 60 *py.*, 2000–110 & 220 *v.*; & *c.* L., 115 *v.*, 350 *K.W.* Engr., C. J. Stodgell; elecn., J. W. Purcell.

Wallaceburg, Ont., Canada. Premier Electric Light & Power Co. Ltd., proprietors. L. *c.* arc, inc. & *a.*, 1-*ph.*, 133⅓ *py.*, 2200–104 *v.*, 120 *K.W.* Man., H. H. Tobey; elecn., R. S. Soper.

Wallaroo & Moonta Mining & Smelting Co., Ltd., Wallaroo Mines, South Australia. L. P. *a.*, 3-*ph.*, 25 *py.*, 220 *v.*, 400 *K.W.* Engr., J. W. Adamson, A.M.I.E.E.

Wangaratta, Victoria. *E. L. under consideration.*

Waratah, Tasmania. Mount Bischoff Tin Mining Co., props. L. P. *a.*, 3-*ph.*, 50 *py.*, 2300-110 *v.* L.; & *c.* T., 550 *v.*, 600 *K.W.* Man., J. D. Mille; engr., R. N. Fulton.

Warburton, Victoria. *c.* L., 230 *v.*, 27 *K.W.* Engr., W. D. Salisbury; elecn., R. Wallace.

Waterloo, Que., Canada. Brome Lake Electric Power Co., proprietors. L. *a.*, 125 *K.W.* Elecn., H. G. Greene.

Waterloo, Ont., Canada. Wm. Snider, prop. L. *c.*, 115 *v.*, *a.*, 1-*ph.*, 133 *py.*, primary 1150 *v.*, secondary 115 *v.*; P. *c.*, 3-wire, 230 *v.*, 220 *K.W.* Engrs., Wm. Pagel & A. Bowman; elecns., G. Gross & W. Northgrave.

Watford, Ont., Canada. Geo. Chambers, prop. L. *c.*, 230 *v.*, 60 *K.W.* Elecn., R. C. McLeay.

Weedon, Que., Canada. St. Francois Hydraulic Co., proprietors. L. P. T. *a.*, 3-*ph.*, 66 *py.*; L. 2200–110 *v.*, P. 2200–440 *v.*, T. 15,000 *v.*, 2000 *K.W.* Engr., A. G. Sangster.

Welland Electrical Co., Welland, Ont., Canada. L. *c.* arc & *a.*, 125 *py.*, 1100 *v.*

Welland, Ont., Canada. Falls Power Co., props. L. P. *a.*, 2-*ph.*, 25 *py.*, 220 & 110 *v.* L., 440 *v.* P.

Wellington, C. Colony. *E. L. under consideration.*

Wellington Municipality, Wellington, N.Z. T. *c.*, 550 *v.*, 3000 *K.W.* Engr., Stuart Richardson, M.I.E.E., A.AM.I.E.E.

Wellington, City of, Wellington, N.Z. L. P. *a.*, 1-*ph.*, 80 *py.*, 2000–100 *v.*, 3400 *K.W.* Engr. & man., Stuart Richardson, M.I.E.E., A.AM.I.E.E.

West India Electric Co. *See* Kingston.

West Kootenay Power & Light Co. *See* Cascade City, Lower Bonnington Falls & Upper Bonnington Falls.

West Lorne Electric Light Co., Ltd., West Lorne, Ont., Canada. L. *c.*, 3-wire, 110 *v.*, 30 *K.W.* Engr., J. Lozar.

Electricity Works—*continued.*

Western Counties Electric Co., Ltd. *See* Brantford.

Westmount Municipality, Westmount, Que., Canada. *a.* L., 1-*ph.*, 60 *py.*, 2200–110 *v.*; P., 3-*ph.*, 60 *py.*, 2200–550 *v.*, 525 *K.W.* Chief engineer, J. Donnelly; electrician, Geo. W. Thompson.

Weston Corporation, Weston, Ont., Canada. L. *a.*, 1-*ph.*, 125 *py.*, 2080–104 *v.*, 60 *K.W.* Engr., J. Rumney.

Wetaskiwin City Council, Wetaskiwin, Alberta, Canada. L. *a.*, 2-*ph.*, 2300–112 *v.*, 75 *K.W. to be extended.* Chief engr., G. R. Taylor.

Whitby, Ont., Canada. Water & Light Commissioners, props. L. *c.* arc & *a.*, 2-*ph.*, 60 *py.*, 2200–108 *v.*, 125 *K.W.* Engr., R. Davidson; elecn., H. M. Isaac.

White Horse, Yukon Ter., Canada. Yukon Electrical Co., Ltd., props. L. *c.*, 220 *v.*, 30 *K.W.* Engr., H. Chapman; elecn., J. Y. Duncan.

Whitley, Ont., Canada. L. Geo. H. Jordan, prop.

Wiarton, Ont., Canada. Canada Furniture & Manufacturing Co., Ltd., props. L. *a.*, 1-*ph.*, 125 *py.*, 1040–104 *v.*, 115 *K.W.* Engr., J. Rodgers.

Wickham, nr. Newcastle, N.S.W. A. Goninan & Co., Ltd., props.

Winburg, Orange River Colony. *Electric light works under consideration.*

Winchester, Ont., Canada. M. F. Beach Co., props. L. *a.*, 2-*ph.*, 60 *py.*, 2200–110 *v.*

Windsor, Essex & Lake Shore Rapid Railway Co., Windsor, Ont., Canada. T. *a.*, 1-*ph.*, 25 *py.*, 13,200-6600 *v.*

Windsor Town, Windsor, Ont., Canada. L. *a.*, 2-*ph.*, 60 *py.*, 4400 *v.*

Windsor Electric Light & Power Co., Windsor, N.S., Canada. L. P. *c.*

Windsor, Ont., Canada. Sandwich, Windsor & Amherstberg Railway. L. *a.*, 1-*ph.*, 133 *py.*; P. T., 1040–104 *v.*; *c.*, 500 *v.*, 300 *K.W.* Engr., J. McConnell; elecn., G. McLeod.

Wingham Corporation, Wingham, Ont., Canada. L. *a.*, 1-*ph.*, 1040–104 *v.*, 180 *K.W.* Elecn., J. E. Bradum.

Winnipeg, Man., Canada. Manitoba Electric & Gas Light Co., proprietors. L. *a.*, 2200–110 *v.*; P. *c.*, 500 *v.*, 1650 *K.W.*

Winnipeg Corp., Winnipeg, Man., Canada. L. P. *a.*, 3-*ph.*, 60 *py.*, 2200–110 & 220 *v.*; 2250 *K.W.* City engr., H. I. Renton; city elecn., F. A. Cambridge. *The above plant is not used for commercial L., P. or T.*

Winnipeg, Man., Canada. *Messrs. Mackenzie & Mann have offered to sell street lighting & tramway undertakings to the City.*

Winnipeg Electric Street Railway Co., Winnipeg, Man., B.C., Canada. L. *a.*, 3-*ph.*, 60 *py.*, 2300–110 *v.*; *c.* P. T., 500–550 *v.*, 18,000 *K.W.* Engr., D. Phillips.

Wolfville, N.S., Canada. Acadia Edison Electric Light Co., proprietors. L. *c.*

Electricity Works—*continued.*

Wolseley, Sask., Canada. Central Light & Power Co., props. L. P. *a.*, 3-*ph.*, 60 *py.*, 2300-110 *v.* L., 220 *v.* P.

Woodstock, Cape Colony. *L. by Capetown Corp.*

Woodstock City, Woodstock, Ont., Canada. L. P. *a.*, 3-*ph.*, 60 *py.*, primary 2080 *v.*, secondary 104 & 208 *v.*, 400 *K.W.* Engineer, J. G. Archibald.

Woodstock Electric Railway, Light & Power Co., Woodstock, N.B., Canada. L. P. T. *a.*, 3-*ph.*, 60 *py.*, 2300-110 *v.* L., 550 *v.* P., 400 *K.W.* Engr., Geo. King; elecn., Wm. Hamilton.

Woodstock, Thames Valley & Ingersoll Electric Railway Co., Woodstock, Ont., Canada. T. *c.*, 575 *v.*, 220 *K.W.*

Wroxeter Electric Light Co., Wroxeter, Ont., Canada. L. *a.*, 1-*ph.*, 60 *py.*, 1000-100 *v.*, 25 *K.W.* Engr., J. Patterson.

Wushu, Anhui, China.

Wynberg. Cape Peninsula Lighting Co., Ltd., proprietors. L. P. *c.*, 3-wire, 115 *v.*, 190 *K.W.* Engr., W. G. P. Macmuldrow; assistant, C. M. Read.

Wynberg Substation. (*Run from Claremont.*) Cape Peninsula Lighting Co., Ltd., proprietors. L. *c.*, 3-wire, 225 *v.*, 150 *K.W.* Engr., C. M. Read.

Yarker, Ont., Canada. Benjamin Manufacturing Co., Ltd., proprietors. L. *c.*, 250 *v.*, 75 *K.W.* Engr., G. Joyner; elecn., B. Gilbert.

Yarmouth Street Railway Co., Ltd., Yarmouth, N.S., Canada. L. P. T. *c.*, 500 *v.*, 300 *K.W.* *To be converted to a.* 3-*ph.*, 2300-110 *v.* Engr., Geo. Foulis.

Yarmouth Town, Yarmouth, N.S., Canada. L. *c.*, arc 8000 *v.*, inc. 100 *v.*, 64 *K.W.* Engr., John Ross.

Yeoville, Johannesburg, Transvaal. *Electric lighting under consideration.*

Yokohama Electric Tramway Co., Ltd., Yokohama, Japan. T. Engr., T. Miyaguchi.

Yokohama Union Electric Light Co., Yokohama, Japan. L. P. *c.*, 100 *v.*, & *a.*, 1- & 2-*ph.*, 100 or 60 *py.*, 2000-100 *v.* L., 200 *v.* P., 936 *K.W.* Engrs., K. Takahashi, G. Igarashi & M. Sekizawa.

Yokosuka Electric Light Co., Yokosuka, Japan. L. *a.*, 3-*ph.*, 50 *py.*, 3300-100 *v.*, 400 *K.W.* Engr., Y. Furukawa.

Yonezawa Suiryoku denki Kaisha, Yonezawa, Yamagataken, Japan. L. P. *a.*, 3-*ph.*, 50 *py.*, primary 2200 *v.*, secondary 100 *v.*; P., 100 & 220 *v.*, 150 *K.W.* Engr., M. Shibuya; elecn., K. Sakai. *A second station to be erected.*

Young Municipal Council, Young, N.S.W. L. *a.*, 1-*ph.*, 125 *py.*, primary 1000 *v.*, secondary 100 & 52 *v.*, 90 *K.W.*

Yukon Electrical Co., Ltd. *See* White Horse.

Zanzibar. Zanzibar Electric Light Co., props., 82, Beaver-st., New York. L. *c.*, 240 *v.* Engr., R. Withycombe.

Zarate, Argentina. *Works shortly to be commenced.*

Electricity Works—*continued.*

Zeehan Municipality, Zeehan, Tasmania. L. P. *c.*, 3-wire, 110 *v.*, 170 *K.W.* Engr., A. C. Bertoli.

Zomba, British Central Africa. Administration of B.C.A. Protectorate, proprietors. L. *c.*, 2-*wire*, 220 *v.*, 20 *K.W.* Engr., T. J. Binnie.

Zurich, Ont., Canada. J. A. Williams & Co., proprietors.

Electricity Works—Contractors for the Construction & Maintenance of.

F.—Stations centrales—Entrepreneurs de construction & d'entretien.

G.—Unternehmer zur Errichtung & Aufrechterhaltung von.

SPLATT, WALL & CO., Perth, West Australia, electrical engineers, importers, dealers in all kinds of machinery & electrical goods.

Electro-Silver & Nickel Platers & Gilders.

F.—Dorure et platinage par la pile.

G.—Versilberer.

Joselevich Hnos., C. Corrientes 1682, Buenos Ayres, Argentina.

Taylor, D. G., George-st., Brisbane, Queensland.

Walker & Hall, 364, Little Collins-st., Melbourne, Victoria.

Electroliers, Brackets & Pendants.

F.—Lustres et appliques.

G.—Candelaber, Konsole u. Hängelampen.

Anglade, J. E., & Sons, Esmeralda 355, Buenos Ayres, Argentina.

Azaretto Hermanos, Cuyo 1901, Buenos Ayres, Argentina.

Canada Electric Co., 230, Dorchester-st. W., Montreal.

Date, J., 152, Craig-st. West, Montreal, Canada.

Jenking Brass Manufacturing Co., 25-29, Bleury-st., Montreal, Canada.

Engine Makers—Steam (Electrical Purposes).

F.—Machines à Vapeur.

G.—Dampf-Maschinen.

Goldie & McCulloch Co., Ltd., Galt, Ont., Canada.

Marshall Sons & Co., Ltd., Gainsborough, England; 99, Clive-st., & 25, Strand, Calcutta, India.

Robb Engineering Co., Ltd., Amherst, N.S., Canada.

Waterous Engine Works Co., Brantford, Canada.

Engineers—Civil.

F.—Ingénieurs—Civils.

G.—Ingenieure—Civil.

Beal, L. O., jun., 79, Princes-st., Dunedin, New Zealand.

Booth, J., M.C.E., B.SC., 25, Rathdown-st., Carlton, Melbourne, Victoria.

Cambie, H. J., c/o C.P.R., Vancouver, B.C., Canada.

Conyers, S.W., Public Works Dept., Sydney, N.S.W.

Hill, Albert J., C.E., M.E., New Westminster, B.C., Canada.

Kingsmill, T.W., 9, Hankow-rd., Shanghai, China.

Lord, E. I., Greymouth, N.Z.

McLauchlan, Machado & Cia., rua de S. Pedro 37, Rio de Janeiro, Brazil.

Mayne, C., M.I.C.E., Municipal Council, Shanghai, China.

Moncrieff, A. B., M.I.C.E., Adelaide, South Australia.

Parks, C. Wellman, M.AM.I.E.E., U.S. Navy Station, Honolulu, T.H.

Smith, Wm., & Co., Batu Gajah, Perak & Negri Sembilan, Malay Peninsula.

Engineers—Consulting.

F.—Ingénieurs consultants.

G.—Ingenieure—Beratende.

Alexander, J. C., Challis House, Martin-pl., Sydney, N.S.W.

Almeida & Co., 2, Malacca-st., Singapore, Straits Settlements.

Alsop, Wm., 101, Scott-st., Newcastle, N.S.W.

Arozarene, R. M. de, A.AM.I.E.E., Mexico City.

Auldjo, L. C., Equitable-bldg., George-st., Sydney, N.S.W.

Bailey & Murphy, Hotel Mansions, Hong Kong, China.

Barnett, C. W., Logans-bldg., Beach-st., Penang, Straits Settlements.

Barnett & Stark, Beach-st., Penang, Straits Settlements.

Bell, Norman M., A.M.I.C.E., 356, Queen-st., Brisbane, Queensland.

Burman, E. S., 59, William-st., Melbourne, Victoria.

Calastremé, J. C., M.I.MECH.E., A.M.I.E.E., 586, Avenida de Mayo, Buenos Ayres, Argentina.

Cantwell & Co., 14, Lindsay-st., Calcutta, India.

Coxon, F., 63, Pitt-st., Sydney, N.S.W.

Crawford, Archibald Allan, Bombay, India.

Currie, N. M., A.AM.I.E.E., St. Marys, Ont., Canada.

Cutten Bros., Princes-st., Dunedin, N.Z.

Danvers, E., M.I.E.E., 475, B. Mitre, Buenos Aires, Argentina.

Davey, H. M., 91A, Princes-st., Dunedin, New Zealand.

Deane, H., Equitable-bldg., George-st., Sydney, N.S.W.

Doyle, J. T., calle Alsina 2964, Buenos Ayres, Argentina.

Engineers—Consulting—*continued.*

Finlayson Bros., A.M.P.-chbrs., Brisbane, Queensland.

Fletcher, H. C., M.I.M.E., Box 224, Bulawayo, Rhodesia.

Fraser, W. C., 32, Clarence-st., Sydney, N.S.W.

Granowski, O., 364, Queen-st., Brisbane, Queensland.

Grant, E. T., A.M.AM.I.E.E., Manila, Philippine Islands.

Grant, R., 32, Point-st., Pyrmont, N.S.W.

Grundel, J., Soerabaya, Java.

Hart, A. H., Luck's-bldgs., Gloucester-st. West, Christchurch, N.Z.

Hay, R., M.I.C.E., Dunedin, N.Z.

Henderson, S., 350, George-st., Sydney, N.S.W.

Hepburn & Spruson, 91, Elizabeth-st., Sydney, New South Wales.

Hirota, S., 1, Yariyacho, Kiobasik, Tokyo.

How, W. F., Mutual Life-bldgs., George-st., Sydney, N.S.W.

Huckson & Hutchinson, Franklin-chbrs., Macquarie-st., Hobart, Tasmania.

Jack, Wm. C., & Co., Ltd., Hong Kong, China.

Johnson, W. A., 470, King-st. West, Toronto, Ont., Canada.

Josephson, J. P., 81, Elizabeth-st., Sydney, N.S.W.

Keating & Breithaupt, Aberdeen-chbrs., Toronto, Canada.

Kelsch, R. S., M.AM.I.E.E., New York Life-bldg., Montreal, Canada.

Laidley, R. W., O'Connell-st., Sydney, N.S.W.

Macdonald & Co., York-bldgs., Hong Kong, China.

Macnicol, A. N., Broken Hill-chbrs., Queen-st., Melbourne, Victoria.

Mais, H. C., M.I.C.E., 60, Queen-st., Melbourne, Victoria.

Massey, George, P.O.-chbrs., Pitt-st., Sydney, N.S.W.

Milne, W., & Son, 1 & 2, Castle-bldgs., Durban, Natal.

Murray, Reg. A. F., 395, Collins-st., Melbourne, Victoria.

Nold, H. N., A.AM.I.E.E., Provident & Loan-bldg., Hamilton, Ont., Canada.

Olive, W. T., M.I.C.E. (P.O. Box 1103), Cape Town, Cape Colony.

Pringle, T., & Son, Coristine-bldgs., St. Nicholas-st., Montreal, Canada.

Robertson, J. McCallum, A.AM.I.E.E., Suite 101, Board of Trade-bldg., Montreal, P.Q., Canada.

Ross, H. E., Equitable-bldg., Sydney, N.S.W.

Ross & Holgate, 80, St. F. Xavier-st., Montreal, Canada.

Sachse, A. O., cor. Collins & William-sts., Melbourne, Victoria.

Sammell, M. A., Montreal, Que., Canada.

Sanders, G. E., A.M.I.E.E., A.M.I.M.E., Million, East Bay, Dauphin, Man., Canada.

Selfe, Norman, 279, George-st., Sydney, New South Wales.

Engineers—Consulting—*continued.*

Sharkey, J. P., Mercantile-chbrs., Castlereagh-st., Sydney, N.S.W.
Simpson, T. T., 55, Sparks-st., Ottawa, Ontario, Canada.
Sinclair, R., 82, Pitt-st., Sydney, N.S.W.
Skaife, L., 20, St. James-st., Montreal, Canada.
Smith, Kerry & Chace, Confederation Life-bldg., Toronto, Canada.
Spain, W. (P.O. Box 23), Johannesburg, Transvaal.
Stanley, H. C., M.I.C.E., Royal-chbrs., Hunter-st., Sydney, N.S.W.
Teele, Fred.W., M.SC., M.A.S.M.E., N.A.S.E., Trinidad Electric Co., Ltd., Trinidad.
Thomson, J. R., Union Bank-chbrs., Pitt-st., Sydney, N.S.W.
Trackson, P. S., Elizabeth-st., Brisbane, Queensland.
Tunbridge & Tunbridge, 11, Vickery's-chbrs., 76, Pitt-st., Sydney, N.S.W.; & Flinders-st., Townsville, Queensland.
Turnbull, W. R., Rothesay, N.B., Canada.
Walker, A. J., A.M.I.E.E., 208, Victoria Arcade, Auckland, N.Z.
Wildridge & Sinclair Ltd., 82, Pitt-st., Sydney, New South Wales.
Young, R., Chamber of Commerce-bldgs., 1, Downing-st., Penang, Straits Settlements.

Engineers—Electrical.

F.—Ingénieurs—électriciens.
G.—Elektrotechniker.

Abbott, A. H., M.I.M.E., A.M.I.E.E., Octavius Steel & Co., Old Court House-st., Calcutta, India.
Ackland, A. E., National Electrical & Engineering Co., Ltd., Wellington, N.Z.
Acland, Arthur, Australian General Electric Co., Dunedin, N.Z.
Adams, I. I., P.O. Box 71, Bloemfontein, O.R.C.
Adams Engineering Co., Hutt, Wellington, New Zealand.
Adams, Wm., & Co., 163, Clarence-st., Sydney, N.S.W.
African Merchants, Ltd. (P.O. Box 3289), 6, New Club-bldgs., Loveday-st., Johannesburg, Transvaal.
Ahearn, T., Ahearn & Soper, Ltd., Ottawa, Ont., Canada.
Ahearn & Soper, Ltd., Ottawa, Canada.
Alcock, A. U., M.I.E.E., 404–6, Elizabeth-st., Melbourne, Victoria.
Alcock, W. H., c/o Jenkins & Co., Cape Town, Cape Colony.
Aldworth, E. J., A.M.I.E.E., Burmah Electric Tramways & Lighting Co., Mandalay, Burmah.
Alexander, G. F. L., Balmer, Lawrie & Co., 103, Clive-st., Calcutta, India.
Alexander, R. D. T., Magda-Muttra State Railway, Kotah, Rajputana, India.

Engineers—Electrical—*continued.*

Allport, Russell & Co., Melville-st., Hobart, Tasmania.
American Electrical Engineering Co., 248, Little Collins-st., Melbourne, Victoria.
Ammen, W., Siemens Bros. Dynamo Works, Ltd., 12, Dalhousie-sq. East, Calcutta.
Anderson, Wm., Cascade Water, Power & Light Co., Cascade, B.C., Canada.
Andrada, E. de Aguiar de, São Paulo Railway Co., São Paulo, Brazil.
Andrews & Manthel, Federal Engineering Works, Tory-st., Wellington, N.Z.
Arbuckle, H. W., A.M.I.E.E., Rifle Factory, Ishapore, nr. Calcutta, India.
Arens & Co., Avenida Central 20, Rio de Janeiro, Brazil.
Arichi, T., 7, Awajicho, 4, Chome, Kanda, Tokyo, Japan.
Armstrong, —, Grand Junction, Waihi, New Zealand.
Armstrong, F. W., Canterbury Fire Underwriters' Association, Christchurch, N.Z.
Armstrong, T. J., Knights Deep, Ltd., P.O. Box 143, Germiston, Transvaal.
Arnot, W. M., A.M.I.E.E., Johannesburg, Transvaal.
Artola, J. M. de, Casilla 968, Valparaiso, Chili.
Arundel. Wm., Brisbane Tramways Co., Countess-st., Brisbane.
Asano, O., DR.E., M.E., M.I.E.E., Ministry of Communications, Tokyo, Japan.
Ascorve, Enrique, (P.O. Box 11B), Av. Hombres Ilustres 13, Mexico City.
Ascorve, Ernesto, (P.O. Box 11B), Av. Hombres Ilustres 13, Mexico City.
Atkinson, J. J., M.I.E.E., Indian Electric Supply & Traction Co., Ltd., Cawnpore, U.P., India.
Atkinson, R. Scott, M.I.E.E., Jesselton, British North Borneo.
Australian General Electric Co., Equitable-bldg., Melbourne, Victoria; & Sydney, New South Wales.
Awoki, D, M.I.E.E., Nippon Electric Wire Co., Ltd., Tazaemoncho, Tokyo, Japan.
Bailey, E., c/o G. & O. Braniff & Co., Cadena 19, Mexico.
Bainton, J. R., E. S. & A. Bank-bldg., King-st., Sydney, New South Wales.
Baker & Jordahl, Manning-chbrs., Toronto, Canada.
Baker & Woods, Hargreaves-st., Bendigo, Victoria.
Bakhum, Th., 23, Chareh Abou-el-Ela, Cairo, Egypt.
Balaji, Baganna, M.I.E.E., Baroda, India.
Bannai, T., M.E., Tokyo, Japan.
Barker, —, Grand Oriental Hotel, Colombo, Ceylon.
Barker, Wm., & Co., Port Victoria, Hong Kong, China.
Barnet, J., Ross-st., Forest Lodge, N.S.W.
Barron, J., Opoho, Dunedin, N.Z.

Engineers—Electrical—*continued.*

Barry, R. A., P.O. Box 4180, Johannesburg, Transvaal.
Barton, E. G. C., M.I.E.E., City Electric Light Co., Ltd., Brisbane, Queensland.
Bauchop, D., Port Chalmers, N.Z.
Bay, Dr., Administration des Chemins de Fer, Cairo, Egypt.
Bayly, Brackenbury, M.I.E.E., G.P.O., Cape Town, Cape Colony.
Beal, Dupair E., Power Station, Okere Falls, Rotorua, N.Z.
Beaver, G. H., 285, Bois Bazaar-st., Calcutta, India.
Beckwith, F., Hamilton, Victoria.
Beeman, J. S., 60, Queen-st., Melbourne, Victoria.
Behrend, Schmidt & Co., 32, rua da Alfandega, Rio de Janeiro, Brazil.
Beilby, W. H., c/o Bruce Peebles & Co., Ltd., Shanghai, China.
Bell, Francis & Co., 250A, Pitt-st., Sydney, N.S.W.
Bellamy, C. V., M.I.E.E., M.I.C.E., M.I.M.E., &c., Public Works, Southern Nigeria, W. Africa.
Bellantuono & Co., 12, rue Tewfik 1er, Alexandria, Egypt.
Bellemey, S. J., B.E., Municipal Electricity Works, Sydney, N.S.W.
Bennett & Wright Co., Ltd., 72, Queen-st. East, Toronto, Ont., Canada.
Bergner, P., & Co., Mexico.
Bernard, R. G., "Norma," Edmund-st., Waverley, Sydney, N.S.W.
Bernhardt, E. L., 4, Short-st., Bloemfontein, O.R.C.
Berrington, T. D., M.I.E.E., Indian Telegraph Department, Calcutta, India.
Berry, E. H., Isipingo, Natal.
Bevan & Co., 38, York-st., Sydney, N.S.W.
Biliotti, F. M., M.I.E.E., Edward House, 3, Chareh el Antikkhara, Cairo, Egypt.
Black, Fredk., The King's-chbrs., Wellington, N.Z.
Blacklock, G. H., R. Hornsby & Sons, Ltd., Clarence-st., Sydney, N.S.W.
Blagden, A. H., A.I.E.E., assistant, Municipal Council Electrical Dept., Shanghai, China.
Blandford, William, Electric Telegraph Department, Melbourne, Victoria.
Blane & Co., Ltd., 37, 38, 47 & 48, Cullinan-bldgs., Main-st., Johannesburg, Transvaal.
Blumenthal & Co. (P.O. Box 428), Johannesburg, Transvaal.
Bohler, G., Mort's Dock & Engineering Co., Ltd., Balmain, Sydney, N.S.W.
Bonsor, W. V., Santa Gertrudis, Oriziba, Mexico.
Booth, A. W., The Avenue, Hurstville, New South Wales.
Boulad, H. H., Chareh Nubar Pacha, Cairo, Egpyt.
Boulton, G., Mort's Dock & Engineering Co., Ltd., Balmain, Sydney, N.S.W.
Bourne, R. O., M.I.E.E., Melbourne, Victoria.
Boustead Bros., Colombo, Ceylon.
Boutell, Chevallier F. H., 566, Calle Cangallo, Buenos Ayres.

Engineers—Electrical—*continued.*

Bowman, C., P.O. Box 853, Durban, Natal.
Bradford, John R., Post & Telegraph Dept., Brisbane, Queensland.
Bradshaw, J. P., Callender's Cable & Construction Co., Ltd., Bombay, India.
Braga, Ed., jun., Juiz de Fora Minas, Rio de Janeiro, Brazil.
Braga, M., 64B, rua do Ouvidor, Rio de Janeiro, Brazil.
Brahm & Cia., Lima, Peru.
Braschi, V. M., & Co., calle de Cadena 2, Mexico.
Brask, A., Siam Electricity Co., Bangkok, Siam.
Brearley, J. H. D., B.SC., M.I.E.E., A.M.I.C.E., c/o Noyes Bros. (Melbourne) Proprietary, Ltd., Melbourne, Victoria.
Brenner, W. H., The Zemma Works, Yokohama, Japan.
Brickett, E. R., Aberdare Colliery, Cessnock, N.S.W.
Bridger, H. B., Hong Kong Electric Co., Hong Kong, China.
British General Electric Co., Ltd., cor. of Waterkant & Chiappine-sts., Cape Town, Cape Colony.
British Thomson-Houston Co., Equitable-bldg., Melbourne, Victoria.
Broens & Hoesli, Chareh Dubray 2, Tewfikieh, Cairo, Egypt.
Brooks, H., c/o Allen & Irving, Penang, Straits Settlements.
Brooks, T., Electrical Engineers' Branch, Railway Dept., 51, Phillip-st., Sydney, N.S.W.
Broomhall, C., Rotorua, N.Z.
Broomhead, J. W., 53, Weston-rd., Rozelle, Sydney, N.S.W.
Brown, Herbert, c/o Electrical Construction Co., Queen-st., Auckland, N.Z.
Brown, J. E., Municipal Electric Department, Ottawa, Canada.
Brown, Walter C., A.M.I.E.E., Knights Deep Gold Mining Co., Germiston, Transvaal.
Brühl, Paul, M.I.E.E., Engineering College, Sibpur, nr. Calcutta, India.
Buckley, T., Elizabeth-st., Wellington, N.Z.
Bulkley, J. N., General Mining & Finance Corp., Ltd. (P.O. B. 1242), Johannesburg, Transvaal.
Bull, L. H., Cobden, N.Z.
Bullock, H. J., A.I.E.E., St. Helen's Prospect, Adelaide, South Australia.
Burbank, P., Peruvian Teleph. Co., Lima, Peru.
Burgess, A. E. C., M.I.E.E., 13, Royal Exchange, Bridge-st., Sydney, N.S.W.
Burgis, E. S., Howarth Erskine, Ltd., Bangkok, Siam.
Burn & Co., Ltd., 7, Hastings-st., Calcutta, India.
Burnett, J. A., Montreal & Southern Counties Railway Co., Montreal, Canada.
Burson, H. A., Packard Electric Co., St. Catharines, Ont., Canada.
Burton & Ruddle, 193, Elizabeth-st., Brisbane, Queensland.
Buxton, Cassini & Co., calle Suipacha 602, Buenos Ayres, Argentina.

Engineers—Electrical—*continued.*

Byington & Co., 4, rua do Commercio, S. Paulo, Brazil.
Cadogan, A. L., Hillgrove & Armidale Electricity Co., Ltd., Hillgrove, Australia.
Calderon & Sellick, Apartado 62, Lima, Peru.
Calvert, R. C. M., Government of Mysore, Bangalore, India.
Campbell, J. M., Kingston, Ont., Canada.
Campbell, J. W., Canadian General Electric Co., Toronto, Canada.
Canadian White Co., Sovereign Bank-bldg., Montreal, Canada.
Canales, Jose G., Central Station, Tangiers, Morocco.
Candida, A., & Conti, C., rue Nébi Daniel, Alexandria, Egypt.
Carpenter, H., Whiteman-st., South Melbourne, Victoria.
Cassels, F. K., M.I.E.E., 60, Pavon Avellaneda, Buenos Ayres, Argentina.
Cederholm & Tolley, 6 & 8, Manners-st., Wellington, N.Z.
Chateau, P., Cie. Française de Tramways et d'Eclairage Electrique, 4, quai de Jang King Pang, Shanghai.
Chermont & Ca., Box 252, Para, Brazil.
Chester, A., (P.O. Box 3317), Johannesburg, Transvaal.
Clark, E. V., B.SC., A.M.I.C.E., Municipal Tramways Trust, Adelaide, S. Australia.
Clarke, F. O., Refineria de Azucar, Vina del Mar, Chili.
Clayton, A., Hampton-st., Brighton, Victoria.
Clayton-Joel, W., & Co., 120, King-st., Melbourne, Victoria.
Clerk, G. B., 350, George-st., Sydney, N.S.W.
Clifford, E. A. T. W., Electrical Department, Natal Government Railways, Pietermaritzburg, Natal.
Coghlan, Jas., A.M.I.E.E., Noyes Bros. (Melb.) Proprietary, Ltd., 7, Pirie-st., Adelaide, South Australia.
Cole, G. W., K. W. H. P. Co., Munaar, India.
Colbeck, P., A.M.I.E.E., Hubert Davies & Co., Johannesburg, Transvaal.
Collyer & Brock, 1801A, Notre Dame-st., Montreal, Canada.
Colonna & Cuzzer, 1, rue Stamboul, Alexandria, Egypt.
Colquhoun, J. S., East Indian Rly., Calcutta.
Colson, Brookhouse & Pyne, Cangallo 370, Buenos Ayres, Argentina.
Compañia de Fabricantes Extrangeros, Lda. (Soc. Anon.), 302, Balcarce, Buenos Ayres, Argentina.
Conin, Pastour E., Chareh Zéki, imm. Boustros, Tewfikieh, Cairo, Egypt.
Constable, A. D., M.I.E.E., H.M. Dockyard, Gibraltar.
Cook, Stanton, & Co., 75, Clarence-st., Sydney, N.S.W.
Cooper, A. T., Port Said & Suez Coal Co., Port Said, Egypt.

Engineers—Electrical—*continued.*

Cope, A. B. H., Tomoana, Hawkes Bay, N.Z.
Corbac, George v., Arnhold Karberg & Co., Tientsin, China.
Corner, W. B., Government Railways Dept., Phillip-st., Sydney, N.S.W.
Cornish, J. T., Cia. de Melhoramentos da Cidade de Santos, Santos, Brazil.
Coupland & Waddell, 1, Erskine-st., Sydney, New South Wales.
Cousens, R. L., Steytler's-bldgs., Johannesburg (P.O. Box 4261), Transvaal.
Craddock & Co., Ltd., Christchurch, N.Z.
Crawter, Wm., Gun Carriage Factory, Jubbulpore, India.
Crocker-Wheeler Co., 73, Clarence-st., Sydney, N.S.W.
Crofts, J, Cape Copper Co, Ookiep, Namaqualand, Cape Colony.
Crosher, W., & Sons, Electric Depôt, High-st., Auckland, N.Z.
Crothers, A. R., Camperdown & Terang, Victoria.
Crown Iron Works, Manchester-st., Christchurch, N.Z.
Crowther, A. D., Beira & Mashonaland Railways, Umtali, Rhodesia.
Culbertson, Dr. J. N., M.I.E.E., Merchants' Telephone Co., Montreal, Canada.
Cumming, J., & Son, 48, Rundle-st., Kent Town, South Australia.
Cummings, J. & J., 375, George-st., Sydney, N.S.W.
Currie, Wm., jun., A.AM.I.E.E., 89, Union-ave., Montreal, Canada.
Curtis, E. S., A.M.I.E.E., Box 2845, Johannesburg, Transvaal.
Cuthbert, M., A.M.I.E.E., Belize, British Honduras.
Dalmer, I., 74, St. Albans-lane, Christchurch, N.Z.
Dando, H. A., Grange-rd., Morden, Auckland, N.Z.
Daniels, A., R. H. Gould & Co. (P.O. Box 4941), Johannesburg.
Darookhanawalla, A. B., A.I.E.E., 664, Ormiston-rd., Apoll Pier, Bombay.
David, L., Service Electrique Cie. du Gaz, Port Said, Egypt.
Davids, R. G. B., M.I.E.E., Pedreira, S. Paulo, Brazil.
Davies, C., Transvaal & Delagoa Bay Collieries, Witbank, Transvaal.
Davies, J., West & Russell-sts., Durban, Natal.
Davies, J. Hubert, M.I.E.E., M.I.M.E., A.M.I.C.E., Brown's-bldgs., Loveday-st. (P.O. Box 1386), Johannesburg, Transvaal.
Davies, Hubert, & Co., Box 352, Durban, Natal.
Davis, A. G. H., A.M.I.E.E., Gun & Shell Factory, Cossipore, Calcutta, India.
Davis, C. R. S., Reunert & Lenz, P.O. Box 92, Johannesburg, Transvaal.
Davis, Fred. H., Rintoul & Davis, Cullinan-bldgs., Main-st., Johannesburg, Transvaal.
Dawson, J., 10, Cuba-st., Extension, Wellington, N.Z.
Dawson, John Alex., J.P., M.I.E.E., Electro Hydraulic Gold Dredging Co., Linton, Victoria.

Engineers—Electrical—*continued.*

Day & Sloan, 12, Little Bridge-st., Ballarat, Victoria.
De Figueiredo, Carlos, 57, rua da Constituicaô, Rio de Janeiro, Brazil.
Delfos Bros. & Co. (P.O. Box 24), Pretoria, Transvaal.
Demorest, Stull & Son, Sturgeon Falls, Ont., Can.
Dew, W. Elsdon, A.I.E.E., Transvaal Gold Exploration & Land Co., Transvaal.
Dietrich, W. N., Canadian Pacific Railway, Montreal, Canada.
Digby, J. C., New Westminster, B.C., Canada.
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Newman & Davies, 5, Moore-st., Sydney, N.S.W.
Newton, J. A., M.I.E.E., Melbourne, Victoria.
Newton, J. A., & Co., 380, Bourke-st., Melbourne, Victoria.
Newton, McLaren, Ltd., Leigh-st., Adelaide, South Australia.
Nicoreanu, C., Chilian Electric Tramway & Light Co., Ltd., Santiago, Chili.
Noerbel, H., Empresas Electricas, Quezaltenango, Guatemala.
Nosworthy, F. E., A.I.E.E., Amazon Telegraph Co., Para, Brazil.
Nowlan, G. K., A.M.I.E.E. (Box 75), G.P.O., Brisbane.
Noyes Bros. (Sydney), Ltd., 109, Pitt-st., Sydney, N.S.W.; Melbourne, Victoria; & Perth, W. Australia.
O'Donnell & Griffin, York-pl., 105, Liverpool-st., Sydney, N.S.W.
Oehmen, J. H., Smal-st., Johannesburg, Transvaal.
Oi, S., M.I.E.E., M.E., Ministry of Communications, Tokyo, Japan.
Oishi, K., Ministry of Communications, Tokyo, Japan.
Oiwa, K., M.E., Central Post Office, Osaka, Japan.
Okamoto, Keijiro, M.E., Communication Dept., Korea.
O'Neill, J. M., 4, Somerset-pl., Melbourne, Victoria.
Ono, F., Post, Telegraph & Telephone Office, Yokohama, Japan.
Oriental Telephone & Electric Co., Ltd., Rangoon, Burmah.
Orr & Sons, Victoria Arcade, Colombo, Ceylon.
Osgood, E. P., Sanitary Dept., Bangkok, Siam.

Engineers—Electrical—*continued.*

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Paquet, N. A., The Mines, Kaiping, Tong Shan, N. China.
Parker, F. F., Lancaster Gold Mining Co., Krugersdorp, Transvaal.
Parker, T., jun., c/o Martin & Co., 34, Jackson's-lane, Calcutta, India.
Parrington, C. Lascelles, Dunedin, N.Z.
Parsons, E. A. A., Cordoba, Argentina.
Parsons, F. G. T., Chief Engineer's Office, G.P.O., Cape Town, Cape Colony.
Pascoe, E., 341–343, Collins-st., Melbourne, Victoria.
Paton, James, & Co., 2, Martin-pl., Sydney, N.S.W. *See advt., page* 954.
Peet, Hastings Fitz Edward, M.I.C.E., M.I.E.E., Lagos, Nigeria.
Percy, H. L., Colombo Electric Tramways & Lighting Co., Colombo, Ceylon.
Petley, H. W., Hong Kong Electric Co., Hong Kong, China.
Pfordten, F. von der, M.I.E.E., Eastern Extension Telegraph Co., Cocos.
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Pool, J. T. de, Curaçao Telephone Co., Curaçao, Dutch West Indies.
Poole, E., Town Hall, Durban, Natal.
Poole, J. W., Glenferrie-rd., Hawthorn, Victoria.
Porter, E. E., & Co., Ltd., 14, Canton-rd., Shanghai, China.
Prendergast & Wood, 229, Collins-st., Melbourne, Victoria.
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Pyne, C. A. B., Balmer, Lawrie & Co., 103, Clive-st., Calcutta, India.
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Reid, Alex., Raetihi, N.Z.
Reidy, R. J., M.I.E.E., Western Telegraph Co., Ltd., Rio de Janeiro, Brazil.
Reindorp, E. J., Cape Copper Co., Ookiep, Namaqualand, Cape Colony.
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Remlington, G., & Co., 42, Victoria-st., Wellington, N.Z.
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Richmond, Harold H., A.I.E.E., 2, Martin-pl., Sydney, N.S.W.
Ricke & Co., P.O. Box 188, Durban, Natal.
Ricketts, S. F., A.M.I.E.E., Shewan, Tomes & Co., Hong Kong, China.
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Ritchie, Hazen, A.I.E.E., Canadian General Electric Co., Ottawa, Canada.
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Robb, J. B., & Co., Lawleys-bldgs., Fox-st., Johannesburg, Transvaal.
Robbins, E. E., 103, King-st., Newcastle, N.S.W.
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Roberts, A. D., Kingston, Jamaica, W.I.
Roberts, A. J., 329, Armstrong-st. N., Ballarat, Victoria.
Roberts, R. C., Stokesland, Udugama, Gall, Ceylon.
Roberts, W., c/o Killick, Nixon & Co., Bombay.
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Robson, Geo., & Co., Colombo, Ceylon.
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Rowe, H., & Co., 309, Collins-st. Works: 312, Flinders-st., Melbourne, Victoria.
Rowntree, F., & Son, Gladstone-st., Hobart, Tasmania.
Royce, J. C., Continental Life-bldg., Toronto, Canada.
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Rust, H. P., Electrical Development Co., Niagara Falls, Ont., Canada.
Ruthning Works, Ltd., George-st., Brisbane, Queensland.
Ryan & Peterson, East London, Cape Colony.
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Seligmann & Co., 22 & 23, Breda-chbrs., Fox & Risch-sts., Johannesburg, Transvaal.
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Shaw, F. S., A.M.I.E.E., L. J. Healing & Co., Kobe, Japan.
Shaw, J. A., Montreal Light, Heat & Power Co., Que., Canada.
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Siemens-Schuckert-Werke (Gust. Grob, E.E., general agent), P.O. Box 855, Cairo, Egypt.
Siemens Schuckert & Co., Valparaiso.
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Sims, A., A.I.E.E., Ferreira Gold Mining Co., Box 1021, Johannesburg.
Sinckler, Reynold R., M.I.E.E., Barbadoes Telephone Co., Barbadoes, West Indies.
Slade Electric Co., Quebec, Canada.
Slater & Co., Universal-bldgs., Grenfell-st., Adelaide, South Australia.
Slater, J., & Co., Queen-st., Melbourne, Victoria.
Sloan, J. H., Tottenham, Ont., Canada.
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Smallpiece, F. C., Canadian General Electric Co., Peterborough, Ont., Canada.
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Smith, John T., Alice-st. Power Station, Durban, Natal.
Smith, R. M., Holliday, Wise & Co., Shanghai.
Smith, T. W., Russell-st., Melbourne, Victoria.
Smith & Kopsen, 68–70, Clarence-st., Sydney, N.S.W.
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Smithson, S., Simmer & Jack Prop. Mines, Ltd., P.O. Box 192, Germiston, Transvaal.
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Soper, W. Y., Ahearn & Soper, Ltd., Ottawa, Canada.
Sorby, V., Hong Kong Electric Co., Hong Kong, China.
Sothmar, P. W., Hydroelectric P. Com. of Ont., Toronto, Canada.
SPLATT, WALL & CO., Perth, West Australia. Electrical engineers, importers, dealers in all kinds of machinery & electrical goods.
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Stacpoole, F. W., Oriziba, Mexico.
Standard Electric Co., 5, Apollo-st., Fort, Bombay, India.
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Stapleton, A., 312, Flinders-st., Melbourne, Victoria.
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Stenmark & Vaaler, Bulawayo, Rhodesia.
Stevenson & Co., 248, George-st., Sydney, N.S.W.
Stevenson & Hislop, 29, Jamieson-st., Sydney, N.S.W.
Stewart, J. E., M.I.E.E., M.I.C.E., 651, Avenida de Mayo, Buenos Aires, Argentina.
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Stone, J. P., Ferro Carril Oeste de Buenos Aires, Estacion Liniers, Buenos Aires, Argentine Republic.
Stone, W., Railway Dept., Melbourne, Victoria.
Stone, W. H., F.I.I., M.I.E.E., Department of Communications, Tokyo, Japan.
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Sutherland Bros., Bloemfontein, Orange River Colony.
Sutherland, G. & A., 342, Little Collins-st., Melbourne, Victoria.
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Takata, Y., M.E., Central Post Office, Osaka, Japan.
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Engineers—Electrical—*continued.*

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Thompson, E. A., British Westinghouse Electric & Manufacturing Co., Ltd., Cairo.
Thompson, F. H., 76, Escolta, Manila, Philippine Islands.
Thompson, F. T., 167, Clarence-st., Sydney, N.S.W.
Thomson, D. L., Mayagnez, Porto Rica.
Thornton, G. A., A.AM.I.E.E., 302, Boswell-ave., Peterboro, Ont., Canada.
Thresher, H. S., Water & Sewerage Board, Sydney, N.S.W.
Tildeman, H., Mill-st., Ballarat, Victoria.
Todd, A. J., A.M.I.E.E., 71, Collins-st., Hobart, Tasmania.
Todd, Sir C., K.C.M.G., M.A., F.R.S., M.I.E.E., 353, Angas-st. East, Adelaide, South Australia.
Todman, H. R., A.I.E.E., Greaves, Cotton & Co., 47, Apollo-st., Bombay, India.
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Tonkin, J. H., 92, George-st., Dunedin, New Zealand.
Tonks, T., Brisbane Electrical Co., Elizabeth-st., Brisbane, Queensland.
Toomath, E. B., Aurora-ter., Wellington, N.Z.
Toronto Electrical Works, 42, Adelaide-st. West, Toronto, Canada.
Tournay-Hinde, A. W., Sulphide Corp., Ltd., Creek, nr. Newcastle, N.S.W.
Townsend, A., Townsend & Hutt, Milestone, Sask., Canada.
Trackson Bros., Ltd., 48 & 50, Elizabeth-st., Brisbane, Queensland.
Tranter, J., & Sons, 99, St. Asaph-st., Christchurch, N.Z.
Tresilian, A. S., Esplanade Station, No. 6 Street, Princess-st., Bombay.
Trimble, James, Corporation Electricity Works, Bracebridge, Ont., Canada.
Tringham, J. P., Leopoldina Railway, Rio de Janeiro, Brazil.
Trowbridge, E. D., Rio de Janeiro Tramway, Light & Power Co., Ltd., Rio de Janeiro, Brazil.
Tsuboi, M., M.E., M.I.E.E., Nippon Railway Co., Tokyo, Japan.
Turnbull, R. T., M.I.E.E., Turnbull & Jones, Ltd., Wellington, N.Z.
Turnbull & Jones, Ltd., Wellington; Dunedin; Christchurch; & Auckland, N.Z.
Ulmer, M., Puebla Tramways, Light & Power Co., Puebla, Mexico.
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Engineers—Electrical—*continued.*

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Wightwick, H. G., A.M.I.E.E., Singapore Electric Tramways, Ltd., Singapore, Straits Settlements.
Wiley, R. R., Packard Electric Co., St. Catherines, Ont., Canada.
Wilkinson, T., British Insulated & Helsby Cables, Ltd., Adelaide, South Australia.
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Johnson, G., M.I.E.E., A.M.I.M.E., P.O. Box 224, Bulawayo, Rhodesia.
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Macdonald, G. M., University St. Francis Xavier's College, Antigonish, N.S., Canada.
MacMuldrow, W. G. P., Bam's-bldgs., St. George's-st., Cape Town, Cape Colony.
Meares, J. W., M.I.E.E., F.R.A.S., Govt. of India, Bhawanipore, Calcutta.
Mershon, R. D., Street Rly.-chbrs., Montreal, Canada.
Murray, Noel, Colonial Mutual-bldgs., Market-st., Melbourne, Victoria.
Parke, R. J., Bank of Toronto-bldg., 205, Yonge-st., Toronto, Ont., Canada.
Plews, W. J., 40, Hospital-st., Montreal, Canada.
Saunders, F., P.O. Box 1375, Johannesburg, Transvaal.
Shepherd, F. R., A.M.I.E.E., P.O Box 361, Dunedin, N.Z.

Engineers—Electrical Consulting—*contd.*

Speakman, R. E., Canada Life-bldgs., Toronto. Ont., Canada.
Standard Construction Co., 17, Place d'Armes Hill; & 11½, Gosford-st. (opposite City Hall), Montreal, Que., Canada.
Stark, E. E., 51, Crawford-st., Dunedin, N.Z.
Trimingham, C. L., 40, Hospital-st., Montreal, Canada.
Turbayne, W. A., 127, King-st., East Hamilton, Ont., Canada.
Webb, A. C. F., M.I.E.E., M.AM.I.E.E., Vickery's-chbrs., Pitt-st., Sydney, N.S.W.
Webb & Weston, Norman-chbrs., Brisbane, Queensland.
Western Electric Co. of Victoria, Warruambool, Vic.

Engineers—Electrical Manufacturing.

F.—Ingénieurs—Fabricant électr.
G.—Ingenieure—Elektr. & fabr.

Allgemeine Elektricitäts Gesellschaft, Cuyo 963, Buenos Ayres, Argentina.
American Electrical Novelty & Manufacturing Co., 163, Pitt-st., Sydney, N.S.W.
Benjamin Electric Manufacturing Co., 64, York-st., Toronto, Ont.
British General Electric Co., Ltd., cor. Loveday & Anderson-sts., Johannesburg, Transvaal.
British Westinghouse Electric & Manufacturing Co., 45, Adelaide-st., Brisbane, Queensland.
Canadian Crocker-Wheeler Co., Ltd., Montreal, Canada.
Canadian Electrical Construction, Manufacturing & Supply Co., 112, St. James-st., Montreal, Canada.
Greene-Butler Electric & Engineering Co., Saskatoon, Sask., Canada.
Holtby, A. C., M.I.E.E., S. Neumann & Co., Johannesburg, Transvaal. Private P.O. Box 4336.
Langdon-Davies Motors (Canada), Ltd., 15, Alice-st., Toronto, Ont., Can.
Niagara Electrical Co., Niagara Falls South, Ont., Canada.
Siemens Schuckertwerke, 16, Kiukiang-rd., Shanghai; & Tsintao, Tientsin & Hankow, China.
Toronto & Hamilton Electric Co., 99–103, McNab, Hamilton, Ont., Canada.
Van Bergh Electrical & Manufacturing Co., Winnipeg, Man.
Wagner Electric Manufacturing Co., Traders Bank-bldg., Toronto, Canada.

Engineers—Electricity Works.

F.—Ingenieurs—Usines électriques.
G.—Ingenieure—Elektricitäts Centrale.

Abe, T., Ise Electric Railway Co., Ise, Japan.
Aiken, D., West India Electric Co. & Jamaica E. L. & P. Co., Ltd., Kingston, Jamaica.
Alder, H. G., Corporation, Boulder, W. Australia.

Engineers—Electricity Works—*continued.*

Aldridge, T. H. U., M.I.E.E., Municipality, Shanghai, China.
Aldworth, E. J., Burma Electric Tramways & Lighting Co., Ltd., Mandalay, Burma.
Allen, C. E., Michoacan State Government, Morelia, Mexico.
Allen, W. P., Calcutta Tramways Co., Ltd., Calcutta, India.
Altham, A. H., Macleod, Alberta, Canada.
Amireaux, C., The Kent Electric Co., Ltd., Richibucto, N.B., Canada.
Anderson, Wm., Cascade Water Power & Light Co., Ltd., Cascade, B.C., Canada.
Archibald, J. G., City, Woodstock, Ont., Canada.
Atage, Y., Kobe Electric Light Co., Kobe, Japan.
Baba, S. K., Keihan Electric Railway Co., Ltd., Osake, Japan.
Babin, F., Kent Electric Co., Richibucto, Kent Co., N.B., Canada.
Bader, H. A. F., South Perth Electric Supply & Power Co., Ltd., Coode-st., South Perth, W. Australia.
Badger, J. S., Brisbane Tramways Co., Ltd., Brisbane, Queensland.
Baird, C. L., Kentville Electric Light & Power Co., Kentville, N.S., Canada.
Baird, R. W., Colombo Gas & Water Works Co., Ltd., Kandy, Ceylon.
Balfour, J. W., Municipality, Redfern, Sydney, N.S.W.
Banham, C. Procter, M.I.E.E., Table Bay Harbour Board, Cape Town, Cape Colony.
Barkley, J. A., Cape Town Tramways, Port Elizabeth, Cape Colony.
Barton, D. S. (chief), Canadian Electric Lighting Co., Levis, Que., Canada.
Barton, R., Corp., Iroquois, Ont., Canada.
Bass, T. B., Sussex Manufacturing Co., Sussex, N.B., Canada.
Baxter, E. D., Monterey Electric Light & Power Co., Monterey, Mexico.
Beal, Dupair E., Power Station, Okere Falls, Rotorua, N.Z.
Beattie, Wm., Algoma Power Co., Ltd., Michipicoten River, Ont., Canada.
Beatty, J. H., Municipal Plant, Campbellford, Ont., Canada.
Beatty, Pakenham, Ferro Carril de Buenos Aires al Pacifico, Bahia Blanca, Argentina.
Beresford, C. H., Council, Deloraine, Tasmania.
Bert, C. L., Canada Electric Co., Ltd., Amherst, N.S., Canada.
Bertoli, A. C., Town, Zeehan, Tasmania.
Beyer, M., Cia. Pontencia Electrica de Colima, Colima, Mexico.
Bindley, E. H., Municipality, Midland Junction, West Australia.
Binnie, T. J., Zomba, British Central Africa.
Birchard, W. H., Aurora, Ont., Canada.
Bird, W. L., Kaministiquia Power Co., Ltd., Fort William & Kakabeka Falls, Ont., Canada.
Birks, L., Government, Rotorua, N.Z.
Black, H., New Plymouth, N.Z.

Engineers—Electricity Works—*continued.*

Black, R. G., Toronto Electric Light & Power Co., Toronto, Ont., Canada.
Blasson, L. L., Municipality, Heilbron, Orange River Colony.
Blatchford, W. H., Local Board Electricity Works, Greytown, Natal
Bose, L. C., Srinagar, Kashmir, India.
Boucher, C. S., Sydney Mines Electric Co., Sydney Mines, C.B., Canada.
Bouwer, J. H., A.I.E.E., Anglo-Argentine Electricity Co., Buenos Aires; Concordia; & Gualeguay, Argentina.
Bowman, A., Waterloo, Ont., Canada.
Boyd, W. B., Electrical Development Co. of Ontario, Toronto, Ont., Canada.
Bradley, S. W., Cornwall Electric Railway Co., Cornwall, Ont., Canada.
Brady, W. B., Corporation, Harrismith, O.R.C.
Brain, O. W., M.I.E.E., Government, Sydney, N.S.W.
Broadbent, H., M.I.E.E., Electricity Department, Perth Gas Co., Ltd., Perth, Western Australia.
Brooks, W. D., Municipality, Brighton, Ont., Canada.
Brown, J. E., Corporation, Ottawa, Ont., Canada.
Brown, V. A., Cia. Tramways Lacroze de Buenos Aires Lda., Buenos Aires, Argentina.
Brown, R. A., Corporation, Nelson, B.C., Canada.
Brydon, R., Municipality, Newcastle, N.S.W.
Buck, H. W. (hydraulic), Canadian Niagara Power Co., Niagara Falls, Ont., Canada.
Bull, E.W., Corp., Regina, Saskatchewan, Canada.
Burke, M. J., Mattawa Electric Light & Power Co., Ltd., Mattawa, Ont., Canada.
Burns, P. H., Nassau, Bahamas.
Burran, Lewis, Quebec Railway, Light & Power Co., Que., Canada.
Byers, F. W., Nanaimo Electric Light, Heat & Power Co., Nanaimo, B.C., Canada.
Bytton, A. S., Iquitos, Peru.
Callahan, B., Charlottetown Light & Power Co., Charlottetown, P.E.I., Canada.
Camajaro, J. A. de, Cia. Paulista de Electricidade, Franca, Brazil.
Cameron, Allan, Newcastle, Natal.
Canales, J. G., Tangier, Morocco.
Carmoy, Pierre (resident), French Municipality, Tientsin, China.
Carnaghan, E. D., Cia. Durangneña de Luz Electrica, Durango, Mexico.
Carruthers, H. R., Alvinston Power Co., Ltd., Alvinston, Ont., Canada.
Chapman, H., Yukon Electrical Co., Ltd., White Horse, Yukon Ter., Canada.
Chase, W. M., Essex Electric Light & Power Co., Essex, Ont., Canada.
Chisholm, F. A., St. John's Electric Light Co., St. John's, Que., Canada.
Choisnet, J., Corporation, Parsboro, N.S., Canada.
Choquette, J. E., Cie. Éclairage de Mègantic, Mègantic (Lac), Crompton Co., Que., Canada.
Chowen, Fred R., Stratford Gas Co., Stratford, Ont., Canada.

Engineers—Electricity Works—*continued.*

Clarke, G. G., De Beers Consolidated Mines, Ltd., Kimberley, Cape Colony.
Clements, F. W., M.I.E.E., Melbourne Electric Supply Co., Ltd., Geelong; & Melbourne, Victoria; & Adelaide, South Australia.
Coburn, C. N., International Transit Co., Sault Ste. Marie, Ont., Canada.
Cole, T., Dunedin Tramways & Waipori Power Scheme, Dunedin, N.Z.
Coleman, V. B., Port Hope Electric Light & Power Co., Port Hope, Ont., Canada.
Colin, J., Towns Lighting & Power Co., Ltd., Deniliquin.
Collens, H. (electrical superintendent), Harbour Board, East London, Cape Colony.
Colpitt, P. R., Halifax, N.S., Canada.
Combe, L. H., Colombo Electric Tramways & Lighting Co., Ltd., Colombo, Ceylon.
Converse, V. G., Ontario Power Co., Niagara Falls, Ont., Canada.
Cook, W. F., City, Vernon, B.C., Canada.
Cooper, A. T., M.I.E.E., M.I.M.E., M.AM.I.E.E., Bombay Elect. Supply & Trys. Co., Ltd., Bombay, India.
Cope, C., Municipality, Edmonton, Alberta, Canada.
Copland, A., Glencoe Electric Light Co., Glencoe, Ont., Canada.
Cordeiro, José, Villa Franca do Campo, Paraguay.
Cornish, J. T., M.I.E.E., City of Santos Improvements Co., Santos, Brazil.
Counsell, W. G., A.M.I.E.E., Municipality, Tamworth, N.S.W.
Coursol, A. G. (superintendent), Sorel Electric Light Co., Sorel, Quebec, Canada.
Crabb, G., Seaforth Electric Light, Heat & Power Co., Ltd., Seaforth, Ont., Canada.
Crocker, C. E., M.I.E.E., Kalgoorlie Electric Power & Lighting Corporation, Ltd., Kalgoorlie, West Australia.
Crosher, A. T., Corporation, Te Aroha, N.Z.
Cruickshank, R., Corporation, Campbeltown, New Zealand.
Curtis, E. S., A.M.I.E.E., Boksburg, Transvaal.
D'Abbadie, A., M.I.E.R.P., Cia. de Luz y Fuerza, Cordoba, Argentina.
Davidson, John, Smith's Falls Electric Light Co., Smith's Falls, Ont., Canada.
Davidson, R., Whitby, Ont., Canada.
Davidson, T., Town Council, Newmarket, Ont., Canada.
Davies, A. E. Val, Cie. Generale d'Electricité, Lourenço Marques, Delagoa Bay.
Davis, L. H., Tagona Water Light Co., & Lake Superior Power Cos., Sault Ste. Marie, Ont., Canada.
Day, H., Petrolia Electric Light, Heat & Power Co., Ltd., Petrolia, Ont., Canada.
Daykin, W., Norwich, Ont., Canada.
Deakin, B., M.I.M.E., M.I.E.E., Electricity Supply Co. of Victoria, Ltd., Ballarat; & Bendigo, Victoria.
Degrez, C., North Shore Power Co., Three Rivers, Que., Canada.

Engineers—Electricity Works—*continued.*

Denham, J., M.I.E.E., M.I.M.E., M.AM.I.E.E., Cape Government Railways, Cape Town, South Africa.
Denis, L. G., Quebec Jacques-Cartier Electric Co., Quebec, Canada.
Desjardins, S., J. T. Ayer's, Lachute, Argenteuil Co., P.Q., Canada.
Desolier, A., Cie. de Gaz, Electricité et Pouvoir, St. Hyacinthe, Que., Canada.
Dew, Wm. Elsdon, A.M.I.E.E., Transvaal Gold Mining Estates, Ltd., Pilgrim's Rest, Lydenburg, Transvaal.
Dion, A. A., Ottawa Elec. Co., Ottawa, Ontario, Canada.
Dobson, A., Cannington, Ont., Canada.
Dodd, J. R., Arnprior Electric Light & Power Co., Arnprior, Ont., Canada.
Dominici, J. M., Lujan, Argentina.
Donnellan, B. J., Victoria Falls Power Co., Ltd., Brakpan, Transvaal.
Donnelly, J., Municipality, Westmount, Que., Canada.
Donoghue, J. E., A.M.I.E.E., The Electric Light & Power Supply Corp., Ltd., Balmain, Sydney, N.S.W.
Drummond, G. R., State, Bikanir, India.
Duperdouzel, H., West India Electric Co., Ltd., Kingston, Jamaica.
Dyson, J. L., Rangoon Electric Tramways & Supply Co., Ltd., Rangoon, Burma.
Eberlee, Chas., Corporation, Dresden, Ontario, Canada.
Ecroyd, A., Tepic, Mexico.
Edington, J., City of Moncton Water & Light Department, Moncton, N.B., Canada.
Edmiston, H., Corporation, Perth, West Australia.
Edmondson, C. S., Oshawa Electric Co., Oshawa, Ont., Canada.
Elliott, R., Galt Gas Light Co., Ltd., Galt, Ont., Canada.
Ellis, R., Town, Milton, Ont., Canada.
Elsdon-Dew, W., M.I.E.E., Wit Deep, Ltd., P.O. Box 5, Knights, Transvaal.
Erskine, E. J., M.I.E.E., Hillgrove & Armidale Electrical Corp., Hillgrove, N.S.W.
Esawa, S., Onomichi Electric Light Co., Onomichi, Japan.
Evans, J., Municipality, Kingston, Ontario, Canada.
Fairley, F., M.I.E.E., A.M.I.M.E., Hankow Water Works & Electric Light Co., Ltd., Hankow, China.
Farrer, H. G. V., City, Campbellton, N.B., Canada.
Fehr, M., Electricity & Ice Supply Co., Ismailia, Egypt.
Ferranini, J., Cia. Paulista de Electricidade, Descalvaldo, Brazil.
Field, H., River Plate Electricity Co., Tucuman, Argentina.
Fife, G., Renfrew Electric Co., Renfrew, Ont., Canada.

Engineers—Electricity Works—*continued.*

Fippard, A. J., A.M.I.E.E., c/o Hankow Water & Electric Light Co., Hankow, China.

Fisher, John, Brussels, Ont., Canada.

Fisk, H. O. (chief), Peterboro' Light & Power Co., Peterboro', Ont., Canada.

Fletcher, R. W., Municipality, Krugersdorp, Transvaal.

Fogarty, Bert, North River Power Co., Ltd., Montreal, Canada.

Fontaine, H., Empresa de Luz y Fuerza Electrica, Guayaguil, Ecuador.

Forbes, J., Moss Vale Electric Supply Co., Moss Vale, N.S.W.

Foster, B., Georgetown Electric Light & Power Co., Ltd., Georgetown, Ont., Canada.

Foulis, Geo., Yarmouth Street Railway Co., Ltd., Yarmouth, N.S., Canada.

Fox, A., A.M.I.C.E., Soc. Explotadora de Cayl-loma, Caylloma Silver Mines.

Franklin, E. S., M.I.E.E., M.I.MECH.E., Bengal-Nagpur Railway Co., Kharagpur, India.

Frazie, W. L., Government, Nunanu Valley, Honolulu.

Freeman, M., Lethbridge Water Works & Electric Light Co., Lethbridge, Alberta, Canada.

Freeman, P. A., Halifax Electric Tramway Co., Ltd., Halifax, N.S., Canada.

Freis, E., Municipality, Berlin, Ontario, Canada.

Freston, C. C., Tampico, Mexico.

Frizzell, L. K., Corporation, Glace Bay, N.S., Canada.

Fujimura, N., Okayama Electric Light Co., Ltd., Okayama, Japan.

Fujioka, Dr. I., M.E., M.I.E.E., Tokyo Railway Co., Tokyo, Japan.

Fulton, R. N., Mount Bischoff Tin Mining Co., Waratah, Tasmania.

Fung, Tsun Nam, China Light & Power Co., Ltd., Canton, China.

Gaillard, E., French Municipality, Shanghai, China.

Gale, Geo. G., Hull Electric Co., Aylmer, Que., Canada.

Gault, J., Municipality, Bethlehem, Orange River Colony.

Gellender, E. H., Newcastle Electric Lighting Co., Newcastle, Natal.

Gibbs, H. P., M.AM.I.E.E., Cauvery Power Scheme, Bangalore, India.

Gibson, E. M., Toowoomba Electric Light & Power Co., Ltd., Toowoomba, Queensland.

Gilbert, E., Corporation, Berlin, Ont., Canada.

Giles, A. S., Camp's Bay Electric Tramways Co., Ltd., Cape Town, Cape Colony.

Gill, W., Municipality, Strathroy, Ont., Canada.

Gilmour, R. W., Lancaster Gold Mining Co., Ltd., Krugersdorp, Transvaal.

Girard, W. C., Farnham Electric Light Co., Farnham, Que., Canada.

Glenn, P., Stayner, Ont., Canada.

Engineers—Electricity Works—*continued.*

Gooding, H. C. L., Consolidated Copper Co., Cananea, Senova, Mexico.

Goto, Ichiro, Kobe Electric Railway Co., 32, Hamasaki-dori 4-Chome, Kobe, Japan.

Götz, J., Raub Australian Gold Mining Co., Ltd., Raub Pahang, Malay Peninsular.

Graddon-Pettle, R. L., Bulawayo Waterworks Co., Ltd., Bulawayo, Rhodesia.

Grandbois, E., Chatham Gas Co., Ltd., Chatham, Ont., Canada.

Grant, C., Kanai Electric Co., P.O. Wainiha, Island of Kanai, Hawaii Ter.

Greenham, H., Carman Electric Light & Power Co., Ltd., Carman, Man., Canada.

Grégoire, Albert, Cie. de Tramways & d'Eclairage, Tientsin, N. China.

Grenon, J. G., Cie. des Eaux et de l'Electricité de Chicoutimi, Chicoutimi, Que., Canada.

Griffin, J. G., A.M.I.E.E., Delhi Electric Tramways & Lighting Co., Delhi, India.

Grigioni, J. L., Cia. Alumbrado Fuerza Motriz Electricos de Antofagasta, Antofagasta, Chili.

Groom, W. R., Municipality, Subiaco, West Australia.

Groves, G., Corporation, Parry Sound, Ont., Canada.

Guzman, C., Cia. de Tranvias Luz y Fuerza de Guadalajara, Guadalajara, Mexico.

Hallarn, W. O., Town Council, Newmarket, Ont., Canada.

Halliwell, W. S., Electric Light Department, Lagos, West Africa.

Hallorans, J. O., Electric Supply Co. (Proprietary), Ltd., Kerang, Victoria.

Hamilton, J., Cathcart Gold Mines, Ararat, Victoria.

Hancock, H. G., Corporation, Fort William, Ont., Canada.

Hansey, W. J., Mount Forest Electric Light Co., Mount Forest, Ont., Canada.

Hare, J. A., Corporation, Barrie, Ont., Canada.

Harkies, W., Orangeville, Ont., Canada.

Harman, H., Municipality, Beeton, Ont., Canada.

Harnecker, Luis, Chilian Electric Tramway & Light Co., Santiago, Chili.

Harper, H. R., M.I.E.E., City Council's Station, 210, Spencer-st., Melbourne, Victoria.

Harris, R., Corporation, Mitchell, Ont., Canada.

Hartmann, N., Société Elec. d'Ismailia, Suez, Egypt.

Hashimoto, Y., Nagasaki Electric Light Co., Ltd., Nagasaki.

Haverkate, Y. G., Peking Chinese Electric Light Co., Peking, China.

Hay, A, Mount Morgan Gold Mining Co., Mount Morgan, Queensland.

Hayashi, M. E., Kokura Electric Light Co., Kokura, Japan.

Heal, Jno., Timaru, N.Z.

Heaslip, B., Gananoque Electric Light & Water Supply Co., Gananoque, Ont., Canada.

Heeg, J., Corporation, Guelph, Ont., Canada.

Hendry, Jas., Mount Kemble Mine, N.S.W.

Engineers—Electricity Works—*continued.*

Henry, Thos., Interurban Electric Co., Toronto, Ont., Canada.
Henke, M., German Govt., Kiaochau, China.
Herbecker, C., Hanover, Ont., Canada.
Herbert, Jorge S., Cia. de Fuerza y Luz Electrica de Celaya, Celaya, Mexico.
Hicks, A. T., Trenton Electric & Water Co., Ltd., Trenton; & Belleville, Ont., Canada.
Hincks, J. M. (sta.), A.I.E.E., A.M.I.MECH.E., Kolar Mines Power Station, Ltd., Oorgaum, Mysore State, S. India.
Hoare, H., Rockhampton Gas & Coke Co., Ltd., Alma-st., Rockhampton, Queensland.
Hodgson, Norman A., Kerang Electric Supply Co. Pty., Ltd., Kerang, Victoria.
Holden, C., Moose Jaw, Sask., Canada.
Holder, H. J., A.M.I.E.E., Municipality, Port Elizabeth, Cape Colony.
Holditch, R., Bowmanville Electric Light Co., Bowmanville, Ont., Canada.
Holzer, Chas., Cia. Gas y Luz Electrica de Parana, Parana, Argentina.
Honey, Wm., Cia. Hidro-Electrica Queretaro, Las Rosas, nr. Queretaro, Mexico.
Hopton, C. A., A.I.E.E., Dundee Electric Lighting Co., Dundee, Natal.
Horton, W. H., Niagara, St. Catherine's & Toronto Railway Co., St. Catherine's, Ont., Canada.
Hower, W. C., Phœnix Electric Lighting Co., Ltd., Phœnix, B.C., Canada.
Howland, L. A., Reid Newfoundland Co., St. John's, Newfoundland.
Hube, R. O., Drayton, Ont., Canada.
Hunter, T., Selkirk Electric Co., Ltd., Selkirk, Man., Canada.
Hutchison, M., City, Victoria, B.C., Canada.
Igarashi, G., Yokohama Union Electric Light Co., Yokohama, Japan.
Ingram, A., Corp., Kincardine, Ont., Canada.
Irwin, T., St. John Railway Co., St. John, N.B., Canada.
Ishiguro, Dr. Isoji, M.I.C.E., Uji River Electric Co., Ltd., Kyoto, Japan.
Iwasaki, H., Kobe, Hiogo, Sanyo Rail Electric Dept., Kobe, Japan.
Iwasawa, R., Wakayama Hydro Electric Co., Wakayama, Japan.
James, J. H., Cottesloe Electric Light, Gas & Power Co., Ltd., Cottesloe, West Australia.
Jewkes, Spencer, A.M.I.E.E., Municipality, Launceston, Tasmania.
Jio, M., Sakai Electric Light Co., Sakai, Japan.
Jobbins, G. G., A.M.I.E.E., resident, Melbourne Electric Supply Co., Ltd., Geelong, Victoria.
Johannsen, C. A., Cia. Luz Electrica de la Serena, La Serena, Chili.
Johnesen, F. K., Donald Electric Supply Co., Ltd., Donald, Victoria.
Jones, J. F., Madras Electric Tramways (1904), Ltd., Madras, India.
Jones, T. Harison, United Electric Tramways of Montevideo, Ltd., Montevideo, Uruguay.

Engineers—Electricity Works—*continued.*

Joyner, G., Benjamin Manufacturing Co., Ltd., Yarkes, Ont., Canada.
Kamjé, S., Himeji Electric Light Co., Ltd., Himeji, Japan.
Kawamura, S., Sendai Electric Light Co., Sendai, Japan.
Keen, A., tramways power station, Cape Town, Cape Colony.
Kelleway, D., Kuala Lumpur, Federated Malay States.
Kelly, Jno. B., Corporation, Goderich, Ont., Canada.
Kennedy, J. J. Stodart, Electric Traction Co. of Hong Kong, Ltd., Hong Kong, China.
Kenyon, A. L., Empresa Electrica de Sta. Rosa, Lima, Peru.
Kerr, W., City of Santos Improvements Co., Ltd., Santos, Brazil.
Key, J. F., Walhalla, Victoria.
King, Geo., Woodstock Electric Railway, Light & Power Co., Woodstock, N.B., Canada.
King, W. L., Cia. Electrica de Viña del Mar, Viña del Mar, Valparaiso, Chili.
Klein, F., Cia. de Alumbrado Electrico, San Salvador.
Klein, O., Corporation, Prince Albert, Saskatchewan, Canada.
Knight, W., Burks Falls Water, Light & Power Co., Burks Falls, Ont., Canada.
Knox, John, Hawkesbury Electric Light & Power Co., Ltd., Georgetown, Ontario, Canada.
Kurowa, S., Hokkai Electric Co., Sapporo & Hokkaido, Japan.
Lambe-Mordy, J., Corporation, East London, Cape Colony.
Langer, H., Oxford Street Electric Lighting Co., Ltd., Sydney, N.S.W.
Lapouyade, —, Société Electrique d'Extreme-Orient, Macao, China.
Lavandeyra, A., Amazonas State, Manaos, Brazil.
Law, Alex., Dutton Electric Light Co., Ltd., Dutton, Ont., Canada.
Leclair, D., Corporation, Lachine, Quebec, Canada.
Lee, A., Dawson City Electric Light & Power Co., Ltd., Dawson, N.W.T., Canada.
Leger, P. J., Bathurst Electric & Water Power Co., Bathurst, N.B., Canada.
Leggott, W. J., Lakefield Light & Power Co., Lakefield, Ont., Canada.
Leigh, H., Ingersoll Electric Light & Power Co., Ltd., Ingersoll, Ont., Canada.
Levi, R., Société Electrique de la Basse Egypte, Tantah, Egypt.
Lewis, G. A., Council, Thargomindah, Queensland.
Leys, G. D., A.M.I.E.E., H.M. Dockyard, Malta.
Lincolne, G. B., Camperdown, Victoria.
Lindsay, J., Moolort, Victoria.
Livingstone, C., Corporation, Tottenham, Ont., Canada.

Engineers—Electricity Works—*continued.*

Lockhart, L. H., Montreal Park & Island Railway Co., Montreal, Canada.
Lockley Colin R., Nhill, Victoria, Australia.
Lofts, G. H., A.M.I.E.E., Town Board Electricity Works, Devonport, Tasmania.
Long, W. F., A.M.I.E.E., Corporation, Cape Town.
Lotbinière, Major A. J. de, C.I.E., R.E., Electrical Dept., Jammu & Kashmir State, India.
Lozan, J., West Lorne Electric Light Co., Ltd., West Lorne, Ont., Canada.
Lozanna, L. de, Cia. Hidro-Electrica Queretaro, Las Rosas, nr. Queretaro, Mexico.
MacCanley, T. H., Corporation, Port Arthur, Ont., Canada.
McCarty, F. A., Municipality, Fremantle, West Australia.
McColl, J. F., Corp., Calgary, Alberta, Canada.
McConnell, J., Sandwich, Windsor & Amherstburg Railway, Windsor, Ont., Canada.
McFarlane, W., Deep Leads Electric Transmission Co., Charlotte Plains, Victoria.
Macfarlane, W. L., St. Lawrence Power Co., Mille Roche, Ont., Canada.
McGilvay, Wm., Phœnix Electric Lighting Co., Ltd., Phœnix, B.C., Canada.
McHaffey, B. J., Sackville Electric Light & Telephone Co., Sackville, N.B., Canada.
Mackay, H. R. Forbes, Municipality, Sydney, N.S.W.
MacKenna, J., Delagoa Bay Development Corp., Lourenço Marques, Delagoa Bay.
McKenzie, W., Corporation, Thamesville, Ont., Canada.
MacLellan, R. A., American Korean Electric Co., Seoul, Korea.
Mcphail, J., Uxbridge, Ont., Canada.
McTavish, Wm., Midland Electric Light Co., Midland, Ont., Canada.
McVittie, John, Saugeen Electric Light & Power Co., Ltd., Southampton, Ont., Canada.
Mansel, R. S., A.I.E.E., Cape Explosives Works Power Station, Somerset West, Cape Colony.
Marchard, J. E., Valleyfield Electric Co., Valleyfield, Que., Canada.
Mars, F. J., Broken Hill, N.S.W.
Martin, F. K., Battleford, Sask., Canada.
Martindale, R. H., Corp., Sudbury, Ont., Canada.
Matheson, D. N., Lucknow, Ont., Canada.
Matheus, Dr. D. A., Cia. Paulista de Electricidade, Bragança, Brazil.
Mathieson, Wm., Kingsville Electric Light Co., Ltd., Kingsville, Ont., Canada.
Matthews, J. C. M., A.M.I.E.E., Kuala Lumpur, Federated Malay States.
Maxwell, John, Kemptville Milling, Light, Heat & Power Co., Kemptville, Ont., Canada.
Menaugh, R., Honolulu Rapid Transit & Land Co., Honolulu, Hawaii Ter.
Menzies, F. A., Municipality, Mussoorie, India.
Meybohm, H., jun., Mascara, Algeria.
Millard, J. L., Corp., Aylmer, Ont., Canada.
Miller, A., Shubenacadie, Hants Co., N.S., Canada.

Engineers—Electricity Works—*continued.*

Misaki, S., Hanshin Electric Railway Co., Amagasaki & Mikage, Japan.
Mitchell, A., Municipal Tramways & Electric Lighting Board, Fremantle, W. Australia.
Mitchell, F. H., Maritime Coal Railway & Power Co., Ltd., Chignecto, N.S., Canada.
Miura, T., Matsumoto Electric Light Co., Matsumoto, Shinano, Japan.
Mocine, J. C., Hilo Electric Light Co., Hilo, Hawaiian Is.
Möller, P., La Industrial del Oeste, Ltd., Rojas, Argentina.
Moore, P. G., Indian Electric Supply & Traction Co., Ltd., Cawnpore, India.
Morgan, A. H., A.M.I.C.E., M.I.M.M., The Burma Ruby Mines, Ltd., Mogok, Upper Burma.
Morrison, W., Corp., Markham, Ont., Canada.
Mucklin, E. E., Corporation, Acton, Ontario, Canada.
Muller, G. E., A.M.I.E.E., Government, Malta.
Mullings, T. O. (chief), Mansourah Electric Supply Co., Mansourah, Egypt.
Mullins, C., Indwe Railway Collieries & Land Co., Ltd., Indwe, Cape Colony.
Muramatsu, R., Nara Electric Light Co., Ltd., Nara, Japan.
Murdoch, A. D., North Melbourne Electric Tramways & Lighting Co., Ltd., Melbourne, Victoria.
Muta, S., Kofu Electric Light & Power Co., Yamanashi-ken, Japan.
Nakazawa, S., M.E., Keihin Electric Traction Co., Ltd., Kawasaki, Kanagawa-ken, Japan.
Nakahara, I., M.E., M.I.E.E., Tokyo Electric Light Co., Tokyo, Japan.
Nakaya, S., Nanman Railway Co., Manchuria.
Naylor, C. E., Essex, Ont., Canada.
Nedyer, W. J., Clinton Electric Light Co., Clinton, Ont., Canada.
Neville, F. H. R., A.M.I.E.E., Lake View Consols, Kalgoolie, West Australia.
Newton, W. J., Stratford Electric Supply Co., Stratford, N.Z.
Nicholl, F. Michell, A.M.I.E.E., A.M.I.MECH.E., Kolar Mines Power Station, Ltd., Oorgaum, Mysore State, India.
Nicol, T. G., Mahone Electric Co., Ltd., Mahone, N.S., Canada.
Nishiyama, S., Matsue Electric Light Co., Matsue, Shimaneken, Japan.
Noakes, L., Camp's Bay Tramway Co., Ltd., Cape Town.
Noerbel, H., Empresas Electricas, Quezaltenango, Guatemala.
Nogami, K., Sumitomo Bessi Copper Mine, Japan.
Normand, A., Town, Joliette, Quebec, Canada.
Obst, Max., Empresa Electrica de Guatemala, Guatemala.
Ogawa, R., The Chemulpo Electric Co., Ltd., Chemulpo, Korea.
Oguinoto, S. K., Fukagawa Electric Light Co., Fukagawa, Tokyo, Japan.
Ogura, I., Aidzu Denryoku Habushiki Kivaisha, Wakamatsu Fukushimaken, Japan.

Engineers—Electricity Works—*continued.*

Okada, Kamenosuke, Kagoshima Electric Co., Kagoshima, Japan.
Okamoto, T., M.E., Nagoya Electric Light Co., Nagoya, Japan.
Okitsu, Y., Hiogo-Akashi Electric Railway, Hiogo, Japan.
O'Neill, J. M., Bulla Shire Council, Sunbury, Vic.
Onishi, T., Toyoshashi Electric Light Co., Ltd., Toyohashi, Japan.
Onofri, Robt., Pergamino, Argentina.
Ormiston, D., New Glasgow Electric Co., Ltd., New Glasgow, N.S., Canada.
Ostrander, Bert, Brampton Electric Co., Brampton, Ont., Canada.
Ota, Kyoto Electric Light Co., Nakatsu, Japan.
Otaki, T., Kyoto City, Kyoto, Japan.
Otawara, J. Oshima Hydro Electric Power Co., Hakodate, Japan.
Pagel, William, Waterloo, Ont., Canada.
Parker, A. C., Hobart Electric Tramway Co., Ltd., Hobart, Tasmania.
Paton, G., A.M.I.M.E., Tientsin Gas & Electric Light Co., Ltd., Tientsin, China.
Patterson, J., Worcester Electric Light Co., Worcester, Ont., Canada.
Pearse, H., Central Argentine Railway Co., Rosario de Santa Fé, Argentina.
Peeling, C. U., Municipal Light & Power Plant, Campbellford, Ont., Canada.
Penifold, H. R. S., Kadina, South Australia.
Pepper, Chas. F., Compania Força e Luz Porto Alegrense, Porto Alegre, Rio Grande do Sul, Brazil.
Petrowitsch, P., Anglo-Argentine Electricity Co., Chascomus, Argentina.
Phelps, E. B., Sarnia Gas & Electric Light Co., Sarnia, Ont., Canada.
Phillips, J. C., M.AM.I.E.E., Municipality, Leederville, West Australia.
Phillips, D., Winnipeg Electric Street Railway Co., Winnipeg, Man., Canada.
Pickering, J., Shelbourne Electric Light Co., Shelbourne, Ont., Canada.
Powell, A. J., Madras Electric Tramways (1904), Ltd., Madras, India.
Pratte, R., Corporation, Magog, Que., Canada.
Pray, C. F., St. Stephen Railway, St. Stephen, N.B., Canada.
Pressly, D., Corporation, Aliwal North, Cape Colony.
Priestley, H., A.AM.I.E.E., Borough Council, Patea, N.Z.
Proust, Geo., (chief) French Municipality, Tientsin, China.
Quance, Geo., E. Delhi Light & Power Co., Ont., Canada.
Ralonde, D., Soulanges Canal Power House, Coteau du Lac, Co. Soulanges, Que., Canada.
Read, C. M., Cape Peninsula Lighting Co., Ltd., Claremont & Wynberg, Cape Colony.
Reesor, W. E., Light, Heat & Power Co. of Lindsay, Ltd., Lindsay, Ont., Canada.

Engineers—Electricity Works—*continued.*

Reid, F. W., City Council, Grand Forks, B.C., Canada.
Reid, M. L., Electric Supply Co. of Western Australia, Coolgardie, Western Australia.
Reney, H., Prescott Electric Light Co., Prescott, Ont., Canada.
Revell, F., St. Thomas, Ont., Canada.
Richardson, S., M.I.E.E., Corporation Tramways, Wellington, N.Z.
Richardson, W., Inglewood Electric Light & Power Co., Ltd., Inglewood, Taranaki, New Zealand.
Rigby, F. B., Imperial Chinese Govt., Mukden, Manchuria.
Roberts, J., A.I.E.E., Municipality, Durban, Natal.
Robertson, G. P., Municipality, Darjeeling, India.
Robinson, F. H., Singapore Electric Tramways, Ltd., Singapore, Straits Settlements.
Rodgers, John, Wiarton, Ont., Canada.
Rolston, Geo., Corporation, Huntsville, Ont., Canada.
Rose, John, Corporation, Collingwood, Ont., Canada.
Ross, John, Town, Yarmouth, Nova Scotia, Canada.
Ross, W., Cape Breton Electric Co., Sydney, N.S., Canada.
Ross, W. D., Potchefstroom Electric Light Co., Ltd., Potchefstroom, Transvaal.
Rous, W. H., Ridgetown Electric Light Co., Ridgetown, Ont., Canada.
Rumney, J., Corporation, Weston, Ontario, Canada.
Ruttan, H. N., Winnipeg, Man., Canada.
Sakaida, K., Municipality, Kyoto, Japan.
Salisbury, W. D., Warburton, Victoria.
Sandwell, L. H. B., Barrackpore Electric Supply Co., Ltd., Barrackpore, Calcutta, India.
Sangster, A., City Gas & Electric Dept., Sherbrooke, Que., Canada.
Sangster, A. G., St. Francis Hydraulic Co., D'Israeli, Que., Canada.
Sato, Honjio, Wakayama Electric Light Co., Ltd., 6, Hatayasiki-matsugaecho, Wakayama, Kii, Japan.
Schiaffino, M. L., Cia. de Tranvias, Luz y Fuerza de Guadalajara, Guadalajara, Mexico.
Scott, A., Corporation, King William's Town, Cape Colony.
Scott, G., City Council, Gloucester-st., Christchurch, N.Z.
Scroggie, John, Citizens' Electric Co., Ltd., Smith's Falls, Ont., Canada.
Scudamore, H. D., New Amsterdam Corporation, Berbice, Guiana.
Seale, A. J., Corporation, Granby, Quebec, Canada.
Seki, Kahachiro, Hakata Electric Light Co., Fukuoka, Japan.
Sekizawa, M., Yokohama Union Electric Light Co., Yokohama, Japan.
Sekogucho, S. G., Ise Electric Railway Co., Yamada, Ise, Japan.

Engineers—Electricity Works—*continued.*

Shepherd, H. D., "La Transatlantica," Montevideo, Uruguay.

Sheppard, Sidney C., Peruvia Corporation, Ltd., La Paz, Bolivia.

Sibbald, F. G., Mansourah Electric Supply Co., Mansourah, Egypt.

Small, R. J., Shelburne, Ont., Canada.

Smith, Frank, Municipality, Madoc, Ontario, Canada.

Smith, H., Strand Electric Lighting Co., Ltd., Sydney, N.S.W.

Smith, H. W., Corporation, Picton, Ontario, Canada.

Smith, J. C., St. Maurice Light & Power Co., Shawinigan Falls, Que., Canada.

Smith, R. H., De Beers Consolidated Mines, Ltd., Kimberley, South Africa.

Smith, R. J., Canadian Electric & Water Power Co., Ltd., Perth, Ont., Canada.

Snider, J., Leamington Light & Heat Co., Ltd., Leamington, Ont., Canada.

Sokurai, N., Moji Electric Light Co., Moji, Japan.

Somerset, H. J., M.I.E.E., Perth Electric Tramway, Ltd., Perth, West Australia.

Souza, Dr. F. M. Pereira e, Cia. Luz Electrica, Rio Grande do Sul, Brazil.

Spencer, H. J., Hobart Gas & Electric Light & Power Co., Hobart, Tasmania.

Spengel, H., M.I.E.E., Victoria Falls Co., Ltd., Johannesburg, Transvaal.

Sperling, R. H., British Columbia Electric Railway Co., Ltd., Vancouver, B.C., Canada.

Spurling, H. G. W., Bermuda Electric Light, Power & Traction Co., Hamilton; & Pembroke.

Spÿkerman, M., Electriciteit Maatschappij Medan, Medan, Sumatra.

Stark, E. E., Corporation, Dunedin, New Zealand.

Steinman, A. E., Tavistock, Ont., Canada.

Stelling, C., Cia. Ana. Electricidad de Valencia, Valencia, Venezuela.

Stewart, D. H. (chief), Corporation, Penrith, N.S.W.

Stewart, G. A., Corporation Electricity Works, Bloemfontein, Orange River Colony.

Stewart, W. T., A.M.I.E.E., Kanan Devan Hills Produce Co., Ltd., Bodinayakanur, P.O., S. India.

Stobie, G., A.I.E.E., M.I.MECH.E., Natal Government Railways, Pietermaritzburg, Natal.

Stodant, Wm., Kanai Electric Co., P.O. Elcele, Isle of Kanai, Hawaü Ter.

Stodgell, F. W., Walkerville, Ont., Canada.

Stonehouse, H., Premier Electric Light & Power Co., Wallaceburg, Ont., Canada.

Stowe, G., Palace E. L. Station, Sydney.

Strike, R. J., Corporation, Launceston, Tasmania.

Strom, Th., Eau Claire Light & Power Co., Eau Claire, Calgary, Alberta.

Sutherland, J. G. B., Moodie's Gold Mining & Engineering Co., Ltd., Barberton, Transvaal.

Engineers—Electricity Works—*continued.*

Swingler, G. H., Municipality, Kalk Bay & Muizenburg, Cape Colony.

Symington, Scott, Tramway Board, Christchurch, N.Z.

Takahashi, K., Yokohama Union Electric Light Co., Yokohama, Japan.

Tanabe, T., Hiroshima Water Electric Power Co., Hiroshima, Japan.

Tanner, R. O., Puerto Cabello, Venezuela.

Tarby, J. E., Mauritius General Electric Supply Co., Curepipe, Mauritius.

Taylor, Wm. T., M.I.E.E., Jhelum, India,

Teckoe, J., Municipal Electric Light & Water Works, Strathroy, Ont., Canada.

Tett, E. J., Blindman River Electric Power Co., Ltd., Lacombe, Alberta, Canada.

Thomas, O. V., M.I.E.E., A.M.I.C.E., Municipal Electricity Works, Penang, Straits Settlements.

Thompson, E. E., Town Council, Thessalon, Ont., Canada.

Thompson, J. E., Demerara Electric Co., Ltd., Georgetown, Demerara.

Thornely, W., Inglewood Electric Supply Co. (Proprietary), Ltd., Inglewood.

Trevithick, G., A.M.I.E.E., Hawera County Electric Co., Ltd., Hawera, Taranaki, N.Z.

Trott, L. A., Corporation, Chatham, Ont., Canada.

Trueman, Jas., Alliston Electric Light Co., Alliston, Ont., Canada.

Turpin, S. E., Colborne Electric Light Co., Colborne, Ont., Canada.

Tushingham, F., Toronto Railway Co., Toronto, Ont., Canada.

Tyson Wolff, H. L., M.I.E.E., East Indian Railway Co., Jamalpur, Bengal.

Uchimura, Kinji, Osaka Electric Light Co., 2-cho, Ringinbashi-dori, Sakai, Japan.

Udall, C., Nairobi Electric Power & Lighting Co., Ltd., Nairobi, British East Africa.

Unwin, A. H., Rosario Electric Co., Rosario, Argentina.

Van Cleve, A. H., Canadian Niagara Power Co., Niagara Falls, Ont., Canada.

Vanolestin, G. W., Parkhill, Ont., Canada.

Veyrenc, —, Société Indo-Chinoise d'Electricite Haiphong, Tonquin, French Indo-China.

Vie, M., Cie. Française de Tramways et d'Eclairage électriques, Shanghai.

Vowles, J., Municipality, Kroonstad, Orange River Colony.

Wade, L. A. B., M.I.C.E., Barren Jack Dam & Irrigation Scheme, N.S.W.

Wain, C. L., City, Kamloops, B.C., Canada.

Walker, R. H., Helouan, Egypt.

Walklate, J. J., Auckland Electric Tramways Co., Ltd., Auckland, N.Z.

Wall, L. J. B., M.I.E.E., M.AM.I.E.E., Cottesloe, West Australia.

Wallace, R., Municipality, Northam, West Australia.

Engineers—Electricity Works—*continued.*

Walls, J. A., Shawinigan Water & Power Co., Montreal, Que., Canada.
Ward, A., City Electric Supply Co., Ltd., Brisbane, Queensland.
Ward, E. G., Dunnville Electric Light Co., Ltd., Dunnville, Ont., Canada.
Warden, F. W., Charters Towers Electric Supply Co., Charters Towers, Queensland.
Warren, E. G., City Waterworks, Greenwood, B.C., Canada.
Wass, A. B., Oakville, Ont., Canada.
Waterfall, F. C., Kilmore Electric Supply Co., Kilmore, Victoria.
Wharram, C. E., Corporation, Blenheim, Ont., Canada.
Wheadon, F. W., A.I.E.E., Adelaide Electric Supply Co., Ltd., Grenfell-st., Adelaide, South Australia.
Wheeler, G. W., Corporation, Paris, Ont., Canada.
Wheeler, R., Gibraltar.
White, H. D., Fredericton Gas Light Co., Fredericton, N.B., Canada.
White, J. S., Municipality, Ladysmith, Natal.
Wickham, W. H., Hong Kong Electric Co., Ltd., Hong Kong.
Wightman, R., H.M. Naval Yard, Simonstown, Cape Colony.
Wilkinson, C. T., Corporation, Brockville, Ont., Canada.
Wilkinson, F., A.M.I.E.E., Municipality, Claremont, West Australia.
Wilkinson, W. J., North Bay Light, Heat & Power Co., North Bay, Ont., Canada.
Williams, J. E., Government, Khartoum, Egypt.
Williams, O. R., Hawaiian Electric Co., Honolulu.
Williams, W., Sarnia Street Railway Co., Sarnia, Ont., Canada.
Williamson, A., Bunbury Electric Light & Power Co., Bunbury, W. Australia.
Willim, Jas., Grand Valley & Arthur, Ont., Canada.
Wilson, J., Fergus, Ont., Canada.
Wilson, W. R., M.I.E.E., P.W. Dept., Lahore, Punjab.
Winningham, J. D., Cumberland Electric Co., Ltd., Cumberland, B.C., Canada.
Withycombe, R., Zanzibar Electric Light Co., Zanzibar.
Wölcken, A., Compañia de Energia Electrica, Bogota, Colombia.
Woller, A., Alexandria & Ramleh Electric Railway, Alexandria, Egypt.
Wolley-Dod, T. C., A.M.I.E.E., Corporation, Pretoria, Transvaal.
Wray, N. V., Quito Electric Light & Power Co., Apartado 82, Quito, Ecuador.
Wright, G. W., Mount Lyell Mining & Railway Co., Ltd., Queenstown, Tasmania.
Yamagita, K., Toyama Electric Light Co., Toyama, Japan.
Yamaki, Y., M.E., Tokyo Railway Co., Tokyo, Japan.

Engineers—Electricity Works—*continued.*

Yesawa, S., Kyoto Electric Light Co., Otsu, Shigaken, Japan.
Yoshida, J., Koriyama Silk Spinning Co., Ltd., Koriyama, Fukushimaken, Japan.
Yoshida, J., Miyagi Boseki Dento Kabushiki Kaisha, Sendai.
Young, W. H., Sturgeon Falls Electric Light & Power Co., Ltd., Sturgeon Falls, Ont., Canada.
Zuefle, C., Exeter, Ont., Canada.
Zuloaga, R., Cia. Anonima La Electricidad de Caracas, Caracas.

Engineers—General.

F.—Ingénieurs—en général.
G.—Ingenieure—Allgemeine.

Ahmuty & Co., 6, Church-lane, Calcutta, India.
Alcock, W. & E., Port Elizabeth, South Africa.
Allinson & Co., Riccarton, Christchurch, N.Z.
Anderson & Irving, Lime-st., Sydney, N.S.W.
Banks, Clifford, 12, Park-st. West, Brunswick, Victoria.
Betteley & Co., Valparaiso, Chili.
Bevan & Edwards Propy., Ltd., 568-578, Little Collins-st., Melbourne, Victoria.
Birch, Fredk., Blenheim, N.Z.
Boden Bros. Engineering Co., Maclean, N.S.W.
Bosch, Barthel & Co., 196, Pitt-st., Sydney, N.S.W.
Boyer, P., Parizot, L., & Cie., rue Sahel el Ghellah, & P.O. Box, 125, Boulac, Cairo, Egypt.
Boyes, Shilston & Co., Boulac, Cairo, Egypt.
Bruce & Reeves, Rockhampton, Queensland.
Buhagiar, N., Malta Railway, Malta.
Cable, Wm., & Co., Waterloo-quay, Wellington, N.Z.
Chinese Engineering & Mining Co., Ltd., Tientsin, China.
Christy, F. C., Box 14, Exchange, Melbourne, Victoria.
Colombo Commercial Co., Ltd., Slave Island, Colombo, Ceylon.
Cossens & Black, Ltd., Crawford-st., Dunedin, N.Z.
Cunningham & Gearing, Cape Town, South Africa.
Davies & Kershaw, Citizens-chbrs., 285, Collins-st., Melbourne, Victoria; & Grahamstown, N.S.W.
Davies, W. H., & Co., Colombo, Ceylon.
Downs, T., Grand Harbour, Malta.
Dunedin Engineering & Steel Co., Ltd., Dunedin, N.Z.
Evans, Thornton y Cia., Melbourne, Victoria; & 349, Bartolomé Mitre, Buenos Ayres, Argentina.
Fisher & Foster, Mount Wallich, Anson-rd., Singapore, Straits Settlements.
Gardiner & Wallis, Standard-bldgs., President-st., Johannesburg, Transvaal.
Garnham, B., Blenheim, N.Z.
Glasgow Engineering Co., Launceston, Tasmania.

Engineers—General—*continued.*

Hodkinson, Thomas, & Co., 634–646, King-st., Newtown, Sydney, N.S.W.
Hooper, R. J., & Co., Broken Hill, New South Wales.
Hoskins, G. & C., Wattle-st., Sydney, New South Wales.
Hunter, E. H., & Co., 29 Kobe; & 14, Honden Nibancho, Nishiku, Osaka, Japan.
Hutson, C. A., & Co., Colombo, Ceylon.
Irrawaddy Flotilla Co., Ltd., Rangoon Foundry, Rangoon, Burmah.
Ishikawajima Shipbuilding & Engineering Co., Tokyo, Japan.
Jameson, J. K., Yarrow-st., Invercargill, New Zealand.
Jaques Bros., Coppin-st., Richmond, Victoria.
Kershaw, Wm., Grahamstown, N.S.W.
Killey, J. G., calle Alsina 541, Buenos Ayres, Argentina.
Kirkland, John & Co., James-st., Sydney, N.S.W.
Lysaught, Wm., & Son, 1, 4 & 8, Cross-lane, Hong Kong, China.
Machar & Sons, 415, Victoria-st., Abbotsford, Victoria.
Mangold Bros., Port Elizabeth, Cape Colony.
Marjoribanks, James, Riachuelo, Boca, Buenos Ayres, Argentina.
Marty, Ernest, C.E., A.M.I.E.E., A.M.I.M.E., calle Cevallos 1954, Buenos Aires, Argentina.
Merriman Bros. & Co., 611A, Little Lonsdale-st., Melbourne, Victoria.
Methven, G., & Co., Crawford-st., Dunedin, New Zealand.
Midland Engineering Co., Chareh Nubar Pacha, Cairo, Egypt.
Milne Bros., 166, Sussex-st., Sydney, New South Wales.
Morehouse & Morrill, Chihuahua, Mexico.
Mort's Dock & Engineering Co., Ltd., Balmain, Sydney, N.S.W.
Mower & Co., Rangoon, Burma.
Murray, D., & Co., Wanganni, N.Z.
Ririe Bros., King William's Town, Cape Colony.
Rodgers, J. S., Newcastle, New South Wales.
Schlaadt Bros., Cumberland-st., Dunedin, New Zealand.
Shibaura Engineering Works, Shibaura, Shibaku, Tokyo, Japan.
Simpson & Co., Trafalgar-sq., Bridgetown, Barbadoes.
Singapore Foundry, Ltd., Mohamed Sultan-rd., Singapore, Straits Settlements.
Tate, W. H., & Co., Perak, Federated Malay States.
Thompson, J., c/o Birt & Co., South Brisbane, Brisbane, Queensland.
Thoresen & Co., 15, Canton-rd., Shanghai.
United Engineering Co., Ltd., Marshall-sq., Johannesburg, Transvaal.
Vila, Manuel A., 240, calle Bolivar, Buenos Ayres, Argentina.
Williams, S., & Co., Rockhampton, Queensland.
Zammit, N., & Sons, Grand Harbour, Malta.

Engineers—Hydraulic.

F.—Ingénieurs—Hydrauliques.
G.—Ingenieure—Wasserkraft.

Danks, Thos., 198–200, Lichfield-st., Christchurch, N.Z.
Michell, A. G. M., M.C.E., Commercial Union-bldgs., 413, Collins-st., Melbourne, Victoria.
Tomlinson, S., M.I.C.E., Singapore, Straits Settlements.

Engineers—Mechanical.

F.—Ingénieurs—Mécaniciens.
G.—Ingenieure—Mechanische.

Binnie & Co., Edward-st., Brisbane, Queensland.
Bown, T. J., & Co., 105–107, Bathurst-st., Sydney, N.S.W.
British Engineering Co. of Egypt, Ltd., rue de la Gare du Caire, Alexandria, & Cairo, Egypt.
Burns, John A., Munderloh & Co., Montreal.
Coppola, Hnos., 590, Bustamante (esq. Corrientes), Buenos Ayres, Argentina.
Danks, John, & Son, Proprietary, Ltd., 391, Bourke-st. West, Melbourne, Victoria; & 324–330, Pitt-st., Sydney, N.S.W.
Darling Bros., 112, Queen-st., Montreal, Canada.
Davies, Hubert, & Co., Brown's-bldgs., Loveday-st. (P.O. Box 1386), Johannesburg, Transvaal.
Deeble, W. R., M.I.MECH.E., Tasmanian Government Railways, Launceston, Tasmania.
Drummond, G. R., A.M.I.E.E. *to* Bikaneer State, Rajputana, India.
Fairfield Iron Works, Slave Island, Colombo, Ceylon.
Fear, F. J. W., 99, Willis-st., Wellington, N.Z.
Fowler, John, & Co. (Leeds), Ltd., Clarence-st., Sydney, N.S.W.
Gahagan, G., & Co., Bellasis-rd., Byculla, Bombay, India.
Hadecke, Albert, Rangiora, N.Z.
Hyde, G. H. M., M.I.M.E., A.M.I.C.E., Government Factory, P.W.D., Colombo, Ceylon.
Jessop & Co., Ltd., Phœnix Iron Works, Calcutta.
Johnson & Fletcher, Box 224, Bulawayo, Rhodesia.
Johnston, W., & Sons, 247–251, St. Asaph-st., Christchurch, N.Z.
King, John, & Co., Ltd., Victoria Engine Works, Howrah; & 40, Strand-rd., Calcutta, India.
Lazarus, C. P., & Co., West End Foundry, Kingston, Jamaica, West Indies.
Lewis, W. H., & Son, Kingston, Jamaica.
Mallett & Co., East London, Cape Colony.
Martin & Co., 6 & 7, Clive-st., Calcutta, India.
Parr, Wm., 43, Stafford-st., Timaru, N.Z.
Richardson & Cruddas, Parel-rd., Byculla; & Nesbit-rd., Mazagon, Bombay.
Riley, Hargreaves & Co., Ltd., Read-st. & 5, Battery-rd., Singapore, Straits Settlements.
Robertson Bros., Macquarie-st., Hobart, Tasmania.
Ross, R. A., 80, St. Francois Xavier-st., Montreal, Canada.

Engineers—Mechanical—*continued.*

Russa Engineering Works, Ltd., 110–1, Russa-rd. N., Calcutta.
Scott Bros., Ltd., Atlas Engineering Co., 55, Manchester-st., Christchurch, New Zealand.
Société Gen. d'Électricité et de Mécanique, Alexandria & Cairo, Egypt.
Sorabjee, Shapurgee & Co., Apollo-st., Fort, Bombay.
Stephenson, E. S., & Co., 17, Nelson-st., St. John, New Brunswick, Canada.
Tarry, E. W., & Co., Ltd., Johannesburg, Transvaal; & Kimberley, Cape Colony.
Waugh & Josephson, 344, Sussex-st., Sydney, N.S.W.

Engineers—Mining.

F.—Ingénieurs—Mines.
G.—Ingenieure—Gruben.

Bewick, Moreing & Co., Palmerston-bldgs., Queen-st., Auckland, N.Z.
Boright, S. H., B.SC., Great Eastern Collieries, Ltd. (Box 5), Springs Traal, Swaziland.
Burt, A. & T., Stuart-st., Dunedin, N.Z.
Harrison, J. W., 222, Victoria Arcade, Auckland, N.Z.
Knox, Schlapp & Co., 31, Queen-st., Melbourne, Victoria.
McCrady, F. W., 1115, Haro-st., Vancouver, B.C., Canada.
Paton, James, & Co., 2, Martin-pl., Sydney, N.S.W. *See advt., page* 954.
Rance, B., A.I.E.E., Ruby Mines, Ltd., Mogok, Upper Burma.

Engineers—Telegraph.

F.—Ingénieurs—Télégraphes.
G.—Ingenieure—Telegr.

Adamson, J. E., Eastern Telegraph Co., Ltd., Suez, Egypt.
Allin, C. H., Posts & Telegraphs, Federated Malay States.
Anastassiales, A., Vilayet d'Aïdin, Smyrna.
Anderson, T. E., Eastern Telegraph Co., Port Said, Egypt.
Andrews, M. S., Government Telegraphs, Accra, Gold Coast Colony, West Africa.
Antunes, Dr. H. S., (Central) Railway Telegraphs, 61, rua Guanabara, Rio Janeiro, Brazil.
Babington, C. D. de V., Indian Telegraph Department (*on combined leave*).
Babington, S., Indian Telegraph Dept., Barrackpore.
Bannerjee, A. C., Indian Telegraph Department, (*on combined leave*).
Baptista de Oliveira Bello, Dr. J., Government Telegraphs, Para, Brazil.
Barroso, Dr. E., Rio Janeiro, Brazil.
Beck, J. M., Eastern Extension Telegraph Co., Hong Kong, China.
Bent, W., Pacific Cable Board, Fanning Island.
Berner, J., M.I.E.E., Great Northern Telegraph Co., Shanghai, China.

Engineers—Telegraph—*continued.*

Besly, A. J., Eastern Telegraph Co., Rodrigues.
Biron, E., Eastern & South African Telegraph Co., Mossamedes, West Africa.
Buckland, R. G. S., Eastern Extension Telegraph Co., Penang, Straits Settlements.
Bull, B. W. E., West African Telegraph Co., Bolama.
Burns, P. H., Nassau, Bahamas, West Indies.
Caine, G. W., Eastern Telegraph Co., Perim Island.
Cameron, A., Eastern Extension Telegraph Co., Weihaiwei.
Campbell, R. C., Indo-European Telegraph Dept., Persian Gulf.
Cavailler, L., Cie. française des Cables télégraphiques, Maracaibo, Venezuela.
Chappel, H. E., Indian Telegraph Department, Rangoon.
Cheeseman, H. G., Eastern Telegraph Co., Durban, Natal.
Chevallier, C., Eastern Extension Telegraph Co., St. Helena.
Chisholm, W. E., Government Telegraph & Telephone Service, Nelson, N.Z.
Cole, C. J., Eastern Extension Telegraph Co., Chefoo, China.
Cole, G. E., Eastern Extension Telegraph Co., Chefoo.
Collard, W., Eastern Telegraph Co., Lorenço Marques, Delagoa Bay.
Coode, J. M., Indian Telegraph Department (*on combined leave*).
Crane, T. C., Eastern Extension Telegraph Co., Iloilo, Philippines.
Creighton, J. K., Nairobi, East Africa Protectorate.
Creighton, T. A. W., Government Telegraphs, Bloemfontein, O.R.C.
Cuthbert, D., Pacific Cable Board, Norfolk Island.
Davis, E. H. J., Eastern & South African & West African Telegraph Co.'s, Loando, South-West Africa.
De Albuquerque-Maranhao, Alfonso de Oliveira, A.M.I.E.E., National Telegraphs, Curytiba, Paraná, Brazil.
Dresing, F. N., M.I.E.E., Imperial Chinese Telegraph Administration, Shanghai, China.
Durrant, H., West African Telegraph Co., Sao Thomé, West Africa.
Edwards, E., Hobart, Tasmania.
Edwards, J. E., 138, Little Collins-st., Melbourne, Victoria.
Erichsen, J., Imperial Chinese Telegraph Administration, Peking, China.
Escala, A., Kingston, Jamaica Railway, Jamaica.
Falck, A., Bloemfontein, O.R.C.
Flemmer, C. C., Great Northern Telegraph Co., Ltd., Wladiwostock, Siberia.
Foy, Arnold, Western Telegraph Co., Caixa 121, Para, Brazil.
Foy, F. R., Western Telegraph Co., Santos, Brazil.

Engineers—Telegraph—*continued.*

Fuller, A. G., African Direct Telegraph Co., Lagos, West Africa.
Furby, W. S., M.I.E.E., P.O. Box 539, Auckland, N.Z.
Galloway, W., Transkei District, Umtata, Cape Colony.
Gell, J., M.I.E.E., Telegraph Department, Cable Bay, Nelson, N.Z.
Giles, W. H., Eastern Extension Telegraph Co., Madras.
Goodall, H. C. A., A.I.E.E., Indian Telegraph Dept., Trichinopoly.
Gulliver, T. A., Government Telegraphs, Townsville, Queensland.
Gunter, E. E., A.M.I.E.E., Indian Telegraph Department (*on combined leave*).
Hadaway, I. B., Western District, G.P.O., Cape Town.
Hardwick, H. J, Europe & Azores Telegraph Co., Horta, Fayal, Azores.
Harrison, Norman, Government Telegraphs & Telephones, Johannesburg, Transvaal.
Hart, Geo. A., assistant to the Superintendent of Telegraphy, Kingston, Jamaica, W.I.
Harvey, H. R., Eastern Telegraph Co., Mauritius.
Heinzelmann, N., Batavia.
Helsgaun, A., Imperial Chinese Telegraphs, Hankow, China.
Hendry, J. C., Eastern Extension Telegraph Co., Banjoewangie, Java.
Henningsen, H. F., Imperial Chinese Telegraph Administration, Tientsin, China.
Higley, W. J., M.I.E.E., C.S.A.R. Telegraphs, Pretoria, Transvaal.
Holmes, Wm. A., Victorian Railway, Melbourne, Victoria.
Hopkinson, G. W., P.O. Telegraphs, Bloemfontein, Orange River Colony.
Howard, T., M.I.E.E., Govt. Telegraphs, Melbourne, Victoria.
Iinuma, S., Post & Telegraph Office, Sapporo, Japan.
James, T. L., A.M.I.E.E., Government Telegraph Dept., Nagpur, India.
Jamieson, Hugh, African Direct Telegraph Co., Accra, West Coast of Africa.
Jennings, F. T., Canadian Pacific Railway Co.'s Telegraphs, Sudbury, Ont., Canada.
Jensen, V. T., Great Northern Telegraph Co., Ltd., Thorshavn, Faroe Islands.
Judd, T. C., Pacific Cable Board, Southport, Queensland.
Juvenal Elvas, F. S. B., Lourenço Marques, Delagoa Bay.
Kajuira, J., M.E., Ministry of Communications, Tokyo, Japan.
Kalmberg, C. C., Great Northern Telegraph Co., Peking, China.
Kime, T. A., Eastern Telegraph Co., Zanzibar.
King-Wood, W., C.I.E., Indo-European Telegraph Department, Teheran.
Leach, E. A., Indian Telegraph Dept., Calcutta.
Lefevre, E. T., Panama, Central America.

Engineers—Telegraph—*continued.*

Leslie, N. U. K., Indian Telegraph Department, Bombay, India.
Lloyd, E. I., Western Telegraph Co., Madeira.
Mackenzie, P. G., Eastern Telegraph Co., Suakim, Egypt.
McLachlan, R. G., Pacific Cable Board, Bamfield Creek, Vancouver, B.C., Canada.
McWilliam, J., Canadian Pacific Railway Co.'s Telegraphs, Calgary, Alberta, Canada.
Matthews, G. T., Engineers' Branch, Post & Telegraph Dept., Brisbane, Queensland.
Mengel, E., Imperial Chinese Telegraphs, Yunnanfoo, China.
Mitchell, C., Compañia Telegrafica Mexicana (Cable Sub-Marino), Vera Cruz, Mexico.
Moraes, Dr. Martinho de, Government Telegraphs, Rio de Janeiro, Brazil.
Morales, A., French Telegraph Cable Co., Cape Hayti, West Indies.
MunGavin, George W., Indo-European Govt. Telegraphs, Persian Gulf.
Mungavin, J. Hyland, Eastern Telegraph Co., Ltd., Alexandria, Egypt.
Mussell, J. T., Eastern Extension Telegraph Co., Medan, Sumatra.
Nevill, H., supt. South American Cable Co., Caixa Correio 176, Pernambuco, Brazil.
Oddy, C., Northern District Posts & Telegraphs Kimberley, Cape Colony.
Olver, Graham T. W., M.I.E.E., F.R.MET.SOC., Indian Telegraph Dept., Calcutta.
Orchiston, J., M.I.E.E., Telegraph Dept., Dunedin, N.Z.
Owen, G., Eastern Telegraph Co., Suez.
Oxlade, W., Western Teleg. Co., Rio de Janeiro, Brazil.
Padbury, P. G., Western Telegraph Co., Ltd., Rio de Janeiro, Brazil.
Palmer, A. L. H., M.I.E.E., Indian Telegraph Department (*on combined leave*).
Pedroza, S. R., M.I.E.E., East Indian Railway Telegraphs, Howrah, Bengal, India.
Pender, W. E., Eastern Telegraph Co., Cairo, Egypt.
Petersen, V., Imperial Chinese Telegraphs, Peking, China.
Pigott, R. E. P., M.I.E.E., Bombay, Baroda & Central India Rly., Bombay, India.
Pinhey, H. T., Indian Government Telegraphs, Calcutta (*on combined leave*).
Power, Jos., Post & Telegraph Department, Brisbane, Queensland.
Prosser, A. W., Eastern Telegraph Co., Aden.
Rae, Wm. C., Port Louis, Mauritius.
Reeves, E. R., Eastern Extension Telegraph Co., Haiphong, Indo-China.
Robinson, H. A., Eastern & South African Telegraph Co., Mauritius.
Rocha, A. C., Eastern Extension Telegraph Co., Macao, China.
Rothe, K., Imperial Telegraphs, Tientsin.
Ruddock, M. C., Eastern Extension Telegraph Co., Singapore, Straits Settlements.

Engineers—Telegraph—*continued.*

Saleh Bey Soubhi, Cairo, Egypt.
Sato, M., Government Telegraphs, Sendai, Japan.
Schonau, W., Great Northern Telegraph Co., Ltd., Shanghai, China.
Schroeder, W. E., Great Northern Telegraph Co., Ltd., Shanghai, China.
Selfe, P. H., Eastern Extension Telegraph Co., Nelson, N.Z.
Sharpe, W. S., M.I.E.E., Indian Telegraph Department, Calcutta, India.
Shimomura, K., Yokohama, Japan.
Silva, Edesio, Govt. Telegraphs, Para, Brazil.
Simpson, M. G., Indian Telegraph Department, Calcutta.
Smith, J. R., Eastern & South African Telegraph Co., Mauritius.
Soubhy Saleh, bey, Cairo, Egypt.
Sowerby-Coo, C. W., Indian Telegraph Department (*on combined leave*).
Stallibrass, Edward, A.M.I.C.E., Antofagasta, Chili.
Steel, J. B., African Direct Telegraph Co., West Africa.
Stewart, W. B. O., Eastern Extension Telegraph Co., Medan, Deli, Sumatra.
Straube, O., M.I.E.E., 1709, calle Cangallo, Buenos Ayres, Argentina.
Streatfeild-James, C., M.I.E.E., Indian Telegraph Department (*on combined leave*).
Sullivan, R., Direct West India Cable Co., Ltd., Kingston, Jamaica.
Sutherland, W., Indian Telegraph Department, Umbala, Agra.
Swan, W., Eastern Extension Telegraph Co., Coxos Islands.
Tadaharu, U., Central Dept. of Posts & Telegraphs, Seoul, Corea.
Taylor, Thos., Casilla 988, Valparaiso, Chili.
Terkelsen, O., Great Northern Telegraph Co., Ltd., Tientsin, China.
Thomas, I. C., M.I.E.E., Indian Telegraph Department, Calcutta, India.
Thomson, J. A., Eastern Extension Telegraph Co. (*on furlough*).
Timm, J., M.I.E.E., Great Northern Telegraph Co., Shanghai.
Tours, J. D., Post & Telegraph Office, Weltevreden, Java.
Trainer, E., Post Office, Pretoria, Transvaal.
Truninger, L., C.I.E., Indian Telegraph Dept., Shillong.
Urata, Shiurjiro, M.E., Imperial Teleg., Tokyo.
Van der Goot, F., Post & Telegraph Office, Weltevreden, Java.
Van Kuyk, J. G., Post & Telegraph Office, Weltevreden, Java.
Wadachi, Y., M.E., Nagoya Electric Light Co., Nagoya, Japan.
Warner, W. W. B., Eastern & South African Telegraph Co., Swakopmund, German S.W. Africa.
Warren, A. A., Ottoman Railway, Smyrna, Turkey.

Engineers—Telegraph—*continued.*

Webster, L., Eastern Extension Telegraph Co., King William-st., Adelaide, South Australia.
Wei Hong Kiung, Imperial Chinese Telegraphs, Manchuria.
Wei, Y. K., Imperial Chinese Telegraphs, Moukden, Manchuria.
Weightman, R. W., M.I.E.E., Government Telegraphs, Pietermaritzburg, Natal.
Wilkinson, F., Eastern Telegraph Co., Smyrna, Turkey.
Wilson, J., Canadian Pacific Railway Co.'s Telegraphs, Vancouver, B.C., Canada.
Wolfe, R. T., Eastern Extension Telegraph Co., Singapore.
Woo, K. B., Imperial Chinese Telegraphs, Foochow, China.
Wood, S. M., Europe & Azores Telegraph Co., Horta, Fayal, Azores.
Woodrow, W. G., African Direct Telegraph Co., Accra, West Africa.
Woolward, R. S., African Direct Telegraph Co., Ltd., Bathurst, Senegambia.
Wren, G. G., Eastern Extension Telegraph Co., Batavia, Java.
Young, W. R., Eastern Extension Telegraph Co., Labuan.

Engineers—Telephone.

F.—Ingénieurs—Téléphones.
G.—Ingenieure—Teleph.

Araujo, A., Empreza Telephonica de Manaos, Amazon State, Brazil.
Bayliss, B. W., United River Plate Telephone Co., Buenos Ayres.
Boyd, R. J., Telephone Co. of Egypt, Ltd., Cairo, Egypt.
Briggs, J. D., Nova Scotia Telephone Co., Halifax, N.S., Canada.
Cassidy, J., A.AM.I.E.E., Kalia-ave., Honolulu, Hawaiian Islands.
Dagger, F., Regina, Sask., Canada.
Dolan, L. A., Nova Scotia Telephone Co., Ltd. (P.O. Drawer 592), Halifax, N.S., Canada.
Gray, J., Mutual Telephone Co., Shanghai, China.
Jennings, A. C, Egyptian Telephone Co., Cairo, Egypt.
Ludford, E. H., Apartado 176, Caracas, Venezuela.
Mangado, Andres, 96, Siaguin-st., Tangier, Morocco.
Mutual Telephone Co., Hankow-rd., Shanghai, China.
Nova Scotia Telephone Co., Halifax, N.S., Canada.
Paton, James, & Co., 2, Martin-pl., Sydney, N.S.W. *See advt., page* 954.
Richmond, Harold H., M.I.E.E., 2, Martin-pl., Sydney, N.S.W.
Roseneder, Franz, M.I.E.E., Telephone Exchange, Charters Towers, Queensland.
Smith, C. A., Chili Telephone Co., Concepcion, Chili.
Stevenson, G. C. (manager, Telephone Co. of Egypt, Ltd.), Cairo, Egypt.

Exporters & Importers of Electric & Telegraphic Plant.

F.—Exportateurs et importateurs d'outillage electr. et telegr.

G.—Ausführer und Einführer von elektr. und telegr. Materialen.

Ash, Frederic, Ltd., 97, Hunter-st. West, Newcastle, N.S.W.

Barth, Eugenio, y Ca., calle Uruguay 2, Montevideo, Uruguay.

Bartram & Co., calle Cuyo 1147, Buenos Ayres, Argentina.

Bordenave, J. R., P.O.B. 33, Matanzas, Cuba.

Brain, H. E., A.I.E.E., calle Chacabuco 488, Buenos Aires, Argentina.

Brittain, A., Auckland, N.Z.

Chant & Co., Ltd., High-st., West Maitland, N.S.W.

Charrière & Cie., Haiphong, Tonkin.

Clare, John, & Co., 22, Durham-st., Auckland, N.Z.

Clarke, Padley & Co. (importers), 533, Collins-st., Melbourne, Victoria.

Denniston, R. B., & Co., Bath-st., Dunedin, New Zealand.

Fitte Hermanos, Moreno 834, Buenos Ayres, Argentina.

Friend, W. S., & Co., 113, York-st., Sydney, N.S.W.

Goodall, T. M., & Co., 129, Hay-st., Sydney, New South Wales.

Gosche & Tomer, 350, George-st., Sydney, N.S.W.

Gunn, J. & T., Ltd., Brisbane-st., Launceston, Tasmania.

Harris, R. J., & Co., calle Estado, Santiago, Chili.

Herouard, P., Calle de Villatta 60, Lima, Peru.

Hill, Dickinson & Magill, 99, York-st., Sydney, N.S.W.

Hill, James, & Sons, 63, Grenfell-st., Adelaide, South Australia.

Holsinger, A. E., jun., Canal-row, Colombo, Ceylon.

Howarth, D. B., & Son, Newtown, N.S.W.

Hunt, Leuchars & Hepburn, Johannesburg, Transvaal.

Hyslop, H. F., 352–354, Latrobe-st., Melbourne, Victoria.

Ii Shokai, 10, Hiyshicho., Kyobashi-ku, Tokyo, Japan.

Johnson & Sons, Tyne Foundry, Yarra Bank, South Melbourne, Victoria.

Komajiro Inouye, 169, Motomachi, Shichome, Yokohama.

Lawrence & Hanson, 33, York-st., Sydney, N.S.W.; & 161, Queen-st., Melbourne, Victoria.

Leroy de Bonneville, E., Cangallo 1268, Buenos Ayres, Argentina.

Ludowieg & Co., San Pedro, Lima, Peru.

L'Union Commerciale, Hanoi, Tonkin.

Lycett, A. A., Jamieson-st., Sydney, N.S.W.

MacBrair Bros. & Co., Charters Towers, Queensland.

McLauchlan, Machado & Cia., rua de S. Pedro 37, Rio de Janeiro, Brazil.

Exporters & Importers of Electric & Telegraphic Plant—*continued.*

Menchaca, G., & Co., Calle de Correo 29, Lima, Peru.

Mitsu Bussan Kaisha, Suruga-cho, Nihombashi-ku, Japan.

Mosquera, J. E., Obispo 88, Havana, Cuba.

Nichibei Shokai, 2, Idzumo-cho, Kyobashi cho, Japan.

Ohara Shokwai, 15, Rogetsu-cho, Shiba-ku.

Quincke, E., calle Cerro Largo No. 92, Montevideo, Uruguay.

Salisbury Foundry Co., Charles-st., Launceston, Tasmania.

Société Bordelaise, Haiphong, Tonkin.

SPLATT, WALL & CO., Perth, West Australia. Electrical engineers, importers, dealers in all kinds of machinery & electrical goods.

Vasena, Pedro, 1732–1740, Calle Belgrano, Buenos Ayres, Argentina.

Weinberger, C., & Co., 1, Ikuta-maye, Kobe, Japan.

Weiss, C., & Co., Calle San Pedro 111, Lima, Peru.

Yogoro Soda, Kamidori Nichome Kyomachobori, Nishi-ku, Osaka, Japan.

Yoshimura Shokwai, Saioji-cho, Japan.

Zwicker, Tod & Co., Melbourne, Victoria.

Fittings Makers—Electrical.

F.—Fournitures pour l'éclairage élec.—Fab. de.

G.—Armaturen—Fabrikanten von.

Amos, A., 121, Botany-rd., Waterloo, N.S.W.

Bonthoux, C., & Ca., 956–1000, calle Lima. Buenos Ayres, Argentina.

Castle, J., & Sons, 32, King-st. North, Newtown, Sydney, N.S.W.

Castle & Son, 568, St. Catherine-st. West, Montreal, Canada.

Cleland Bros., Meaford, Ont., Canada.

Dorman & Smith, Ordsal Electrical Works, Salford, England. Selling agents for Australia, Haes & Eggers, 163, Clarence-st., Sydney, N.S.W.

Dunn, J. A., Ltd., Halifax, N.S., Canada.

Garth Co., 26–32, Craig-st. West, Montreal, Ont., Canada.

Lundberg, A. P., & Sons, Pioneer Electrical Works, 477 to 487, Liverpool-rd., London, N. (Telegs.: "Lundberg, London.") *See* SWITCH MANUFACTURERS — ELECTRIC, BRITISH DIVISION.

McDonald & Willson, Toronto, Ont., Canada.

Poytress, A, Parry Sound, Ont., Canada.

"T. T." Electric Fitting Co., 230, Clarence-st., Sydney, N.S.W.

Wilson, Corben & Co., Kavanagh-st., S. Melbourne, Victoria.

Fuse Manufacturers.

See CUT-OUTS.]

General Suppliers of Electrical Requisites.

F.—Fournitures générales pour l'électricité.
G.—Requisitionen—elektr.—Händler von.

Austral Otis Engineering Co., Ltd., South Melbourne, Victoria.
Brandt, A., & Co., Hankow, China.
Chambers, John, & Son, Ltd., Fort-st., Auckland, N.Z.
Guy Owens Electrical Construction Co., Honolulu, Hawaii.
Kemp & Co., Ltd., Sassoon House, Elphinstone Circle, Bombay, India.
Laborde & Co., 368, 374, calle San Martin, Buenos Ayres, Argentina.
Maatschappy tot voortzetting der zaken van der Linde & Teves, Sourabaya & Semarang, Java.
Mamede Ferreira Rodrigues, (P.O. Box 131), Bahia, Brazil.
Marubishi Shokai, 9 Ginza Shickome, Kyobashiku, Tokio, Japan.
Munderloh & Co., Montreal, Canada.
Paton, James, & Co., 2, Martin-pl., Sydney, N.S.W. *See advt., page* 954.
Reefton Electric Co., Reefton, New Zealand.

Globes for Electric Lighting—Makers of.

F.—Globes en verre pour lampes électr.—Fab. de.
G.—Glas Glocken für Electr. Licht.

Heating Apparatus Makers—Electric.

F.—Appareils électriques de chauffage—Fab. de.
G.—Elektrische Heizungs-apparaten—Fab. von.

Collier-Cunningham Co., Ltd., Peterborough, Ont., Canada.
Lavoie Electric Co., 134A, Queen-st., Quebec, Can.

Incandescent Lamp Manufacturers—Electric.

F.—Lampes électriques à incandescence—Fab. de.
G.—Elektr. Glühlampen—Fab. de.

Edison & Swan United Electric Light Co., Ltd., 58, Clarence-st., Wynyard-sq., Sydney, N.S.W.; & Central-bldgs., Edward-st., Brisbane, Queensland.
Ontario Lantern & Lamp Co., Ltd., Hamilton, Ont., Canada.
Packard Electric Co., Ltd., St. Catharine's, Ontario, Canada.
Sunbeam Incandescent Lamp Co. of Canada, Traders Bank-bldg., Toronto, Canada.
"Watt" Electric Lamps, 14, St. Sacrement-st., Montreal, Canada.

Indiarubber & Gutta-percha Manufacturers & Dealers.

F.—Caoutchouc—Fab. & marchands.
G.—Gummi—Fabr. & Händler.

Gutta-Percha & Rubber Manufacturing Co. of Toronto, Ltd., 47, Yonge-st., Toronto, Ont., Canada.

Indiarubber & Gutta-percha Manufacturers & Dealers—*continued.*

India Rubber, Gutta Percha & Telegraph Works Co., Ltd., calle Florida 469, Buenos Ayres; Queen's-bldgs., William-st., Perth, Western Australia; 274, Flinders-st., Melbourne, Victoria; 279, George-st., Sydney, N.S.W.; Edward-st., Brisbane, Queensland; 234, Cashel-st., Christchurch, N.Z.; 1-1, Fairlie-pl., Calcutta, India; Agency-chbrs., Bulawayo, Rhodesia; 213, West-st., Durban, Natal; & New Club-bldgs., Loveday-st., Johannesburg, Transvaal.

Inspectors (Electrical)—Government & Municipal.

F.—Inspecteurs électr. du gouvernement et municipalité.
G.—Elektr. Inspektoren—Regierungs & Städtische.

Allen, H. L., C.F.U.A., Room 30, Citizens'-bldg., Ottawa, Canada.
Arputham Pillaz, A., Ipoh, Perak, F.M.S., Straits Settlements.
Aubin, A., Custom House, Montreal, Canada.
Bentley, A., A.M.I.E.E., Electric Supply & Tramways Department, Johannesburg, Transvaal.
Birnie, Wm. J., M.I.E.E., P. & O. Terrace, Mayagon, Bombay, India.
Bletterman, V. E., Postal & Telegraph Service, Weltevreden, Java.
Bryan, P., Government Telegraph & Telephone Service, Launceston, Tasmania.
Farmer, S. L., Freetown, Sierra Leone.
Galiston, R. G., Perak, F.M.S.
Gannaway, J. W., Christchurch, N.Z.
Hollard, L., Hanoi, Tonkin, French Indo-China.
Hughes, F. J., F.R.G.S., A.I.E.E., Southern Nigeria Government Telegraphs, Lagos, Nigeria.
Jack, W. T., Government Works, Brisbane, Queensland.
Jackson, G. E., Postal & Telegraph Service, Melbourne, Victoria.
Jansz, C. A., Posts & Telegraphs, Selangor, Straits Settlements.
Jeator, E., Govt. Railways, Eveleigh, N.S.W.
Johnston, J. M. L., Posts & Telegraphs, Adelaide, South Australia.
Johnstone, J. K., Toronto, Ont., Canada.
Khoon, Banharn, Korat, Bangkok, Siam.
McIntyre, A. N., A.M.I.E.E., Government of Bengal, Bhowanipur, Calcutta, India.
Mascall, F. H., Arsenales de Marina, Valparaiso, Chili.
Morey, G. E. D., Hobart, Tasmania.
Pedrozo, Antonio N., Cia. Paulista, Campinas, São Paulo, Brazil.
Predari, J. P., State Telegraphs, Montevideo, Uruguay.
Raikes, B., Rangoon, Burma.
Robertson, C. C., Govt. Telegraphs, Nelson, N.Z.
Russell, R. P., A.M.I.E.E., P.W.D., Allahabad, India.
Stieltjes, J. J., Post & Telegraph Service, Batavia, Java.

Inspectors (Electrical)—Government & Municipal—*continued.*

Taylor, A. K., A.M.I.C.E., A.M.I.E.E., Government of Bengal, Bhowanipur, Calcutta.
Tourier, —, Hanoi, Tonkin.
Tymms, H. J. T., Postal Service, Melbourne, Victoria.
Van Rosi, F., East Africa & Uganda Protectorate Telegraphs, Port Florence, East Africa.
Wallich, J. D., Govt. Telegraphs, Cairo, Egypt.
Willot, J., Posts & Telegraphs, Alger, Algeria.

Instrument Manufacturers—Electrical.

F.—Instruments électr.—Fab.
G.—Instrumenten Elektr.—Fab.

Barozzi, B., 1056, calle B. Mitre, Buenos Ayres, Argentina.
Barraclough, H. A., Ltd., 385, George-st., Sydney, N.S.W.
Boghetti, C., 1056, calle Bartolomeo Mitre, Buenos Ayres, Argentina.
Casa Vannet, Moreno Borlido & Co., R. do Ouvidor 114, Rio, Brazil.
Cooke, A. M., Port Arthur, Ont., Canada.
Cooke, T., & Sons, Ltd., Castle & Burg-sts., Cape Town.
Kyoikuhin Seizo Kaisha, Asakusa Shichiken Cho, Tokyo, Japan.
Mengin, Max & Co., Santiago, Chili.
Meucci, Tito, & Cia., calle Cuyo 753-759, Buenos Ayres, Argentina.
Shedrick, C. E., 157, Craig-st. W., Montreal, Can.
Solomons & Co., 7/1, Wellesley-pl., Calcutta, India.
Warner & Webster, 240, Swanston-st., Melbourne, Victoria.
Wiesener, T. F., 334, George-st., Sydney, N.S.W.

Insulating Material Manufacturers.

F.—Isolante—Fab. de matière.
G.—Isolations Materialen—Fab. von.

Barnet Glass Rubber Co., Ltd., 289, 291, 293, Swanston-st., Melbourne, Victoria.
Imperial Varnish & Colour Co., Ltd., 8–26, Morse-st., Toronto, Canada.

Iron & Steel Manufacturers.

F.—Fer et acier—Fab.
G.—Eisen u. Stahl—Fab.

Clemenger Bros. & Co., 289 & 291, City-rd., South Melbourne, Victoria.
Duckett, E., & Sons, 374 & 376, Little Lonsdale-st., Melbourne, Victoria.
Jones, A., & Sons, Victoria-st., Adelaide, South Australia.
Lambert & Ralli, Bond-Point, Suarès, Cairo, Egypt.
Vulcan Iron Works Co., Ltd., Winnipeg, Man., Canada.

Laboratories—Electrical.

F.—Laboratoires électriques.
G.—Werkstätten—Elektrische.

Lifts (Electric)—Makers of.

F.—Ascenseurs électriques—Fabr. d'.
G.—Elektrische Aufzüge—Fab. von.

Otis Fensom Elevator Co., Ltd., Traders Bank-bldg., Toronto, Canada.
Standard Waygood, Ltd., English, Scottish & Australian Bank-chbrs., cor. George & King-sts., Sydney, N.S.W.

Light, Power & Traction Companies—Electric.

See Electricity Works.

Light Systems—Electric.

F.—Systèmes de lumière électr.
G.—Electr. Licht Systeme.

Lightning Conductors—Makers & Erectors of.

F.—Paratonnerres—Fab. et monteurs de.
G.—Blitzableiter—Fabrikanten.

Machine Tool Makers.

F.—Machine—Outils—Fab. de.
G.—Maschinen—Werkzeug.

Bertram, John, & Sons, Ltd., Dundas, Ont., Can.
Booth Bros., Barkers-rd., Hawthorn, Victoria.
Samuel, M. & L., Benjamin & Co., 26–30, Front-st. West, Toronto, Ont., Canada.
Vail, L. A., 284, Post Office-pl., Melbourne, Victoria.

Machinery Merchants & Agents.

F.—Machines—March. et représent. de.
G.—Maschinen Händler & Agenten.

Addison, B., & Co., 76, Pitt-st., Sydney, N.S.W.
Agar, Cross & Co., Defensa 136, Buenos Ayres.
Allis-Chalmers-Bullock Co., 115–117, Elizabeth-st., Melbourne, Victoria.
Anderson, W., & Sons, Lincoln-st., Richmond, & Melbourne, Victoria.
Australian Rider-Ericsson Engine Co., 22 & 22A, Pitt-st., Sydney, N.S.W.
Bartram, J., & Son, 19–23, King-st., Melbourne.
Bennie, Teare & Co., à Beckett-st., Melbourne, Victoria.
Berry Bros., Whiteman-st., S. Melbourne, Vic.
Bornsteen, A. G., Obrapia 24, Havana, Cuba.
Bradbury, Brady & Co., Bombay, India.
Breduis, Juan P., 529, calle Cuyo, Buenos Ayres.
Butterfield & Swire, Yokohama, Japan.
Cameron & Sutherland, 20–26, Queen's Bridge-st., Melbourne, Victoria.
Canadian General Electric Co., Ltd., Toronto, Ontario, Canada.
Connolly, J. J., Mosman-st., Charters Towers, Queensland.
Cowan, Alex., & Sons, Ltd., Melbourne, Victoria.
Cowasjee Bros., 9, Hornby-rd., Bombay, India.
Craig, J. J., Railway Wharf, Auckland, N.Z.
Craven, John H., 21–25, Kavanagh-st., South Melbourne, Victoria.

Machinery Merchants & Agents—*contd.*

Dall, J. J., 495, Little Bourke-st., Melbourne, Victoria.
Dalrymple Bros. (P.O. Box 1690), Johannesburg, Transvaal.
Davies, J., & Co., 235, Franklin-st., Melbourne, Victoria.
Drysdale, T., & Co., Moreno 450, Buenos Ayres.
Edwards, W., 521, Collins-st., Melbourne, Vic.
Frankel, Philip, & Co., 114, Edward-st., Brisbane, Queensland.
Gardner, R., & Son, 50, Nazareth-st., Montreal, Canada.
Goodwin & Son, Engine-st., Sydney, N.S.W.
Greaves, Cotton & Co., 47, Apollo-st., Bombay.
Hardie, James, & Co., 582–584, Little Collins-st., Melbourne, Victoria.
Healing, L. J., & Co., 22, Yokohama; 86, Kobe; 21, Unemecho, Tokyo. Regd. Office: 84, Fenchurch-st., London.
Heilgers, F. W., & Co., Chartered Bank-bldgs., Clive-st., Calcutta, India.
Heiremans, A., Comptoir de la Costa del Pacifico, 1681, calle San Antonio; & Casilla 4, Santiago, Chili.
Hockly, D. E., & Co., East London, S. Africa.
Hormann y Cia., Valparaiso, Chili; & Santiago; Talca; Conception; & Valdivia.
Hosken, Wm., & Co., P.O. Box 667, Johannesburg, Transvaal.
Jamasjee & Maneckjee, opposite Prince's Dock, Bombay, India.
Johnson, F. S. N., Charters Towers, Queensland.
King Bros., Durbanville, Cape Colony.
Lloyds & Co., Cape Town.
McArthur, W. & A., Ltd., 15, Macquaric-pl., Sydney, N.S.W.
McCray, E., & Co., Ltd., 12, Loftus-st., Sydney, N.S.W.
Macdonald & Co., 5, Chareh El Maghrabi, Cairo, Egypt.
McLennan & Co., Brisbane, Queensland.
McPherson, Thos., & Son, 582–588, Collins-st., Melbourne, Victoria.
Mantels & Co., Peru & Belgrano, Buenos Ayres, Argentina.
Martin, J., & Co., 161, Clarence-st., Sydney, N.S.W.
Middleton & Co., 53, Cumberland-st., P.O. Box 415, Dunedin, N.Z.
Miller & Co., Prop., Ltd., 33 to 47, Armstrong-st., Ballarat, Victoria.
New, David, & Co., 487, Collins-st., Melbourne, Victoria.
Noceti, Dom., & Cia., 535, Calle Perú, Buenos Ayres, Argentina.
Reid, William, rua 1° de Março 77, Rio de Janeiro, Brazil.
Renard, J., & Co., 306, Kent-st., Sydney, N.S.W.
Rintoul & Davis, 23, 24, 35 & 36, Cullinan-bldg., Main-st., Johannesburg, Transvaal.
Robinson, J. J., off 165, Flinders-lane, Melbourne, Victoria.

Machinery Merchants & Agents—*contd.*

Saunders & Stuart, Melbourne-rd., Perth, Western Australia.
Schill, Pearson & Co., Ltd., Alsina 1554–1560, Buenos Ayres.
Schöndube & Neugebauer, Mexico City.
Smellie & Co., Brisbane, Queensland.
Smith & Cooke, 435, Bourke-st., Melbourne, Vic.
Smuts & Koch, Malmesbury, Cape Colony.
Société Anonyme de Travaux et d'Entreprises au Brésil, 79, rua Primeiro de Março, Rio de Janeiro, Brazil.
Spiller, T. M., Wepener, Orange River Colony.
SPLATT, WALL & CO., Perth, West Australia. Electrical engineers, importers, dealers in all kinds of machinery & electrical goods.
Steinemann, Mabardi & Co., 12, Place Mohamed Aly, Alexandria, Egypt.
Sykes, S., & Co., Ltd., P.O. Box 2303, Johannesburg, Transvaal; & P.O. Box 230, Bulawayo, Rhodesia.
Toole, J. E., & Co., Hunter-st., Sydney, N.S.W.
Union Engineering Co., Ltd., Morphett-st. & Cupper-pl., Adelaide, South Australia.
Watkins, R. G., & Co., 107, Kent-st., Sydney, New South Wales.
Welch, Perrin & Co., Queens Bridge-st., South Melbourne, Victoria.
Williams, A. R., Machinery Co., Ltd., Toronto, Montreal, Winnipeg & Vancouver, Canada.
Williamson, Balfour & Co., Valparaiso; & Santiago, Chili.

Magnetic Steel Manufacturers.

F.—Acier Magnetique.
G.—Stahl für Magnete.

Allen, Edgar, & Co., Ltd., New Club-bldgs., Loveday & Main-sts., Johannesburg, Transvaal.

Manufacturers' Agents.

F.—Agents de Fabricants.
G.—Fabrik—Agenten.

Ainsworth, H., 606–607, Corner House, (P.O. Box 1553), Johannesburg, Transvaal.
Banks, Wm., & Co., 68, Shortmarket-st., Cape Town.
Bird & Co., 101–1, Clive-st., Calcutta, India.
Bock & Co., 57, Lorne-st., Auckland, N.Z.
Collyer, Alfred, & Co., Bell Telephone-bldg., Montreal, Canada.
Cornes & Co., Yokohama & Kobe, Japan.
Craven, Harry A., 316, George-st., Sydney, N.S.W.
Engineering & Supply Co., 255, Pechon-st., Kingston, Jamaica.
Framji Cowasji, 596, Girgaum, Bombay, India.
Hall, John, & Co., Ltd., 104, Manchester-st., Christchurch, N.Z.
Marty, Ernest, C.E., A.M.I.E.E., A.M.I.M.E., calle Cevallos 1954, Buenos Aires, Argentina.
Mason, Struthers & Co., Ltd., Colombo & Lichfield-sts., Christchurch, N.Z.
Newell & Co., 43 & 45, King-st., Melbourne, Vic.
Olazagasti, A., Gauyama, Porto Rico.

Manufacturers' Agents—*continued.*

Paddle, B. G., 418, George-st., Sydney, N.S.W.
Painchaud, J. R., 1265, 1267, St. Catherine-st., Montreal, Canada.
Pargiter, A., & Co., 7, New Club-bldgs., Johannesburg, Transvaal.
Paton, James, & Co., 2, Martin-pl., Sydney, N.S.W. *See advt., page* 954.
Richmond, Harold H., A.I.E.E., 2, Martin-pl., Sydney, N.S.W.
Stinson & Bell, Montreal, Que., Canada.
Surtees, H. J., 90, Bay-st., Toronto, Canada.
Wadia, Nowrosjee, & Sons. Offices: Cumballa Hill, Bombay, India.
Wills & Co., Ltd., Eastern Exchange, Port Said, Egypt.

Manufacturers' Representatives.

F.—Représentants de Fabricants.
G.—Fabrik Vertreter.

Andrews & George, 242, Yokohama, Japan.
Grob, G., P.O. Box 855, Cairo, Egypt.
Lewis, C. C., 25, Mayo 206, Montevideo, Uruguay.
Maranjo, J. Sanchez, Centro Telefonico, Sancti-Spiritus, Cuba.
Paton, James, & Co., 2, Martin-pl., Sydney, N.S.W. *See advt., page* 954.
Rowe, Drew & Co., 550–552, Collins-st., Melbourne, Victoria.

Mathematical Instrument Manufacturers.

F.—Instruments mathématiques—Fabr. de.
G.—Mathematische Instrumente—Verfertiger.

Köhler, G. C., Flinders-st., Adelaide, S. Australia.
Yeates, H., 64, Macquarie-st., Hobart, Tasmania.

Measuring Instrument Mfrs.—Electric.

F.—Instruments de mesure—Fab. de.
G.—Mass Instrumente—Fabr.

Metal Manufacturers & Founders—General.

F.—Métal-Fab. et Fonte—en général.
G.—Metall. Fab. & Giesser—im Allgemeinen.

Australian Metal Co., Ltd., 113, William-st., Melbourne, Victoria.
Brinsley & Co., Ltd., Cumberland-st., Dunedin, N.Z.
Dowrie & Co., Port Said, Egypt.
Simpson, D. M., & Co., Ltd., Trafalgar-sq., Bridgetown, Barbadoes.

Metal Merchants.

F.—Marchands—Métaux.
G.—Händler von Metall.

Fraser, Alex., Proprietary, Ltd., 363, Flinders-st., Melbourne, Victoria.
Scrutton, R. L., & Co., 97, Clarence-st., Sydney, N.S.W.
Taves, Oscar, & Co., 84, rua S. Pedro, Rio de Janeiro, Brazil.

Metallurgists—Electro.

F.—Electro-Métallurgistes.
G.—Elektro-Erzkundige.

McMiken, S. D., Komata Reefs G. M. Co., Komata, N.Z.
Vendryes, L. H., 35, John's-lane, Kingston, Jamaica.
Wilks, R. Clarke, 423B, Little Collins-st., Melbourne, Victoria.

Mica Merchants.

F.—Marchands—Mica.
G.—Händler von Glimmer.

Chrestien, F. F., & Co. Offices & Factory: Tisri, *viâ* Giridih, Bengal, India; also at Calcutta & London. Mines in Hazaribagh, Gya & Monghyr.
Dominion Mica Works, Ltd., 148, McGill-st, Montreal. Works: 534, Wellington-st., Ottawa.
General Electric Mica Works, Rochester & Albert-sts., Ottawa, Canada.
Hopper, R. T., & Co., 415, Merchants Bank-bldg., Montreal, Canada.
Jones, J. D., & Co., Mica Works, Howrah, Bengal.
Laurentide Mica Co., Queen & Bridge-sts., Ottawa, Canada.
Pollock, Jas., Sons & Co., Ltd., 311, calle Bartolomé Mitre, Buenos Ayres.
Webster & Co., 274, Stewart-st., Ottawa, Can.

Motor Carriages.

F.—Voitures automobiles.
G.—Motor Wagen.

Cousins & Atkin Carriage Factory, Ltd., The Strand & Beach-rd., Mechanic's Bay, Auckland, N.Z.
Thomson Motor Car Works, 835, High-st., Armadale, Melbourne, Victoria.

Motor Manufacturers—Electric.

F.—Moteurs—électriques—Fab.
G.—Motoren—elektr.—Fabr.

Jenckes Machine Co., Ltd., Sherbrooke, Que., Canada.

Omnibuses, Cabs, & Parcels Vans—Electrical.

F.—Voitures Omnibus et autres—élec.
G.—Elektr. Omnibusse, Droschken & Packwagen.

Crossen Car Manufacturing Co. of Cobourg, Ltd., Cobourg, Ont., Canada.

Patent Solicitors & Experts.

F.—Avocats de brevets et experts.
G.—Patent Anwalte und Sachsverständige.

Bernays, Charles E., 45, Adelaide-st., Brisbane, Queensland.
Bodycomb, Bedlington, St. James-bldgs., cor. Bourke & William-sts., Melbourne, Victoria.

Patent Solicitors & Experts—*continued.*

COLLISON & CO., 483, Collins-st., Melbourne; & Eagle-chbrs., King William-st., Adelaide. (Telegs.: "Collimator, Melbourne, Australia." Teleph. Nos.: 3131, Melbourne; & 114, Adelaide.)
Fetherstonhaugh, Blackmore & Dennison, L. & L. & Globe-bldg., Montreal, Canada.
Fetherstonhaugh & Co., Royal Bank-bldg., 10, King-st. East, Toronto, Ont., Canada.
Griffith & Hassel, 163, King-st., Sydney; & 9, Queen-st., Melbourne, Victoria.
Philips, Ormonde, & Co., 533, Collins-st., Melbourne, Victoria.
Remfry, H. H., Hastings-st., Calcutta, India.
Turri, G. G., & Co., 364–366, Collins-st., Melbourne, Victoria.
Walsh, Fred, George & Wynyard-sts., Sydney, N.S.W.; & Collins-st., Melbourne, Victoria.
Waters, E., & Sons, 414, 416 & 418, Collins-st., Melbourne, Victoria; & 7, Moore-st., Sydney, N.S.W.

Patent & Trade Marks Registration Agents.

F.—Brevets et Marques de fabrique—Agents de.
G.—Agenten für Registrirung der Patente Handelsmarken, &c.

Bailly Bros., 77, rua Sete de Setembro, Rio de Janeiro, Brazil. P.O. Box 814.
Bear, J., 369, Collins-st., Melbourne, Victoria.
Blanco, L. J., Caracas, Venezuela.
Burgess, C. S., National Mutual-bldgs., King William-st., Adelaide, South Australia.
Buschmann & Cia., 34, rua General Camara, Rio de Janeiro, Brazil.
Chism, R. E., Apartado 130 bis, Mexico.
Collison & Co., 483, Collins-st., Melbourne; & Eagle-chbrs., King William-st., Adelaide.
Conyers, W., 483, Collins-st., Melbourne, Vic.
Cooke, J. H., King William-st., Adelaide, South Australia.
Dalton, W. J., C.E., 266, Queen-st., Auckland, New Zealand.
De Penning & De Penning, 19, Watkins-lane, Howrah, Calcutta, India.
Evans, Owen N., Merchants Bank-bldg., Montreal, Canada.
Freitas, Dr. B. R. de, 11, Travessa do Ouvidor, Rio Janeiro, Brazil.
Garcia, A. H. C., 4, rua S. Pedro, Rio de Janeiro, Brazil.
Hershensohn, J., jun., 254A, Longmarket-st. (Box 56), Pietermaritzburg, Natal.
Kerr, C. Allen, Casilla 490, Santiago, Chili.
Kisch, D. M., & Co., P.O. Box 668, Johannesburg, Transvaal.
Langford, F. L., 12, Elizabeth-st., Hobart, Tasmania.
Leclerc & Co., 156, rua do Rosario, Rio de Janeiro, Brazil.
Moura & Wilson, 33, rua Rosario, P.O. Box 596, Rio de Janeiro, Brazil.

Patent & Trade Marks Registration Agents—*continued.*

Newman, W., & Co., 4, Dalhousie-sq., Calcutta, India.
Roberts, C. H., 53, Esk-st., Invercargill, New Zealand.
South American General Patent Agency, 156, rua do Rosario, Rio de Janeiro, Brazil.
Swanson, A., 243, Queen-st., Melbourne, Victoria.

Phonograph Makers & Agents.

F.—Phonographes—Fab. et Agents de.
G.—Phonographen—Fabr. und Agenten von.

Lepage & Co. (importers), Calle Bolivar 375, Buenos Ayres, Argentina.

Portable Electric Lamps—Makers of.

F.—Lampes électr. portatives—Fabr. de.
G.—Tragbare Elektrische Lampen—Fabr. von.

Power Companies—Electric.

See ELECTRICITY WORKS.

Professors & Teachers of Science—including Electricity.

F.—Professeurs et Précepteurs de Sciences y compris l'électricité.
G.—Professoren und Lehren der Wissenschaft—Elektricität einschliessend.

Aoyagi, E., M.E., DR.E., Imperial Kyoto University, Kyoto, Japan.
Arakawa, B., Imperial University, Tokyo, Japan.
Bohle, Prof. H., M.I.E.E., South African College, Cape Town, Cape Colony.
Bose, Prof. J. C., Presidency College, Calcutta.
Brown, Prof. F. D., M.A., B.SC., University College, Auckland, N.Z.
Burr, E. G., A.AM.I.E.E., McGill University, Montreal.
Chapman, R. W., M.A., B.C.E., University, Adelaide, S. Australia.
Cochrane, J. B., Royal Military College, Kingston, Ontario, Canada.
Cockerell, T., Technical College, Colombo, Ceylon.
Cox, John, McGill University, Montreal, Canada.
Crookes, S. I., A.M.I.E.E., Technical College, Auckland, N.Z.
Dissanaike, E. S., G.P.O., Colombo, Ceylon.
Dodson, H., School of Mines, Thames, N.Z.
Ellis, Albert T., Waihi School of Mines, Waihi, N.Z.
Featherstonehaugh, E. P., University, Winnipeg, Man.
Gill, Prof. L. W., A.AM.I.E.E., School of Mining, Kingston, Ont., Canada.
Guarini, E., Escuela de Artes y Oficios, Lima, Peru.
Hancox, S. H., Ipswich Technical College, Ipswich, Queensland.
Henry, John, M.A., B.E., High School, Dawson City, Yukon, Canada.
Herdt, L. A., M.E., M.AM.I.E.E, McGill University, Montreal, Canada.
Ho, H., M.E., Imperial University, Tokyo, Japan.

Professors & Teachers of Science—including Electricity—*continued.*

Hopkins, R. H., A.AM I.E.E., University of Toronto, Toronto, Ont., Canada.
Kumakura, K., M.E., Yokosuka, Japan.
Lyle, Prof. T. R., M.A., The University, Melbourne.
McDougall, D., A.I.E.E., Western Australian School of Mines, Kalgoorlie, W. Australia.
McLennan, Dr. J. C., The University, Toronto, Ont., Canada.
Namba, M., M.E., DR.E., M.I.E.E., Imperial Kyoto University, Kyoto, Japan.
Nixon, Wm. F., Railway Technical School, Malta.
Ogura, K., M.E., Kyoto Imperial University, Kyoto, Japan.
Pollock, J. A., The University, Sydney, N.S.W.
Powell, P. H., M.SC., M.ENG., A.M.I.E.E., A.AM.I.E.E., Canterbury College, Christchurch, N.Z.
Price, H. W., A.M.I.E.E., School of Science, Toronto, Ont., Canada.
Rosebrugh, T. R., M.A., A.AM.I.E.E., University, Toronto, Canada.
Scott, E. Kilburn, M.I.E.E., M.I.M.E., A.M.I.C.E., The University, Sydney, N.S.W.
Sharp, L. H., B.SC., B.E., University, Adelaide, South Australia.
Smith, Alfred Mica, B.SC. LOND. & VIC., F.I.C., School of Mines, Ballarat, Victoria.
Sutherland, J. M., School of Mines, Ballarat, Victoria.
Tanakadate, Dr. A., Imperial University, Tokyo, Japan.
Tan Cho-liang, Imperial Chinese Telegraph Administration, Peking, China.
Waddell, John, D.SC., PH.D., School of Mining, Kingston, Canada.
Warren, Prof. W. H., M.I.C.E., Sydney University, Sydney, N.S.W.
Yamakawa, G., M.E., DR.E., Imperial University, Tokyo, Japan.
Zegers, Luis, The University, Santiago, Chili.

Publications—Electrical & Scientific.

F.—Publications—électr. et scient.
G.—Veröffentlichungen—elekt. und wissenschaftliche.

Australasian Hardware & Machinery (monthly; ann. sub., 5*s.*), Fink's-bldgs., 8, Elizabeth-st., Melbourne, Victoria.
AUSTRALIAN MINING STANDARD & ELECTRICAL RECORD (weekly; ann. sub., £1 10*s.*), 376, Flinders-lane, Melbourne, Victoria; & 12, O'Connell-st., Sydney, N.S.W.; & 2, Nicholas Passage, Lombard-st., London, E.C. (Teleph. No. 2020, Central.) *See advt., page* 846.
Boletin de Minas Industria y Construcciones, Lima, Peru.
Canadian Contract Record (weekly), Confederation Life-bldgs., Toronto, Ontario, Canada. (Ann. sub., $2.)
Canadian Electrical News & Engineering Journal (monthly; ann. sub., $2.00), Confederation Life-bldg., Toronto, Canada.

Publications—Electrical & Scientific—*continued.*

Canadian Engineer (weekly; price, single copies, 15 cents; $2.00 per ann. Can., Gt. Britain; $3.50 U.S., & 16*s.* per ann. Foreign), 62, Church-st., Toronto, Canada.
Canadian Hardware & Metal (weekly), Toronto; & Montreal, Canada.
Canadian Machinery & Manufacturing News (monthly), Toronto & Montreal, Canada; & 88, Fleet-st., London, E C.
Canadian Manufacturer (1st & 4th Friday of each month; price, P.U., 10*s.* post paid), McKinnon-bldg., Toronto, Canada.
Denki-No-Tomo (*The Electrician's Friend*), monthly, 6, Minami, Kinrokucho, Kyobashiku, Tokyo, Japan.
Indian & Eastern Engineer (monthly; ann. sub., Rs. 10), 6, Mangoe-lane, Calcutta, India; & 50, Fenchurch-st., London, E.C.
Indian Engineering, 256, Bowbazar-st., Calcutta, India. (Ann. sub., 31 Rs.)
Indian Industries & Power, 55, Hornby-rd., Fort, Bombay, India. (Ann. sub., 9 Rs.) Editor, Carlton Stubbs.
Indian Textile Journal (monthly; ann. sub., Rs. 9, foreign, 12*s.*), 27, Medows-st., Bombay, India; & London.
Ingenieria, La (bi-weekly; ann. sub., 26*s.*), 230, Florida, Buenos Ayres, Argentina.
Journal of the South African Association of Engineers, Transvaal University College-bldgs. (P.O. Box 1818), Johannesburg, Transvaal.
Power House (monthly), Toronto & Montreal; & 88, Fleet-st., London, E.C.
Revista Maritima Brazileira (monthly), rua D. Manoel N. 3, Rio de Janeiro, Brazil.
Telephone Age of Canada (monthly). Publishers: Biggar-Wilson, Ltd., Confederation Life-bldg., Toronto, Canada.
Victoria Electrical & Telegraphic Journal (price 3*d.* monthly), G.P.O., Melbourne, Victoria.

Publishers of Electrical & Scientific Books.

F.—Librairies et Editeurs de livres élec. et scient.
G.—Verleger von elektr. und wissenschaftliche Büchern.

Darter Bros. & Co., (P.O. Box 174), Cape Town, Cape Colony.
Etchepareborda, Agustin, 359, Tacuari, Buenos Ayres, Argentina.
Miller, T. M., Adderly-st., Cape Town, Cape Colony.
Thacker & Co., Ltd., 27, Esplanade, Bombay, India.
Thacker, Spink & Co., 5 & 6, Government-pl., Calcutta, India.

Pulley Makers.

F.—Poulies—Fab. de.
G.—Riemscheiben—Fab.

Dodge Manufacturing Co. of Toronto, Ltd., 138, Bay-st., Toronto, Canada West.

Pump Makers.

F.—Pompe—Fab. de.
G.—Pumpen Macher.

COMPAGNIE EGYPTIENNE THOMSON-HOUSTON, 13, rue Soliman Pacha, Cairo; & 29, rue de la Porte Rosette, Alexandria, Egypt. *See advt., page* 959.

Railways & Tramways—Electric.

F.—Chemins de fer et Tramways-Electriques.
G.—Elektr. Eisenbahnen & Strassenwagen.

For particulars, see ELECTRICITY WORKS.

Adelaide Municipal Tramways, South Australia.
Alberta Railway Co., Lethbridge, N.W.T., Can.
Alexandria Ramleh Railway Co., Ltd., Alexandria, Egypt.
Algoma Central & Hudson Bay Railway Co., Sault Ste. Marie, Ont., Canada.
American Korean Electric Railway, Seoul, Korea.
Ascuncion Tramways, Ascuncion, Paraguay. *To be converted to electric.*
Auckland Electric Tramways Co., Auckland, N.Z.
Avellaneda-La Plata Railway. *To be constructed.*
Bahia Tramways, Bahia, Brazil. *Under construction.*
Ballarat Tramways, Ballarat, Victoria.
Baltimore Railway & Coal Co., Baltimore, Albert Co., N.B.
Bangkok Tramways, Bangkok, Siam.
Barbados Light Railway, Ltd., Barbadoes.
Batavia Elektrische Tram-Maatschappij, Batavia, Java.
Baturite Railway, Fortaleza, Ceará, Brazil.
Bay of Quinte Electric Railway Co., Deseronto, Ont., Canada.
Beaconsfield Tramways, Beaconsfield, Tasmania.
Beira & Mashonaland & Rhodesia Railways, Bulawayo, Rhodesia. Res. engr., C. Corner.
Belgian Electric Tramway Co., Buenos Ayres. *Lines under construction.*
Belt Line Railway Co., Montreal, Canada.
Bendigo Tramways, Bendigo, Victoria.
Berlin & Bridgeport Electric Street Railway Co., Ltd., Berlin, Ont., Canada.
Berlin & Waterloo Street Railway, Berlin, Ont.
Blindman River Electric Power Co., Ltd., Lacombe, Alberta, Canada.
Bloemfontein Corporation Tramways, Bloemfontein, Orange River Colony.
Boksburg, Transvaal. *Tramway to be constructed.*
Bombay Tramways, Bombay, India.
Bout d'Elle Railway, Montreal, Canada.
Brantford & Hamilton Railway, Ont., Canada.
Brantford Street Railway, Brantford, Ontario.
Brisbane Tramways Co., Ltd., Brisbane, Queensland.
British Columbia Electric Railway Co., Ltd., Vancouver, Victoria & New Westminster, British Columbia.
Buckingham Electric Railway Co., Buckingham, Que., Canada.
Buenos Aires Southern Tramway Co., Buenos Aires.

Railways & Tramways—Electric—*contd.*

Buenos Ayres & Lacroze Tramways. *See* Compañia Tramways Lacroze.
Buenos Ayres & La Plata Electric Railway. *Concession granted.*
Buenos Ayres & Lujan Electric Railway. *Not yet constructed.*
Buenos Ayres Port & City Tramways Co., Buenos Ayres.
Burma Electric Tramways & Lighting Co., Ltd., Mandalay, Burma.
Cairo Electric Railway & Heliopolis Oasis Co., Heliopolis Oases, nr. Cairo, Egypt. *Lines under construction.*
Calais Electric Railway Co., Calais, N.B., Canada.
Calcutta Tramways Co., Ltd., Calcutta, India.
Calgary Corporation Tramways, Calgary, Alberta, Canada.
Camp's Bay Electric Tramways, Cape Town.
Canadian Pacific Railway. *Plans are in preparation for conversion of* 700 *miles to electric traction.*
Canton-San Wu Rly., China. *Not yet constructed.*
Cape Breton Tramway Co., Sydney, N.S., Canada.
Cape Town Tramway Cos., Cape Town.
Caracas Tramways, Caracas, Venezuela.
Cargill Tramways, Cargill, Ont., Canada.
Cawnpore Tramways, Cawnpore, India.
Central Railway, Peru. *It is proposed to be electrified.*
Chambers Electric Light & Power Co., Truro, N.S., Canada.
Chatham City & Suburban Railway Co., Chatham, Ont., Canada.
Chatham, Wallaceburg & Lake Erie Railway Co., Chatham, Ont., Canada.
Chatham & Windsor Railway, Ont., Canada. *To be constructed.*
Chemulpo, Corea. *Tramway to be constructed.*
Chilian Electric Tramway & Light Co., Ltd., P.O. Box 1557, Santiago, Chili.
Christchurch Tramway Board, Christchurch, N.Z.
Cobourg, Port Hope & Havelock Electric Railway, Canada. *To be constructed.*
Colombo Electric Tramways, Colombo, Ceylon.
Compagnie française de Tramways et d'Eclairage electriques, Shanghai, China.
Cia. de Gas y Electricidad de la Havana, Havana, Cuba.
Compañia de Tramways Anglo-Argentina, Ltd., Avenida Mayo 819, Buenos Ayres.
Compañia de Tranvias de Mexico, Mexico City. *Lines to be constructed.*
Compañia Força e Luz Porto Alegrense, Porto Alegre, Rio Grande do Sul, Brazil.
Cia. Luz Electrica, Rio Grande do Sul, Brazil.
Compañia Tramways Lacroze de Buenos Aires, Lda., 4002, Corrientes, Buenos Aires, Argentina.
Cordoba Tramways, Cordoba, Argentina.
Cornwall Street Railway Co., Cornwall, Ont., Canada.
Costa Rica Electric Light & Traction Co., Ltd., San José; & Cartago, Costa Rica.

Railways & Tramways—Electric—*contd.*

Damascus Tramways, Asia Minor.
Delagoa Bay Development Corp., Lourenço Marques, Delagoa Bay.
Delhi Tramways, India.
D'Israeli Tramways, D'Israeli, Que., Canada.
Dunedin City Tramways, Dunedin, N.Z.
Durban Municipal Tramways, Durban, Natal.
East Indian Railway Co., Calcutta, India.
East London Municipal Tramways, East London, Cape Colony.
Edmonton Muuicipal Railway, Edmonton, Alberta, Canada.
Egerton Tramway Co., Halifax, N.S., Canada.
Empresa de Tranvia Electrica Lima y Callao, Lima, Peru.
Empresa de Tranvia Electrica Lima y Chorrillos, Lima, Peru.
Esquimault & Nanaimo Railway Co., Nanaimo, B.C., Canada.
Fernie Tramways, Crow's Nest Pass Electric Light & Power Co., Ltd, Fernie, B.C., Can.
Fort William Electric Railway, Ont., Canada. *To be constructed & leased to Mount McKay & Kakabeka Electric Railway.*
Fremantle Municipal Tramways, Fremantle, Western Australia.
Galt, Preston & Hespeler Street Railway, Galt, Ont., Canada.
Geelong, Victoria. *Tramways to be constructed.*
Georgetown Tramways, Georgetown, Demerara.
Georgetown Tramways, Georgetown, Penang, Straits Settlements.
Grand Trunk Pacific Railway, St. Lawrence River to Monckton. *Electrification under consideration.*
Grand Trunk Railway, Sarnia, Ont., Canada. Power House at Port Huron, Mich.
Grand Valley Railway Co., Brantford, Ont., Canada. *Lines under construction.*
Guatemala Tramways. *To be electrified.*
Guelph Corp. Tramways, Guelph, Ont., Canada.
Guelph Radial Railway Co., Guelph, Ont., Canada.
Gwalior, India. *T. to be constructed.*
Halifax Electric Tramway Co., Halifax, N.S., Canada.
Hamilton & Barton Electric Railway Co., Hamilton, Ont., Canada.
Hamilton Cataract Power, Light & Traction Co., Ltd., Hamilton, Ont., Canada.
Hamilton, Chedoke & Ancaster Railway Co., Hamilton, Ont., Canada.
Hamilton, Grimsby & Beamsville Electric Railway Co., Hamilton, Ontario, Canada.
Hamilton Radial Electric Railway, Hamilton, Ont., Canada.
Hamilton Street Railway, Hamilton, Ont., Canada.
Hamilton, Waterloo & Guelph Railway Co., Hamilton, Ont., Canada.
Hanshin Electric Railway, Amagasaki, Japan.
Havana Central Railway *contemplate construction of 50 miles electric railway.*
Havana Electric Railway Co., Havana, Cuba.
Hobart Elec. Tramway Co., Ltd., Hobart, Tasmania.

Railways & Tramways—Electric—*contd.*

Hong Kong Tramways (Electric Traction Co. of Hong Kong, Ltd.), China.
Honolulu Rapid Transit & Land Co., Honolulu, Hawaiian Islands.
Hull Electric Railway Co., Aylmer, Que., Canada.
Hyogo-Akashi, Japan.
Indwe Electric Railway, Indwe, Cape Colony.
Ingersoll Radial Electric Railway Co., Ingersoll, Ont., Canada.
International Railway Co., Niagara Falls, Ont., Canada.
International Transit Co., Sault Ste. Marie, Ont., Canada.
Ipswich, Queensland. Queensland Govt. Rly. Dept., prop. *Under construction.*
Ise Electric Railway, Yamada, Ise, Japan.
Johannesburg Municipal Tramway, Johannesburg, Transvaal.
Kalgoorlie Electric Tramways, Ltd., Maritana-st., Kalgoorlie, Western Australia.
Keihin Electric Traction Co., Ltd., Kawasaki, Kanagawa-ken, Japan.
Kew-St. Kilda Tramways, Vic. *To be constructed.*
Kimberley & Alexandersfontein Electric Railway, Kimberley, South Africa.
Kimberley & Beaconsfield Tramways, Cape Colony.
Kingston Corporation Tramways, Kingston, Ont., Canada.
Kingston, Portsmouth & Cataraqui Street Railway Co., Kingston, Ontario.
Kingston Tramways, West India Electric Co, Ltd., Kingston, Jamaica.
Kobe Electric Railway Co., 4, 5, 6, Azuma-dori 1, Japan. *Under construction.*
Kobe & Osaka Railway. *See* Hanshin.
Kofu Electric Light & Power Co., Yamanashiken, Japan.
Kumamoto & Suizenji Light Railway, Kumamoto, Japan.
Kyoto Electric Traction Co., Higashikujo, Kyoto, Japan.
Kyoto & Osaka Railway, Kyoto, Japan. *Under construction.*
Lake Erie & Detroit River Railway Co., Walkerville, Ont., Canada.
La Paz Tramways, La Paz, Bolivia.
La Plata & Ensenada Tramway. *Being electrified.*
La Plata Tramways, La Plata, Buenos Ayres. *Not yet electrified.*
La Transatlantica, Montevideo, Uruguay.
Las Palmas, Canary Islands. *Tramways to be electrified.*
Launceston Tramways. *To be constructed.*
Leonora, West. Australia.
Levis County Railway Co., Levis, Que., Canada.
Liverpool Marine Electric Railway Co., Liverpool, N.S., Canada.
London, Aylmer & North Shore Electric Railway Co., Aylmer, Ont., Canada.
London, St. Thomas, Port Stanley Railway, Ont., Canada. *Under construction.*
London Street Railway Co., London, Ontario.

Railways & Tramways—Electric—*contd.*

Lourenço Marques Tramways, Lourenço Marques, Delagoa Bay.
Lucknow, India. *T. under construction.*
Lundy's Lane Electric Railway, St. Catherine's, Ont., Canada.
Madras Electric Tramways (1904), Ltd., Madras, India.
Malta Tramways.
Manaos Tramways, Manaos, Brazil.
Mandalay Tramways, Burma Electric Tramways & Lighting Co., Ltd., Mandalay, Burma.
Manila Electric Railway & Light Co., Manila, Philippines.
Matadi-Leopoldville Railway, Belgian Congo. *Proposed to be electrified.*
Merriton & Thorold Electric Railway Co., Thorold, Ont., Canada.
Mexico Tramways Co., Mexico City.
Miyagi Boseki Dento Kabushiki Kaisha, Sendai, Japan.
Moji-Kokura Kiushiu Electric Railway Joint Stock Co., Japan. *Not yet constructed.*
Moncton Street Railway Co., Moncton, N.B., Can.
Monte Video, Uruguay. United Electric Tramways, props.
Monterey Tramways, Mexico.
Montreal Park & Island Railway Co., Street Railway-chbrs., 78, Craig-st. W., Montreal, Canada.
Montreal & Southern Counties Railway Co., 112, St. James-st., Montreal, Que., Canada.
Montreal Street Railway Co., Montreal, Canada.
Montreal Suburban Tramway & Power Co. *Worked by Montreal Street Railway Co.*
Montreal Terminal Railway, Montreal, Canada.
Mount McKay & Kakabeka Falls Railway, Fort William, Ont., Canada.
Mount Royal Park Traction Railway Co., Montreal, Canada.
Nagoya Electric Railway, Nagoya, Japan.
Nanaimo Alberni Railway Co., Nanaimo, B.C., Canada.
Nankai Railway (Osaka-Wakayama), Japan. *Under construction.*
Natal Government Railways, Durban, Natal.
Nelson Electric Tramways Co., Ltd., Nelson, B.C., Canada.
New Glasgow Elec. Railway, New Glasgow, N.S., Canada.
Newcastle, N.S.W. *To be electrified.*
Niagara Falls Park & River Railway, Niagara Falls, Ont., Canada.
Niagara, St. Catherine's & Toronto Railway Co., St. Catherine's, Ont., Canada.
Niagara & Toronto, Canada. *It is proposed to construct an electric railway.*
Nilgiri Mountain Railway, India. *To be electrified.*
North Melbourne Electric Tramways & Lighting Co., Ltd., Melbourne, Victoria.
North River Power Co., Ltd., Montreal, Canada.
North Shore Electric Railway Co., Three Rivers, Que., Canada.
North Vancouver & Moodyville Tramway, North Vancouver, Canada.

Railways & Tramways—Electric—*contd.*

Odawara Tramways, Odawara, Japan.
Ontario West Shore Electric Railway Co., Goderich, Ont., Canada.
Osaka-Nara Railway, Japan. *Not yet constructed.*
Osaka-Takaradzuka Railway. *To be constructed.*
Osaka Tramways. Osaka Electric Light Co., 60, Gochome, Nakanoshima, Osaka, Japan.
Oshawa Railway, Oshawa, Ont., Canada.
Ottawa Electric Railway, Ottawa, Canada.
Ottawa & Morrisburg Railway. *To be constructed.*
Para Electric Railways & Lighting Co., Ltd., Para, Brazil.
Penang Municipal Tramways, Malay States.
Penetang & Midland Electric Street Railway & Power Co., Ltd., Penetang, Ont., Canada.
Penetanguishene & Midland Electric Street Railway, Penetanguishene, Ont., Canada.
Pernambuco Tramways, Brazil. *To be electrified.*
Perth Electric Tramways, Barrack-st., Perth, Western Australia.
Peterborough & Chemong Railway Co., Peterborough, Ont., Canada.
Peterborough Radial Rly. Co., Peterborough, Ont.
Pietermaritzburg, Natal, Corporation Tramways.
Pilgrim's Rest Tramway, Lydenburg, Transvaal.
Port Arthur Corporation Electric Street Railway, Port Arthur, Ont., Canada.
Port Dalhousie, St. Catherine's & Thorold Electric Street Railway Co., St. Catherine's, Ont., Canada.
Port Elizabeth Electric Tramways Co., 4, Main-st., Port Elizabeth, South Africa.
Port Said, Egypt. *Application has been made to the Egyptian Government for permission to electrify T.*
Porto Rico & Caguas Electric Railway. *Under construction.*
Prahran-Malvern Tramway, Victoria. *Not yet constructed. Expected to be finished May*, 1910.
Pretoria Corp., Transvaal. *Tramways under construction.*
Puebla Tramways, Light & Power Co., Puebla, Mexico.
Quebec Railway, Light & Power Co., Que., Canada.
Rangoon Tramways, Burma.
Rio de Janeiro Tramways, Brazil.
Rosario Tramways, Argentina.
Roslyn Town Council Tramways, Roslyn, N.Z.
Rossland & Sophie Mountain Electric Railway Co., Canada.
St. Catherine's Electric Street Railway Co., St. Catherine's, Ont., Canada.
St. Hyacinthe Electric Railway Co., St. Hyacinthe, Que., Canada.
St. John Railway Co., St. John, N.B., Canada.
St. John's Street Railway Co., St. John, Newfoundland.
St. John's Tramways. Reid Newfoundland Co., St. John's, Newfoundland.
St. Kilda-Brighton Tramway, Victoria.
St. Mary's & London Railroad. *Not yet constructed.*
St. Stephen Railway, St. Stephen, N.B., Canada.

Railways & Tramways—Electric—*contd.*

St. Thomas Street Railway Co., St. Thomas, Ont., Canada.
San Juan Tramways, San Juan, Porto Rico.
Sandwich, Windsor & Amherstberg Railway, Windsor, Ont., Canada.
Santa Fé, Argentina. *T. to be electrified.*
Santiago-Valparaiso Railway. *Electrification under consideration.*
Santos Tramways. City of Santos Improvements Co., Ltd., Santos, Brazil.
Sanyo Railway Co., Kobe, Japan.
São Paulo Tramway, Light & Power Co., São Paulo, Brazil.
Sarnia Street Railway Co., Ltd., Sarnia, Ont., Canada.
Sault Ste. Marie Tramway (The Lake Superior Power Co.), Sault Ste. Marie, Ont., Canada.
Schomburg & Aurora Railway Co., Aurora, Ont., Canada.
Shanghai Tramways, China.
Shawinigan Falls Terminal Railway Co., Shawinigan Falls, Que., Canada.
Shawinigan Water & Power Co.'s Tramway, Montreal, Canada.
Sherbrooke Street Railway Co., Sherbrooke, Que., Canada.
Siamese Tramway Co., Ltd., Bangkok, Siam.
Singapore Electric Tramways, Ltd., Singapore, Straits Settlements.
Smith's Falls, Rideau & Southern Railway Co., Smith's Falls, Ont., Canada. *Not yet constructed.*
Sobral Railway, Sobral, Brazil.
Soc. Comercial de Montevideo, Montevideo, Uruguay.
Société Anc. des Tramways d'Alexandrie, Alexandria, Egypt.
Société Anonyme des Tramways Electriques de Teneriffe (Ilcs Canarics) & Extensions, Teneriffe, Canary Islcs.
Société Indo-Chinoise d'Electricité, Hanoi, Tonquin.
South Essex Electric Railway Co., Amherstburg, Ont., Canada.
South Western Traction Co., London, Ont., Canada.
Strand Electric Lighting Co., Sydney, N.S.W.
Sudbury Mineral & Timber Electric Railway Co., Sudbury, Ont., Canada.
Sydney & Glace Bay Railway Co., Sydney, N.S., Canada.
Sydney Government Tramways, Sydney, N.S.W.
Sydney Tramways (Cape Breton Electric Co.), Sydney, N.S., Canada.
Tientsin Tramways, China. *To be constructed shortly.*
Tokyo Metropolitan Street Railway Co., 3, Yurakucho, Sanchome, Kojimachi, Tokyo, Japan.
Tokyo Railway Co., Tokyo, Japan.
Tokio-Yokohama, Japan. *Under construction by the Govt.*
Toronto Railway Co., Toronto, Ont., Canada.
Toronto Suburban Street Railway Co., Toronto Junction, Ont., Canada.

Railways & Tramways—Electric—*contd.*

Toronto & York Radial Railway, Toronto, Canada.
Tosa Electric Railway Co., Kochi, Japan.
Townsville, Queensland. *T. to be constructed.*
Toyohashi Tramways (Toyohashi Electric Light Co., Ltd.), Toyohashi, Japan.
Trinidad Electric Co., Ltd., Port of Spain, Trinidad.
Tucuman City Tramways, Argentina.
Valparaiso Elec. Tramway Co., Valparaiso, Chili.
Vancouver & Lulu Island Railway, Canada.
Vancouver Power Co., N. Vancouver, Canada.
Vera Cruz Tramways, Mexico. *Under construction.*
Victoria & Esquimault Electric Railway Co.
Wakayama Hydro Electric Co., Wakayama, Japan.
Wanganui, N.Z. *Tramways to be constructed.*
Weedon Tramways (St. Francis Hydraulic Co.), Weedon, Que., Canada.
Wellington Municipal Electric Tramways, Wellington, N.Z.
Whitley Park Electric Railway Co., Whitley, Ont., Canada.
Windsor, Essex & Lake Shore Railway Co., Kingsville, Ont., Canada.
Windsor & Tecumseh Elec. Railway Co., Walkerville, Ont., Canada. *To be commenced shortly.*
Winnipeg Electric Street Railway Co., Winnipeg, Manitoba, Canada.
Winnipeg, Selkirk & Lake Winnipeg Railway, Winnipeg, Man., Canada.
Woodstock Electric Railway, Light & Power Co., Woodstock, N.B., Canada.
Woodstock Street Railway Co. *Controlled by Grand Valley Railway Co.*
Woodstock, Thames Valley & Ingersoll Electric Railway Co., Woodstock, Ont., Canada.
Yarmouth Street Railway Co., Ltd., Yarmouth, N.S., Canada.
Yokohama Electric Tramway Co., Ltd., Yokohama, Japan.
Yokohama, Kamakura, Japan. *To be constructed.*

Railways & Tramways (Electric)—Makers of & Contractors for.

F.—Chemins de fer & tramways—Fabr. & Entreprs.
G.—Eisenbahn & Strassenwagen—Fabr. & Untern.

Christchurch Electrical Construction Co., Christchurch, N.Z.
Cuban Electric Co., Regla, Havana, Cuba.
Elliott, W. G., Brantford, Ont., Canada.
Koppel, Arthur, Ltd., Howard-bldgs. (P.O. Box 3256), Johannesburg, Transvaal.
Lacroze Bros., Buenos Ayres, Argentina.
Lempriere, W. & J., 506, Little Collins-st., Melbourne, Victoria.
Nippon Sharyo Seizo Kaisha, Ltd., Atsuta, near Nagoya, Japan.
Ottawa Car Co., Ltd., Slater-st., Ottawa, Canada.
Reid, John, & Nephews, 102-104, Edward-st., Brisbane, Queensland.

Railways, Tramways, &c.—Manufacturers of Requisites & Appliances for.

F.—Chemins de fer et Tramways electriques, &c.—Fab. d'appareils pour.
G.—Eisenbahnen Strassenwagen u. s. w.—Fabr. von Vorrichtungen für.

Boeker & Co., Maifru 463 & Centenera y Rio IV., Buenos Ayres, Argentina.
Canadian Iron & Foundry Co., Ltd., St. Thomas, Ontario, Canada.
Eaton Bros., North Sydney, N.S.W.
Gartshore, J. J., 83, Front-st., Toronto, Canada.
Hasenclever y Cia. (dealers), 673, calle Belgrano, Buenos Ayres, Argentina.
Lindenberg, Nellen & Co., 434, calle Alsina, Buenos Ayres, Argentina.
Montreal Car Wheel Co., Montreal, Quebec, Can.
Orenstein & Koppel (P.O. Box 1716), Norwich Union-bldgs., Fox-st., Johannesburg, Transvaal.

Reflector & Shade Manufacturers—Glass, Metal & Silk.

F.—Reflecteurs et abatjours—en verre, en métal et en soie.
G.—Reflectoren & Schirme—Glas, Metall u. Seide.

Röntgen Apparatus—Makers of & Dealers in.

F.—Appareils Röntgen—Fabr. et Marchands d'.
G.—Röntgen Apparat.—Fab. von und Händler in.

Nachtigall, Victor, & Co., 191–193, Russell-st., Melbourne, Victoria.
Watson, W., & Sons, 78, Swanston-st., Melbourne, Victoria.

Schools of Electrical Engineering, Telegraphy, &c.

F.—Ecoles pour ingénieurs électr. et Télég.
G.—Schulen für Elektr. Telegr., Ingenieure, &c.

Auckland Technical College, Auckland, N.Z. G. George, principal.
Auckland University College, Auckland, N.Z. Prof. F. D. Brown, M.A., B.SC., lecturer.
Ballarat School of Mines, Ballarat, Victoria. President, Andrew Anderson, J.P.; director, F. J. Martell; lecturer on Electrical Engineering, J. M. Sutherland.
Bombay University, Mayo-rd., Bombay. N. A. F. Moos, B.SC., F.R.S.E., & Major W. V. Scudamore, R.E., Syndics in Engineering.
Calcutta University, Calcutta, India. The Hon. Mr. W. A. Inglis, president Faculty of Eng.
Civil Engineering College, Seebpore, Howrah, Bengal. B. Heaton, principal; W. H. Everett, prof. of electrical & mechanical engineering.
College of Engineering, Madras, India. W. H. James, B.SC., M.I.M.E., A.M.I.C.E., principal.
College of Science (A. W. Thomson, D.SC., acting principal), Poona, India.
College of Science & Engineering, Kyoto Imperial University, Kyoto, Japan. Director, Prof. Mitsuru Kuhara, PH.D., D.SC.
Dominion School of Telegraphy, 9, Adelaide-st. E., Toronto, Canada.

Schools of Electrical Engineering, Telegraphy, &c.—*continued.*

Gordon College. Khartoum, Sudan Provinces, Africa.
Gordon Technical College, Geelong, Victoria.
Imperial Polytechnic College, 18, Sicawei-rd., Shanghai. (Director-General, H. E. Yang Wen Chun.)
Indian Institute of Science, Bangalore, India. (Dr. Morris W. Travers, F.R.S., Director; A. Hay, D.SC., M.I.E.E., Prof. of Electrical Technology.
Ipswich Technical College, Ipswich, Queensland. Principal, R. A. Wearne, B.A.
McGill University, Montreal, Canada. Prof. of Elecl. Engineering, L. A. Herdt, M.E., M.AM.I.E.E.
Melbourne Electrical Engineering School, Mercantile-chbrs., Collins-st., Melbourne, Vic. Principal, Prof. A. H. Jackson, B.SC., M.I.E.E.
Melbourne University, Melbourne, Victoria.
Otago University, Dunedin, New Zealand.
Presidency College, 86–1, College-st., Calcutta, India (Prof. J. C. Bose, Phys. Science).
Science & Engineering College, Imperial University, Kyoto, Japan.
South African College, Cape Town. Prof. H. Bohle, A.M.I.E.E., professor of electrotechnics.
South Australian School of Mines & Industries, North-ter., Adelaide, South Australia.
Stawell School of Mines, Art, Industry & Science, Stawell, Victoria.
Sydney Technical College, Harris-st., Ultimo, Sydney, N.S.W. Lecturer on Electrical Engineering, R. C. Simpson, A.K.C., A.M.I.E.E.
Thomason College, Roorkee, India. Major E. H. de V. Atkinson, R.E., prin.; F. W. Sedgwick, M.A., A.M.I.E.E., prof. of Experimental Science.
Tokyo Higher Technical School, Kuramaye, Tokyo, Japan.
Tokyo Imperial University, Hongo, Tokyo, Japan. O. Asano, DR.E., M.E., M.I.E.E., professor of Electrical Engineering.
Toronto Technical High School, Toronto, Canada. R. H. Eldon, B.A., principal; J. W. McBean, B.A., director of Department of Physics including Electricity.
Transvaal University College, Johannesburg, Transvaal.
Trinity College (Thomas Parnell, M.A., instructor in Electricity & Magnetism), Melbourne, Vic.
University of Adelaide, Adelaide, S. Australia. Professor of Chemistry, E. H. Rennie, D.SC., F.C.C.; lecturer in Electrical Engineering, L. Hey Sharp, B.SC., B.E. Syd.
University of Manitoba, Winnipeg, Man., Can. Prof. of electricity, E. P. Featherstonehaugh.
University of Melbourne, Melbourne, Victoria. W. C. Kernot, M.A., C.E., F.R.G.S., prof. of Eng.
University of Sydney, Sydney, N.S.W. Professor: Civil Engineering, W. H. Warren, WH.SC., M.I.C.E.; lecturers: Mechanical Engineering, S. H. Barraclough, B.E., A.M.I.C.E.; Electrical Engineering, J. P. V. Madsen, D.SC.
University of Toronto (prof. of Electrical Engineering, T. R. Rosebrugh, M.A.), Toronto, Can.

Schools of Electrical Engineering, Telegraphy, &c.—*continued.*

Victoria Jubilee Technical Institute, Byculla, Bombay, India.

Working Men's College, Latrobe-st., Melbourne, Victoria. Instructor in Electricity & Electrical Engineering, Wilfrid N. Kernot, B.C.E.

Scientific Apparatus—Makers of.

F.—Appareils scientifiques—Fab. d'.
G.—Wissenschaftliche Instrumente—Fab. von.

Tornaghi, R., Minerva Chambers, 126, Pitt-st., Sydney, N.S.W.

Wood, W., & Co., 240, Little Collins-st. East, Melbourne, Victoria.

Ship Fitters for Electric Lighting.

Paton, James, & Co., 2, Martin-pl., Sydney, N.S.W. *See advt., page* 954.

Sign Makers—Electric.

F.—Signes électriques—Fab.
G.—Elektrische beleuchtete Firmenschilder—Fabrikanten van.

Crystal Electric Sign Co., 340, Sparks-st., Ottawa, Ont., Canada.

Societies—Learned, Scientific & Technical.

F.—Sociétés—savantes, scientifiques et tech.
G.—Vereine—Gelehrte, Wissenschaftliche, u. Tech.

Association of Engineers, Dispensary-bldg., Singapore, Straits Settlements.

Australasian Association for the Advancement of Science, The University, Sydney, N.S.W.

Canadian Association of Stationary Engineers, Brockville, Ont., Canada. C. C. Mooring, pres.

Canadian Electrical Association, Toronto, Ont.

Canadian Society of Civil Engineers, Montreal, Canada. Secretary, C. H. McLeod.

Centro Nacional de Ingenieros, Florida 230, Buenos Ayres, Argentina.

Chemical, Metallurgical & Mining Society of S.A., P.O. Box 1183, Johannesburg, Transvaal.

Electrical Association of New South Wales, 5, Elizabeth-st., Sydney, N.S.W.

Electrical Association of Queensland, Courier-bldg., Brisbane, Queensland.

Electrical Association of Victoria, Melbourne, Vic.

Electrical Contractors' Association of Province of Quebec, Montreal, Canada.

Electrical Trades Association of Canada, Royal Insurance-bldg., Montreal.

Engineers' Institute, Leith-st., Penang, Straits Settlements.

Institution of Brazilian Engineers (Club de Engenharia), 124, Avenida Central, Rio Janeiro, Brazil.

Institution of Engineers of the River Plate. Secretary, H. H. Fisher, Suipacha 212, Buenos Ayres, Argentina.

Instituto de Injenieros, 1072, Huerfanos, Casilla 487, Santiago, Chili.

Societies—Learned, Scientific & Technical—*continued.*

Japan Electric Association, 1, Yaesucho Itchome, Kojimachiku, Tokyo, Japan.

Model Engineers' & Electricians' Society, Queen's Hall, Pitt-st., Sydney, N.S.W.

New South Wales Postal & Electric Telegraph Society, G.P.O., Sydney, N.S.W.

New Zealand Institute, Wellington, N.Z.

Nova Scotian Institute of Science, Halifax, Nova Scotia. H. S. Poole, D.Sc., F.G.S., F.R.S.C., president; A. H. MacKay, LL.D., cor. secretary; H. Piers, rec. secretary & librarian.

Queensland Electrical Association, Courier-bldg., Brisbane, Queensland.

Queensland Post & Telegraph Association, G.P.O., Brisbane, Queensland.

Royal Asiatic Society, Ceylon Branch (H. C. P. Bell, C.C.S., J. Harward, M.A., & G. A. Jeckell, hon. secretaries), Colombo, Ceylon.

Royal Institution of Engineers, Netherlands Indian Section, Batavia, Java.

Royal Society of Canada, 60, Lisgar-st., Ottawa, Canada.

Royal Society of New South Wales, Elizabeth-st., Sydney, N.S.W.

Royal Soc. of Queensland, Brisbane, Queensland.

Royal Society of South Australia, Adelaide, S. Australia. G. G. Mayo, C.E., hon. sec.

Royal Society of Tasmania, Hobart, Tasmania.

Royal Society of Victoria, Victoria-st., Melbourne, Victoria.

Society of Electrical Engineers, Sanjukkenbori Kyobashiku, Tokio, Japan.

South African Association of Engineers, Johannesburg, Transvaal.

South African Association for the Advancement of Science, Cape Town.

South Australian Electric Telegraph Association, Adelaide, South Australia.

South Australian Institute of Surveyors (Incorporated), 9 & 10, Howard Smith-chbrs., King William-st., Adelaide, South Australia.

Victorian Institute of Engineers, 57, Swanston-st., Melbourne, Victoria.

Specialities Makers—Electrical.

F.—Specialités—elec.—Fab.
G.—Elek. Specialitäten—Fabr.

Bongard, C. W., & Co., Ltd., 130, Bay-st. West, Toronto, Canada.

Watts, H. H., & Co., 519, Queen-st. W., Toronto, Ont., Canada.

Steel for Magnets.

F.—Acier pour Aimants.
G.—Stahl für Magnete.

Leslie, A. C., & Co., Ltd., Montreal, Que., Canada.

Supplies (Electrical)—Dealers in.

F.—Fournitures électr.—March de.
G.—Bedarfsartikel—Elektr.—Händler.

Aikman, Jno., 55, Cardigan-pl., S. Melbourne.

Alberta Electric Co., Edmonton, Alberta, Canada.

Supplies (Electrical)—Dealers in—*contd.*

Allen, Begg & Co., Dunedin, N.Z.
Allen Taylor & Co., Waterloo, Que., Canada.
Anderson, Jas., 251, Dorcas-st., S. Melbourne, Victoria.
Anderson, R., 173, Sparks-st., Ottawa, Ontario.
Austin, J., & Co., Simcoe, Ont., Canada.
Barclay, J., 108, Brisbane-st., Launceston, Tasmania.
Bell, W. J., Beeton, Ont., Canada.
Bridge Bros., Thessalon, Ont., Canada.
Brooks, E., Bobcaygeon, Ont., Canada.
Brown, G. J., & Co., 33-36, Eastern Market, Melbourne, Victoria.
Caro Bros., 366, Little Collins-st., Melbourne.
Cave, H. W., & Co., Colombo, Ceylon.
Central Electric & School Supply Co., Ltd., 36, Adelaide West, Toronto, Ont., Canada.
Century Electric & Supply Co., Toronto, Ont.
Chadwick Bros., 193, King-st. E., Hamilton, Ont., Canada.
Chambers & Seymour, 221-223, Collins-st., Melbourne, Victoria.
Choquette, A. E., Sherbrooke, Que., Canada.
Clarke & Macdonald, Metropole-bldg., Halifax, N.S., Canada.
Cochrane, F., Sudbury, Ont., Canada.
Colombo Apothecaries Co., Ltd., Colombo, Ceylon.
Cooke & Ryan, Prince Albert, Sask., Canada.
Cooper, J., & Sons, 287-289, Elizabeth-st., Melbourne, Victoria.
Cope & Son, 338, Hastings, W., Vancouver, B.C., Canada.
Coppins, E. S., Woodstock, Ont., Canada.
Currie & Richards, 473-481, Elizabeth-st., Melbourne, Victoria.
Davenport, Geo. E., 1378, Queen-st. West, Toronto, Ont., Canada.
Davis, C., Elizabeth-st., Hobart, Tasmania.
Dawson, J. A., & Co., 291-293, West Craig-st., Montreal, Canada.
Degiorgio & Azzopardi, Valetta, Malta.
Dobbie, A. G., & Co., Brockville, Ont., Canada.
Douglas, D. W., Campbellford, Ont., Canada.
Douglas & Co., Amherst, N.S., Canada.
Duncan Electrical Co., Ltd., 86, Grey Nun-st., Montreal, Canada.
Dunlop Bros. & Co., Ltd., Amherst, N.S., Canada.
Edington & Son, 59-61, Queen Bridge-st., & 226, Park-st., South Melbourne, Victoria.
Electric Apparatus Supply Co., 152, Little Collins-st., Melbourne, Victoria.
Electrical Supply Co., Hamilton, Canada.
Electrical Supply Co., Moncton, N.B., Canada.
Engineering Equipment & Supply Co., Lindsay-bldg., Montreal, Canada.
Escalante, E., e Hijo, Merida, Yucatan, Mexico.
Farnau & Dipper, Grimsby, Ont., Canada.
Farquhar Bros., 16, Barrington-st., Halifax, N.S., Canada.
Ferguson, J., & Sons, Ltd., New Castle, N.B., Can.
Fisher, Fredk., Maryborough, Victoria.
Fletcher & McGarvey, Saskatoon, Sask., Canada.
Fontaine & Daly, Joliette, Que, Canada.

Supplies (Electrical)—Dealers in—*contd.*

Forman, John, 248 & 250, Craig-st., Montreal, Can.
Ganzo & Co., calle 25 de Mayo 431, Montevideo, Uruguay.
Garneau, J. I., Levis, Que., Canada.
Garrioch, Godard & Co., Ottawa, Ont., Canada.
Gioffi, Regusci & Voulminot, 161B, Zabala, Montevideo, Uruguay.
Gorman, Chancey & Grindley, Edmonton, Alberta, Canada.
Gould, R. H., & Co, Trust-bldgs., cor. Fox & Loveday-sts. (P.O. Box 4941), Johannesburg, Transvaal.
Greenleaf & Son, Belleville, Ontario, Canada.
Ground Anchor Co., Ltd., Montreal, Que., Canada.
Grove, Carlos, 56, Uruguay 58, Montevideo, Uruguay.
Grundy & Co., 555-557, Sydney-rd., Brunswick, Victoria.
Gutta, Ciscone F., 157, Sarandi, Montevideo, Uruguay.
Ham & Walsh, Halifax, N.S., Canada.
Hamilton & Stott, St. Thomas, Ont., Canada.
Harper, C., Goderich, Ont., Canada.
Hart, W., & Sons, 132, Charles-st., Launceston, Tasmania.
Harvey, Shaw & Co., 358, Little Collins-st., Melbourne, Victoria.
Haupt, Biehn & Co., rua da Alfandega 53, Rio de Janeiro, Brazil.
Hicks, T. L., 139, Church-st., Toronto, Canada.
Hinton Electric Co., Ltd., Victoria & Vancouver, B.C., Canada.
Hirsch Bros., Melbourne, Victoria.
Hockley & Co., Ltd., Adelaide-st., Maryborough, Queensland.
Hogg, David, & Co., 236, Bolivar, Buenos Ayres.
Horishōten, 32, Ichōme, Motomachi, Kobe, Japan.
Huber, A., & Co., 49, Strada Vescovo, Valetta, Malta.
Jones & Moore Electric Co., 22, Adelaide-st. West, Toronto, Canada.
Knapp, J. H., Quebec, Que., Canada.
Koppel, Arthur, 23, Chareh El-Maghraby, Cairo, Egypt.
Lafleur, J. L., Levis, Que., Canada.
Lassetter, F., & Co., Ltd., George-st., Sydney, N.S.W.
Lawrence Hardware Co., Revelstoke, B.C., Canada.
Lee, H. S., 94-96, Skipton-st., Ballarat, Victoria.
Loriaux, J. C., Batavia.
McCartney Bros., Vancouver, B.C., Canada.
McElroy, P. H., 265, Swanston-st., Melbourne, Victoria.
Macintosh, John, & Sons, 307 & 276, Pitt-st., Sydney, N.S.W.
McLean Bros. & Rigg, Pty., Ltd., 147-149, Elizabeth-st., Melbourne, Victoria.
Marsh, H. J., & Co., Murray & Collins-sts, Hobart, Tasmania.
Mather, S. A., Flinders-st., Townsville, Queensland.
Mechanics Supply Co., Quebec, Canada.

Supplies (Electrical)—Dealers in—*contd.*

Midland Electric Co., Montreal, Que., Canada.
Millen, John, & Son, Ltd., Montreal & Toronto, Canada.
Mitchell, J. S., & Co., 69 & 71, Wellington-st., Sherbrooke, Que., Canada.
Moglia & Co., 929-931, calle Cuyo, Buenos Ayres. Argentina.
Moreira, Barbosa, & Co., rua do Ouvidor 51, Rio de Janeiro, Brazil.
Morrisett, J. H., Quebec, Que., Canada.
Morton & Owen, Campbellford, Ont., Canada.
Muñoz & Co., 18, Julio 596A, Montevideo.
Ness, McLaren & Bate, 732, Dorchester-st. West, Montreal, Canada.
Northwest Electric Co., Ltd., Calgary, Alberta, Canada.
Paul & Gray, Ltd., Eagle-st., Brisbane; & Sydney, N.S.W.
Phipps, H. E., Brantford, Ont., Canada.
Poole & Thompson, Montague, P.E.I., Canada.
Rankin, H., Prescott, Ont., Canada.
Rankin & Cherrill, Vancouver, B.C., Canada.
Reesor, L. H., St. Marys, Ont., Canada.
Reid, L. C., & Co., 1, Moss-pl., North Melbourne, Victoria.
Rice Lewis & Son, Ltd., Toronto, Canada.
Rijan, H. A., Regina, Sask., Canada.
Ringrose, J. H., Stanley-st., Nelson, B.C., Canada.
Robertson, G. A., Moncton, N.B., Canada.
Rogers Electric Co., 145-147, Queen-st. W., Toronto; & 179, Dundas-st., London, Ont., Can.
St. Marys Hardware Co., St. Marys, Ont., Canada.
Sandon & Roberts, St. Thomas, Ont., Canada.
Sask. Electric Co., Regina, Sask., Canada.
Saskatchewan Telephone & Electrical Supply Co., Saskatoon, Sask., Canada.
Schelp & Schelp, B. Mitre 1123, Balcarce, Buenos Ayres, Argentina.
Scott, Wm., Midland, Ont., Canada.
Scott, Hamilton & Co., 136-140, Ryrie-st., Geelong, Victoria.
Sievers, J. H., High-st., Golden-sq., Bendigo, Vic.
Silberberg, E., & Co., 18, Barrack-st., Sydney, N.S.W.
Smart, R. H., Brockville, Ont., Canada.
Smyth, H., rua da Quitanda 45, Rio de Janeiro.
Staples, A., Fredericton, N.B., Canada.
Starr, John, Son & Co., Ltd., 158, Granville-st., Halifax, Nova Scotia, Canada.
Stewart, John, & Co., Gibraltar.
Stillwell, F. & E., Hargreaves-st., Bendigo, Vic.
Stoever, G., 27, Melinda-st., Toronto, Canada.
Tamin, J., 13, Chareh El-Faggalah, Cairo, Egypt.
Thompson, A. C., Co., Ltd., Glace Bay, N.S., Can.
Thompson & Anderson, Port Arthur, Ont., Can.
Tiffin, H., & Son, Cathcart-rd., Queenstown, Cape Colony.
Victoria Electric Co., Victoria, B.C., Canada.
Wagner, Emilio, calle Coca 76, Lima, Peru.
Walker, Jas., 378-380, Little Collins-st., Melbourne, Victoria.
Walker, V. E., 94, Little Collins-st., Melbourne, Victoria.

Supplies (Electrical)—Dealers in—*contd.*

Walker & Meimarachi, Ltd., Cairo, Alexandria & Khartoum, Egypt.
Wallace, J. A., & Co., New Market, Ont., Canada.
Warren, J. F., Hargreaves-st., Bendigo, Victoria.
Webster, W. C., & Son, Coalicook, Que., Canada.
Wells, W., Maryborough, Queensland.
Wentzky, R. von, & Co., Cangallo 1236, Buenos Ayres.
Williams, W. C., 3 & 5, Victoria-ave., S. Melbourne, Victoria.
Wilson, R. S., Oakville, Ont., Canada.
Wilson, L., & Co., 36, Arthur-st., Winnipeg, Man., Canada.
Wood, F. W., Campbellford, Ont., Canada.
Wright, G. A., Henry-st., Fremantle, West Australia.
Wyler & Knight, Woodstock, Ont., Canada.
Yarmouth Amalgamated Telephone Co., Ltd., Yarmouth, N.S., Canada.
Yule, W. L., Goderich, Ont., Canada.
Zarrabeitia, J. M., 10, Mercaderes-st., Havana, Cuba.

Supplies (Electrical)—Makers of.

F.—Fournitures électriques—Fab. de.
G.—Bedarfsartikel—Electrische.—Fabr.

"Berlin" Agencia Eléctrica, O'Reilly 67, Havana, Cuba.
Jenkins-Leslie Brass Mfg. Co., Montreal, Can.
Martin Electrical Supply & Construction Dept., St. Catherine's, Ont., Canada.
Nichiden Co., 23, Yamashitacho, Kyobashiku, Tokyo, Japan.
Tangent Cycle Co. & Electrical Works, 418, College-st., Toronto, Canada.

Switch Manufacturers—Electric.

F.—Commutateurs elec.—Fab. de.
G.—Schalter—Elektrische.

Auto-Safety Electric Switch Co., 211, Board of Trade-bldg., Montreal, Canada.
Dorman & Smith, Ordsal Electrical Works, Salford, England. Selling agent for Australia, Haes & Eggers, 163, Clarence-st., Sydney, N.S.W.
Hill Electric Co., 1560, St. Lawrence-boul., Montreal, Canada.
Lundberg, A. P., & Sons, Pioneer Electrical Works, 477 to 487, Liverpool-rd., London, N. (Telegs.: "Lundberg, London.") *See* Switch Manufacturers—Electric, British Division.
Union Switch & Signal Co., 20, Sovereign Bank-bldg., Montreal, Canada.

Telegraph Agents.

F.—Agents pour télégraphic.
G.—Agenten—Telegraphen.

Greville's Telegram Co., Pitt-st., Sydney, N.S.W.
Havas Agency, San Martin 312, Buenos Ayres, Argentina.
Havas Telegraphic Agency, 97, rua Ouvidor, Rio de Janeiro, Brazil.

Telegraph Agents—*continued.*

Humber, E. S., West India & Panama Telegraph Co., Panama.
Manders, Albert S., & Co., 137, Swanston-st., Melbourne, Victoria.

Telegraph Apparatus Makers.

F.—Télégraphes—fabr. d'appareils de.
G.—Telegr. Apparate—Fabr.

King, F. G., 85, Eveleigh-st., Redfern, N.S.W.

Telegraph & Cable Companies.

F.—Télégraphes et Cables—Compagnies de.
G.—Telegr. & Kabel Gesellschaften.

African Direct Telegraph Co., Ltd., G. R. Scovell, supt., Sierra Leone, West Africa.
Anglo-American Telegraph Co., Ltd., corner St. Francois Xavier-st., & St. Sacrament-st., Montreal, Canada.
Anglo-American Telegraph Co. (Newfoundland Lines), A. M. Mackay, superintendent, St. John's, Newfoundland.
Canadian Pacific Railway Company's Telegraph, Montreal, Canada. J. F. Richardson, superintendent, Toronto.
Central & S. American Telegraph Co., Guayaquil, Ecuador.
Compañia Telegrafica del Rio de la Plata, Calle San Martin, 287–91, Buenos Ayres, Argentina.
Dominion Telegraph Co., 2, Toronto-st., Toronto, Canada.
Eastern Extension Australasia & China Telegraph Co., Broome, Roebuck Bay, Western Australia.
Eastern Extension Australasia & China Telegraph Co., Ltd., King William-st., Adelaide, S. Australia. Supt., R. R. Black.
Eastern Extension, Australasia & China Telegraph Co., Moirs-chbrs., St. George's-ter., Perth, Western Australia.
Eastern Extension, Australasia, & China Telegraph Co., William Warren, manager in Australasia, Equitable-bldgs., corner Elizabeth & Collins-sts., Melbourne, Victoria.
Eastern Extension Telegraph Co., A. Y. Gahagan, manager, Singapore, Straits Settlements.
Eastern Extension Telegraph Co., Ltd., Wm. Segrave, J.P., supt., Flinders, Victoria, Australia.
Eastern & South African Telegraph Co., Ltd. P. Tait, supt., Cape Town, South Africa.
Great North Western Telegraph Co. of Canada, Toronto, Canada.
Halifax & Bermudas Cable Co., Ltd., Halifax, Nova Scotia; & Hamilton, Bermuda.
Imperial Chinese Telegraphs, Shanghai, China. F. N. Dresing, chief supt. & foreign adviser.
Indian Government Telegraph Dept. Director-general, T. D. D. Berrington, M.I.E.E.; deputy director-general, F. E. Dempster, C.I.E., M.I.E.E
Marconi's Wireless Telegraph Co., 113, Queen-st., Melbourne, Victoria.
Montreal Telegraph Co., Montreal, Canada.
North-American Telegraph Co., Deseronto, Can.

Telegraph & Cable Companies—*continued.*

Oriental Telegraph Co., Calle Sarandi 171A, Montevideo, Uruguay.
Pacific & European Telegraph Co., San Martin 287–291, Buenos Ayres, Argentina.
River Plate Telegraph Co., Ltd. (John Oldham, manager, Buenos Ayres), Montevideo & Buenos Ayres, S. America.
West Coast America Telegraph Co., L. M. Gilbert, agent, Lima, Peru.
Western & Pacific & European Telegraph Cos., H. B. Greenwood, Mendoza, Buenos Ayres.
Western Telegraph Co., W. B. Chaplin, Desterro, Santa Catharina, Brazil.
Western Telegraph Co., 146, Cerrito, Montevideo, Uruguay.
Western Telegraph Co., C. I. Davidson, superintendent, Rio Grande do Sul, Brazil.

Telegraph & Telephone Supplies.

F.—Télégraphes et Téléphones—Fournitures pour.
G.—Telegr. & Teleph. Materialien.

Callender Telephone Exchange Co., Ltd., Brantford, Ont., Canada.
Norton Telephone Manufacturing Co., Ltd., 64, York-st., Toronto, Canada.
Paton, James, & Co., 2, Martin-pl., Sydney, N.S.W. *See advt., page* 954.
Telephone Specialty Co., 15, Sovereign Bank-bldg., Montreal, Canada.

Telephone Apparatus Makers.

F.—Appareils téléphoniques—Fabricants d'.
G.—Telephon-Apparate—Fabrikanten von.

Century Telephone Construction Co., Bridgeburg, Ont., Canada.

Telephone Companies.

F.—Téléphones—Compagnies de.
G.—Telephon—Gesellschaften.

Bell Telephone Co. of Canada, Ltd., 118, Notre Dame-st. West, Montreal, Canada.
Bengal Telephone Co., Ltd., Calcutta, India.
Bermuda Teleph. Co., Ltd., Hamilton, Bermuda.
Bogota Telephone Co., Ltd., Bogota, Colombia; & London, England.
Bombay Telephone Co., Ltd., Telephone-bldgs., Bombay, India.
British Columbia Telephone Co., Ltd., Vancouver, B.C., Canada.
Cebu Telephone Co., 8, calle Legaspi, Cebu, Philippines.
Central Telephone Co., Ltd., Bridgewater, N.S., Canada.
Cheribonsche Telephone Maatschappy, Cheribon.
Chili Telephone Co., 13, Galeria San Carlos, Santiago, Chili.
Commercial Telephone Co., Ltd., Port of Spain, Trinidad.
Compañia de Telefonos de Concordia, Concordia, Entre Rios.
Compañia de Telefonos de Parana, Parana, Entre Rios.

Telephone Companies—*continued.*

Compañia de Telefonos de Santa Fé, Santa Fé, Argentine Rep.
Curaçao Telephone Co., Curaçao, Dutch W. Indies.
Empreza Telefonica de Michoacan, Morelia, Mexico.
Empreza Telephonica Paraense, Para, Brazil.
Imperial Chinese Telephone Co., Yu Mo-st., Old City, Canton, China.
Jamaica Telephone Co., Ltd., Kingston, Jamaica.
Kraksaan Telephone Co., Probolinggo, Netherlands East India.
Malang en Soemadjang Telefoon Mty, Malang, Java.
Maracaibo Telephone Co., Maracaibo, Venezuela.
Montevideo Telephone Co., Ltd., Calle Rincon 137, Montevideo, South America.
Mutual Telephone Co., Ltd., Honolulu, H.I.
National Telephone Co., Guayaquil, Ecuador.
New Brunswick Telephone Co., Frederickton, New Brunswick, Canada.
New Ross Telephone Co., Ltd., Mahone, N.S., Can.
Oriental Telephone & Electric Co., Ltd., 7, Pollock-st., Calcutta; Bombay; Madras; Rangoon; Singapore; Moulmain; & Port Louis, Mauritius.
Pekalongansche Telephoon Maatschappy, Pekalongan, Java.
Peruvian Telephone Co., Casilla 846, Lima, Peru.
Philippine Island Telephone & Telegraph Co., Manila, Philippine Is.
Shanghai Mutual Telephone Co., Ltd. Temporary offices: Hankow-rd., Shanghai, China.
Sociedad de Telefonos de Las Palmas, Gran Canaria, Canary Isles.
Sociedad de Telefonos de Santa Cruz de Tenerife, Canary Isles.
Telefoon Maatschappy der Vorstenlanden, Semarang, Sverakar & Djokja-Karta.
Telephone Co. of Egypt, Ltd., Alexandria, Egypt.
Telephone Co. of Prince Edward Island, Charlottetown, P.E.I., Canada.
Telephone Co-operative Society, Calle Cangallo 1294, Buenos Ayres, Argentina.
United River Plate Telephone Co., Ltd., 1193, calle Rivadavia, Buenos Ayres, Argentina.

Telephone Exchanges—Equippers of.

Paton, James, & Co., 2, Martin-pl., Sydney, N.S.W. *See advt., page* 954.

Traction Companies—Electric.

See ELECTRICITY WORKS.

Tramways (Electric)—Makers of & Contractors for.

F.—Tramways elec.—Entrepreneurs et constructeurs.
G.—Strassenbahnen elek.—Fabr. und Unternehmen.

Companhia Brazileira de Electricidade (Brasilianische Elektricitäts Ges.), 45, Praça Tiradentes, Rio Janeiro, Brazil.
Companhia Ferro-Carril da Villa-Izabel (Brasilianische Elektricitäts Ges.), 45, Praça Tiradentes, Rio Janeiro, Brazil. P.O. Box 451.

Tramways (Electric)—Makers of & Contractors for—*continued.*

Companhia Ferro-Carril Carioca, 117, rua Riachuelo, Rio Janeiro, Brazil.
Companhia Ferro-Carril do Jardim-Botanico, Largo do Machado, Rio Janeiro, Brazil.

Transmission of Power—Electric.

F.—Transmission de la force—électrique.
G.—Gesellschaften für elektrische Uebertragung der Kraft.

COMPAGNIE EGYPTIENNE THOMSON-HOUSTON, 13, rue Soliman Pacha, Cairo; & 29, rue de la Porte Rosette, Alexandria, Egypt. *See advt., page* 959.

Turbine Waterwheel Makers.

F.—Turbines—Roues hydrauliques—Fabr. de.
G.—Turbinen Wasserräder—Fabr.

Barber, Chas., & Sons, Georgian Foundry, Meaford, Ontario, Canada.
Hamilton, Wm., Manufacturing Co., Ltd., Peterborough, Ont., Canada.
Kennedy, Wm., & Sons, Ltd., Owen Sound, Ontario, Canada.
Parsons, C. A., & Co., Cullinan-bldg., Johannesburg, Transvaal.
Victoria Foundry Co., Ottawa, Canada.
Wilson, J. C., & Co., Glenora, Ontario, Canada.

Wire Coverers—Cotton, Indiarubber & Silk.

F.—Fil recouvert—Coton, Caoutchouc et Soie.
G.—Draht Spinner—Baumwolle, Gummi u. Seide.

British Insulated & Helsby Cables, Ltd., 493–495, Collins-st., Melbourne, Victoria.
Dominion Wire Manufacturing Co., Ltd., Montreal. Works: Lachine, Que., Canada.
Müller, J. C., & Co., Lavalle 414, Buenos Ayres, Argentina.
Tsuda, Mrs. A., Toiyamachi Shômen, Kyoto, Japan.
Yokohama Electric Wire Co., Ltd., 19, Takashimacho Kuchome, Yokohama, Japan.

Wire Manufacturers—Iron & Telegraph.

F.—Fil.—fer, télég.
G.—Draht fabr.—Eisen, Telegr.

Freisz & Co., Peru 347, Buenos Ayres, Argentina.
Hollmann, H., calle Vieytes 1273–1285, Buenos Ayres, Argentina.
Wire & Cable Co., Montreal, Canada.

Wireless Telegraph Apparatus.

F.—Télégraphie sans fil—Appareils pour.
G.—Drahtlose Telegraphie—Apparate für.

Arnhold, Karberg & Co., Shanghai, China.

Wood Fittings for Electrical Purposes—Makers of.

F.—Fournitures en bois pour l'électricité—Fab. de.
G.—Holzgegenständen für Electr. Zwecke.

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22, PLACE DE BROUCKÈRE,

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"EENBERG, Brussels."

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CONTINENTAL ALPHABETICAL SECTION.

A. E. G. Dansk Elektricitets Aktieselskab. Engineer, C. Krebs, 5, Chr. d. IX gade, Copenhagen, K. (Telegs.: "Gea, Copenhagen." Teleph. No. 4999.)

A. E. G. Elektricitets-Aktieselskabet (managing director & engineer, Carsten H. Brunn), 1, Tordenskjoldsgd, Christiania. (Telegs.: "Elektron, Christiania.")

A. E. G. Societate Generala Româna de Electricitate Pe Actiuni, Fundatiunea Universitară "Carol 1," Bucarest, Roumania. (Telegs.: "Algem, Bucarest.")

A. E. G. Thomson-Houston Iberica, Ronda Universidad 33 & 35, Barcelona (Telegs.: "Elektron, Barcelona." Teleph. No. 348); & Carrera de San Jerónimo 42, Madrid. (Telegs.: "Gea, Madrid.")

A. E. G. Thomson-Houston Società Italiana di Elettricità. Head office: Piazza Borghese 3, Rome, Italy (Telegrams: "Allgetom," to all branches. Teleph. No. 177); piazza Castello 5, Milan (Teleph. No. 2026); also at via XX Settembre 12, Genoa (Teleph. No. 2190); via Borgognone 40, Milan (Teleph. No. 1609); corso Vitt. Emanuele 16, Turin, Italy (Teleph. No. 763); piazza del Borsa 29-30, Naples (Teleph. No. 737); via due Macelli 133, Rome (Teleph. No. 3921); & via 22 Marzo, Venice (Teleph. No. 795).

A. E. G. Union Electrique (Soc. Anon.), electric light & power contractors, 156, rue Royale, Brussels.

A. E. G. Union Elektricitäts-Ges., Gumpendorferstr. "Rahlhof," Vienna VI/I. (Teleph. 4235 & 9631.)

Aarhus Dynamo & Electro-Motor Manufactory, Aarhus, Denmark.

Aarhus Electricitetsverk, light, power & tramway. Manager, E. Gunst, Aarhus, Denmark.

Aarstad, T. I., superintendent Norwegian Telegraphs, Drammen, Norway.

Aas, Thor, electrical engineers, Prinsensgd. 51, Trondhjem, Norway.

Abatschin & Orloff, electrical agents, Miasnitzkaya, Moscow, Russia.

Abbatecola, Livio, electrician, Ufficio Tecnico Intendenza di Finanza, Florence, Italy.

Abegg, Prof. Dr. R., editor of *Zeitschrift für Elektrochemie & Angew. Physikal. Chemie*, 13, Parkstr., Breslau, XVI. (Teleph. No. 1166.)

Abild, S., engineer in chief, Norwegian Telegraphs, Christiania.

Aboilard, G., & Cie., manufacturers of telephone apparatus, 46, ave. de Breteuil, Paris. (Telephone No. 707-14.)

Abraham, J., all requisites for electrical engineers, phonographs, &c., Gleditschstr. 35, Berlin, W. 30.

Abrahamsohn, Robert, electrical measuring instrument maker, Kantstr. 24, Charlottenburg, Berlin. (Telegs.: "Abrahamsohn, Charlottenburg." Teleph. No. 2115.)

Abrahamson, M. A., A.M.I.E.E., 6, Krausesvej, Copenhagen, Denmark.

Académie des Sciences, Institut de France (G. Darboux & Ph. van Zieghem, secretaries), 23, quai Conti, Paris.

Académie des Sciences (Comptes Rendus des Séances), 55, quai des Grands Augustins, Paris.

Académie royale des Sciences des Lettres et des Beaux-Arts, Palais des Academies, rue Ducale : Brussels.

Accumulateur Aigle (Soc. Anon.), 14, rue Felicien David, Paris.

Accumulateur Heinz (Soc. Anon.), 27, rue Cavé, Levallois (Seine), France. (Teleph. No. 537-58.)

Accumulateur Sec (L.), Soc. Anon., battery makers, rue Bonneels 13, Brussels.

Accumulateurs Electriques, Système Henri Fredet, Brignond (Isère), France.

Accumulateurs Olten, 19, rue de Milan, Paris. (Teleph. No. 212-76.)

Accumulateurs T.E.M. & Sirius (Soc. Anon. pour le travail Electrique des Métaux), 26, rue Laffite, Paris. (Telegs.: "Fortrans, Paris." Teleph. No. 116-28.)

Accumulateurs Tudor (Soc. Anon.), 81, rue St. Lazare, Paris. Works: 51-53, route d'Arras, Lille (Nord), France.

Accumulateurs Verdol, 16, rue Dumont Durville, Lyon (Rhône), France. (Teleph. No. 2-92.)

Accumulator Gesellschaft in Witten, Witten, Germany; & Nollendorfstr. 13/14, Berlin, W. 30.

Accumulatoren Fabrik Act.-Ges., Elbestr. 10, Frankfurt-am-Main.

Accumulatoren Fabrik A.-G., 35, Luisenstr., Berlin, N.W. (Telegs: "Tudorwerk, Berlin." Teleph. Nos.: Amt. III., 2945, 2946, 2947); Keizersgracht 304, Amsterdam (Teleph. No. 1908); Hohenzollernstr. 63/65, Breslau; Hagen; & Stadtgraben 17, Danzig. (Teleph. No. 622.)

Accumulatorenfabrik Aktiengesellschaft (General repräsentanz Wien), makers of the Tudor accumulator, Wipplingerstr. 23, Vienna I. Works: Hirschwang, N.Ö. (Telegrams: "Accumulator, Vienna." Telephone No. 16,522, Vienna; & No. 2, Hirschwang.)

Accumulatorenfabrik Gebr. Faust Gesellschaft m. b. H., Radesthalerstr. 151, Cologne, Germany. (Teleph. No. 9029.)

Accumulatorenfabrik Oerlikon, manufacturers of storage batteries, Oerlikon, bei Zürich, Switzerland.

Accumulatoren-Kleinbeleuchtung, G. m. b. H., 45, Luisenstr., Berlin, N.W. (Telegs.: "Kleinakkum, Berlin." Teleph. Amt. III., No. 3974.)

Accumulatoren und Electricitäts-Werke Act.-Ges., vorm. W. A. Boese & Co., accumulator manufacturers, 154, Koepenickerstr., Berlin, S.O. (Telegs.: "Chronika, Berlin." Teleph. No. 3381, Amt. IV.)

Accumulatorenwerke Zinnemann & Co., makers of accumulators & insulating tape, Stendalerstr. 4. Berlin, N.W. (Telephone, Amt. II., No. 1300.)

Accumulators "Azeden," 154, rue du Faubourg St. Martin, Paris. (Teleph. No. 440-82.)

Accumulators Fulmen, 18, quai de Clichy, Clichy (Seine), France. (Telegs.: "Fulmen, Clichy." Teleph. No. 511-86.)

Accumulators Tribelhorn, 48, place du Bois, Cambrai, Nord. Works: Saint Python, Nord, France.

Acerboni, C., electrical engineer, S. Marco 96, Venice (Telegrams: "Acerboni, Venezia"); & corso Venezia 37, Milan.

Achilles, E., electrical supplies, Regentenstr. 11A, Berlin, W. (Teleph. Amt. VI., No. 11903.)

Acker, Ph., & Cie., reflectors, quai Jemmappes 56, Paris. (Teleph. No. 428-84.)

Acrocca, Ing. Domenico, electrician, 112, via Principe Umberto, Rome.

Actien-Gesellschaft Dynamit Nobel, electric fuses & blasting apparatus, 2, Schauflergasse, Vienna I. (Teleph. Nos. 15674 & 15675.)

Actien-Gesellschaft Emaillierwerke und Metallwaren-Fabriken Austria, metal manufacturers, Spitalwiese 23, Brünn, Austria.

Actien-Gesellschaft für automatischen Verkauf, electrical engineers & contractors, Neu-Kölln am Wasser 24, Berlin, S. (Teleph. No. 4043, Amt. IV.)

Actiengesellschaft für Gas & Electricität, vorm. E. von Koeppen & Co., arc lamp pillars, &c., Goebenstr. 16, Cologne. Factories: Cologne, Ehrenfeld.

Actien-Gesellschaft vormals Joh. Jacob Rieter & Cie., hydraulic engineers, Winterthur, Switzerland.

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Adan, J. A., consulting electrical engineer, 33, rue de Flandre, Ghent.

Adaro y Marin, electrical apparatus, Moros 28, Gijon, Spain.

Adler, Arnold, electric engine maker, Reichsstr. 35, Chemnitz. (Telegs.: "Ingenieur Adler, Chemnitz." Teleph. No. 330.)

Adler & Eisenschitz, tool machines, via Principe Umberto 30, Milan, Italy.

Adler, W. H., et Cie., telegraph & telephone apparatus, electric light, Rothenhofgasse 34 & 36, Vienna X., Austria. (Telegs.: "Adlerkomp, Vienna." Teleph. Nos. 2423 & 8341.)

Administration Centrale des Télégraphes et des Téléphones, Hôtel des Postes et Télégraphes, Place de la Monnaie, Brussels. (Teleph. No. 2080.)

Administration des Eaux et Forêts, light & power supply, Fribourg, Switzerland.

Administration Grand-Ducale des Postes, Télégraphes et Téléphones à Luxembourg, Luxembourg.

Adt, Gebr., A. G., insulating material for electrical purposes, Ensheim i.d. Pfalz, Germany.

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Aebli, Jacques, agent, Western Union Telegraph Co., Seidengasse 5, Zurich, Switzerland.

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Agence de Brevets A. Wunderlich & Co., Ltd., engineers & patent agents, ave. des Arts 3, Brussels.

Agence Fournier Co., Ltd., telegraph agents, 1, rue de la Bourse, Paris.

Agence Havas, telegraph agents, 8, place de la Bourse, Paris.

Agence Havas et Reuter, telegraph & telephone agents, 8, place des Martyrs, Brussels.

Agence Quiquet, Eug. Quiquet Director, telegraph & telephone information, 27, rue Traversière, Brussels. (Telegrams: "Quiquet, Brussels." Telephone No. 1992.)

Agence Scientifique & Industrielle, electrical apparatus, &c., 53, rue de la Caserne, Brussels.

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"Ahlemeyer" Compania Anónima de Construcciones é Instalaciones Electro-Mecánicas, Estacion 5, Bilbao, Spain.
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Ahrend, Wed. J., & Zoon, electrical engineers, Singel 24, Amsterdam, Holland. (Teleph. No. 9018.)
Ahrendt & Co., electroliers, Alexandrinenstr. 118, Berlin, S.W. (Teleph. No. 4183, Amt. IV.)
Ahlsell, R., & Co., consulting engineers for electric lighting, N. Kyrkog. 28, Stockholm.
Aichele, A., electrical engineer, Brown, Boveri & Co., Ltd., Baden, Switzerland.
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Ainardi & Machurot, dynamos, motors, electric light, 12, rue Lafayette, Marseilles. (Teleph. No. 1612.)
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Aktie-Bolag Electron, manufacturers of electrical apparatus, Gothenburg, Sweden.
Aktiebolag Svensk Normaltid, electrical apparatus manufacturers, Klarabergsgatan 58, Stockholm, Sweden.
Aktiebolaget de Lavals Ångturbin, manufacturers of steam turbines, ventilators, pumps, &c., Stockholm. (Telegrams: "Ångturbin, Stockholm.")
Aktiengesellschaft der Maschinenfab. *See* Escher, Wyss & Co.
Aktiengesellschaft der Maschinenfabrik von Theodor Bell & Cie., Kriens, Switzerland.
Aktien-Gesellschaft für Apparate und Kesselbau, Stolberg, Rheinland, Germany.
Aktiengesellschaft für Electricitäts-Anlagen, Kanonierstr. 17/20, Berlin, W. (Telegs.: "Elektroanlagen, Berlin." Teleph. No. 9306 I.)
Aktien Gesellschaft für elektrischen Bedarf, Neubaugasse 15, Vienna VII. (Teleph. No. 6446.)
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Akt.-Ges. für Gas, Wasser & Elektricitäts Anlagen, Altonaerstr. 7, Berlin, N.W. (Tel.No. 1647, Amt. II.)
Aktien-Gesellschaft für Glasindustrie, vorm. Friedrich Siemens, makers of glass globes for electrical purposes, &c., Freibergerstr. 91, Dresden, Saxony (Telegs.: "Glasfabrik, Dresden." Teleph. No. 4572); & 3, Katzbachstr., Berlin, S.W. 47.
Aktiengesellschaft für Maschinenbau, vorm. Brand & Lhuillier, Brünn, Austria.
Aktiengesellschaft Mix & Genest, telephone & telegraph works, Schöneberg, Berlin (Teleph. Nos. 8140–45, Amt. VI.); London; Hamburg; Cologne; Amsterdam; St. Petersburg; & Moscow. (Telegs.: "Genest, Berlin;" "Genest, London;" "Genest, Hamburg;" "Genest, Cologne.")
Aktiengesellschaft "Rigi," incandescent lamp makers, Goldau, Switzerland.
Aktien-Gesellschaft Schaeffer & Walcker, makers of lustres for electric light, 18 & 19, Lindenstr., Berlin, S.W. (Telegrams: "Gaskronen, Berlin." Telephone No. 1614, Amt. IV.)
Aktiengesellschaft vormals Blösch Schwab & Cie., Bözingen, Switzerland.
Aktiengesellschaft vorm. J. C. Spinn & Sohn, manufacturers of electroliers, Wassertorstr. 9, Berlin, S. (Telegrams: "Spinnbronze, Berlin." Telephone Amt. IV., Nos. 9017 & 2164.)
Aktien Maschinenbau Anstalt, vorm. Venuleth & Ellenberger, mechanical & electrical engineers, Landwehrstr. 75, Darmstadt, Germany. (Teleph. No. 15.)
Aktieselskabet Barbu, Arendal, Norway. (Manager, Kristian Golden.)
Aktieselskabet Bergens Elektriske Sporvei, electric tramway, Strömgd. 30, Bergen, Norway. (Director, A. Falkenberg.)
Aktieselskabet Elektrisk Bureau, electric light & telephone apparatus makers (B. Kolbenstoedt, general manager), Middelthunsgade, 17, Christiania. (Telegrams: "Elektriken, Christiania." Telephone No. 1153.)
Albacetense de Electricidad, Postas 4, Albacete, Spain.
Albanese & Reiss, plant for electric tramways, 85, rue Saint Lazare, Paris. (Telegs.: "Perikles, Paris." Teleph. No. 263–93.)
Albert, J. W., dealer in electrical toys, Weissfrauenstr. 11, Frankfort-on-the-Main.
Albertus, C. V. G., engineer & electrician, Great Northern Telegraph Co., Ltd., Copenhagen, Denmark.
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Alder, Victor, chemical products for electrical purposes, 42, Humboldtgasse, Vienna X, Austria. (Telegs.: "Alder, Humboldtgasse, Vienna." A.B.C. Code, 5th Edition. Teleph. Nos. 1306, 588, 429 & 9991.)
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Aldrovandi, C., & Co., iron & brass fitters & electric bells installers, via Romei, Ferrara, Italy.

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Alexceff, John G., & Co., engineers & agents, Moscow, Russia. (Telegs.: "Dix, Moscow." Teleph. No. 14–26.)
"Alfonso XIII.," Real compania de Electricidad, Segovia, Spain. Marins A. Franc, director.
Algemeene Telephoon-Maatschappij, voorheen Ribbink, Van Bork & Co., manufacturers of electrical apparatus, Keizersgracht 60, Amsterdam. (Telegs.: "Ribbink van Bork, Amsterdam." Teleph. No. 4.)
Alhaique, Baldisserotto & Co., engineers & electric apparatus suppliers, Corso Umberto I., 80, Naples, Italy.
Aliamet, M., electrical engineer of La Compagnie des Chemins de fer du Nord, 46, rue de la Concorde, Asnières (Seine), France.
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Alini, Cazzaniga & Degiani, wire-gauze manufacturers for dynamo brushes, via Azzone Visconti 12, Lecco, Como, Italy.
Alioth, R., electric light engineer, director Société d'Electricité Alioth, Arlesheim, Switzerland.
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Allgemeine Beleuchtungs & Heiz Industrie Act. Ges., Bellvuestr. 5, Berlin, W. (Telegs.: "Lucaslicht. Berlin." Teleph. VI. No. 8784.)
Allgemeine Betriebs-Actiengesellschaft für Motorfahrzeuge, makers of motor carriages, Poststr. 26, Cologne. (Telegrams: "Motor, Cologne." Telephone No. 4535.)
Allgemeine Brücker Eletrizitätswerke, Ltd., central station operation, 1, Waterlooufer, Berlin, S.W. 61.
Allgemeine Carbid und Acetylen Gesellschaft, G. m. b. H, Schinkelplatz 1/2, Berlin, W. 56.
Allgemeine Electricitäts Ges., Bahnhofstr. 17, Augsburg, Bavaria. (Telegs.: "Edison, Augsburg." Teleph. No. 743.)
Allgemeine Electricitäts Gesellschaft, turbine manufacturers, Hutten-str. 12/16, Berlin, N.W. Manager, O. Lasche. (Teleph. No. 3001–3006, Amt. II.)
Allgemeine Electricitäts Gesellschaft, Essen, Ruhr, Germany.
Allgemeine Electricitäts Gesellschaft, Artilleriestr. 29, Hanover.
Allgemeine Electricitäts-Gesellschaft, Gartenstr. 9, Breslau V.
Allgemeine Electricitäts-Gesellschaft, electrical engineers, St. Martinstr. 41, Posen, Germany. (Teleph. No. 148.)
Allgemeine Electricitäts Ges. Berlin A.-G. Installationsbureau, Dominkswall, 12, Danzig. (Teleph. No. 513.)
Allgemeine Elektricitäts-Gesellschaft. Consulting office: Wienerplatz 1, Dresden. (Teleph. Nos. 1936 & 3793.)
Allgemeine Elektricitäts-Gesellschaft, Friedrich Karl-Ufer 2/4, Berlin, N.W. (Telegs.: "Elektron, Berlin." Teleph. Nos.: I., 10741 & 10742); & Schomburgstr. 3, Cassel. (Telegs.: "Elektron, Cassel." Teleph. No. 793.)
Allgemeine Elektricitäts-Gesellschaft München (Ges. m. beschr. Haftung), Liebherrstr. 5, Munich; & Martin Richterstr. 42, Nürnberg.
Allgemeine Elektricitäts Gesellschaft Basel, electrical engineers & contractors, 44, Gerbergasse, Basle, Switzerland.
Allgemeine Elektricitäts Gesellschaft Installations Bureau, Elbestr. 19, Frankfort-a.-M., Germany.
Allgemeine Elektricitäts-Gesellschaft Installationsbureau Hamburg, electrical engineers & contractors, Hohe Bleichen 31/2, Hamburg. (Telegs.: "Gea, Hamburg." Teleph. Nos. 8701–3, Amt. IV.)
Allgemeine Elektricitatsgesellschaft Installations bureau, Elsterstrasse, Leipzig, Germany.
Allgemeine Elektricitäts Gesellschaft, Russische Gesellschaft, Karawannaia 9, St. Petersburg (Telegs.: "Algem, St. Petersburg"); also Moscow, Kiew, Charkow, Riga, Ekaterinbourg, Odessa, Warschau, Lodz, Sosnowice, Ekaterinoslaw & Wladiwostock.
Allgemeine Elektricitäts-Gesellschaft Installationsbureau, Kellermannstaden 1, Strasburg, Germany. (Teleph. No. 427.)
Allgemeine Elektricitäts Gesellschaft Kabelwerk Oberspree, Wilhelminenhofstr. 76 & 77, Oberschöneweide, Berlin. (Telegs.: "Elektronkabel, Oberschöneweide." Teleph. Nos. 484–88.)
Allgemeine Elektricitäts Gesellschaft zu Berlin, installations, Theaterstr. 34, Chemnitz.
Allgemeine Elektrische Bahngesellschaft, Ltd. (General Electric Railway Co.), Stuttgarterplatz 22, Charlottenburg-Berlin.

Allgemeine Elektromotoren Werke Hirschberg & Honings, Dortmund, Germany.
Allgemeine Gas & Elektr. Ges., Langenstr. 145, Bremen, Germany.
Allgemeine Lokal und Strassenbahn Gesellschaft, Wilhelmstr. 130, Berlin, S.W. (Teleph. No. 8267, Amt. VI.)
Allgemeine Metallwerke für Beleuchtung G. m. b. H., makers of lighting fittings, 20/23, Rotherstr., Berlin, O. 17.
Allgemeine Motorschutz Elektrizitäts G. m. b. H. (director, M. Hanakowski), manufacturers of electrical goods, Tegelerweg 4, Charlottenburg-Berlin. (Teleph. No. 6149.)
Allgemeine Oesterreichische Electricitäts Ges., electrical stations, Wallnerstr. 2, Vienna, I, Austria. (Teleph. No. 17976); & Obere Donaustr. 23, Vienna II/3. (Teleph. No. 14582.)
Allgemeine Telephon-Gesellschaft m. b. H., telephone installations, Maybachstr. 10, Cologne, Germany. (Teleph. No. 3176.)
Allgemeine Thermit Gesellschaft m. b. H., Essen a.-d.-Ruhr, Germany. (Telegrams: "Thermo, Essenruhr." Telephone No. 237.)
Alliot, R., & Rol, cable & insulated wire manufacturers, 38, rue de Reuilly, Paris. (Telegs.: "Racable, Paris." Teleph. No. 903.30.) Works: Paris & Bohain (Aisne), France.
Allmänna Svenska Elektriska Aktiebolaget (General Electric Co. of Sweden), manufacturing electrical engineers, Westerås, Sweden (Telegrams: "Elektriska"); & Stockholm, Gothenburg, Malmö, &c.
Allumage Electrique "Compound," accumulators, lighters, magnetos, 135, ave. de Villiers, Paris. Works: Levallois-Perret (Seine), France. (Telegs.: "Compound, Paris." Teleph. No. 586–59.)
Almano, —, electrician, Le Puy (Haute-Loire), France.
Almeida & Soares, electrical instruments, 20, rua Nova do Almada 28, Lisbon, Portugal.
Almindelig Elektro-Metallurgisk Aktieselskab., manufacturers of Ferro-Alloys, Tordenskjoldsgade 6B, Christiania. (Telegs.: "Metallurg, Christiania." Teleph. No. 3639.)
Alst, Heinrich, G. m. b. H., Oranienburgerstr. 65, Berlin, N. (Teleph. No. 1516, Amt. III.)
Alström, Alb., manager Royal Telegraph Works & Telephone Bureau, Gothenburg, Sweden.
Alt, Eberhardt & Jäger, Act. Ges., makers of chemical & physical apparatus, glass tubes, &c., for electrical purposes, Ilmenau, Germany.
Alta, L. N., & Co., heating & ventilating apparatus, Binnenkant 35, Amsterdam, Holland. (Teleph. No. 3214.)
Altenburg Strassenbahn und Elektricitätswerk, electric light contractors, Altenburg, Germany.
Alterocca Virgilio, telephone contractor to the town of Terni, Italy. (Telegs.: "Alterocca, Terni." Teleph. No. 1-31.)
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Alumbrado Electrico de Cuenca, Spain.
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Aluminium-Industrie Aktiengesellschaft Neuhausen (Switzerland), Lindenstr. 101/102, Berlin, S.W. 68, Germany.
Aluminium-Magnesium-Fabrik, metal magnesium manufacturers, Hemelingen bei Bremen, Germany. (Telegs.: "Magnesium, Hemelingen." Teleph. No. 3.)
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Ambroin-Werke Ges. m. b. H., manufacturers of insulating material, Wollankstr. 32, Berlin-Pankow. (Telephone Nos. 97 & 150, Pankow.)
Ambrosius & Co., electric bells, Oberweg 20, Frankfort-a.-M., Germany. (Telephone No. 6065.)
Amelin et Renaud, electrical engineers & contractors, 39, rue Jean Jacques Rousseau, Paris. (Telegrams: "Nilema, Paris." Telephone No. 10727.)
Amelin & Renaud, electrical instruments, rua da Magdalena No. 1, Lisbon, Portugal.
American Electrical Heater Co., electrical radiators, Potsdamerstr. 10/11, Berlin, W. 9.
American Electrical Novelty & Manufacturing Co. G. m. b. H., 71, Ritterstr., Berlin, S.W. (Teleph. Nos. 719 & 720, Amt. IV.)
Amezola & Zarauz, electrical & mechanical engineers, calle de Eguia, Bilbao, Spain. (Telegs.: "Zarauz, Bilbao.")
Amicarelli, Cav. F., professor of electrical engineering, R. Scuola Industriale, Benevento, Italy.
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Anciens Établissements Cail, 21, rue de Londres, Paris. (Telegs.: "Anci Cail, Paris." Teleph No. 238.17.)
Anciens Établissements Luc Court & Cie, electric construction, 88, rue Robert, Lyon (Rhône), France.

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Andren, Edwin, & Co., electric light engineers & accumulator makers, 8, N. Hamng., Gothenburg, Sweden. (Telegrams: "Andren, Gothenburg.")

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Andreucci, Carlo, electric light contractor, Ancona, Italy.

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Angelle, Louis-René, manufacturing electrician, 15, rue de Londres, Paris.

Anglo-American Chamber of Commerce (in Belgium), 50, boul. de la Senne, Brussels.

Anglo-American Telegraph Co., 37, rue Caumartin, Paris. (Telegs.: "Anglorient, Paris." Tel. 284-69.)

Anglo-Portuguese Telephone Co., Ltd., 14, rua de Ferreira Borges, Oporto, Portugal. (Telegs.: "Edison, Oporto.")

Annalen der Elektrotechnik, Fritz Hoppe, editor; J. A. Barth, publisher, Dörrienstr. 16, Leipzig, Germany. (In 12 parts. Price 22 M. per annum; abroad, 25 M.)

Annalen der Physik (editors, Prof. W. Wien & Prof. M. Planck; publisher, J. A. Barth, Dörrienstr. 16), Leipzig, Germany. (15 parts, 45 M. per ann.; abroad, 51 M.)

Annales de Chimie et de Physique (ann. sub., 36 frs.), Gauthier-Villars, quai des Grands Augustins 55, Paris.

Annali Istituto Tecnico e Nautico, G.B. Della Porta, Naples, Italy.

Année Électrique, L' (*électrothérapique et radiographique*). Editorial offices: Dr. Foveau de Courmelles, 26, rue de Châteaudun, Paris (9e). Publishing offices: Ch. Béranger, 15, rue des Saints-Pères, Paris.

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Ansot & Cie., dynamos, rue de Marx 27, Paris.

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Antrick, Dr. O., electro-chemist, director of the Chemische Fabrik auf Aktien, vorm. E. Schering, 127, Schillerstr., Charlottenburg. (Telegrams: "Satrap, Berlin." Telephone No. 1055, Charlottenburg.)

Antwerp Engineering Co. (Société Anonyme), boilermakers, ship repairers, brass founders, electrical engineers, rue des Indes, Antwerp.

ANTWERP TELEPHONE & ELECTRICAL WORKS, LTD., Rod. B. Bumiller, manager, manufacturers and contractors, Antwerp, Belgium. (Telegrams: "Electrical, Anvers." Telephone No. 82.) London agents: W. F. Dennis & Co., Albert-bldgs., 49, Queen Victoria-st., E.C.

Anuario de la Mineria, Metalurgia y Electricidad de España (annually, about March), 3, Villalar, Madrid. (R. Oriol; price 8s.)

Anzeiger für Elektrotechnik und das Gesammte Beleuchtungswesen (*Ungarischer Metallarbeiter*), V. Perczel Mor-utcza 4½, Budapest, Hungary.

Apel, Wilhelm, telegraph contractor & lightning conductor erector, Göttingen, Germany.

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Appareillage Gardy, S. A., general electrical apparatus, 13, rue Caumartin, Paris. (Telegs.: "Ydrag, Paris." Teleph. No. 277-07.)

Appel, Richard, Jacob Meister's Nachfolger, dynamo belting, Jordanstrasse, 60, Bockenheim-Frankfurt-am-Main. (Telegrams: "Riemfabrik Appel, Frankfurtmain." Teleph. No. 1406.)

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Arbrå Electricitetsverk., Arbrå, Sweden.
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Arcellaschi, Leonardo, electrical engineer, Soc. Elettr. Laria, via Francesco Ballarini 2, Como, Italy.
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"Archimedes" Actien-Gesellschaft für Stahl-und Eisen-Industrie, Alexandrinenstr. 2–3, Berlin, S.W. (Telegs.: "Eisenarchimed, Berlin." Teleph. Nos.: 2947 & 2946, Amt. IV.); & Märkischestr. 68-82, Breslau. (Telegs.: "Archimedes, Breslau." Teleph. No. 326.)
Archives d'Électricité Médicale (bi-monthly, 22 frs. per ann.), Dr. J. Bergonié, chief editor, 6 bis, rue du Temple, Bordeaux. (Telephone No. 760.)
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Argnani, Ing. Vittorio, & Co., electric light & power contractors, Ancona.
"Ariadne" Fabrik Isolierter Drähte (G. m. b. H.), 39, Wilmersdorferstr., Charlottenburg, Berlin. (Teleph. No. 1301.)
Arickx, Gustave, electric light & telephone installations, 3, rue Philippe de Champagne, Brussels.
Arldt, Dr. C., electrical engineer, Pfalzburgerstr. 80, Berlin, W. 15.
Armand, G., installations for electric light, 9, rue Bonaparte, Paris.
"Armatura" Electrical Society, manufactory of electrical fittings, &c., Obwodnii Kanal 157, St. Petersburg. (Teleph. No. 1740.)
Armaturo, —, electrical manufacture, Schlisselbourgsky 31, St. Petersburg, Russia.
Armaturen und Maschinenfabrik Aktien Gesellschaft, engineers & electric pump makers, 6, Glockenhofstr., Nürnberg, Germany. (Telegs.: "Armaturenactien, Nürnberg." Teleph. No. 4220–2.)
Armbrüster Gebrüder, art metal workers, Gutleutstr. 296, Frankfort-on-the-Main. (Telegs.: "Kunsteisen, Frankfort-on-the-Main." Teleph. No. 1246.)
Armengaud, Ainé, patents & trade marks registration agent, 21, boul. Poissonnière, Paris. (Telegrams: "Armengaîné, Paris." Telephone No. 111–94.)
Armengaud, Jeune, consulting engineer & patents & trade marks registration agent, 23, boul. de Strasbourg, Paris. (Telegs.: "Armengaud, jeune, Paris." Teleph. No. 408–30.)
Armet, Henri, electrical engineer, 8 bis, rue Marceau, Montpellier (Hérault), France.
Arnaboldi, Antonio, engineer, via Unione 35, Como, Italy.
Arnales, Saturnino, electrician, Coso 27, Zaragoza, Spain.
Arnaud, E., electrician, 11, rue Victor Hugo, Bayonne (Basses-Pyrénées), France.
Arnd, Alex., engineer & manager, Société d'Eclairage Electrique de 1886, 31, Kadestskaja, Linia, St. Petersburg. (Teleph. No. 211–08.)
Arndt Geb., steam engine & boiler makers, Fennstr. 21, Berlin, N. (Telephone No. 1526, Amt. II.)
Arndt & Marcus, makers of lighting fittings, Elisabeth-Ufer 29, Berlin, S.O. 26.
Arnò, Prof. Riccardo, M.I.E.E., Instituto Tecnico Superiore, Milan, Italy.
Arnold, E., DR.-ING., professor of electrical engineering, Technische Hochschule, Karlsruhe, Germany. (Teleph. No. 1133.)
Arnold, F., manufacturers' agent, Technisches Bureau, Petrikauerstr. 103, Lodz, Russia.
Arnould, Ch., electrician, 55, rue de Rome, Paris. (Teleph. No. 571–56.)
Arnoult, A., electric wooden fittings, 11, rue Meslay, Paris.
Arnoult, Gabriel, electrician, 7, rue d'Eupatoria, Tours (Indre-et-Loire), France.
Arnoux, René, manufacturing engineer, 45, rue du Ranelagh, Paris.
Aron, Prof. Dr. H., electrical engineer, Kaiser Allee 219 & 220, Berlin, W. (Teleph. No. 2312, Amt. VI.)
Aron, H., Elektrizitätszählerfabrik, G. m. b. H., "Aron's electric meter," Wilmersdorferstr. 39, Charlottenburg. (Telegrams: "Aronmeter, Charlottenburg." Telephone Amt. Charlottenburg No. 80.)
Aronstein, A., electric light installations, 26, rue ten Bosch, Brussels.
Aroud, Tony, electrical engineer, 3, rue Felix Poulat, Grenoble (Isère), France.
Arrhenius, Svante August, director, Nobel Institute, Academy of Sciences, Stockholm, Sweden.
Arribat, —, wires & cables, 7, rue Tirpière, Toulouse (Haute-Garonne), France.
Arrojo, Hipólito, electrician, Fonda de Simon, Córdoba, Spain.
Arroquia, Andres, director of telegraphs, Granada, Spain.
Arroyo, Dr. José Diogo, professor of the Polytechnic Academy, rua Central 985, Foz, Oporto, Portugal.
Arsenescu, A., engineer of posts & telegraphs, Palatul Postelor, Bucharest, Roumania.
Arsonval, Dr. A. d', professor at the Collége de France, 12, rue Claude Bernard, Paris.
Arsumanoff, M. A., electrical engineer, Moskow-Koursk Railways, Moskow, Russia.

Artemieff, N., engineer, professor at Polytechnic Institute, Kiew, Russia.
Artiz, Justo, y Co., Co. de Electricidad, Zumarraga (Guipuzcoa), Spain.
Artom, Aless., consulting engineer for radiotelegraphy of Royal Italian Navy, corso Siccardi 18, Turin.
Arvers, Louis, electric traction plant, 5, boul. St. Martin, Paris. (Teleph. No. 222-64.)
Arvika Electric Light Co. (manager, P. Andersson), Arvika, Sweden.
Asbest & Gummiwerke Alfred Calmon, A. G., asbestos & indiarubber manufacturers, Dorotheenstr., Hamburg. (Telegs.: "Calmon, Hamburg." Teleph. Amt. III., No. 211.)
Asbóth, Emil de, general manager Ganz & Co., X. Kobanyai út 31, Budapest, Hungary.
Aschenheim, Leopold, director of the Berlin Electricity Works, Fasanenstr. 70, Berlin, W. (Teleph. No. 4688, Amt. Charlottenburg.)
Ascher, Jul., electric light contractor, Waldstr. 33, Berlin, N.W. (Teleph. No. 2708, Amt. II.)
Ascher, Dr. Max, & Co., G. m. b. H., makers of lacquers & insulating materials, Linkstr. 29, Berlin, W. (Teleph. No. 744, Amt. VI.)
Aschheim, J., mica & mica goods, Planufer 92D, Berlin, S. 59. (Teleph. Amt. IV., No. 4219.)
Aschner, Lipót, electrician, Arpád út 32, Ujpest, Hungary.
Ascoli, Mario, manager of the Company Serie, Bologna, Italy.
Ascoli, Prof. Dr. Moise, director of physical cabinet Scuola d'Applicazione degli Ingegneri, R. University, Rome.
Ashcroft, Edgar A., M.I.E.E., Vadheim, Sogne, Norway.
Ashelm, M., & Co., Techn. Bureau, Waisenhausstr. 16, Dresden-A. (Teleph. No. 1753.)
Askersund Electric Light Co. (Elektr. Aktb.), Askersund, Sweden. (Works manager, O. Setterberg.)
Asociacion de Ingenieros Industriales, calle de Pelayo 9, Barcelona, Spain. (Telephone No. 541.)
Assi, Ch., & L. Genès, patent agents, 41-47, rue des Martyrs, Paris. (Telegrams: "Assi-Genès, Paris." Telephone No. 272-13.)
Association Amicale des Ingénieurs-Electriciens, 11, rue St. Lazare, Paris. (Telephone No. 238-60.)
Association des Communes du Val de Travers (M. Dubied, Président à Couvet), electric light & power, Couvet (Neuchatel), Switzerland.
Association des Industriels du Nord de la France, 61, rue de Ponts-de-Comines, Lille, France. (C. Arquembourg, electrical engineer.)
Association des Ingénieurs Electriciens sortis de l'Institut Electrotechnique Montefiore (Union professionnelle reconnue), rue Saint Gilles 31, Liége, Belgium.
Association des Ingénieurs & Mécaniciens de l'Industrie Electrique (Soc. Anon.), 13, rue Marie Louise, Paris. (Teleph. No. 445-32.)
Association des Ouvriers en Instruments de Précision, 8, rue Charles Fourier, Paris. (M. Viardot, director.)
Association Electrique Leconte, 25 rue Royale, Tournai, Belgium.
Association Française pour l'Avancement des Sciences (Prof. C. M. Gariel, president; Dr. A. Desgrez, secretary), 28, rue Serpente, Paris. (Telegs.: "Afas, Paris." Teleph. No. 817.13.)
Association libre d'Ouvriers, electricians, place de l'Université 2, Liége, Belgium.
Association Philotechnique: Section des Electriciens (Directeur, M. Boudouard), 42, rue Lhomond, Paris.
Association pour la Surveillance des Installations Électriques, 102, chaussée d'Etterbeek, Brussels.
Association Suisse des Electriciens, Hardturmstr. 20, Zurich III., Switzerland.
Associazione dei Concessionari Telefonici Italiani, via Nazionale 96, Rome (president, Comm. Ing. Oreste Lattes). (Teleph. No. 39-60.)
Associazione Elettrotecnica Italiana, Sezione di Bologna, R. Scuola Ingegneri, Bologna.
Associazione Elettrotecnica Italiana, Sezione Siciliana, 175, via Macqueda, Palermo, Italy.
Associazione Elettrotecnica Italiana (president, Prof. Ing. Luigi Lombardi; secretary, Cav. C. Albino), via S. Paolo 10, Milan. (Telegs.: "Asselita, Milan.")
Associazione Elettrotecnica Italiana, via Muratte 70, Rome.
Associazione Elettrotecnica Italiana, Sezione di Padova, via Dante 38, Padua, Italy.
Associazione Elettrotecnica Italiana, Sezione Genovese, 2, via Davide Chiossone, Genoa, Italy.
Associazione Elettrotecnica Italiana, Sezione di Milano, via San Paolo 10, Milan, Italy.
Associazione Elettrotecnica Italiana, Sezione di Torino, Galleria Nazionale, Turin, Italy.
Associazione Elettrotecnica Toscana, via dei Servi 2, Florence, Italy.
Associazione fra Esercenti Imprese Elettriche in Italia, via Tommasso Grossi 2, Milan, Italy.
Associazione Tramviaria Italiana, Viale Porta Romana 40, Milan, Italy.
Associazione Utenti Energia Elettrica, via Cernaia 11, Milan.
Astafieff, N., electrical engineer, machine manufactory, Kolomna, Russia.
Astuni, Giuseppe, civil & electrical engineer, 30, Arco Mirelli, Naples; & 4, via Cavallotti, Milan, Italy. (Teleph. No. 83-28.)
Ateliers de Construction H. Bollinckx (Soc. Anon.), steam engine makers, 117, Chaussée de Mons, Brussels. (Telegs.: "Bollinckx, Vapeur, Bruxelles." A.B.C., Lieber, & W.U. Codes. Teleph. No. 1070.)
Ateliers de Construction Électriques de Charleroi (Soc. Anon.), electrical engineers, Charleroi, Belgium. (Telegrams: "Électricité, Charleroi." Telephone Nos. 76 & 573.

Ateliers de Constructions Électriques du Nord et de l'Est, 31, ave. de l'Opéra, Paris. (Telegs.: "Parelecop, Paris." Teleph. No. 234-10.) Works: Jeumont (Nord), France. (Telegs.: "Electricite, Jeumont." Teleph. No. 13.)

Ateliers de Constructions Mécaniques, turbines & water wheels, Vevey, Switzerland. (Telegrams: "Fonderie, Vevey.")

Ateliers de Construction Oerlikon, Gare du Flon, Lausanne, Switzerland. (Telegs.: "Oerlik, Lausanne." Teleph. No. 1771.)

Ateliers Electro-Mecaniques, transformer makers, 2, rue Senton, Suresnes (Seine), France.

Ateliers Electro-techniques, 67 bis, rue des Canipeaux, Courbevoie (Seine), France.

Ateliers, H., Cuenod, S.A., manufacturers of automatic regulators, motors, & arc lamps, Chatelaine, nr. Geneva. (Telegs.: "Ateliercuénod, Geneva." Teleph. No. 2967.)

Ateliers Jaspar (Sté. Anon.), manufacturing electricians, dynamos, &c., 2 & 4, rue Jonfosse, Liége, Belgium. (Telegrams: "Jaspar, Liége." Telephone No. 18.)

Ateliers Metallurgiques (Soc. anon.) tramcar builders, 30 rue Marché aux Herbes Potagères, Brussels. Works: Tubize & Nivelles.

Ateliers Thomson-Houston (Anciens Établissements Postel Vinay), electrical engineers & manufacturers, 219, rue de Vaugirard, Paris. (Telegs.: "Elihu, Paris." Teleph. No. 158-11.)

Ateliers Victor De Cunsel, wood pulleys, rue de l'Independance 66-68, Brussels.

Ateliers Walschaerts, engine makers, 62, place de Constantinople, St. Gilles, Brussels. (Telegrams: "Ateliers Walschaerts, Brussels." Telephone No. 2864.)

Atlas, electro motors, Adalbert-str., Frankfort-on-Main.

Atmer, G., mechanical & electrical engineer, Hopfensack 20, Hamburg, Germany. (Telegrams: "G. Atmer, Hamburg." Telephone Amt. I. No. 6761.)

Atti della Associazione Elettrotecnica Italiana (ann. sub. 20 lire), Sede Centrale, 2, via Tommaso Grossi, Milan, Italy.

Atti della R. Accademia delle Scienze Fisiche e Matematiche, Rampe del Salvatore all' Università, Naples, Italy.

Attilio Verità Laboratorio Ellettrotecnico, 10, via La Farina, Florence. (Teleph. No. 19-68.)

Auban y Ca. electrical apparatus, Nave 37, Valencia, Spain.

Auberge, J., maker of electric toys & sundries, 19, rue Debelleyme, Paris.

Aubert, A., electrical engineer & manufacturer (electricity meters), Lausanne, Switzerland.

Aubert, C., arc lamps, 41-13, ave. Sainte Foy, Neuilly-sur-Seine, France. (Teleph. No. 573-68.)

Aubert, C., bronze fittings for electric light, 56, rue Mazenod, Lyon (Rhône), France.

Aubert, Grenier & Co., Electric Cable Works, Cossonay Gare, Switzerland. (Sole agents: Hannams, Ltd., Peninsular House, Monument-st., London.)

Auboy, L., installation contractor—light, telephones & bells, 4, rue de la Paille, Le Mans (Sarthe), France. (Teleph. No. 2.63.)

Aubry, E., chief engineer, Cie. La Française Electrique, 200, rue Lafayette, Paris, X.

Aubry, Jacques, electrical engineer of La Societé Normande d'Électricité, 73, rue de la République, Rouen (Seine Inférieure), France.

Audemars frères, electrical engineer, Le Sentier, Vaud, Switzerland.

Audic, L., moulding for electric wires, 5, rue Danton, Pré St. Gervais, France. (Teleph. No. 419-27.)

Aufière, C., engineer, electrical apparatus, 95, rue de Flandre, Paris.

"Aufzugspflege" G. m. b. H., makers of electrical lifts, Weberstr. 7, Berlin, N.O. 18.

Augé, R., electrical engineer, autocars, 88, rue Chevallier, Levallois-Perret (Seine), France.

Aulagne, Jean-Baptiste, electrical manufacturer, 12, ave. d'Orléans, Paris.

Aumeunier, electric light fittings, 21, rue Béranger, Paris. (Teleph. No. 1033-34.)

Auriemena, Carlo, electric light contractor, Santa Maria di Capua, Italy.

Auriol, Ch., manufacturer of electrical apparatus, 4, ave. des Chasseurs, Paris. Depôt: 23, rue Potagère, Brussels.

Ausfeld & Spyri, electrical & civil consulting engineers, Basel, Switzerland. (Telegs.: "Expert, Basel." Teleph. No. 502.)

Avaeff, P. M., electrical engineer, Pesotschnaya 5, St. Petersburg, Russia.

Avakianz, G. S., electrical engineer, Armavir, gouv. Coubane, Caucase, Russia.

Averdieck, W., electrical engineer, Bankstr. 4, Dresden-A. (Telegs.: "Averdieck." Teleph. No. 635.)

Averly, Georges, tramway contractor & concessionnaire, 143, rue Garibaldi, Lyon, France. (Telegrams: "Georges Averly, Lyon.")

Avtsine & Cie., insulator makers, 12 bis, ave. des Gobelins, Paris. (Telegs.: "Micanite, Paris." Teleph. No. 809-96.)

Avzin, D., electrician, Central Station, Rostow-on-Don, Russia.

Axters-Tremmery, R., electric bell manufacturer, fitter & contractor, 30, rue Haute, Bruges, Belgium.

Aymard & Cie., electrical supplies, 12, rue Sainte Victoire, Marseille (Bouches-du-Rhône), France.

Ayme, J., electrical supplies, 4, rue de la République, Saint Etienne (Loire), France.

Aymonino, A., asbestos manufacturer & electrical apparatus dealer, via Roma 4, Turin. (Telegrams: "Aymoninoa, Turin." Telephone No. 750.)

Azari, Mario, electrical & hydraulic engineer, via Settembrini 50, Milan, Italy.
Azaria, P., engineer, manager of La Compagnie Générale d'Électricité, 5, rue Boudreau, Paris.
Azarola y Solorzano, electrical engineers, General Chinchilla 7, Pamplona, Spain.

B.-G.-S. Electrical Horseless Carriage & B.-G.-S. Special Auto-Car Cell Co., 12 bis, avenue de Madrid, Neuilly-sur-Seine, France.
Babcock & Wilcox, Ltd., multitubular inexplosive boiler makers, 6, rue Laferrière, Paris (Telegs.: "Babcock, Paris." Teleph. Nos. 147–58 & 148–00); & via Dante, Milan.
Bablick, Heinrich, electrician, Währingerstr. 73, Vienna XVIII. (Teleph. No. 14838.)
Bablon, V., electrician, maker of electric regulators, 42, rue Boulard, Paris. (Telephone No. 713–56.)
Baboulet, G. Louis M., telegraph engineer, Posts & Telegraphs, Toulouse (Haute Garonne), France.
Bachelard, —, electric flowers, 61, rue des Prairies, Paris XX. (Teleph. No. 919–73.)
Bachelier, —, director of Compagnie Générale de Distribution d'Energie Electrique, 10, rue Mogador, Paris.
Bächler, Baumann Ernst, installation contractor, Aarau, Switzerland.
Bachmann, Hermann, manufacturing electrician, Windischengasse 14, Weimar, Germany.
Bachmann, O., Succr. Lang, Bachman & Cie., manufacturer of electric light fittings, Hirschengraben 70, Zurich I. (Telegrams: "Langbachmann, Zurich." Telephone No. 1751.)
Badel & Cie., electrical apparatus, 13, boul. James Fazy, Geneva, Switzerland. (Telegs.: "Felixbadel, Geneva." Teleph. No. 1170.)
Badenberg, G., electrical engineer, via Stabile 123, Palermo, Italy.
Badon-Pascal, G. A., electrical engineer, 30, rue des Dames, Paris.
Baerlein, F., engineer, machinery merchant & agent, rua da Conceição 35, 1°, Lisbon, Portugal. (Telegs.: "Baerlein, Lisbon." Teleph. No. 62.)
Baerlocher, W., director Brown, Boveri & Co., Ltd., Baden, Switzerland.
Baert, Adriaan Th., civil & electrical engineer, Statenlaan 92, The Hague, Holland.
Baetz, Jul., pneumatic lamp holders for shop windows, Erfurterstr. 10, Gotha, Germany.
Baeuerle, T., & Söhne, clockwork for electrical purposes, St. Georgen-i.-Schwarzwald, Germany. British & Colonial representative: L. F. Brunner, 279, Romford-rd., Forest Gate, London, E.
Bagge, C., electrical engineer & importer of electrical appliances, Fiskebryggen 6, Christiania, Norway. (Telegrams: "Smart, Christiania.")
Baguès et Fils, electric light fittings makers, 31, rue des Francs-Bourgeois, Paris. (Teleph. Nos. 1021–04 & 1003–52)
Baguette, Wilh., electrical engineer, Kunibertskloster 19, Cologne. (Teleph. No. 4457.)
Bahls, E., & Cie., dealers in electrical articles, Dufourstr. 5, Zurich, Switzerland.
Baillat, Ernest, electrical engineer, Société Hydro-Electrique du Guiers, Pont de Beauvoisin (Isère), France.
Baillehache, E. J. J. (Comte de), electrical engineer, Omnium Lyonnais, 12, boul. Pereire, Paris.
Bailleux, G., chief engineer, Ateliers de la Société industrielle des Téléphones, 3, rue Donizetti, Paris.
Baillière, J. B., et Fils, publishers of electrical books, 19, rue Hautefeuille, près du boul. St. Germain, Paris.
Baillon, Louis, electric traction engineer, 172, rue Joseph II., Brussels.
Bailly, Armand, electrician, Société Cockerill, 2, place Cockerill, Seraing, Belgium.
Bainville, A., electrical engineer, filament lamp maker, 5, ave. Rochegude, Nanterre (Seine), France.
BAJETTA, GIOVANNI, sanitary work, lighting & heating, Foro Bonaparte 1, Milan, Italy. (Teleph. No. 361.)
Bakalowits Söhne, E., electrolier manufacturers & fitters, I. Kärnthnerstr. 12, Vienna. (Teleph. No. 9211.)
Balant, Ch., electric light fittings, rue Chistaire 12 & 14, Mons, Belgium.
Balbach, M., electrical apparatus maker, Mainz, Germany.
Baldin, S., engineer, Sapernij per 10, St. Petersburg.
Baldur-Werke, metal filament lamp makers, Berlin.
Balestrazzi, Ferdinando, optical & electrical instrument dealer, Lung Arno Mediceo 1, Pisa, Italy.
Ballantine, Jas. B., electrical engineer, Dunderland Iron Ore Co., Ltd., Guldsmeviken, Norway.
Ballereau, C., director of Ateliers de la Société d'Electricité Nilmelior, 47, rue Lacordaire, Paris.
Balli & Co., Elektricitätswerk Muralto, Locarno, Switzerland.
Balme, J. F., electrical engineer, general electrical supplies, 10 & 12, rue Popincourt, Paris.
Balter, —, crystals for lighting apparatus, 42, rue de la Tour d'Auvergne, Paris.
Baltische Aktien Gesellschaft für Licht, Kraft & Wasserwerke, contractors for electric installations, Kiel. (Telegrams: "Dynamo, Kiel." Telephone No. 374.)
Balzarini, Emilio, electro-medical apparatus maker, piazza S. Nazaro 27, Milan, Italy. (Telegrams: "Balzarini, Milan." Telephone No. 16–31.)
Bamberger, Dr. K., electrical engineer, Kurfürstenstr. 124, Berlin, W. 62. (Teleph. No. 9443, Amt. VI.)
Bamberger Industrie Gesellschaft m. b. H, switch box makers, Bamberg, Bavaria.
Bancelin, E., electrical engineer, manager of La Compagnie Française de Charbons pour l'Électricité, 21, rue Le Verrier, Paris.

Bandekow Bros., medical apparatus, Belle Alliance platz 7, Berlin, S.W. (Teleph. Nos. 9559 & 4434, Amt. IV.)

Bank für elektrische Unternehmungen, Zurich I., Switzerland.

Banneux, J., M.I.E.E., general director, State Telegraphs Department, Brussels, Belgium. (Local hon. sec. & treasurer I.E.E.)

Banti, Dr. Prof. Angelo, consulting electrician, 224, via Cavour, Rome.

Banti, Ing. Giovacchino, editor of *L'Elettricista*, via Cavour 224, Rome, Italy.

Banti & Torrigiani, Impresa Illuminazione Elettrica, electric light contractors, via Montevecchio. Office: Canale del Porto, Fano, Italy.

Bapterosse, F., & Cie., porcelain insulators, 50, rue d'Hauteville, Paris. Works: à Briare, France.

Baraban, Maison, L. Thomas succr., measuring instruments, 175, rue St. Honoré, Paris. (Teleph. No. 318-65.)

Barabesi, Raffaele, electric light contractor to the town, Orbetello, Italy.

Baranovsky, N. O., electrical engineer, Swerinskaya 7-9, St. Petersburg.

Barassi, Victor, electrical engineer, Foro Bonaparte 65, Milan.

Barbani, Cav. Ant., director of State telegraph & telephone construction, via del Proconsolo 12, Florence, Italy.

Barbier, Robert Paul, electrical manufacturer, 46, boul. Richard Lenoir, Paris.

Barbier, Bénard & Turenne, searchlights & lightning conductors, 82, rue Curial, Paris.

Barbieri, Domenico Menotti, chief electrical engineer & electrician, Società delle Forze Idrauliche del Moncenisio, via Cibrario 14, Turin, Italy. (Teleph. Nos.: 468, Office; & 1554, Works.)

Barbieri, Secondo, surgical & electrical instrument maker, via St. Maria 13, Pisa, Italy.

Barborini, Cesare, electric bell fitters & contractors, Strada Cavallotti 12, Parma, Italy.

Barbou, A., electrical engineer, director Société Gramme, 28, place Saint Ferdinand, Paris.

Bardelli, F., & Co., scientific & electrical instrument makers & dealers, via Roma Galleria Nalta, Turin.

Bardon, L., manufacturer of arc lamps, 61, boul. National, Clichy (Seine), France. (Telegrams: "Bardon, Clichy." Teleph. No. 506-75.)

Bardorf, E., & Co., electrical agents, Passage Popoff, 32, Moscow, Russia.

Bardot, Charles, chemical manufacturer, 19, passage Duranton (274, rue Lecourbe), Paris, France. (Telegs.: "Liquidair, Paris." Teleph. No. 709-25.)

Bardot, R., electric lighting apparatus, 8, rue Duhamel, Lyon (Rhône), France. (Teleph. No. 28-33.)

Barducci, G., electric light contractor, Caserta, Italy.

Bardy, Ch., directeur honoraire du Service Scientifique du Ministère des Finances, 30, rue de Miromesnil, Paris.

Barguet, E., electrical apparatus manufacturer, 9, rue Capron, Paris.

Barmen Town, Water & Light Works, Electricity Department, Barmen, Germany. (Telegrams: "Wasserlicht, Barmen.")

Barnet Lyon, L. M., C.I., electrical engineer, Statenlaan 14, The Hague, Holland.

Barni, Edoardo, electrical engineer, 9, v. Trento, Brescia, Italy.

Baron, René, manufacturing engineer, automatic winders for wires & cables. Offices: 65, rue Sainte Anne, Paris. (Teleph. No. 261-08.) Works: Pontoise (Seine-et-Oise). (Teleph. No. 74.)

Baron Frères, electrical engineers, 49, rue Paulin, Bordeaux, France.

Barone, Antonio, & Fratello, practical electricians, bells, light, telephones, via Principe Amedeo Bari, Italy. (Telegrams: "Barone, Bari.")

Barosi, Ing. C., engineer, corso Siccardi 31, Turin, Italy. (Telephone No. 1357.)

Barrera, Alberto, mica merchant to the trade, Corso Vitt. Emanuele 34, Turin, Italy.

Bartelmus, Donát & Co., electrical engineers, dynamos, motors & arc lamps, 63, Neugasse, Brünn, Austria (Telegs.: "Dynamo, Brunn." Teleph. No. 68); & Marchettigasse 1, Vienna VI. (Telegs.: "Dynamo, Vienna." Teleph. No. 4784.)

Bartelous, Victor, electrical engineer, 50, rue des Minimes, Brussels.

Bartels, G., director Land & Sea Cable Works, 53, Riehlerstr., Cöln, Germany. (Teleph. No. 802.)

Bartels, Georg, electric measuring instruments, Goettingen, Germany.

Bartels, Franz & Co., electric light contractors, Breitgasse 64, Danzig. (Telegs.: "Bartelspackung, Danzig." Teleph. No. 102.)

Barth, J. F. S., manager of electric tramways, Valkyriegade 21, Christiania.

Barth, Martin, electric light & power installations, Bautznerstr. 55, Dresden, N. (Teleph. No. 5549.)

Barth, Paul, electrical engineer, 24, place St. Jean, Liège, Belgium.

Barth, Richard, electric light fittings in bronze, iron, &c., Potsdamerstr. 63, Berlin, W. (Telephone No. 3797, Amt. VI.)

Barth, G. & O. Ohmann Nachfl., Richard, makers of lamp fittings, Potsdamerstr. 63, Berlin, W. 57.

Barthel, Alfred, electric light fittings, Poststr. 39, Chemnitz.

Barthel, E. F., electric light apparatus makers, Wolkensteinerstr. 65, Chemnitz, Saxony.

Barthel, Gustav, soldering apparatus, Kyffhäuserstr. 27, Dresden, A. 19, Germany. (Telegs.: "Caloric, Dresden." Teleph. No. 2921.)

Bartoli, Gioachino, electrical engineer, Sebenico (Dalmazia), Austria.

Baruch, Hugo, & Co., electrical outfits for stage purposes, 133, alte Jacobstr., Berlin, S.W. (Teleph. Nos. 2430-2432, Amt. IV.); & 75 & 77, Shaftesbury-ave., London.

Bary, W., mechanical & electro-chemical engineer, Issaakievska ploschad 7, St. Petersburg.

Barzanò, Carlo, mechanical engineer & patent agent, via Bagutta 24, Milan, Italy. (Telegrams: "Barzanò, Milan." Telephone No. 603.)

Bas, Giov., electrical engineer, 1, Foro Bonaparte, Milan, Italy.

Bas, Hy., electrical engineer, 17, via Principe Umberto, Milan.

Basse & Selve, wire & cable manufacturers, resistance wires for electrical purposes, Altena, Westphalia, Germany. London agent: J. W. Bainbridge, 143, 145 & 147, Rosebery-ave., London, E.C. (Telegs.: "Russesco, London." Teleph. No. 11230, Central.)

Basset & Meygret, accumulators makers, 29, rue de Courcilles, Levallois-Perret (Seine), France. (Teleph. No. 63.)

Bast, Omer De, electrical engineer & deputy director of the Institut Electrotechnique Montefiore, 20, rue César Franck, Liége, Belgium.

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Bau- und Betriebgesellschaft elektrischer Licht und Kraftcentralen (Fischer & Hollacks, electrical engineers), Waterloo Ufer 1, Berlin, S.W. (Teleph. Amt. IV. No. 9699); & Bürgerstr., Frankfort-on-Main.

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Bauiourd, G., electrical supplies, ave. Parmentier 31, Paris.

Baudet, Donon & Cie., winding coils for telegraphic cables, 139, rue Saussure, Paris.

Baudot, V., & E. Sogno-Lofongt, electrical engineers, 15, rue Littre, Paris.

Baudry, F. C., managing director Soc. Française de Distributions et de Constructions électriques, 55, boul. de Caudéran, Bordeaux (Gironde), France.

Bauer, Camille, dealer in wholesale electrical sundries, 18, Dornacherstr., Basle, Switzerland. (Telegs.: "Spannung, Basle." Teleph. No. 2205.)

Bauer, Hugo, dynamo brush maker, IV. Victorgasse 14, Vienna.

Bauer, Heinz & Co., G. m. b. H., röntgen tube manufacturers, Lützowstr. 106, Berlin, W. 35. (Teleph. Amt. VI. No. 6569.)

Bauer & Seilheimer, G. m. b. H., electric machines & installations, Sionsthal 14, Köln, Germany. (Teleph. No. 6527.)

Baugesellschaft für Elektrische Anlagen, Aachen (Telegs.: "Bea, Aachen"); Graf Adolfstr. 83-87, Düsseldorf. (Telegs.: "Bea, Düsseldorf." Teleph. Nos. 629 & 7690.)

Baukhage, Gust., steel & screw pegs, Werdohl, Westphalia, Germany.

Baum, Theodor, manufacturer of lightning-rods, 19, Thurmstr., Essen-Ruhr, Germany.

Baumann, C., managing director Brown, Boveri & Co., Ltd., Baden, Switzerland.

Baumann, E., manager of the City Electric Light Works, Berne, Switzerland.

Baumann, Felix, exporter of electrical apparatus of all kinds, Bahnhofsstr. 21c, Zwickau i. S. (Telegrams: "Felix Baumann, Zwickausaehsen." Telephone No. 361.)

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Bayerische Electricitäts Werke, Thierschstr. 26, Munich, Bavaria. (Teleph. No. 3707.)

Bayerische Landesgewerbeanstalt, Electrotechnical Section, Nurnberg, Germany. (Teleph. No. 1639.)

Bayerischer Revisions-Verein Elektrotechnische Abt., Kaiserstr. 14, Munich. (Teleph. Nos. 4252 & 4253.)

Bazin, F., electrical apparatus maker, 34, rue Rébeval, Paris.

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Beau & Co., metallic poles for electric traction, 20, rue de Paris, Puteaux (Seine), France. (Teleph. No. 88.)

Beau, H., & Cie., electrical engineers, 46, rue la Bcëtie, Paris. (Teleph. No. 544.74.)

Beaudinet, A., tools for electricians, 80, rue Verte, Brussels. (Telegs.: "Beaudinet, Brussels, Nord.")

Beaumartin, Armand, wooden poles, 33, rue de St. Genés, Bordeaux (Gironde), France.

Beaume, A., fils, wrought iron fittings, 53, rue de Châteaudun, Paris.
Beautey, —, manufacturing engineer, 25, rue Bleue, Paris.
Beauvalet Frères, electric installations, 3, rue Perrault, Paris.
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Beck, Ch. L., electrical engineer, Villa Bellevue, Lausanne, Switzerland.
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Beck, Georg, & Co., electrical instrument makers, 64, Georgenkirchstr., Berlin, N.O. 43. (Teleph. No. 7.907.)
Becker, Albert, electric bells & telephones, Prälatenstr. 33, Magdeburg, Germany. (Telegs.: "Blitzbecker, Magdeburg." Teleph. No. 125.)
Becker, Alfred, telephone & light contractor, Nürnbergerstr. 38 & 39, Berlin. (Teleph. No. 11679, Amt. VI.)
Becker, F. C., battery maker, Schkeuditz, 4, bei Leipzig.
Becker, Hans, electric arc lamps, Neuerwall 40 I., Hamburg. (Teleph. No. 6079, Amt. I.)
Becker, Max, electric light, telegraph & telephone installer, Wanfriederstr. 186/7, Mühlhausen, Thur., Germany.
Becker, Th., wood casings for electrical purposes, Skalitzerstr. 29A, Berlin, S.O. 26. (Telegs.: "Tehabee, Berlin." Teleph. No. 3403, Amt. IV.)
Becker, B., & Cie., manufacturing electricians, 18, ave. de Tourville, Paris. (Teleph. No. 727-22.)
Becker, H. D., Sohn, aluminium plates, Iserlohn 53, Germany.
Becker & Schöppe, electrical apparatus makers, Marienstr. 30, Dresden. (Telephone No. 489.)
Beckmann, Carl, chief engineer, A.-G. Mix & Genest, Gorenzstr. 9, Gr. Lichterfelde, Berlin.
Becks & Cie., electric light contractors, 3, rue de l'Harmonie, Liège, Belgium. (Telephone No. 2571.)
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Bederlunger, Alberto & C., mechanical & manufacturing engineers, via Vitt. Emanuele 46, Pisa, Italy.
Beekman, L. M. A., director of the "Electra" Electric Lighting Station, Amsterdam. (Telephone No. 2750.)
Beer Maison (Soc. Anon. Ateliers de Constructions Mecaniques et Fonderies), electrical & general engineers, Jemeppe, près Liége. (Telegs.: "Beer, Jemeppe, Liége." Teleph. No. 936. Universal Mining, A1, 5th edition A.B.C., Moreing & Neal's Codes used.)
Beeson, Ch., electrical supplies, rue de la Station 58, & rue Marengo 21, Louvain, Belgium. (Telegrams: "Au Para Louvain." Telephone No. 22.)
Beez, Carl, electro-medical & Röntgen apparatus, Friedrichstr. 133, Berlin, N. (Teleph. Amt. III. No. 3923.)
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Behrens, Paul, vorm. Otto Köhler & Co., induction coil & electric bell manufacturer, Grossgörschenstr. 38, Berlin, W. 57. (Teleph. No. 9461, Amt. VI.)
Behrendt, Martin, director Deutsch-Russische Elektricitäts-Zähler Gesellschaft, Siegmunds-Hof 10, Berlin, N.W. (Teleph. Amt. II. No. 7144.)
Beiblätter zu den Annalen der Physik (Prof. F. Pockels, editor; J. A. Barth, publisher), Dörrienstr. 16, Leipzig, Germany. (In 24 parts. Price 24 marks per annum; abroad, M. 27.60.)
Bein & Wedemeier, electric light contractors, 40, Kaiserstr., Frankfort-on-the-Main, Germany. (Teleph. No. 389.)
Beisswenger, J., electric light fittings, Yorkstr. 59, Berlin. (Telephone Amt. 6, No. 3344.)
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Beleuchtung System Fortuny G. m. b. H., electric lighting, Friedrich-Karl-Ufer 2-4, Berlin, N.W. 40.
Beleuchtungshaus Helios, Schneider & Hampe, electrical contractors, Great Packhofstr. 25, Hanover. (Teleph. No. 2914.)

Beleuchtungskohlen-Fabrik "Union," Christof Kocher, manufacturers of arc light carbons, Kronach, Bavaria.

Beleuchtungskörper Gesellschaft m. b. H., Luisenstr. 29, Berlin. (Telegrams: "Leuchtkörper, Berlin." Teleph. Amt. 3, Nos. 2376 & 3194.)

BELGIAN ELECTRIC LIGHTING BOARDS, LTD., electric illuminations, electric flowers, &c., quai au Foins 17, Brussels. (Telegs.: "Belb, Brussels." Teleph. No. 4616.)

Bell Telephone Manufacturing Co., manufacturers of telephone apparatus, 18, rue Boudewyns, Antwerp, Belgium.

Bellardent & Cie., arc lamps, 8, boul. d'Asnières, à Villeneuve-la-Garenne (Seine), France.

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Bellens-Peeters, A., electric light fixtures & installations, Chaussée de Malines 45, & rue de la Commune 24, Antwerp.

Belli, Silvio, electrical instrument dealer, via de Lardarel 9, Leghorn, Italy. (Telephone No. 116.)

Bellieni, H., scientific instrument maker, 1, place Carnot, Nancy, France. (Telegs.: "Bellieni, Nancy." Teleph. No. 2.47.)

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Belpéche, A., & Cie. (L. Robert, suc.), galvanized iron wire manufacturers, 4, ave. Richerand, Paris. (Telegrams: "Aubelpeche, Paris." Telephone No. 421.95.)

Beltrame, Giovanni, optician, Corso P. Borsari 25, Verona, Italy.

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Bénard, L., arc lamps, 11, boul. Montmartre, Paris. (Telegs.: "Vasclos, Paris." Teleph. No. 309-99.)

Benavides, Mariano, electrical engineer & importer of electrical appliances, Almirante, Medina del Campo, Valladolid, Spain.

Bence, A., electrician, boul. Bertrand, Caen (Calvados), France.

Bender, Dr., & Hobein, Dr., chemical manufacturers, 76A, Gabelsbergerstr., Munich, Germany.

Bender & Martiny Asbestos & India Rubber Works, Ltd., electrical agents, via Pietro Micca, Turin (Telephone No. 613); & via Dante 11, Milan. Works: Nole (Canavese), Italy.

Bendix, J., light fittings, 50 ter, rue de Malte, Paris.

Beneke, Ed., jun., telegraph works, Forsterstr. 42, Berlin. (Teleph. No. 6622, Amt. IV.)

Benevelli, Felice, gas fitter & electric bell fitter & lightning conductor erector, via Farini, Modena, Italy.

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Bengel, J., electric light fittings manufacturer, 99, ave. de la Republique, Paris. (Telegs.: "Bengel, Paris." Teleph. No. 903.17.)

Benini, Emilio, brass, bronze & zinc founder, via Pisana 100, Florence, Italy.

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Benoit, E., chains for cranes, &c., 84, rue Oberkampf, Paris. (Telephone No. 908.45.)

Benrather Maschinenfabrik A.-G., makers of electric cranes, &c., Benrath bei Dusseldorf, Germany.

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Bentivoglio, Cornelio, electrical engineer, via Giulini 7, Milan, Italy.

Benz & Co., gas engine makers, Mannheim, Germany. (Telegs.: "Motor, Mannheim." Teleph. Nos. 346 & 1897.)

Benzoni, J., electric bell manufacturer & contractor, 53, rue du Stand, Geneva, Switzerland. (Teleph. No. 4877.)

Béranger, Ch., publishers of electrical & scientific books, 15, rue des Saints-Pères, Paris. (Telephone No. 727-24.)

Berdiel, A., bronze fittings for electric light, 20, rue Cavenne, Lyon, France. (Telephone No. 11-15.)

Bercsovsky, M. O., engineer, agent for R. Wolf of Magdeburg-Buckau, Nikolajewskaja-str. 9, St. Petersburg. (Telegrams: "Locomobile, Petersburg." Telephone No. 2280.)

Berg, C., Nachf., electrical & mechanical engineers, Brunswick.

Berg, Van den, & Co., electric light apparatus & fittings, 163 & 164, Prins Hendrikkade, Amsterdam, Holland. (Telegs.: "Vandenberg Co., Amsterdam." Teleph. No. 6328.)

Bergé, H., dynamo repairs, 64, boul. Menilmontant, Paris.

Bergens Electric Ferry Co. (elektriske faerge-selskab), Ltd., Slotsgade 14, Bergen, Norway. (Manager, R. Wesenberg.)

Bergens Telefonkompagni, Torvalm. 15, Bergen, Norway.

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Bergh, Chr., & Co., electrical engineers, Malmö, Sweden.

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Berghänel & Lindner, dynamo makers, &c., Lutherstr. 66, Chemnitz.

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Berghausen, Heinrich, lightning conductor erector, Andreaskloster 8, Cologne, Germany. (Telegs.: "Blitzberghausen, Cologne." Telephone No. 512.)

Berghausen, Joh. Jos., lightning conductor erector, Gereonskloster 2, Cologne, Germany. (Teleph. No. 9832.)

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Bergmann Elektricitäts-Werke A.G., Oudenarderstr. 23/32, Berlin, N. (Telegs.: "Fulgura, Berlin." Teleph. Amt. II. Nos. 2600 & 2652.)

Bergmann-Elektricitäts-Werke Actien Gesellschaft, manufacturers of Conduit tubing, lever switches & electrical accessories, Hennigsdorferstr. 33–35, Berlin, N. (Telegs.: "Conduit, Berlin." Teleph. Nos.: 1899, Amt. II.; & 1200, Amt. II.)

Bergmann & Westphal, electrical engineers, Mühlenstr. 73 & 74, Berlin, O. (Teleph. No. 3288, Amt. VII.)

Bergner & Weiser, wrought iron goods for electric lighting, Pössneck-i.-Thür., Germany. (Telegrams: "Oswin Weiser, Possneck." Telephone No. 2.)

Bergonié, J. A., professor of medical electricity, chief of the hospital electrotherapeutic radiographic service, proprietor of "Archives d'Électricité Medicale," 6 *bis*, rue du Temple, Bordeaux, France. (Teleph. No. 760.)

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Beringer, C., director of telegraphs, Moskwa-Kiew-Woroneje Railway, Mojaiskaya 10, Koursk, Russia.

Béringer & De Vos, dealers in incandescent lamps, apparatus, carbons, dynamo brushes, &c., 18–20, rue des Comédiens, Brussels. (Telegs.: "Electric, Brussels." Teleph. No. 4122.)

Berlic, C., & Cie., electric light apparatus, 2, rue Paul Chenavard, Lyon. Works: 173, Route de Genas, Villeurbanne, France.

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Berliner Armaturen- und Beleuchtungs-Industrie Gebr. Israel, makers of arc lamp fittings, Ritterstr. 11, Berlin, S. 42.

Berliner Bogenlampen Werkstätten, A. Seefeldt & Co., Neue Schönhauserstr. 11, Berlin, C. (Teleph. No. 8224, Amt. III.)

Berliner Electro-Plated Waarenfabrik G. m. b. H., Ritterstr. 41, Berlin, S.W. 68. (Teleph. Amt. III., No. 4590-3; Amt. I. No. 1895.)
Berliner Elektra-Uhren Leopold Guttmann, makers of electric clocks, Grossbeerenstr. 5, Berlin, S.W. 11.
Berliner Elektricitäts Lieferungs Ges. m. b. H., Leipzigerstr. 119, Berlin, W. (Telephone No. 2887, Amt. I.)
Berliner Elektricitäts Werke, 22, Schiffbauerdamm, Berlin, N.W. (Teleph. Amt. III. Nos. 4590-4593.)
Berliner Elektrische Strassenbahnen A.G. (Siemens & Halske A.G.), Hollmannstr. 34, Berlin, S.W. (Teleph. No. 3887, Amt. IV.)
Berliner Elektrizitätsgesellschaft mit beschränkter Haftung, Werftstr. 7, Berlin, N.W. 52.
Berliner Elektrochemische Werke G. m. b. H., Potsdamerstr. 20, Berlin, W. 9.
Berliner Elektro-Mechanische Werkstätten G. m. b. H., talking machine makers, 70, Ritterstr., Berlin, S.W. (Teleph. Amt. IV., No. 97.)
Berliner Elektromobil-Droschken Aktien-Gesellschaft "Bedag," operation of electrical cabs, Chausseestr. 128/129, Berlin, N. 4.
Berliner Glimmerwarenfabrik Ignatz Aschheim, makers of mica goods, Plan-Ufer 92D, Berlin, S. 59.
Berliner Haustelegraphen Fabrik (G. Loewenstein), Grenadierstr. 24A, Berlin, C. (Teleph. Amt. III. No. 2684.)
Berliner Installations-Werkstatt Paul Noack, electrical installations, Linkstr. 9, Berlin, W. 9.
Berliner Kohlenstaub-Fabrik Vaccani & Posekel, carbon dust factory, Pankstr. 21A, Berlin, N. 20.
Berliner Kronleuchter-Fabrik Gebr. Jonas, makers of lamp fittings, Adalbertstr. 30, Berlin, S.O. 26.
Berliner Privat Telefon Ges., Rosenthalerstr. 40, Berlin. (Telephone Nos. 1125 & 1130, Amt. III.)
Berliner Vororts Elektricitäts Werke G. m. b. H., Bergstr., Ecke Körnerstr., Steglitz-Berlin. (Teleph. No. 157.)
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Bernard, Lyon, electric light fittings, 55, rue des Archives, Paris. (Teleph. No. 1031-57.)
Bernard, J., & Pecourt, A., electricians & chemists, 86, rue d'Amsterdam, Paris. (Telegrams: "Berpecourt, Paris." Telephone No. 123.74.)
Bernard, Tignol, et Cie., publishers of scientific & technical works, quai des Grands Augustin, Paris.
Bernardi, Prof. Enrico, director of mechanical cabinet, R. University, Padua, Italy.
Berndorf Metal Works, Arthur Krupp, manufacturer of German silver, pure nickel sheets & wire, Berndorf, Lower Austria. (Telegrams: "Fabrik, Berndorfniederösterreich.")
Berne, J. A. (late E. Carré), speciality: carbons for electric lighting, carbon brushes for dynamos, batteries, microphones, &c., 68 bis, rue de Lagny-Montreuil, Paris. (Telegrams: "Jiberne, Paris." Telephone No. 915.73.)
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Bertetti, E., & Co. (Soc. in Accom.), wire & cable makers, via Francesco Soave, Milan.
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Boudot, F., electrician, 31, ave. Mac-Mahon, Paris. (Teleph. No. 563–04.)
Boudreaux, L., speciality: brushes for dynamos, 8, rue Hautefeuille, Paris. (Telegs.: "Ly Boudreaux Paris." Teleph. No. 816–71.)
Bougholtz, R., et Co., electrical stores, Nadejdinskaja 18, St. Petersburg.
Bouilhet, Ch. H., manufacturing electrician, 56, rue de Bondy, Paris.
Bouillard, L., ebonite insulators, 7, rue Lesage, Paris. (Teleph. No. 944–73.)
Bouillet, —, dynamo & electric machine manufacturer, 94, rue de Montreuil, Paris. (Teleph. No. 941–54.) Works: 156, rue de Vanves, Paris. (Teleph. No. 735–65.)
Bouin, Emile, primary batteries, chemical products, 6, rue de Bellevue, & 64, rue du Bois, Les Lilas (Seine), France.
Boulade, L. & A., Frères, electrical apparatus manufacturers for search lights, 4–8, Chemin St. Gervais, Lyon-Monplaisir (Rhône), France. (Telegrams: "Boulade, Lyon-Monplaisir.")

Boulanger, Ch., maker of electric light fittings, 25, rue Notre-Dame-de-Nazareth, Paris, 3e Arrt. (Telegrams: "Charlanger, Paris." Telephone No. 152-32.)
Boulay, —, electrician, Craon (Mayenne), France.
Boulte, Larbodière & Cie., high-speed steam engines, 6, rue de Laborde, Paris. Works: Aubervilliers. (Telephone No. 213-86.)
Boulvin, R., electric railway & tramway engineer, 30, rue de Ten Bosch, Brussels.
Bouquet, Aug., electric light fittings, 7, rue Froissart, Paris. (Teleph. No. 216-90.)
Bouquiaux, A., electric bells & fittings, rue de Flandre 40, Ghent, Belgium.
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Bourdon, René, electrical engineer, rue St. Pierre 17, Liége.
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Boutempelli, Cesare, electric light apparatus, Stra. da Cavour 7, Parma, Italy.
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Bouvier, Adolphe, consulting electrical engineer, 46, rue Centrale, & 25, ave. de Noailles, Lyon, France. (Telegs.: "Bouvier, Ingenieur, Lyon." Teleph. No. 16.72.)
Bouvier, A. H., hydraulic turbines, 53, rue du Polygone, Grenoble (Isère), France. (Teleph. No. 2-46.)
Bouvier, Charles, director of Electric Department au Ministère de Finances, 7, rue de la Pompe, Paris XVI.
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Brandenburg, Paul, G. m. b. H., carbon tops, Waldemarstr. 14, Berlin, S.O. 26. (Teleph. Amt. 4, No. 810.)
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Brandes, Ludwig, electrical engineer & contractor, 12, Stiftstr., Hanover. (Telegs.: "Ludwig Brandes, Hanover." Teleph. No. 1704.)
Brändli, Ernst, chief, Technical Section, Administration Suisse des Télégraphes, Berne, Switzerland.
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Braun, Paul, & Co., thermoelectric pyrometers, Gaudystr. 8, Berlin, N. 58.

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Breslauer Privat-Telefon-Ges., 16, Kaiser Wilhelmstr., Breslau XIII. (Teleph. No. 395.)

Bret Frères, hydraulic motors, turbine "Neptune," Verneuil (Eure), France.

Breul, J., manager Schweiz Ges. für Elektr. Industrie, 96, Freiestr., Basle.

Breymann & Hübener, exporters of electric plant, Brandstwiete 24 & 26, Hamburg. (Telegrams: "Breymanns, Hamburg." Telephone No. I. 1836.)

Brianne, Lucien, maker of the Brianne arc lamp, 10, rue Alibert, Paris. (Telegs.: "Brianne, Alibert.")

Briegleb, Hansen & Co., machine & turbine makers, Gotha, Germany. (Telegs.: "Hansenwerk, Gotha." Teleph. No. 22.)

Brigittenauer Elektrotechnische Fabrik, E. & L. Hirsch, dynamo & electric machine manufacturers, XX. Wintergasse 18, Vienna. (Teleph. No. 14594.)

Brillie Frères, arc lamp manufacturers, 28–30, boul. de Villiers, Levallois-Perret (Seine), France. (Teleph. No. 545–73.)

Brillouin, André, electrical engineer, 92, boul. Haussmann, Paris. (Telegrams: "Bucentric, Paris.")

Brinchmann & Co., agents for manufacturers of insulated cables, copper wire, glow lamps, metal, &c., Toldbodgd. 19, Christiania, Norway. (Telegrams: "Pluto, Christiania.")

Brioux, —, electrician, rue de l'Arquebuse 21, Reims (Marne), France.

British Chamber of Commerce, 17, boul. de la Madeleine, Paris. Walter Behrens, president; J. T. Meadows Smith, secretary; A. S. Waley, treasurer. (Telegs.: "Britomerce, Paris." Teleph. 149–21.)

British Continental Electricity Co., Ltd. Offices: 3, via Umberto, San Remo, Italy, & 82, Victoria-st., Westminster. Electricity Works: via Peirogallo, San Remo. Registered April 26, 1898. Nominal capital: £20,000 in 1000 5½ per cent. cumulative preference shares, & 1000 ordinary shares of £10 each. Subscribed capital: £19,940. Directors: R. Alioth, Esq.; E. E. Berry, Esq.; H. W. Buddicom, Esq.; C. H. C. Woodhouse, Esq.; W. A. Brodie, Esq., M.I.E.E. (managing).

British Engineering Works, electrical & mechanical engineers, 232, Torrente de la Olla, Barcelona.

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Broemme Frères, chemical manufacturers, Wassilievsky Ostrow, 12th line, N. 37, St. Petersburg. (Telegs.: "Broemmebra, Petersburg." Teleph. No. 20653.)
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Brouhot et Cie., electric light installations, Vierzon (Cher), France.
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Brout, Lucius, electrician, 34, rue des Vinaigriers, Paris.
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Brown, Boveri & Co., Ltd., manufacturing electrical engineers, licencees of the Parsons steam turbines, Baden, Switzerland (Telegrams: "Dynamo, Baden-Schweiz"); Mannheim, Germany (Telegrams: "Dynamo, Mannheim"); Aktieselskabet Norsk Elektrisk & Brown Boveri, Christiania (Telegs.: "Elektromotor, Christiania"); Compagnie Electro-Mécanique, Le Bourget, nr. Paris. (Telegs.: "Electranic, Le Bourget.") Technical offices: rue de l'Écuyer 45, Brussels; rue de l'Hotel de Ville 68, Lyon; rue Faidherbe 9, Lille; rue de Lorraine 2, Nancy; Tecnomasio Italiano Brown Boveri, Milan (Telegs.: "Brownboveri, Milan"); 53, via del Tritone, Rome; rue d'Altkirch 34, Mülhausen i/Els; 12, Birnbaumstr., Metz; Bernhardstr. 90, Dresden; Kaiser Wilhelmring 4, Cologne; Bronnerstr. 29, Munich; Neckarstr. 11, Frankfort-a/M.; Vasagatan 15-17, Stockholm; Uherrstr. 14, Teplitz; Aegidientorplatz 4, Hanover; & Caxton House, Westminster, London, S.W. (Telegs.: "Reactance, London.")
Brown Bros., Ltd., sparking plugs, 31, rue de la Folie-Mericourt, Paris.
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Brümmer & Dietrich, manufacturers of papier maché goods, Klingestr. 13, Dresden 28, Germany. (Teleph. No. 2620.)
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Bulletin de la Société belge des Electriciens (monthly; ann. sub., 20 frs.), 25, rue Grétry, Brussels.
Bulletin de la Société Internationale des Electriciens (monthly), 55, quai des Grands Augustins, et 12, rue de Staël, Paris. (Paris, 25 frs.; P.U., 27 frs.; single copies, 2.50 frs.)
Bulletin International de l'Électricité, 20, rue Turgot, Paris.
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Bumke, F., spanrails suitable for electric motors, Albrechtstr. 11, Berlin, N.W. 6. (Teleph. III. No. 6596.)
Bundschuh, J., tachometers & tachographs, Gr. Diesdorferstr. 249, Magdeburg-Wilhelmstadt.
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Bureau International de l'Union Télégraphique (director, Col. E. Frey; vice-director, A. Crescitz), Berne, Switzerland. (Telegs.: "Burinterna, Berne." Teleph. No. 1308.)
Bureau Technique de l'Electricité, consulting engineers, 15, rue de la Pepinière, Paris VIII. (Telegs.: "Burclec, Paris." Teleph. No. 162-65.)
Bureau Technique de Surveillance et de Verification des Installations Électriques et Gaziers, 34, rue de la Bastille, Nantes, France. (Telephone No. 912.)
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Burger & Co., makers of X-ray bulbs, Chausseestr. 8, Berlin, N. 4.
Burghardt Gebrüder, dynamo makers, Mülhausen, Elsass, Germany.
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Busch, Louis, electric light & fittings, 17, Pfaffengasse, Mainz, Germany.
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Buscher, J., manufacturer of electric bells, telephones & pushes, Solingen, Germany. (Telegs.: "J. Buscher, Solingen." Teleph. No. 692.)
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Carbone-Licht Gesellschaft m. b. H., arc lamp makers, 80-85, Lehderstr., Berlin-Weissensee. (Telegs.: "Carbonelicht, Berlin." Teleph. Nos. 517 & 518.)
Carde & Escorieza, electric tramway engineers & contractors, Zaragoza, Spain.
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Carette, Georges, & Co., manufacturers of electrical toy apparatus, Nuremberg, Germany.
Carl, J., Reform hand lamps & watertight fittings, Ober-Weimar, Germany. (Telegs.: "Carl, Oberweimar." Teleph. No. 136, Weimar.)
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Centralblatt für Accumulatoren und Galvanotechnik (twice a month). Prof. Dr. Franz Peters, Gross Lichterfelde, nr. Berlin, editor & publisher. (Ann. sub., 14s.)
Central Electric Light Station, Gothersgade 30, Copenhagen K.
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Chaudoir, G., & Co., wire drawers & manufacturers, XI. Rinnböckstr. 57, Vienna. (Teleph. No. 823.)

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Chautard, V., & Christensen, ebonite & insulating material, 8, cité Rougement, Paris.

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Chemische Fabrik Aktien Ges. vorm. Carl Scharff & Co., Breslau, Germany. Works: Zawodzie, nr. Kattowitz.
Chemische Fabrik auf Aktien (vorm. E. Schering), chemical manufacturers, Müllerstr. 170 & 171, Berlin, N. (Telegs.: "Satrap, Berlin." Teleph. Amt. II., Nos. 1561 & 1563.)
Chemische Fabrik Brugg, A. G. Brugg, Switzerland.
Chemische Fabrik Buckau A. G., electro-chemical manufacturers, Magdeburg. (Telegs.: "Chemische, Magdeburg. Teleph. No. 59.) Works: Stassfurt & Ammendorf, nr. Halle-a.-S., Germany.
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Chemische Fabrik Griesheim-Elektron, chemical works, Frankfort-on-the-Main. Works: Griesheim, Bitterfeld, Küppersteg, Spandau, Rheinfelden, Offenbach a. M. (Telegrams: "Sulfur, Frankfurt-main." Telephone No. 207.)
Chemisches Laboratorium, Dr. Caro, Meinekestr. 20, Berlin, W. 15. (Telegs.: "Triatomic, Berlin." Teleph. No. 4437, Amt., Charlottenburg.)
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Classen & Co., G. m. b. H., soldering material Fludor & electrotechnical appliances, Barbarossastr. 16, Berlin, W. 30. (Telegs.: "Fackelkreuz, Berlin." Teleph. No. Amt. VI. 7872.)
Claude, Georges, electrician, 30, rue Boissière, Paris.
Claude, Robert, & Sœur, wires & cables, 9, rue de Sablonville, Neuilly (Seine), France; & 28, place St. Ferdinand, Paris. (Teleph. No. 558-56.)
Clavel, A., tools & machinery, 74 & 76, rue Amelot, Paris. (Telegs.: "Vellac, Paris." Teleph. Nos. 931-08 & 942-23.)
Clément, —, dynamos, electrical sets, quai Michelet, Levallois-Perret (Seine), France. (Telegs.: "Autoclem, Levallois." Teleph. No. 534.41-517.99.)
Clement & Jacqmain, high speed engines, rue Enghien, Brussels.
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Clerici, M. Carlo, electrical engineer & electrician, via Monforte 48, Milan, Italy.
Clerici & Co., Società Edison per la fabbricazione delle Lampade elettriche, via Broggi 6, Milan, Italy.
Clerici, Ing., Giampiero & Co., electric light machinery & apparatus makers, via Pergolese 11, Milan.
Clisson, A., electrician, 6, rue St. Pierre, Versailles (Seine-et-Oise), France.
Closier, E., electrician, 63, rue Thiers, Nogent sur Marne (Seine), France.
Closset, Maurice, electrical installations, 91 & 93, boul. de Hainaut, Brussels. (Telegrams: "Closset, Hainaut, Brussels." Telephone No. 4941.)
Closson, S., electrician, rue Bouxhate 1, Verviers, Belgium.
Clota, Francisco, electrician, Jordana 9, Valencia, Spain.
Clouth, Franz, Rhenish Rubber Manufactory, Ltd., Cologne-Nippes, Germany. (Teleph. Nos. 2828 & 4140.)
Clouth, Fr., hard rubber goods & insulating material, rue des Riches-Claires 35, Brussels.
Cobianchi, Vittorio, electric light, Omegna (Prov. di Novara), Italy.
Cobos Varona, Tomás, electrician, Jaen, Spain.
Coca, José, constructing electrician, machinery & apparatus, Tolosa (Guipuzcoa), Spain. (Telegrams: "Coca, Tolosa.")
Cochet, —, dealer in electrical supplies, 34, boul. Henri IV., Paris.
Cochius, Max, brass tubes, Alexandrinenstr. 35, Berlin. (Telegs.: "Messingröhren, Berlin." Teleph. Nos. 9000-9003, Amt. IV.)
Cochlovius & Thomssen, soldering rods & paste, Kopenickerstr. 127, Berlin, S.O. 16, Germany.
Cochot, G., electrical instrument manufacturer, 45, rue de Tanger, Paris. (Telephone No. 411-55.)
Cohen, Dr. E., professor of chemistry, The University, Utrecht, Holland. (Teleph. No. 1017.)
Cohen, Dr. Rudolf, director of the Cont. Gesellschaft für elektr. Unternehmungen, & of the Elek. Akt. Ges. vorm Schuckert & Co., Nürnberg. (Teleph. No. 340.)
Cohendet & Cie., electrical engineers, 166, quai Jemmapes, Paris. (Telephone No. 417-79.)
Cohn, Dr. E., professor of mathematical physics, in the University of Strasburg, Strasburg, Germany.
Cohn, O. N., electrical engineer, St. Kongensgade 44, Copenhagen K.
Cohn, Holger & Otto, electrical engineers & agents, 44, St. Kongensgade, Copenhagen K.
Coirard & Richard, electrical manufacturers, 126 bis, rue Lecourbe, Paris. (Teleph. No. 734.38.)
Coissac, P. A., electrician, 4, rue du Général Pérez, Limoges (Haute-Vienne), France.
Colard, Prof. O., telegraph engineer, Posts & Telegraphs, 43, rue de l'Union, Brussels.
Colardeau, P., engineer of La Compagnie des Voitures Electriques Krieger, 32, rue Vallier, Levallois-Perret (Seine), France.
Colin & Cie., manufacturers of electric heating & cooking apparatus, Guise (Aisne), France. (Telegs.: "Colin, Fonderies, Guise.")
Colin, M., & Co., electric light apparatus makers, 17, rue des Tournelles, Paris. (Telephone No. 143-68.)
Collet, C., manufacturing electrician, Aigle, Switzerland.
Collet & Engelhard, makers of electric cranes & machine tools, Offenbach-on-the-Main, Germany.
Collette, A. E. R., M.R.I.E., M.I.E.E., chief engineer & director of the technical service of the Netherlands telegraphs & telephones, The Hague, Holland. (Telegrams: "Higr, The Hague." Telephone Nos. 1794 & 3121.) Local hon. secretary & treasurer of the Institution of Electrical Engineers.
Colley, Prof. R., electrician, Mojaisk Station, Moscow-Brest Railway, Russia.
Colnet d'Huart, François De, consulting electrician, Luxembourg.
Colombel, —, electric battery & bell maker, 19, rue Cail, Paris.
Colombo, Cav. Pietro, electrical engineer, Rome, Italy. (Teleph. No. 10020.)
Colombo, Riccardo, electrical engineer, 255, corso Umberto, Rome.

Colombo, Ing. R., & Co., arc lamp manufacturers, corso Umberto 255, Rome. (Telegs.: "Lamparco, Rome." Teleph. No. 22-57.)

Colonial Rubber (Société Anonyme), manufacturers of indiarubber, gutta percha & electrical goods, Quai du Strop 9, Ghent, Belgium. (Telegs.: "Rubber, Ghent." Teleph. No. 475.) London agents: Hessberg Bros., 102, Fenchurch-st., E.C. (Telegs.: "Pulkha, London." Teleph. No. 9159, P.O. Central.)

Coltri, Carlo, electrical engineer, via P. Umberto 17, Milan, Italy.

Columbo, Spizzi & Co., electrical engineers, 7, via Bezecca, Milan.

Columbus Elektrizitäts Gesellschaft m. b. H., battery & galvanized iron manufacturers, Ludwigshafen-a-Rh., Germany. (Telegs.: "Columbus, Ludwigshafenrhein." Teleph. No. 264.)

Colusse, Edmond, electrician, 21, ave. du Chemin de Fer, Avon (Seine-et-Marne), France.

Combet, Toury, electrical installations, 49, rue Duguesclin, Lyon (Rhône), France.

Comboni, J., electrical engineer, Technical Institute, Piazza Cavour, Milan.

Comi, Felice, & Cia., electrical engineers, via Gaetana Agnesi 10, Milan.

Commandit Gesellschaft für Pumpen-und Maschinenfabrikation W. Garvens, Wülfel vor Hanover, Germany. (Telephone No. 27.)

Commercial Cable Co. (Mackay-Bennett cables), 49, avenue de l'Opéra, Paris; & le Havre. (Telegrams: "Yakcam, Paris." Telephone No. 242-87.)

Commissaire, —, dynamo maker, 18, rue du Lenain, Paris.

Comotti & Gignous, mfrs. of impervious insulating paper & linen, via Nirone 8, Milan. (Teleph. No. 1597.)

Compagnia Anonima Continentale, electric light engineers & contractors, via Quadronno 41-43, Milan. (Telegrams: "Brunt, Milan.")

Compagnia Generale delle Acque, electric light installation, Venice.

Compagnia Internazionale Marconi per le Communicazioni Marittime, 315, corso Vittorio Emanuele, Rome. (Telegs.: "Expanse, Rome." Teleph. No. 75-63.)

Compagnie Anglaise, manfrs. of accessories in English pottery for electricity, 76, faub. St. Denis, Paris.

Compagnie Anonyme Continentale, electricity meters, rue Petrelle 9, Paris.

Compagnie Anonyme Continentale pour la Fabrication des Compteurs à Gaz et Autres appareils, Chaussée de Mons 93, Brussels.

Compagnie Anonyme d'Eclairage Electrique, 2, rue Franklin, Le Mans (Sarthe), France.

Compagnie Anonyme des Procédés Gentsch, anciens Etablissements Boissac, "Neo Gutta Percha" for submarine cables, 101, Chemin de Gerland, Lyon (Rhône), France.

Compagnie Auxiliaire d'Electricité (Soc. Anon.), electric light & power contractors, 31, rue du Gouvernement, Brussels. (Telegs.: "Auxelectric, Brussels." Teleph. No. 3747.)

Compagnie Belge d'Électricité Siemens-Schuckert, Soc. Anon., 11, rue Thérésienne, Brussels. (Telegs.: "Bureaudyn, Brussels." Teleph. Nos. 4868, 3492 & 6087.)

Compagnie Belge pour la Fabrication des Compteurs et Materiel Gaz, Eau, Electricité (Soc. Anon.), 127-129, rue des Palais, Brussels. (Telegs.: "Compteurs, Brussels." Teleph. No. 29.)

Compagnie Centrale d'Éclairage et de Transport de Force par l'Electricité, 22, rue Rossini, Paris. (Telephone No. 228.13.)

Compagnie Centrale d'Électricité, 10, rue Taitbout, Paris.

Compagnie Centrale d'Électricité de Moscow, central station at Ekaterinoslav. (Telegs.: "Magnet, Ekaterinoslav.")

Compagnie Centrale d'Électricité de Moscou (Société Anonyme). Chief offices: 30, quai de Coronmeuse, Liége, Belgium. Offices & works: Moscow, Russia. (Telegs.: "Magnet, Liége;" & "Magnet, Moscou.")

Compagnie Continentale Edison, 28, rue de Châteaudun, Paris.

Compagnie "Continental Electric," E. de Klapka & Bideau, electric light motors, 122, rue de Rome, Marseille (Bouches-du-Rhône), France.

Compagnie de Construction Électrique (Soc. Anon.), electricity meters, rue du Docteur Lambert, Issy-les-Moulineaux (Seine), France.

Compagnie d'Éclairage Électrique du Secteur des Champs-Elysées, 2, avenue des Ternes, Paris.

Compagnie d'Éclairage par le Gaz et l'Électricité de la Ville de Montluçon, electrical engineers, 224, rue de la République, Montluçon (Allier), France.

Compagnie d'Électricité d'Angers et Extensions, quai Felix Faure, Angers, France.

Compagnie d'Electricité de Marseille, boul. Longchamp 1, Marseille (Bouches-du-Rhône), France.

Compagnie d'Électricité de Hasparren (Soc. Anon.), Hasparren, France. Director, J. de Heriz.

Compagnie d'Électricité d'Ixelles et Extensions Société Anonyme, 101, Chaussée de Wavre, Ixelles, Brussels.

Compagnie d'Électricité de l'Ouest-Parisien, 73, boul. Haussmann, Paris; & 3, quai National, Puteaux (Seine), France. (Teleph. No. 539-21.)

Compagnie d'Électricité de Montpellier, Impasse du Jeu de Ballon, Montpellier (Hérault), France. (Felix de Montravel, manager.) (Telegs.: "Electricité, Montpellier." Teleph. No. 2-15.)

Compagnie d'Electricité de Spa, central station, Spa, Belgium.

Compagnie d'Exportations et de Travaux Industriels, 92, boul. Haussmann, Paris. (Telegs.: "Bolis, Paris.")

Compagnie de Fives-Lille pour Constructions Mécaniques et Entreprises (soc. anon.), electrical & general engineers, 64, rue Caumartin, Paris; & at Fives (Nord) & Givors (Rhône), France.

Compagnie de l'Industrie Électrique et Mécanique, brevets Thury, continuous & alternating current dynamo machines (Thury system), Geneva, Switzerland. (Telegs.: "Electricité, Genève." Teleph. No. 259.)

Compagnie de Locations Électriques, 28, rue de Turin, Paris.

Compagnie de l'Ouest Électrique, "Le Mans Rennes," 2, rue Juiveril, Lyon, France.

Compagnie de Télégraphie sans Fil (Soc. Anon.), 48, rue de Namur, Brussels. (Telegrams: "Wireless, Brussels." Teleph. No. 4813.)

Compagnie des Aciers Boehler, magnets, 166, ave. Parmentier, Paris.

Compagnie des Ascenseurs Edoux, electric lifts, 72, rue Lecourbe, Paris.

Compagnie des Bronzes, electrolier manufacturers & fitters, 28, rue d'Assaut, Brussels.

Compagnie des Chemins de fer de l'Est, faub. St. Denis, Paris.

Compagnie des Chemins de fer de l'Etat, 42, rue de Châteaudun, & 136, boul. Raspail, Paris.

Compagnie des Chemins de fer d'Orléans, 8, rue de Londres, Paris.

Compagnie des Chemins de Fer de Paris à Lyon & à la Méditerranée, 88, rue Saint Lazare, Paris.

Compagnie des Chemins de fer du Midi, 54, boul. Haussmann, Paris.

Compagnie des Chemins de fer du Nord, Services Électriques, 48, rue de Dunkerque, Paris.

Compagnie des Compteurs, Aron B^te^ S. C. D. G., electricity meter manufacturers, 200, quai de Jemmapes, Paris. (Telegs.: "Aronmètre, Paris." Teleph. No. 427-45.)

Compagnie des Eaux & d'Électricité de l'Indo-Chine, 58, rue de Londres, Paris. (Telegs.: "Pnom, Paris." Teleph. No. 277-13.)

Compagnie des Forges de Chatillon, Commentry & Neuves-Maisons, steel moulding pieces, telegraph-poles & wires, 19, rue de la Rochefoucauld, Paris.

Compagnie des Lampes à Arc Jandus, 35, rue de Bagnolet, Paris. (Telegs.: "Clutch, Paris." Teleph. No. 912-65.) (A. Lecomte, manager.)

Compagnie des Moteurs Duplex, gas & petroleum engine makers, 130, rue Lafayette, Paris. (Telephone No. 405-17.)

Compagnie des Moteurs Niel, makers of the Niel gas engine, 22, rue Lafayette, Paris.

Compagnie des Moteurs Otto, 155, rue de la Croix-Nivert, Paris.

Compagnie des Petites Lampes à Arc "Lumière," 13, rue Amedée Bonnet, Lyon (Rhône), France.

Compagnie des Produits Chimiques d'Alais et de la Camargue ancienne Société A. Pechiney et Cie., aluminium & compound wires & cables, Salindres (Gard), France; & 12, rue Requépine, Paris.

Compagnie des Tramways de Neuchâtel, Neuchâtel, Switzerland. (Director, Philippe Tripet.)

Compagnie du Chemin de fer de Martigny au Châtelard, 6, rue de Hollande, Geneva, Switzerland. (Telegs.: "Martelec, Genève.")

Compagnie du Chemin de Fer Électrique du Val de Ruz, Cernier, Switzerland.

Compagnie du Gaz de Nogent l'Artaud, electric installations, 6, rue de Sèze, Paris.

Compagnie du Gaz de Saint-Quentin, electric light engineers & contractors, Saint-Quentin, France.

Compagnie du Gaz H. Riché, central station installations, 28, rue Saint Lazare, Paris. Works: Clichy (Seine).

Compagnie du Gaz et Électricité, Angoulême (Charente), France.

Compagnie du Genève-Veyrier, electric tramway, Geneva, Switzerland. (Teleph. No 150.)

Compagnie du Secteur Électrique de la Rive Gauche de Paris, 124, boul. St. Germain, Paris. (Telephone Nos. 824-17 & 824-18.)

Compagnie du Théâtrophone (Société Anonyme d'Auditions Téléphoniques), 23, rue Louis-le-Grand, Paris.

Compagnie Egyptienne Thomson-Houston, general applications of electricity, 10, rue de Londres, Paris; & 46, rue de Naples, Brussels; Cairo & Alexandria, Egypt. *See advt. under* Contractors, Electric Light & Power—Colonial Section.

Compagnie Électrique Anversoise, distribution of electricity, 8, quai Cockerill, Antwerp, Belgium. (Telegrams: "Electrique, Anvers." Telephone No. 1605.)

Compagnie Electrique d'eclairage et de Force, 7, rue Albert, Rennes (Ille & Vilaine), France.

Compagnie Électrique de la Loire, 14, rue du Treuil, St. Etienne (Loire), France (Telegs.: "Edison, St. Etienne." Teleph. No. 291); & 69, rue Miromesnil, Paris.

Compagnie Electrique de Menton, Villa Volta, Menton (Alpes Maritimes).

Compagnie Électrique des Tramways de la Rive Gauche de Paris, 54, rue Caumartin, Paris.

Compagnie Électrique du Bassin de Charleroi, electric light & power station, Roux, nr. Charleroi.

Compagnie Électrodynamique, electric light contractors, Charleroi-Villette, Belgium.

Compagnie Électro Mécanique, electrical engineers & contractors, Le Bourget (Seine), France. (Telegrams: "Electranic, Le Bourget." Teleph. No. 446-15, Paris.)

Compagnie Électro-Thermique Keller Leleux & Cie., 3, rue Vignon, Paris.

Compagnie Européenne d'Éclairage et de Chauffage par le Gaz, Rouen, France. (Telephone No. 387.)

Compagnie F. A. C., electrical measuring apparatus, voltmeters & ammeters, industrial & of precision, 81, rue St. Maur, Paris. (Telegs.: "Compafac, Paris.")

Compagnie Française de Charbons pour l'Électricité, carbon makers, 53, rue de Châteaudun, Paris. Works: Nanterre (Seine). (Telegrams: "Charbelec, Paris.")

Compagnie Française de Construction et de Travaux Publics, wireless telegraph apparatus, 21, place de la Madeleine, Paris. Works: 34, rue Marjolin, Levallois-Perret (Seine), France. (Teleph. No. 169.)

Compagnie Française de l'Accumulateur Aigle, 14, rue Felicien David, Paris.

Compagnie Française de l'Amiante du Cap Asbestos, 11, rue de la Cerisaie, Paris.

Compagnie Française de la Lampe Canello, 191, rue Saint Charles, Paris.

Compagnie Française de Telegraphie sans Fil et Application Electriques, 21, place de la Madeleine, Paris.

Compagnie Française des Accumulateurs Electriques Union (Soc. Anon.), 13, rue de Londres, Paris. (Teleph. No. 264–99.) Works: 2, rue de Paris, Neuilly-sur-Marne (Seine-et-Oise), France. (Teleph. No. 8.)

Compagnie Française des Câbles Télégraphiques, 38, ave. de l'Opéra, Paris. (Telegrams: "Câbles, Paris." Telephone No. 235–56.)

Compagnie Française des Carbures de Calcium, Séchilienne (Isère), France. H. Cuinat, managing director. (Telegrams: "Carbures, Séchilienne.")

Compagnie Française des Métaux (soc. anon.), metallurgists, 10, rue Volney, Paris. Works: St. Denis (Seine); Deville-les-Rouen (Seine-Inf.); Givet (Ardennes); Terifontaine (Oise); Castelsarrasin (Tarn-et-Garonne), France.

Compagnie Française des Moteurs à Gaz et des Constructions Mécaniques, 135, rue de la Convention, Paris.

Compagnie Française des Perles Électriques Weissmann, 15, rue Royale, Paris. Works: 218, Faubourg St. Honoré, Paris. (Teleph. No. 548.75.)

Compagnie Française des Tramways Électriques et Omnibus de Bordeaux, rue Serre, Bordeaux.

Compagnie Française du Bi-Metal, makers of the Martin Bi-Metallic Wire, 38, quai de Jemmapes, Paris; & Joinville-le-Pont, France.

Compagnie Française du Celluloid, makers of accumulator boxes, &c., 11, rue Bailly, & 98, rue Beaubourg, Paris. (Telegrams: "Celluloid, Paris." Telephone No. 13746.)

Compagnie Française Maritime et Coloniale de Télégraphie sans Fil, 35, boul. des Capucines, Paris. (Telegs.: "Sanfil, Paris.")

Compagnie Française pour l'Exploitation des Procédés Thomson-Houston, electrical engineers, 10, rue de Londres, Paris. (Telegrams: "Elihu, Paris." Telephone Nos. 158–11 & 158–81.)

Compagnie Française pour la Fabrication des Lampes Électriques à Incandescence, 34, rue Godot de Mauroi, Paris. A. Larnaude, managing director. (Telegs.: "Pulp, Paris." Teleph. No. 227–56.)

Compagnie Générale d'Accumulateurs et de Traction, 81, rue St. Lazare, Paris.

Compagnie Générale d'Appareillage, anciens Etablissements Delafollie, Bastide, Castoul ainé et Cie., electric light apparatus makers, 7, rue Jules Cesar, Paris XII^{e}. (Telegs.: "Castoulem, Paris." Teleph. No. 930–80.)

Compagnie Générale de Chemins de fer économiques (soc. anon.), 54, rue de Namur, Brussels. (Telegs.: "Economiques, Brussels.")

Compagnie Générale de Chromolithie, celluloid flowers for electric purposes, 64, rue de Heudhal, Paris.

Compagnie Générale de Constructions Électriques (Anciens Etablissements Houry & Cie. et Vedovelli & Priestlay), cable manufacturers, 60, rue de Provence, Paris. (Telephone No. 130–06.) Works: Argenteuil (Seine-et-Oise).

Compagnie Générale d'Électricité, incandescent lamp manufacturers, Apartado 150, Barrio del Pacifico, Madrid. (Telegrams: "Incand, Madrid." Telephone No. 326.)

Compagnie Générale d'Électricité, electrical supplies, 5, rue Boudreau, Paris. (Telegs.: "Electricité, Paris." Teleph. No. 225–84.)

Compagnie Générale d'Électricité de Creil, Procédés Siemens-Schuckert, 59, rue Saint Lazare, Paris, France. (Telegrams: "Crelectric, Paris." Telephone Nos. 270–75 & 212–37.)

Compagnie Générale d'Électro-Chimie de Bozel, 18, rue de la Pepinière, Paris. (Telegs.: "Ferrosil, Paris." Teleph. No. 534–70.)

Compagnie Générale de Lumière et Traction, rue Taitbout 48, Paris.

Compagnie Générale de Railway et d'Electricité (Soc. anon.), 33, rue de Congress, Brussels. (Telegs.: "Edempain, Brussels.")

Compagnie Générale de Travaux d'Eclairage et de Force (anciens établissements Clémançon), electric light & power engineers, 23, rue Lamartine, Paris. (Telegrams: "Giorno." Telephone No. 117.40.)

Compagnie Générale des Conduites d'Eau (Soc. Anon.), cast-iron pipe manufacturers, 430, rue des Vennes, Liége, Belgium. (Telegrams: "Doat, Liége.")

Compagnie Générale des Lampes à Incandescence, 5, rue Boudreau, Paris; & Ivry-sur-Seine, France.

Compagnie Générale des Tramways d'Anvers (Soc. Anon.), 60, rue du Grand Chien, Antwerp, Belgium. (Teleph. No. 2506.)

Compagnie Générale Électrique, accumulators, dynamos & arc lamps, rue Oberlin, Nancy, France.

Compagnie Générale Électrique de Nancy (Société Anonyme). Edgard Modesse, director Belgium branch, 105–107, ave. Van Volxem, Brussels.

Compagnie Générale Electrique du Sud-Ouest, 44, rue Vital-Carles, Bordeaux (Gironde), France.

Compagnie Générale Française de Tramways, 6–8, rue Senac, Marseille (Bouches-du-Rhône), France.

Compagnie Générale Franco-Russe d'Accumulateurs, rue Fossé-aux-Loups 37, Brussels; & 1, sq. Labruyère, Paris.

Compagnie Générale pour la Fabrication des Appareils d'Eclairage, &c., 99, ave. de la République, Paris XI^e. (Telegs.: "Bengal, Paris." Teleph. No. 903-17.)

Compagnie Générale Radiotélégraphique (Carpentier, Gaiffe & Rochefort), 20, rue Delambre, Paris. (Telegs.: "Generadio, Paris." Teleph. No. 709-91.)

Compagnie Genevoise des Tramways Électriques, La Jonction, Geneva. (Telegs.: "Tramways, Geneva." Teleph. No. 2947.)

Compagnie Havraise Suburbaine d'Éclairage & Force Motrice par l'Électricité, 11, rue du Sainte, Hâvre (Seine-Inférieure), France.

Compagnie Industrielle de Traction pour la France & l'Étranger, 15, rue d'Argenteuil, Paris. (Telephone No. 310-28.)

Compagnie Industrielle des Anciens Etablissements Barrière, screw-bolts & articles for electricity, 22, rue Saint Sabin, Paris XI.

Compagnie Internationale d'Éclairage Électrique, electric light contractors, 19 bis, place du Palais de Justice, Tours (Indre et Loire), France.

Compagnie Internationale d'Électricité (Société Anonyme), manufacturing electrical engineers, 30, quai de Coronmeuse, Liége, Belgium. Managing director, H. Pieper. (Telegrams: "Electron, Liége." Telephone Nos. 801 & 896.)

Compagnie Internationale d'Électricité (Société Anonyme), 141, rue Lafayette, Paris. (Telegrams: "Legia, Paris." Telephone No. 418.44.)

Compagnie Internationale de la "Galalith," insulating material, 31, rue Cavé, Levallois-Perret (Scine), France. (Telegs.: "Galalith, Levallois-Perret." Teleph. No. 562-83.)

Compagnie Internationale des Lampes Electriques Zircone-Wolfram, 12, rue Pelouze, Paris.

Compagnie Lyonnaise d'Electricité, 37, rue de la République, Lyon (Rhône), France.

Compagnie Meridionale d'Éclairage & de Force, 77, rue de Paradis, Marseille (Bouches-du-Rhône), France. (Telegs.: "Giorno, Marseille.")

Compagnie Mutuelle (Société Anonyme), gas, water, & electricity, rue Fossé-aux-Loups 44, Brussels.

Compagnie Mutuelle de Tramways (Société Anonyme), 31, rue du Marais, Brussels.

Compagnie Parisienne de Distribution d'Electricité, electrical engineers, 11, ave. Trudaine, Paris.

Compagnie Parisienne d'Energie Electrique, 167, rue Montmartre, Paris.

Compagnie Parisienne de l'Air Comprimé (Soc. Anon.), electric light engineers & contractors, 54, rue Etienne-Marcel, Paris. (Telegrams: "Parélécair, Paris.") Works: quai de Jemmapes, rue St. Fargeau; & boul. Richard-Lenoir.

Compagnie Parisienne de Material & Travaux Electriques, 16, rue Saint Paul, Paris.

Compagnie Parisienne des Voitures Électriques (Procédés Kriéger), 48, rue de la Boetie, Paris; & rue Volta, Puteaux, France.

Compagnie pour la Fabrication des Compteurs d'Usines à Gaz, 29 & 31, rue Claude Vellefaux, Paris.

Compagnie pour la Fabrication des Compteurs, electric meters, 16 & 18, boul. de Vaugirard, Paris. (Telegs.: "Compto, Paris." Teleph. No. 708-03-04.)

Compagnie pour la Fabrication des Compteurs & Matériel d'Usines à Gaz, compteur d'Électricité, rue des Palais 129, Brussels.

Compagnie Sturtevant, electric fans, 62, rue Saint Lazare, Paris.

Compagnie "Universel Electric," dynamos & motors, 35, rue de Bagnolet, Paris. (Telegs.: "Unilectrique, Paris." Teleph. No. 929-19.)

Compagnie Universelle d'Éclairage, de Chauffage & de Force Motrice, 22, rue de Calais, Paris.

Compagnie Universelle de Traction Gazeo, Electrique, 11, rue de la Bourse, Paris.

Compagnie Urbaine d'Eau & d'Electricité, 68, rue de Rome, Paris.

Compagnie Vaudoise des Forces Motrices des Lacs de Joux et de l'Orbe, place St. Francois 15, Lausanne, Switzerland. (Teleph. No. 810.)

Compagnie Viennoise d'Electricité, 134, rue Serpaize, Vienne (Isère), France.

Compagnie Watt, electrical contractors, 74, rue de Paradis, Marseille (Bouches-du-Rhône), France.

Compagnies Réunies des Glaces et Verres Spéciaux du Nord (N. Despret, manager), Jeumont (Nord).

Companhia do Gaz do Porto, electric light supply company, place Carlos Alberto 71, Porto, Portugal. (Telegrams: "Gaz, Porto." Telephone No. 418.)

Companhia Portugueza de Electricidade Limitada (Siemens-Schuckert Werke), rua Augusta No. 27, Lisbon, Portugal.

Companhias Reunidas Gaz e Electricidade, Electricity Supply Co., Lisbon, Portugal.

Compañia Anónima Mengemor de electricidad, electricians, Fernando VI. 23, Madrid. Technical manager, Carlos Mendoza.

Compañia Baezana de Electricidad, Baeza (Jaen), Spain.

Compañia Barcelonesa de Electricidad, electric light & works, calle Mata 2, Barcelona, Spain. (Telegs.: "Electricidad, Barcelona." Teleph. Nos. 700 & 701.)

Compañia Central de Alumbrado, Granada, Spain.

Compañia de Electricidad, Gijon. Meliton Romero, manager.

Compañia de Luz Electrica, Infiesto (Oviedo), Spain.
Compañia de Luz Electrica, Leon, Spain.
Compañia de Luz Electrica, Lerida, Spain.
Compañia de Luz Electrica, Ponferrada (Leon), Spain.
Compañia de Teléfonos, dealers in telephone apparatus, 52, Albareda, Seville, Spain.
Compañia del Tranvia de Cadiz à San Fernando y Carraca, San Fernando, Spain.
Compañia Electrica de Bedia, Jardines 5, Bilbao, Spain.
Compañia Electrica de San Sebastian, San Sebastian, Spain.
Compañia Excelsior, electrical apparatus, San Martin 28, San Sebastian, Spain.
Compañia Fabril de Carbones Eléctricas (Soc. Anon.), 27, rambla Cataluna, Barcelona; & (works), Castellgali, Spain.
Compañia General Abulense Fabrica de Luz Electrica (president, Ramon Oller; secretary, Jorge Navarro), Avila, Spain.
Compañia General de Electricad, Granada, Spain. (Telegs.: "Electricidad, Granada.")
Compañia General Madrileña de Electricidad, calle Espoz y Mina 6 dup, Madrid. (Telegs.: "Elektron, Madrid.")
Compañia General Sevillana de Electricidad, mfrs. of electrical apparatus, San Pablo 30, Seville, Spain.
Compañia Ibérica de Electricidad, electrical apparatus, Gran Via 32, Bilbao, Spain.
Compañia Inglesa de Alumbrado, Marquis de Larios 12, Malaga, Spain.
Compañia Jerezana de Electricidad, Jerez de la Frontera (Cadiz), Spain.
Compañia Lyonesa de Alumbrado & Calefaccion, Coruña, Spain.
Compañia Popular de Gas y de Electricidad, Gijon, Spain. (Telegs.: "Gas, Gijon." Teleph. No. 36.)
Compañia Toresana de Electricidad (chief engineer, John W. Chisholm), Toro, Zamora, Spain.
Comptes Rendus hebdomadaires des séances de l'Académie des Sciences (subscription, Postal Union, 44 frcs.), 55, quai des Grands-Augustins, Paris. *See* Academie des Sciences.
Compteurs d'Energie Électrique (système Aron), 200, quai de Jemmapes, Paris. (Telegrams: "Aronmètre, Paris." Telephone No. 427-45.)
Comptoir d'Electricité du Sud Ouest, electric plant, cours du Chapeau Rouge, 14, Bordeaux (Gironde), France.
Comptoir de publicité (Van Godtsenhoven et Thibesard), electric advertising signs, place de Brouckère 14, Brussels.
Comptoir Général d'Électricité et d'Applications Industrielles, electrical engineers & agents, 5, rue Ballu, Paris. (Telegs.: "Voltamper, Paris." Teleph. No. 284-21.)
Comptoir Général de Mécanique, electric lighters, small motors, 119, rue Saint Maur, Paris. (Telegs.: "Rajeuni, Paris." Teleph. No. 923-82.)
Comptoir Général de Produits Spéciaux pour l'Electro-Metallurgie, Maison Victor Bos, Ile Verte, Grenoble (Isère), France.
Comptoir Général H. M. E., 2, rue Hippolyte-Lebas, Paris.
Comptoir Industriel et technique (Ancienne Maison Emile Picard), patent agents, 14, rue du Trône, Brussels, Belgium.
Comptoir Lyon-Alemand, silver & gold wire manufacturers, 13, rue Montmoreney, Paris.
Condensationsbau-Gesellschaft m. b. H. (vorm. Otto Sorge), makers of condensing plant & apparatus, Margaretenstr. 5, Berlin-Grunewald, Germany. (Teleg.: "Sorge, Grunewald bez Berlin." Teleph. Amt. Wilmersdorf No. 391.)
Conovaloff, D. P., professor of chemistry, St. Petersburg.
Conrad, Franz R., manufacturer of electric light fittings, 19, Glogauerstr., Berlin, S.O. 36. (Teleph. No. 851, Amt. IV.)
Conrad, H., telegraph & telephone contractor, Nicolaistr. 21, Weissenfels a. d. S., Germany.
Conradty, C., maker of carbons for ordinary & coloured electric arc lighting, carbon brushes, battery plates & microphones, Nuremberg, Germany. (Telegs.: "Ceconradty, Nürnberg." Tel. No. 1776.)
Conservatoire National des Arts et Métiers (L. Bouquet, director; Marcel Deprez, professor of industrial electricity; J. Violle, professor of applied physics), 292, rue St. Martin, Paris. (Telephone No. 129-19.)
Consortium für elektrische Beleuchtung, St. Moritzbad, Switzerland.
Consortium für elektrochemische Industrie, Nürnberg, Germany.
Constantinis, A., telegraph, telephone, electric light & mining engineer, Athens, Greece. (Telegrams: "Constantinis, Athens." Teleph. No. 173.)
Construcciones Mecanicas y Electricas (Soc. Anon.), (Antes Planes, Flaquer & Co.), 12, Plaza de Cataluña, Barcelona, Spain.
Constructions Electriques Nancy, dynamos & motors, Nancy (Meurthe-et-Moselle), France. (Telegs.: "Dynamo-Nancy." Teleph. No. 1058.)
Contal, Requillart & Chalas, accumulator manufacturers, 5, rue Voltaire, Levallois (Seine), France.
Contempré, François, electrician, 62, rue des Capucins, Brussels.
Contenau et Godard et Collignon, platinum manufacturers & refiners, 23, rue Croix des petits champs, Paris (Teleph. No. 214-53.)

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Conti, Ettore, electrical engineer & manager, Soc. Ing. E. Conti & Co., via Saffi 25, Milan, Italy.
Conti, Bruno & Biraghi, electrical & mechanical engineers, 4, via Sant' Ugo, Genoa, Italy. Office: Via Serreria 23–25, Genoa. (Telegs.: "Brunobi, Genoa." Teleph. No. 20–65.)
Continental Caoutchouc & Gutta Percha Co., Vahrenwalderstr. 100, Hanover, Germany. (Tel. No. 19.)
Continental Telegraph Co., A. G., Zimmerstr. 27, Berlin, S.W. (Teleph. Nos. 9172–9174, Amt. I.)
Continentale Ges. für elek. Unternehmungen, Schellingstr. 1, Berlin, W. 9. (Tel. No. Amt. VI. 1532.)
Continentale Gesellschaft für elektrische Unternehmungen, Nürnberg. (Telegs.: "Continentale, Nürnberg." Teleph. No. 340.)
Contreras, Adriano, mining & consulting engineer, editor of the *Revista Minera Metalurgica y de Ingenieria*, Argensola 19, Madrid.
Conz Electricitats Ges. m. b. H., makers of dynamos & electric machines, Hasselbrookstr. 25, Hamburg, Germany. (Telegs.: "Conzdynamo, Hamburg." Teleph. Nos. 922 & 923, Amt. III.)
Cooke, H. A., British Government Commercial Agent for Russia, 7, Malaia Dmitrovka, Moscow.
Co-operativa Electrica Coruñesa, Coruña, Spain.
Co-operativa Gaditana, electric works, Cadiz, Spain.
Cop, E., dealer in electrical supplies, 52, rue des Archives, Paris.
Copenhagen Telephone Co. *See* Kjöbenhavns Telefon Aktieselskab.
Copenhagen Tramway Co., Ltd., Copenhagen.
Coppola, Mario di Ciro, electrical engineer, Corso Garibaldi 118, Portici, Naples, Italy.
Corbeau, L., & G. Gust, accumulator & electrical apparatus manufacturers, rue des Chanteurs 45, Brussels.
Corcho Hijos, electrical apparatus manufacturers, Santander, Spain.
Corcoran, J. V., waterproof installation materials, Basel, Switzerland.
Cordes & Co., electrical fittings, shades, reflectors & casings for arc lamps, Köpenickerstr. 55, Berlin, S.O. (Telephone IV. No. 2266.)
Cordier, —, manager Société Energie Electrique de Littoral Mediterranéen, 90, rue de Victoire, Paris.
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Cornet, J., electrical instrument maker, 66, rue de Rennes, Paris.
Cornet, L., telephone engineer, 33, rue Rudolphe, Antwerp, Belgium.
Cornetet, —, electrical contractor, 76, rue de Gravel, Levallois-Perret (Seine), France.
Cornette, H. (maison Gouamier), electric bell manufacturer, 24, rue Michel-le-Comte, Paris.
Cornides & Co., wire manufacturers, I. Akademiestrasse 2, Vienna. (Telephone No. 2507.)
Corona Glühlampenfabrik G. m. b. H., makers of electric incandescent lamps, Lindowerstr. 18/19, Berlin, N. 39.
Corrons, José, optician & electrician, 4, rambla de Canaletas, Barcelona, Spain.
Corsepius, Dr. M., consulting electrical engineer, Bonnerstr. 39, Cöln, Germany. (Teleph. No. 14889.)
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Costa y Ponces, manufacturers of electric light apparatus, St. Domingo del Call 3 & 5, Barcelona, Spain
Costil, E., electrician, 7, rue Solferino, Paris.
Cotis, A., arc lamps, "Lampe Radium," 207, faub. Saint Martin, Paris.
Cotonificio, Veneziano, St. Marta, electric light installation, Venice.
Cottancin Construction, The, makers of conduits for electric wires, 47, boul. Diderot, Paris (Telegrams: "Cotcinossa, Paris." Telephone No. 909–00); & London.
Cottin, R., electric light fittings manufacturer, 26, rue Amelot, & 3 & 5, rue du Chemin-Vert, Paris. (Telephone No. 931–17.)
Cottrell, W. H., A.I.E.E., divisional superintendent, Eastern Telegraph Co., Athens, Greece.
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Couaillet Frères, electric meters & clocks, Saint Nicolas d'Aliermont (Seine-Inférieure), France.
Coulon, Albert, electrical apparatus, 16, rue de Turenne, Grenoble (Isère), France.
Coupier & Cie., electric light fittings, 100, rue Amelot, Paris.
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Court Luc & Co., manufacturing electricians, 88, 90, & 92, rue Robert, Lyons, France. (Telegrams: "Courlas, Lyon." Telephone No. 7–17.)

Courtant, Auguste, engineer, directeur à la maison Ch. Mildé et Cie., 51, 58 & 60, rue Desrenaudes, Paris.
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Couturier, L., electrical apparatus maker, 39, rue de la Paroisse, Versailles, France. (Telephone No. 164.)
Couvreur, A., electrical engineer, place Verte 19, Verviers, Belgium. (Teleph. No. 243.)
Couvreux, Abel, electrical engineer, 78, rue d'Anjou, Paris.
Cox, H., electrical engineer, Director of the Maschinenfabrik Esslingen, Cannstatt, Germany. (Telephone No. 148.)
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Cramer, Hans, telegraph & telephone engineer & constructor, Blankenburg-Harz, Germany. (Telegs.: "Cramer-Roh, Blankenburgharz.")
Crampon, G. (successor to Lefèvre, engineer E.C.P.), electrician, rue de la Pompe 8, Paris 16^e. (Telephone No. 697-32.)
Craven, Robert H., mining, electrical & mechanical engineer, Miniera de Libiola, Sestri Levante, Italy. (Telegs.: "Craven, Sestri Levante.")
Cravero, Seb., & Figlio, electrical apparatus, via Cavour 17, Turin, Italy.
Crawshaw, E., resident engineer, Malaga Electricity Co., Malaga, Spain.
Cristalleries de Choisy-le-Roi, Houdaille & Triquet, beads for incandescent lamps, 40, rue de Paradis, Paris. Works: Choisy-le-Roi (Seine).
Cristoforis, Ing. G., contractor, via S. Brigida 51, Naples.
Croizat, Vittorio, electrical apparatus, via Gioberti 11, Turin, Italy. (Telephone No. 77.)
Croon & Co., electrical engineers & importers of electrical appliances, Electro-technisch Bureau, Rokin 154, Amsterdam. (Telephone No. 13.)
Crosio, Rag. Luigi B. G., electrical engineer, 48, Foro Bonaparte, Milan.
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Crous, C. W., electrical apparatus, San Vicente 115, Valencia, Spain.
Crouzet, F., wooden poles for transmission lines, Lit et Mixe (Landes), France.
Croze-Magnan, les fils de A., & Cie., indiarubber & gutta-percha, 124, boul. National, Marseille (Bouches-du-Rhône), France.
Cruto, Alessandro, electrical engineer, corso Vittorio Emanuele 32, Turin, Italy.
Cserháti, Jenö, consulting engineer, Ganz & Co., 1, Szilágyi Dezsötér II., Budapest, Hungary.
Cuadra, Emilio de la, manager Sociedad Electrica, Lerida, Spain.
Cuau, Charles, electrical engineer, 17, boul. Pasteur, Paris.
Cuban Electrical Co., Bremen, Germany.
Cuénod, Hermann, consulting engineer, Chatelaine, nr. Geneva. (Telegs.: "Ateliercuénod, Geneva." Teleph. No. 2967.)
Culerrier, —, electric bells, rue Perdonnet 4, Paris.
Culmsee, V., controller & electrician, Great Northern Telegraph Co., Mariehamn, Finland.
Culot, Henri, electrician, 43, rue du Pot d'Or, Liége.
Cuneo, Prof. Nicolò, manager of the Officina Elettrica di Camogli-Recco, Rapallo, Genoa, Italy.
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Custer, Willy, insulating material manufacturer, Zurich, V.
Cutogno, O., assistant superintendent, Eastern Telegraph Co., Rettimo.
Cuypers, W., & Stalling, machine oil manufacturers, Grossenhainerstr. 34, Dresden, Saxony. (Telephone No. 3823.)
Czeija, Nissl & Co., telephone & telegraph engineers, Dresdnerstr. 75, Vienna XX/2. (Teleph. Nos. 16456, 22514, 22515.)
Czepek, Dr. Rudolf, electrical engineer, 59, Eichhorngasse, Brünn, Austria.
Czermak, K., electrical engineer & agent, 3, Fruchtgasse, Vienna, II/2.

Dachsel, Edmund, electrician, Gustav Adolfstr. 12, Weissensee, Berlin. (Teleph. No. 3069, Amt. Weissensee.)
Dahl, C., & Co., general agents for electrical stores, Kronpsensg. 3, Copenhagen K., Denmark.
Dahlander, Robt., director Municipal Gas & Electricity Commission, Torsgatan 22, Stockholm, Sweden.
Dahlgren, A., electrical stores, 25, Lachtinskaya, St. Petersburg.
Dailliez, Ach., electrician, 5, rue Emile Lenglet, Arras (Pas-de Calais), France.
Daimler-Motoren-Gesellschaft, Marienfelde, Berlin. (Teleph. Nos. 104 & 259, Amt. Tempelhof.)

Daisy Haus, Behrendts & Basta, bead shade makers, Friedrich Wilhelm Pl. 15, Berlin Friedenau, Germany. (Teleph. No. 3255, Amt. Friedenau.)

Dalbusset, Touche & Cie., wooden poles, 188, Cours d'Alsace-Lorraine, Bordeaux (Gironde), France.

Dalianis, C., officer-in-charge, Eastern Telegraph Co., Pyrgos, Greece.

Dalle Molle & Co., electrical agents, via due Macelli 10-11, Rome.

Dalloz, —, electric light installations, telephones, 9, rue Gentil, Lyon (Rhône), France. (Teleph. No. 3-39.)

Dal-Re, Carlos, electrical supplies, Barquillo 5, Madrid. (Telegrams: "Dalré, Madrid." Telephone No. 501.)

Damade, E. J., & Cie., dynamo brushes, place de la Republique, Sinlenoble près Douai (Nord), France.

Damoiseau, Gaston, engineer, Société Anon. de Locomotion Électrique, 23, rue du Conseil, Asnières (Seine), France.

Damseaux, R., electrician, ave. Albert & Elisabeth 22, Woluwé-Brussels.

Danbé, fils, electrician, avenue de Villiers, 47, Paris.

Daneo, Antonio, electrical agents, via Giacchi 56, Rome.

Danière, Frères, electrical engineers & contractors, 20, rue Jules Janin, Roanne (Loire), France. (Telegrams: "Danière, Electriciens, Roanne." Telephone No. 6.)

Danioni, Cav. Ing. Filippo, consulting electrical engineer, San Marco 386, Venice. (Telegs.: "Ingegnere Danioni, Venezia." Telephone No. 413.)

Danne, Jacques, professor of La Faculté de Sciences de Paris, editor of *Le Radium*, 91, rue Denfert Rochereau, Paris.

Danneberg & Quandt, makers of electrically driven exhaustors, Frankfurter-Allee 180, Berlin, O. 112.

Danneels (Société Anonyme des Ateliers), makers of gas & petroleum engines, rue des Remouleurs 69 Ghent, Belgium.

Danner, Charles, electrician, ave. Pasteur 45, Rouen (Seine-Inférieure), France.

Dansk Aktieselskab Siemens-Schuckert, Palesgade 6, Copenhagen K.

Dansk Forsölvnings-Anstalt, electroplaters, Kjöbmagergade 50, Copenhagen K.

Dansk Ingeniörforening, Amaliegade 38, Copenhagen K., Denmark.

Danubia Act. Ges. für Gaswerks, Beleuchtungs und Messapparate, manufacturers of electroliers, 49, Porzellangasse, Vienna IX. (Telephone No. 14177.)

Danziger Elektrische Strassenbahn Aktiengesellschaft, Mirchauerweg 6/8, Danzig-Langfuhr, Germany.

Dapples et Pappaduca, electrical engineers, Croix d'Or 12, Geneva, Switzerland. (Telegs.: "Construction, Geneva." A.B.C. Code. Teleph. No. 461.)

Dar-Sanaï-Osmanié, M. Raïf, & Cie., wood & metal workers, director Ahmed Ihsan, Akhour-Capou, Constantinople.

Dareste de la Chavanne, electrical engineer, 84, boul. de Courcelles, Paris XVII.

Daries, Aristide, electrician, 32, rue Montpensier, Pau (Basses-Pyrénées), France.

Darnault, E., electric light apparatus, 39, rue de Chabrol, Paris.

Darras, A., measuring instruments, 123, boul. St. Michel, Paris.

Dary, Georges, electrician & secretary of *l'Electricien*, Saint Ost, Canton de Mirande (Gers), France.

Dasse, Gérard, constructing electrician, 47-49, rue David, Verviers, Belgium. (Telegs.: "Gerard Dasse, Verviers." Teleph. No. 533.)

Dassel, Otto, electric light contractor, Barmen, Germany. (Teleph. No. 1000.)

Dattorer, L., director of the Berliner Elektricitäts Werke, Mauerstr. 78, Berlin, W. (Teleph. No. 5783, Amt. I.)

Daube Co., G. m. b. H., Annoncen-Expedition, Zimmerstr. 37-41, Berlin, S.W. 68. (Teleph. Amt. I. Nos. 9001-9027.)

Daunesse, —, electric bells, place Lonné, Dax (Landes), France.

David, Ch. N., engineer, Chef de Travaux au Laboratoire Central d'Électricité, 69, ave. de Segur, Paris.

David, L., electric fuse manufacturer, 9, rue Madrid, Paris VII. (Teleph. No. 506-60.)

David, Paul, engineer, Cie. Electro Mecanique, 191, rue Lafayette, Paris X.

Davidsen, L. D., & Co., electrical engineers, Steuersgd 8, Christiania.

Davignon, Guillaume, contracting electrician, rue des Bas-Arts 39, Val St. Lambert, lez Liége, Belgium.

Davin, —, electric bell manufacturer & contractor, 8, rue Moustier, Marseilles, France. (Teleph. No. 9-99.)

Davis, F., electrical engineer, Galleria Natta, Turin, Italy. (Telegrams: "Davis, Turin." Telephone No. 238.)

D'Azevedo Campos, Emilio, Filho, dealers in electrical apparatus, 137, rua do Sta. Antonio, Oporto Portugal.

Deagostini, Mario, installation contractor, via Madama Cristina 26, Turin.

De Andreis, Luigi, electrical consulting engineer, via Volta 19, Milan, Italy.

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De Bar, —, maker of lightning conductors, 110, rue Rishan, Marcq-en-Barœul, Lille, France.

Debauge et Cie., wires & cables, 3, rue de la Feuillade, Paris. Works: 32, rue des Bois, Paris (Teleph. Nos. 118-65 & 238-14.)

De Bavay, V., electric bells & accessories, rue Pachéco 35, Brussels.

De Benedetti, A., electrical engineer, 2, via Berchet, Milan, Italy.

De Benedetti, Comm. I., patent agent, 46, via del Tritone, Rome, Italy.

Debenedetti, Tedeschi & Co., accumulator manufacturers, Strada di Pianezza 19, Turin, Italy. (Telephone No. 834.)

Deberghe, A. G., & Lafaye, screws & detached accessories for electrical purposes, 14, rue Pelleport, Paris. (Telephone No. 924-01.)

Debierre, Louis, electric organ maker, rue St. André 35, Nantes (Loire-Inférieure), France. (Telegrams: "Debierre orgues, Nantes.")

Debièvre, H. A., cotton wire for electric cables, 17, rue Vaidherbe, Lille, France. (Telegs.: "Henry Debievre, Lille." Teleph. Nos. 522 & 608.)

Debièvre, M., wires & cables, 277, rue du Ballon, Lille, France. (Telegs.: "Marcel Debièvre, Lille." Teleph. No. 773.)

De Block, electrical contractor, Ecaustinnes, Belgium.

Deboeck, P., electric light installations, rue de l'Arbre-Bénit 28, Brussels.

De Bonnier et Cie., chemical manufacturers, 14, rue de la Blanchisserie, Brussels.

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De Ceuninck, E. & R., electrical engineers, rue de la Pacification 28, Brussels.

Dechelette, —, electrician, 4, rue Emile Souvestre, Rennes (Ille-et-Vilaine), France.

Dechesne, Ch., successeur Armand Polis, electric light apparatus, rue du Chêne 11, Verviers, Belgium. (Telephone No. 813.)

Decker, Aug., engineer, Stockholms Elektricitetsverk, Tulegatan 13, Stockholm.

Deckert & Homolka, manufacturing electricians & electric light contractors, IV. Favoriten-Strasse 42, Vienna; V. Dorottya-u. 8; & VI. Izabella-u. 88, Budapest.

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De Cock, E., engineer, chemical & physical apparatus, 11, rue de la Blanchisserie, Brussels.

De Cock, R., manufacturing electrician, rue Haute 32, Ghent, Belgium.

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Decoulange & Loizean, electricians, 83, Gde. Rue, Roubaix (Nord), France.

Decq Belting Factory, driving-belt makers, 36, rue d'Artois, Brussels. (Telegrams: "Decq, Courroies, Brussels." Telephone No. 707.)

De Cunsel, Victor, wood pulleys & wood casings, rue de l'Independance 66-68, Brussels.

Dedecker, Ed., electrician, rue des Sœurs Blanches, Ostend, Belgium.

De Dion et Bouton, electrical engineers, 36, quai National, Puteaux, près Paris. (Telegs.: "Bouton-Puteaux." Teleph. Nos. 19-92 & 571-51.)

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De Forenede Jernstoberier, Ak., dynamo makers, Nestved, Denmark. (Telegs.: "Hermansens, Nestved.")

De Fries, Carl, telegraph accessories, Schmidstr. 15, Berlin, S.O. 16.

De Fuisseaux, F., porous cell manufacturer, Baudour, nr. Mons, Belgium.

Degageux Frères, electrical apparatus for looms, 12, rue Michelet, Troyes (Aube), France.

Degen & Co., electrical apparatus makers, Zurich III., Switzerland.

Degner, J. E., iron works & electrical supplies, Friedrichsgracht 42-45, Berlin, C. (Teleph. Nos. 8601 & 8602, Amt. I.)

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De Gryse Père & Fils, manufacturing electricians, Ninove, Belgium.

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Dehne, Ferd., electrical & scientific apparatus maker, Gr. Steinstr. 15, Halle a. S., Germany.

Dehousse, Henri, & Cie., electric light & power installations, 75, rue Potagère, Brussels. (Telegs.: "Henri Dehousse, Brussels." Teleph. No. 5515.)

De la Charlerie, india-rubber, gutta-percha, electric wires & cables, 99 boul. du Hainaut, Brussels (Telegs.: "Franbelge, Brussels." Teleph. No. 1224); & 22, rue de Dunkerque, Paris. (Telegs.: "Franclen, Paris.")

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Delafon, P., primary batteries with non-spilling liquids, 128, rue de la Convention, Paris XV^e. (Teleph. No. 720-01.)

Delafond & Barudio, electric light contractors, Belleville sur Saône (Rhône), France.

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Delagoutte Frères, electrical installations, 12, rue des quatre Fils, Paris. (Telephone No. 121-03.)

Delahaye, Ph., electrical engineer, 105, rue St. Lazare, Paris.

Delahaye & Maurice, electrical installations, 13, place de la Gare, Tours (Indre-et-Loire), France.

Delaite, Emile & Fils, chemical & battery manufacturers, 50, rue Hors Chateau, Liége, Belgium.

Delaitre, G., agent for incandescent lamps & E. L. apparatus, 61, quai Valmy, Paris. (Tel. No. 402-43.)

De la Mathe, G. & H. B., makers of electric wires & cables, Gravelle St. Maurice (Seine), France (Teleph. No. 940-26); & 81, rue Reaumur, Paris. (Teleph. No. 146-84.)

Delaporte, Paul Emile, electrical engineer, 5, rue Ballu, Paris. (Telegs.: "Voltamper, Paris." Teleph. No. 284-21.)

Delarge, Fr., Director-General of the Belgium Telegraphs & Telephones, Hôtel Central des Postes et des Télégraphes, place de la Monnaie, Brussels.

Delaroche, —, electrical contractor, 47, rue St. Martin, St. Quentin (Aisne), France.

Delas, F., engineer of La Société Westinghouse, 13, rue Christiani, Paris.

Delaunay, —, electrical apparatus & instruments maker, 47, rue Alexandre Legros, Fécamp (Seine-Inférieure), France.

Delaunay, Ernest-Baptiste, electro-platers, 12, rue Saint Gilles, Paris.

Delaunay, Belleville boilers, high-speed steam motors, Saint Denis; & 17, boul. Richard Wallace, Neuilly-sur-Seine (Seine), France.

De Laval Co., Ltd., turbines, generators, pumps, &c., Hecrengracht 370, Amsterdam, Holland. (Telegs.: "Kjoebmand, Amsterdam." Teleph. No. 1269.)

Delaval, H., & Cie., manufacturers of drilling tools for electrical purposes, 11, rue Morand, Paris.

De la Ville le Roulx, Pierre, manager of the Société pour le travail électrique des métaux, 90, boul. Flandrin, Paris.

Del Buono Ulisse, electrical engineer, Rome, Italy.

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Deleloy, Emile, electrical engineer, 34 bis, boul. Jacquart, Calais (Pas de Calais), France.

Delepine, Barrois, electric meters, Saint Nicolas d'Aliermont (Seine-Inférieure), France.

Delépine, Gabriel, electrician & agent, 2, rue du Quatre Septembre, Paris. (Telegs.: "Verfol, Paris." Teleph. No. 212-83.)

Delfour, P., electrical apparatus maker, 50, rue des Remparts, Bordeaux.

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Del-Grosso, Giacomo, dealer in electric light fittings, Varese, Lombardy, Italy.

Delhaye, E., electrical engineer, rue Robiano 90, Brussels.

Delieuvin et Nicolet, electric sets for electric light, 77, ave. de la Grande Armée, Paris. (Teleph. No. 664-61.)

Deligny, J. L., electrical manufacturer, 87, boul. St. Michel, Paris.

Delisle, Les Frères, makers of electric light fittings, 24, rue Pavée, Paris. (Teleph. No. 303-52.)

Dellacasa, G. B., electric bell fitter, Vico Garibaldi 12R, Genoa.

Dellacasa, Guiseppe, electric bell fitter, Vico Carlone 3, Genoa.

Dell' Orto, Luigi, electrician, Cernobbio (Prov. di Como), Italy.

Della Santa, Em. Am., electrical engineer & agent, 12, rue Lannoy, Brussels.

Delobel, H., insulating ribbons for wires & cables, 20, rue Arago, Saint Ouen (Seine), France. (Teleph. No. 131.)

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Delorme, —, manager of La Cie. des Accumulateurs "Union," 111, rue de Courcelles, Paris.

Deloustal, R., agent for Felten & Guilleaume Lahmeyerwerke A. G., Cortes 581, Barcelona, Spain. (Telegs.: "Deloustal Cortes, Barcelona." Teleph. No. 1089.)

Delpierre, Henri, & Co., dealers in electrical sundries, 28-30, Chaussée de Bruxelles, & 15-18, Jumet (St. Antoine), nr. Charleroi, Belgium.

Delplace, G., electrical installations, 46, rue des Marais, Paris. (Telephone No. 141-27.)

Del Proposto, Cesidio, electrical engineer, director of the Société Générale de Tramways et d'Applications d'Electricité, Nicolaieff, Russia. (Telegs.: "Tralec, Nicolaieff.")

Delvaux, Henri, mining & electrical engineer. Stores: 31, rue des Petits Carmes, Brussels. (Teleph. No. 3029.) Technical Bureau: 207, ave. Albert, Brussels (post Acde). (Teleph. No. 9000.)

Delvaux, Henri, & Cie., mechanical & electrical construction, 43, rue de la Poste, Brussels. (Teleph. No. 7795.)
Delville, E., electrical engineer, rue de la Joie 45, Liége.
Delville, Trophime, telegraph engineer, Bell Telephone Manufacturing Co., 18, rue Boudewijns, Antwerp.
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Demaria, Vittorio, installation contractor, via San Massimo 14, Turin.
Demarquet Frères, electro-platers & gilders, 79, rue du Temple, Paris. (Telephone No. 145–07.)
Demarty, —, primary batteries, ave. de Royat, Clermont-Ferrand (Puy-de-Dôme), France.
Demaurex, M., electro-medical apparatus, place Fusterie 10, Geneva, Switzerland. (Teleph. No. 62.)
Demblon, Aug., electrical engineer, Edeghem, nr. Antwerp, Belgium.
Demblon & Verset, electric light & power contractors, 16, rue Gérard, Antwerp, Belgium. (Telegs.: "Demver, Antwerp." Teleph. No. 738.)
Demerbe, V., & Co., engineers & tram rail manufacturers, Jemappes, Mons, Belgium.
Demeure, Ed., electrical engineer, 53, ave. des Arts, Brussels.
Demme, B., telegraph contractor, Steinweg 55 & 56, Mühlhausen-i.-Th., Germany. (Teleph. No. 264.)
Demuth Bros., telegraph cable making machine manufacturers, Linzerstr. 141, Vienna XIII., Austria. (Teleph. No. Hietzing 133.)
Dénarier, L., electrician, Villa Brunet, rue Emile Zola, Toulon (Var), France.
Denis, Ernest, electrician, pl. de Flandre 10, Mons, Belgium.
Denis, Gustave, fils, clock motions for meters & arc lamps, Saint Nicolas d'Aliermont (Seine-Inférieure), France.
Denissoff, N., magazine of electrical lamps, Gorohovaja 67, St. Petersburg, Russia. (Teleph. 267–11.)
Denoyelle, E., & Co., electrical installations, 40, rue Denfert Rochereau, & 3, rue Angère, Paris. (Teleph. No. 575–15.)
Denti, Ing. Eugenio, electrical engineer, viale Umberto 4, Milan.
Denzinger, E., electrical engineer, Teckstr. 85, Cannstatt, Germany.
Denzler, Dr. Albert, consulting electrician, Zürich-Fluntern, Switzerland.
Departementale Électrique, La, lighting, transmission of power, bells, Valenciennes (Nord), France.
De Pauw, J. F., telegraph engineer, 36, rue de Savoie, Brussels.
Depersin, O., electrical supplies, 30, rue des Vieux Quartiers, Dunkerque (Nord), France.
Deplanque, electrical contractors, 7, rue Coquelin, Boulogne-sur-Mer (Pas-de-Calais), France.
Deppe, Paul, & Co., manufacturing electricians, Abelmann Str. 27II, Hanover. (Teleph. No. 5947.)
De Pretto, Silvio, & Cia., turbine makers, Schio, Italy.
Derclaye, Oscar, electrical engineer, Paturages, Belgium.
Deri, Max, electrical engineer, Doblhoffgasse 7, Vienna I.
Deries, A., general manager of the Société Nouvelle des Etablissements de l'Horme et de la Buire, 8, rue Victor Hugo, Lyons, France. (Telegs.: "Horme, Lyons." Teleph. No. 3.)
Deroche, C., insulators, Retourneloup près Esternay (Marne), France.
De Roos, J. D. C. M., government engineer for railway signalling, Regentesseplein 22, The Hague.
De Rossi, G., & Co., Società Merid. Ind. Elettriche, electricians, Corso Umberto I. 23, Naples, Italy.
Derry, dynamos & motors, 24, rue de la Fosse, Nantes (Loire-Inférieure), France. (Telegs.: "Derry, Nantes." Teleph. No. 10–62.)
Derville et Cie., marbles for electricity, switchboards, 164, quai Jemmapes, Paris. (Teleph. No. 417–78.)
Dery, J. E., administrateur delegué de la Sté. l'Energie pour la Construction de locomotives, &c., 127, ave. de la Toison d'Or, Brussels. (Telegs.: "Energie, Brussels." Teleph. No. 4145.)
Desailly, J., electrical measuring instrument maker, 25, rue D'Alleray, Paris.
Desantis, Americo, engineer, Societa Anon. di Elettricità, Bologna, Italy.
Desaulty, J., light & power, general electrical installations, 153, boul. Frederic Degeorges, Bethune (Pas-de-Calais), France.
De Savoye, —, manager Cie. Internationale des Télephones, 47, ave. de la Toison d'Or, Brussels.
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Deschamps, A., electrical apparatus, 36, boul. Henri IV., Paris. (Teleph. No. 222–76.)
Descleres, Favier & Cie., copper & german silver wire for electrical purposes, 75, rue Turbigo, Paris.
Desguin, P., engineer, patent agent & expert, 46, rue Bara, Brussels.
Désir, F., bronze fittings, 37, Grande Rue des Charpennes, Lyon (Rhône), France.
Desmazures & Lambert, acid manufacturers, 8, rue du Parc Royal, Paris.
Desnos, Henri, electric lighting & power installations, 7, rue Cardinal Lemoine, Paris. (Teleph. No. 818–63.)
D'Espine, Achard & Cie., water meters for supplying generators, 52, quai de la Marne, Paris. London agent: W. Craig, 20, Bucklersbury, E.C.
Desprat, —, electrical engineer, rue des Boulevards, Cahors (Lot), France.
Desprès, A., mechanical & electrical apparatus maker, Frauenfeld (Thurgau), Switzerland.
Desroziers, E., consulting electrician & expert engineer, 10, ave. Frochot, Paris.

Desrues, —, electrical contractor, 77, rue du faub. St. Jaeques, Paris.
Desseux, David, manufacturing electrician, 61, Place Badouillère, St. Etienne (Loire), France.
Dessolle & Cie., electro-metallurgy, 58 bis, rue Gide, Levallois-Perret (Seine), France.
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d'Ester, Th., eleetrie lift maker, 11, Marxergasse, Vienna III/2.
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Dethioux, J., electrical engineer, boul. de Grande Ceinture 14, Brussels.
Detouche, C., electric cloek manufacturer, 18, boul. Poissonnière, Paris. (Telephone No. 122–45.)
Dette, W., & Co., makers of electroliers, 27, Grimmstr., Berlin, S. (Teleph. No. 9021, Amt. IV.)
Dettmann, Herm., telegraph works, Kuglerstr. 5, Berlin, N. 113. (Teleph. No. 7308, Amt. III.)
Detz, H., engineer, Siemens Schuckertwerke, Rathausstr. 4, Czernowitz, Austria.
Deutseh, Felix, M.I.E.E., director of Allgemeine Electricitäts Ges., Friedrich Karl-Ufer 2/4, Berlin.
Deutsch-Atlantische Telegraphengesellschaft, Stolkgasse 3/11, Cologne o/Rhine. Directors: Herren O. Moll & C. W. Guilleaume. (Telegrams: "Atlantisch, Cologne." Telephone No. 4495.)
Deutsch & Co., electrical apparatus, Schäfergasse 9, Frankfort-a-M., Germany. (Teleph. No. 2861.)
Deutsch-Niederländische Telegraphengesellschaft A.G., Friesenplatz 16, Cologne, Germany. (Telegs.: "Vijapa, Cologne." Teleph. No. 2542.) Directors: H. Pfitzner & J. J. le Roy.
Deutsch-Oesterreichische Mannesmannröhren-Werke, makers of seamless steel tubes & posts. Head office: Dusseldorf, Germany; & works at Rath, Remscheid, Bous o/Saar & Komotau, Bohemia. (Telegs.: "Mannesrohr, Dusseldorf.")
Deutsch, S., & A. Bak, electrical apparatus & carbons, Magdalenerstr. 107, Vienna V/1. (Teleph. No. 8412.)
Deutsch-Sudamerikanische Telegraphen-gesellschaft A. G., Cologne. (Telegs.: "Bucorovia, Cologne." Teleph. No. 2542.) Directors: H. Pfitzner & Spoerer.
Deutsch-Ueberseeische Elektricitäts-Gesellschaft, 29–30, Kanonierstr., Berlin, W. (Telegs.: "Alemantras, Berlin." Teleph. Nos. 2672 & 8344, Amt. I.)
Deutsche Babcock & Wilcox Dampfkessel-Werke, A-G., Oberhausen, Rheinland; & 1, Kaiser Wilhelmstr., Berlin, C. (Teleph. No. 4029, Amt. I.)
Deutsche Beck-Bogenlampen Gesellschaft, Blücherstr. 22, Frankfort-on-Main. (Telegs.: "Becklicht.")
Deutsche Bogenlampen-Industrie-Ges. m. b. H., arc lamp factory, Belle-Alliancestr. 92, Berlin, S.W. 61.
Deutsche Celluloid Fabrik, manufacturers of raw eelluloid, Leipzig-Plagwitz, Germany. (Teleph. Nos. 2889 & 1926.)
Deutsche Edison Akkumulatoren Cie., Edison accumulators, Drontheimerstr. 35, 38, Berlin, N. (Teleph. Amt. II. No. 873.)
Deutsche Edison-Lalande Elementbau Fabrik "Delef" Ges. m. b. H., 111, Köpenickerstr., Berlin, S.O. 16.
Deutsche Elektricitäts Gesellschaft, makers of reflectors, 225–229, Neusserstr., Cologne Nippes, Germany. (Teleph. No. 3213.)
Deutsche Elektrizitäts-Werke zu Aachen (Garbe, Lahmeyer & Co. Akt.-Ges.), dynamo & electromotor manufaeturers, Aachen, Germany (Telegs.: "Dynamo, Aachen." Teleph. Nos. 898 & 899); & Neuenburgerstr. 7, Berlin, S.W. 13.
Deutsche Elemente Fabrik Hans Neumann, Sebastianstr. 2, Berlin, S. 14. (Teleph. Amt. 4, No. 1849.)
Deutsche Fabrik biegsamer Wellen A. Otto & Co., Strelitzerstr. 60, Berlin, N. 31. (Telegs.: "Flexible, Berlin." Telephone No. Amt. III. 5466.)
Deutsche Ferranti-Zähler-Gesellschaft m. b. H., electrical instrument & apparatus makers, Wartenburgstr. 26, Berlin, S.W.
Deutsche Gasglühlicht A. G., Auergesellschaft, incandescent lamps, Rotherstr. 20–23, Berlin, O. 17. (Teleph. Nos. 10241–10248, Amt. VII.)
Deutsche Ges. für Bremer Licht, m. b. H., Leipzigerstr. 103, Berlin, W. (Teleph. No. 4876, Amt. I.)
Deutsche Gold und Silber Scheide Anstalt, vorm. Rössler, makers of electric furnaces, 4–10, Schneidwallgasse, Frankfurt-a.-M., Germany.
Deutsche Haustelephongesellsehaft m. b. H., electricians, Sophienstr. 6, Berlin, C. 54.
Deutsche Kabelindustrie G. m. b. H., cables & wires for telephones, Berlinerstr. 48–50, Berlin-Neubabelsberg. (Teleph. Amt. Nowaves, No. 88.)
Deutsche Kabelwerke Aktien-Ges., Berlin-Rummelsburg. (Telegs.: "Kabelwerk, Berlin." Teleph. No. Amt. VII. 10240.)
Deutsche Lehrmittel-Anstalt, Franz Heinr. Klodt, instructive toys, Kirchnerstr. 6, Frankfort-on-the-Main. (Teleph. No. 11536.)
Deutsche Messingwerke, Flunkert, Kretzer & Eveking, copper & brass manufacturers, Berlinerstr. 131, Niederschöneweide bei Berlin.
Deutsche Phosphorbronce-Industrie (E. von Münstermann), makers of telephone wires, &c., Kattowitz-o/s, Germany. Branches: Sosnowice, Russian Polen & Bielitz, Oesterreich-Schlesien.
Deutsche Privat Telephon Gesellschaft H. Fuld & Co., Mainzer Landstr. 193, Frankfort-a-M.
Deutsche Taehometerwerke G. m. b. H., speedmeter factory, Belle-Alliancestr. 3, Berlin, S.W. 61.
Deutsche Telephonwerke, G. m. b. H., telegraph, telephone & cable manufacturers, Zeughofstr. 6 & 7, Berlin, S.O. 33. (Telegs.: "Telephonwerke, Berlin." Teleph. Amt. IV., Nos. 1, 625 & 4823.)

Deutsche Ton & Steinzeug Werke, Akt. Ges., earthenware electrical apparatus manufacturers, Berlinerstr. 23, Berlin-Charlottenburg. (Telegs.: "Tonwerke, Charlottenburg." Teleph. No. 56.)

Deutsche Unternehmung für electrische Beleuchtung, Kaiser Wilhelm-Ring 11, Cologne, Germany.

Deutsche Wind Turbinen Werke, Rudolph Brauner, G. m. b. H., Fürstenstr. 80, Dresden A. (Teleph. No. 7924.)

Deutsches Kaiserliches Patentamt (Imperial Patent Office), 97–103, Gitschiner Str., Berlin, S.W. 61. (Teleph. No. 4820, Amt. IV.)

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De Vere, A. V., telegraph engineer & manufacturer's agent, Constantinople.

Devilaine & Rougé, electrical engineers, 47, rue St. André des Arts, Paris. (Teleph. No. 819–06.)

Devisscher & Graetz, consulting engineers, 5, boul. Senne & 8, boul. du Nord, Brussels. (Telegrams: "Inventions, Brussels." Telephone No. 3966.)

De Visser, Cav. Uff. Ing. E. B., director of the Società Italiana di Elettricità Siemens Schuckert, Milan, Italy. (Telegs.: "Devisser, Milan.)

De Vita, Domenico, scientific apparatus maker, Largo del Nilo 9, Naples.

Devos, P., brass fittings for electric lighting, 73, rue Charlot, Paris. (Teleph. No. 293–34.)

De Vries, Herm. A., machine broker & expert, Hoogeweg 8, Amsterdam. (Telegs.: "Expert, Devries, Amsterdam." Teleph. Nos. 2053 & 6584.)

De Vries, Mulder & Co., manufacturers of electrical apparatus, Amsterdam. (Telegs.: "Vriesmulder, Amsterdam." Teleph. No. 6584, Intercommunal.)

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Dewinter (Vve.) et Fils, glass cell & battery manufacturers, 63–69, rue du Vautour, Brussels.

De Wit, W. C. & K., consulting engineers, 183, Prins Hendrikkade, Amsterdam. (Telegrams: "Dewit, engineers, Amsterdam." Telephone No. 1711.)

Dezavise & Béchard, electric light fittings, 6, rue Beranger, Paris.

D'Hoop, E., electrical engineer, Cie. Mutuelle des Tramways, Brussels.

Dias Santilhano, J., & Co., electrotechnical installations, Singel 413, Amsterdam, Holland. (Teleph. No. 4678.)

Diatto, Alfredo, electrical engineer, inventor of the Diatto System of Electric Traction, 17, via Ottavio Revel, Turin. (Telegrams: "Alfredo Diatto, Turin.")

Diatto & Co., electric tram & carriage construction, Piazza Gran Madre di Dio 12, Turin.

Diaz, Manuel, electrical manufacturer, Almendralejo, Badajoz, Spain.

Dick, Friedr., file & tool manufacturer, Esslingen a. N., Württbg., Germany.

Didier, A., & fils, electrical insulator manufacturers, 70, rue d'Angoulême, Paris.

Diebel, Friedrich, installation contractor, Lungengasse 49, Cologne. (Teleph. No. 7445.)

Diener, Alf., & Co., dealers in electrical supplies & metal cement manufacturers, Mythenstr. 29, Zurich, Switzerland.

Dierksmeyer & Helsner, engineers' tool manufacturers, Mockau 107, Leipzig, Germany.

Dierman, W., M.I.E.E., electrical & civil engineer, 15, rue du Bailly, Brussels, Belgium. (Tel. No. 5001.)

Diesen, E., superintendent Norwegian Telegraphs, Christianssand, Norway.

Dieskau & Co., electrical supplies, Berlinerstr. 22, Charlottenburg, Berlin. (Teleph. No. 112.)

Dieterichs & Löffelhardt, manufacturing electricians, 9, Hansaplatz, Hamburg, Germany. (Teleph. Nos. 2774/5, Amt. V.)

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Di Nasso, Orfeo, mechanical constructor & electrician, via S. Agostino 16, Pisa, Italy.

Dingler's Polytechnisches Journal (weekly), edited by Prof. M. Rudeloff, Fontanestr., Berlin-Grosslichterfelde West; published by Richard Dietze, Verlagsbuchhandlung, Berlin.

Dinin, Alfred, maker of electric accumulators & cars, 2, quai National, Puteaux (Seine), France (Telegs.: "Accudinin, Puteaux." Teleph. No. 571-04); & 49, rue Saint Ferdinand, Paris.

Dinter, O., maker of electrical apparatus, Crimmitschau, Saxony. (Teleph. No. 127.)

Direct Spanish Telegraph Co., Ltd., Barcelona & Bilbao, Spain; & Marseilles, France.

Direction des Services Industriels, Le Locle, Switzerland.

Direzione di Torpedini e Materiale Elettrico San Bartolomeo, 1°, Dipartimento Marittimo, Spezia, Italy.

Dirit, G., electrical contractor, 3, rue d'Isly, Limoges, France. (Telegs.: "Dirit, Limoges." Teleph. No. 175.)

Disclyn, A., & Linn, electric light fittings makers, 17, boul. de la Madeleine, Paris. (Telephone No. 252-46.) Works: 139, rue Fazillan, Levallois (Seine), France. (Telephone No. 568-81.)

Dissera c figlio, Gaetano, electric bell fitter, Corte Contarina 1563-1564, Venice.

DITMAR, R., GEBRÜDER BRUNNER A. G., manufacturers of electroliers, Eugengasse 57, Vienna X. (Telegs.: "Lampenact, Wien.") Office for electric light & power installations: Eugengasse 57, Vienna. (Teleph. Nos. 9511, 7993, 2830.) Works at Vienna, Milan, Warsaw. Branch houses: Vienna, Buda-Pesth, Prague, Graz, Trieste, Lemberg, Berlin S., Lyons, Milan, Rome, Bombay, Calcutta, Shanghai.

Dittmann & Scherzer, installation contractors, Nicolaistr. 10, Chemnitz, Saxony.

Divé, Pierre et Emile, frères, electric light installations, Chaussée de Gand 108, Brussels.

Djursholm Electric Light Co. (manager, C. O. Rahm), Djursholm, Sweden.

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Doctor, E., engineer, Österreichische Siemens-Schuckert-Werke, Vienna XX/2.

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Domange, A., & fils, leather driving-belt makers, 74, boul. Voltaire, Paris. (Telegrams: "Courroles, Paris.")

Dombard fils, Aug., electric light fixtures & supplies, 47, rue du Centre, Verviers. (Telephone No. 242.)

Doms, Fr., manufacturer of electrical, railway, telegraph & telephone apparatus, Prague I. 945. (Telegrams: "Doms, Prague I. 945.")

Donati, Chev. Luigi, Professor of Technical Physics & Electricity of the R. Engineering School, Fraz. S. Giuseppe, Bologna, Italy.

Donati, Girolamo, electric bell dealer, via Stella 25, Verona, Italy.

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Dorer & Nickol, electrical apparatus makers, Brunswick, Germany. (Teleph. No. 1956.)

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Dorn, C. F., Nachf. (Inhaber C. Oettle), electric light & power contractor, Stuttgart.

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Dorner, Carl, electrical supplies, Gr. Reichenstr. 63, Hamburg. (Teleph. No. I. 1282.)

Dortmunder Elektrizitäts Gesellschaft m. b. H., installation contractors, Dortmund.

Dorvaux, L., manufacturer of reflectors & shades, &c., 21, 23 & 25, rue St. Sebastien, Paris. (Telegrams: "Dorvaux, Paris." Telephone No. 931-12.)

Dossmann, Chev. Gustavo, manager Societa Italiana Accumulatori Elettrici, corso Ugo Bassi 26, Genoa, Italy.

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Dotzheimer, A., director "Motor" Aktiengesellschaft für angewandte Elektrizität, Baden, Switzerland.

Douane, —, steam engine maker, 23, avenue Parmentier, Paris. (Telegrams: "Chaudfroid, Paris." Telephone No. 900-21.)

Doublemart, Fernand, electrician, bell & telephone fitter, &c., 40, rue de Paris, Lille (Nord), France. (Teleph. No. 656.)

Doucet, M., electric light apparatus, 46, rue Amelot, Paris. (Teleph. No. 931.67.)

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Drahtumspinnerei und Kabelfabrik, L. Köppel, Mariengasse 25, Prague II. (Telegs.: "Kabelfabrik Koppel, Prague." Teleph. No. 1048.)

Drammens elektriske Bureau (G. Thorkildsen), Br. Næs., Drammen, Norway.

Drammens Telefon Aktieselskab (managing engineer, C. Ullitz), Drammen, Norway.

Drauet et Raulot-Lapointe, radioscopy, radiography, electro-medical apparatus, 57, boul. du Montparnasse, Paris.

Draux, Ernest, electrician, place D'Armes, Mézières (Ardennes), France.

Dreefs, E., G. m. b. H., electrical apparatus manufacturers, Unter-Rodach-i.-Oberfr, Germany.

Drescher, Josef, manager Teplitzer Elektr.-und Kleinbahn-Ges., Teplitz, Bohemia.
Dresdner Gasmotorenfabrik vormals Moritz Hille, Aktien Gesellschaft, gas & oil engine manufacturers, Dresden, Saxony, Germany. (Telegrams: "Maschinenfabrik Hille, Dresden." Teleph. No. 114.)
Dresdner Kunstgewerbe, Böhme & Hennen, electric light fittings makers, 16, Görlitzerstr., Dresden, N. (Telephone No. 2809.)
Dresdner Glühlampenfabrik Zschocke & Co., Sternstr. 15, Dresden, N. 22. (Teleph. No. 3640.)
Dressel, Kister & Co., insulator (porcelain) manufacturers, Passau (Bayern), Germany. (Teleph. No. 10.)
Drevdal, F., Binoche & Co., accumulator makers, 30, rue Amelot, Paris.
Drewsen, C. C., electro-plater, Östergade 1, Copenhagen K.
Drewsen, H. C., electro-plater, Amagertorv. 6, Copenhagen. (Telephone No. 6515.)
Drexler, Fredk., electrical & consulting engineer, 16A, Beatrixgasse, III. Vienna, Austria. (Teleph. No. 3872.)
Dreyer, Rosenkranz & Droop, water gauges & patent indicators, Hanover, Germany. (Telephone No. 45.)
Dreyfus, G., manager, Soc. Lilloise d'Eclairage Electrique, 87, rue de la Barre, Lille (Nord), France.
Drittler & Erlanger, electrical insulator manufacturers, Merkelsgasse 19, Nürnberg, Bavaria.
Drosten, R., electrician & scientific instrument maker. Agent for Hartmann & Braun, of Frankfort, rue du Marais 49, Brussels.
Drouhin, René, manganese merchant, 27, rue des Ardennes, Paris. (Teleph. No. 401–83.)
Drouin, Felix, chief engineer of Cie. Générale d'Electricité, 1 bis, ave. de Longchamps, Boulogne (Seine), France.
Drugman, Léon, M.I.E.E., rue Gachard, 117, Brussels.
Druseidt, Paul, screw terminals for switchboard apparatus, Remscheid, H., Germany.
Dübner, M., Nachfolger, electric light fittings maker, Beusselstr, 70, Berlin, N.W. (Teleph. No. 7843, Amt. II.)
Dubois, —, coils, 28, rue Corbeau, Paris.
Dubois, Charles, electrical engineer, Lausanne, Switzerland.
Dubois & Baseil, electricians, 30, rue Locquenghien, Brussels.
Dubois-Favresse, electrician, boul. Audent 46, Charleroi, Belgium.
Dubrujeaud & Jean Richermoz, bronze fittings, 41, rue St. Sebastien, Paris. (Teleph. No. 923–26.)
Dubs, H., director Cie. de Tramways, Marseilles (Bouches du Rhône), France.
Dubsky, Alfred O., D.SC., chief electrical engineer at the Hungarian Ministry of Commerce, 18, Nádor-utcza, Budapest V.
Due-Petersen, N., electrical engineer, Möllergade 18, Svendborg, Denmark.
Ducarnoy, Guche, dealer in electric bells, telephones, &c., 36, rue des Religieuses Anglaises, Boulogne-sur-Mer, France.
Ducastel-Blandin, contractor for installations, bells, telephones, &c., 61, rue Nationale, Lille, France. (Telephone No. 417.)
Ducati, Ing. A. C., consulting engineer & agent, 4, via Poeti (Piazza Calderini), Bologna, Italy.
Ducellier, G., arc lamp & projector maker, 25, passage Dubail, Paris.
Duchange, J., electrician, incandescent lamps, rue de Belzunce 9 & 28, Paris. (Teleph. No. 442–79.)
Duchatel, G., electrical sundriesman, 74 & 76, rue Jean Jacques Rousseau, Paris. (Teleph. No. 219–43.)
Duchemin, Emile, electrical engineer & magnet manufacturer, 37, boul. de la Tour Maubourg, Paris.
Duchesne, Eugene, electrical engineer, 21, rue du Genéral Foy, Paris.
Duco, Eugene, electrical contractor, 23, rue Capdeville, Bordeaux (Gironde), France.
Ducotè, —, manufacturing electrician, Cluny (Saône-et-Loire), France.
Ducretet, F., & E. Roger, electrical engineers & apparatus makers, 75, rue Claude Bernard, Paris.
Ducrotoy, J. B., electrical apparatus maker, 53, rue des Vinaigriers, Paris.
Dudach, E., manufacturers of electrical apparatus, 10, rue Ste. Anastase, Paris.
Dudeck, H., maker of machine tools (Dudeck Patent), Hermannstr. 24, Berlin-Rixdorf. (Telephone Amt. Rixdorf, No. 201.)
Duerr, G. F., electrical engineer, 68, rue Neuve, Brussels.
Duflon, Louis, electrical engineer, managing director Ste. de Constructions Electro-mecaniques, Lopouchinskaya 8, St. Petersburg, Russia. (Teleph. No. 20294.)
Dufour Frères, electrical engineer, Les Avants, Vaud, Switzerland.
Dufour, F. C., electrical engineer, Wijde Geldelooze pad 21, Haarlem, Holland. (Teleph. No. 439.)
Dufour, Henri, consulting electrician, professor at the University, Lausanne, Switzerland.
Dufour, L., chief engineer of the Signal & Electrical Department of the State Railway Co., Utrecht, Holland.
Dugardyn, Edm., electrical engineer, 91, boul. d'Anderlecht, Brussels.
Duisberg, Richard, & Co., tapes for insulating purposes, Barmen, Germany.
Duisburger Dampfkesselfabrik (H. Ketzer), engineers & boiler manufacturers, Duisburg-am.-Rhein, Germany.
Duisburger Maschinenbau Aktien Gesellschaft, vorm. Bechem & Keetman, mechanical & electrical engineers, Duisburg-a-Rh., Germany.
Dujardin, Adolphe, electrician, 77, rue de Tourcoing, Roubaix (Nord), France.
Dulait, Julien, manager, Ateliers de Constructions Electriques de Charleroi, Charleroi, Belgium.

Dumartheray, E., electric bells & apparatus, 3, rue Pradier, Geneva. (Teleph. No. 2542.)
Dumas, G., electrical contractor, 6 bis, rue Saint Paul, Limoges (Haute-Vienne), France.
Dumon, Albert, electrical engineer & agent, 12, rue Juste Lipse, Brussels.
Dumonchel, P., manufacturing electrician, 40, rue de Verneuil, Paris.
Dumont, C., electrical apparatus, rue du faub. de Loubaix 140, Lille (Nord), France.
Dumont, Ch. G., mechanical & electrotechnical engineer, Van Eeghenlaan 2a, Amsterdam, Holland.
Dumont, E., chief engineer, Société Française des Cables Électriques, 11, Chemin du Pré-Gaudry, Lyons, France.
Du Mont, E. C. P., electrical engineer, Cie. Électro-Mecanique, 68, rue de l'Hôtel de Ville, Lyons (Rhône), France. (Telegrams: "Electranic, Lyon." Telephone No. 17–30.)
Dumont, L., electrical pumps, 55, rue Sedaine, Paris. (Telegs.: "Pompdum, Paris." Teleph. No. 905–08.)
Dumont, L., electrical engineer, 67, rue St. Servais, Namur, Belgium.
Dumont, Louis, electric light contractor, rue Montoyer 74, Brussels.
Dumont, Marius, electrician, Givry (Saône-et-Loire), France.
Dumont, P., chemical manufacturer 46, rue de la Chapelle, Paris.
Dumontel, Ing. Gilberto, electrical engineer, Piazzetta B. V. degli Angeli 2, Turin, Italy.
Dumoulin, Georges, engineer of Electrical Department to the Mines d'Anzin, à Anzin (Nord), France.
Dunand, J. E., engineer, Geneva-Versoix, Switzerland. (Telegs.: "Anglometa, Versoix." Teleph. No. 4102.)
Dunkel, —, works manager, Städt. Elektricitätswerke, Rosenheim, Bavaria. (Teleph. No. 50.)
Dunkel, G., electric supply dealer, 11, Berlinerstr., Leipzig, Saxony.
Dunod, H., & Pinat, E., technical publishers, 49, Quai des Grands-Augustins, Paris, 6e. (Teleph. 819.38.)
Du Pasquier, A. F., electrical engineer, Ibsensvej 22, Hell, Copenhagen.
"Duplex" Motors, 130, rue Lafayette, Paris. Works: Ferrière-la-Grande, près Maubeuge (Nord), France.
Dupont, D., electric apparatus, 3, rue Ami-Lullin, Geneva, Switzerland. (Telephone No. 1409.)
Dupraz, H., electric apparatus, 6, rue de la Tour-Maitresse, Geneva, Switzerland. (Teleph. No. 2449.)
Dupuich, Ch., engineer, avenue de la Toison d'Or 70, Brussels.
Dura Elementenbau Ges. m. b. H., Eisenacherstr. 44, Schöneberg, Berlin. (Telegs.: "Schöneberg, Berlin." Teleph. No. 1780, Amt. VI.)
Durafour, G., electrical installations, 60, boul. des Brotteaux, & 1, rue des Prés, Lyon (Rhône), France. (Teleph. No. 26–85.)
Durand, A., director of Central Electrical Laboratory, 52, boul. St. Jacques, Paris.
Durand & Cie., electricians, 282, boul. Voltaire, Paris.
Durand Frères, bone, horn & wooden insulators, Molinges (Jura), France.
Durant, —, electrical letters, 22, rue Brezin, Paris.
Durant, Vve, primary batteries, electric bells & boards, 45, rue Victor Hugo, Grand Montrouge (Seine), France.
Durban & Martin, agents, electrical accessories, Hohenzollernring 59, Cologne, Germany. (Teleph. No. 5794.)
Durenne, A. (Etablissements Metallurgiques), lamp-posts & iron conduits for electric light, 26, rue du faub. Poissonnière, Paris. Works: Petit Champ & Bar le Duc, Paris. (Teleph. Nos. 117–73 & 117–30.)
Durillon Frères, electro-medical apparatus, 4, rue de la Charité, Lyon (Rhône), France. (Teleph. No. 20–97.)
Duroni & Co., scientific instrument & electrical apparatus dealers, Galleria Vittorio Emmanuele 9, Milan.
Dürr, Fritz, electrical engineer of the Municipal Machinery Office, Elberfeld, Germany.
Dürr, Robert, & Son, electrical engineers, 135–137, rue Masui, Brussels, Belgium. (Teleph. No. 3301.)
Dürst, Em., electrical engineer, Frechen, bei Cologne, Germany.
Durst, Konrad, chief engineer, Ganz Electrical Co., Budapest.
Dusaugey, E., electrical engineer, director du Sud Électrique, 89, rue Joseph-Vernet, Avignon (Vaucluse), France.
Dussart, Charles, electrician, Administration des Télégraphes, Liége, Belgium.
Düsseldorf Ratinger Röhrenkesselfabrik, steam boiler makers, Ratingen bei Düsseldorf, Germany. (Telegs.: "Kesselfabrik Ratingen." Teleph. No. 383.)
Dusseldorfer Eisen und Draht Industrie, wire & cable manufacturers, Fichtenstr. 36, Dusseldorf-Oberbilk, Germany. (Teleph. Nos. 1282 & 2483.)
Düsseldorfer Maschinenbau-Act.-Ges., electrical & mechanical engineers, Düsseldorf-Grafenberg, Germany. (Teleph. No. 7–7996.)
Düsseldorfer Städtisches Elektricitätswerk, Louisenstr. 105, Düsseldorf, Germany. (Teleph. No. 7213–6.)
Dutheil, L, R. Chalmers et Cie., engineers, manufacturers of motors, 81, 83, ave. d'Italie, Paris. (Telegs: "Duchalm, Paris." Teleph. No. 615–98.
Duthoit & Libaud, electric incandescent lamp makers, Croix (Nord), France.
Dutillieux, M., electrical engineer, place François Bossuet 4, Brussels.

Dutry-Colson Maison, dynamo & motor makers, Ghent.
Duval, Alexandre, engineer, Maison Giros & Loncheur, 143, rue de Rome, Paris.
Duvoisin et Cie., galvanized iron wire manufacturers, 17, rue de Lancry, Paris.
Dvorak, Dr. V., consulting electrician & author, Professor at the Royal University, Agram, Croatia.
Dynamo & Elektromotoren Bauanstalt f. Machek & Ges., V. Brauhausg. 82, Vienna. (Teleph. No. 46.)

Eastern Telegraph Co. Agency, 37, rue Caumartin, Paris. (Telegs.: "Anglorient, Paris." Teleph. No. 249-74.)
Ebel, August, mechanical & electrical engineer, Mainz, Germany.
Ebeling, Dr., chief of the low tension cable department, Siemens & Halske, A.G., Neue Kantstr. 3, Charlottenburg.
Ebeling & Croener, electric light apparatus makers, Bankstr. 11, Dresden, Germany. (Telephone No. 3953.)
Ebell, Ernst, maker of insulators & sockets, Hollmannstr. 10, Berlin, S.W.
Eberhardt, Karl, consulting electrical engineer, Karlsruhe-i.-B., Germany.
Ebert, Max, installation contractor, Burkhardtsdorf, nr. Chemnitz, Saxony.
Ebert, Prof. Dr. Hermann, physicist, Technische Hochschule, Munich, Germany.
Ebert, Th., telegraph & telephone contractor, kl. Ritterstr. 2, Merseburg, Germany.
Echo de l'Industrie L' (weekly; ann. sub., 15s.), Charleroi, Belgium.
Echo des Mines, de la Métallurgie et de l'Électricité (twice a week), 23, rue Brunel, Paris. (Ann. sub., P.U., 45 frs. = £1 12s.)
Echten, A., electric light contractor, rue du Dublin 32-32A, Brussels.
Eck, A. R., electro-medical apparatus, Wilhelmstr. 121, Berlin, S.W. (Teleph. No. 1000, Amt. VI)
Eckardt, W., & Hotop, G. m. b. H., engineers, Aachenerstr. 1, Cologne. (Teleph. No. 2546.)
Eckart, Paul, electric goods, Straussbergerstr. 14, Berlin, N.O. 18 (Teleph. No. VII. 356.)
Eckel & Glinicke, electroliers, Belle Alliancestr. 92, Berlin, S.W. 61. (Teleph. No. 6737, Amt. VI.)
Eckelt, J. L. C., lead specially prepared for accumulators, Chausseestr. 24, Berlin, N. (Teleph. No. 3022, Amt. III.)
Eckersberg, J. F., electrical agent, Apothekergade 6, Christiania, Norway.
Eckinger, F., electrical engineer, Dornach, nr. Bâsle, Switzerland.
Éclairage Électrique, L'. *See* Lumière Electrique, La.
Éclairage électrique de St. Petersbourg Société anonyme belge, Fontanka 104, St. Petersburg. (Teleph. No. 1813 et 1940.)
Ecole, Bréguet, courses in electrical engineering, rue Falguière, Paris XV^e. (Teleph. No. 730-39.)
École d'électricité et de mécanique industrielle (Charles Chuvin, director), rue Violet 50, Paris.
École des Mines et Faculté Polytechnique du Hainaut, courses in electricity, rue de Houdain, Mons, Belgium.
École du Génie Civil de Gand, courses in electrical engineering, Gand, Belgium. Prof. O. Steels, telegraph engineer.
École Municipale de Physique et de Chimie Industrielles (Boucherot, professeur d'électrotechnique; M. Gasnier, chef des travaux pratiques d'électricité), 10, rue Vauquelin, Paris. (Teleph. No. 811.02.)
École Professionnelle de Mécanique de Précision d'Horlogerie et d'Électricité, Brussels. (M. Nys, professor of electricity.)
École Supérieure d'Électricité, 14, rue de Staël, Paris. Directeur, P. Janet, D.ès.; sous-directeur, H. Chaumat.
École Supérieure de Télégraphie, 99 à 103, rue de Grenelle, Paris.
Economical Electric Lamps, Michael Lobenthal, incandescent lamp makers, Lutherstr. 30, Berlin, W. 62.
Edelberg, —, electrical engineer, Kharkoff, Russia.
Edelmann, Dr. Otto, chief engineer, Bayerisches Landesgewerbeanstalt, Nuremberg, Bavaria.
Edelmann, Prof. Dr. M. Th., scientific apparatus maker, Nymphenburgerstr. 82, Munich, Germany. (Telephone No. 6565.)
Edelmann & Wallin, electricians & engineers, Friedrichstr. 19, Berlin, S.W. 48.
Edelmuller, J., manufacturer of bronzes for electric lighting, 81, boul. Richard Lenoir, Paris.
Edoux, Léon, & Cie., electric lifts, 72, rue Lecourbe, Paris. (Telephone No. 708-78.)
Edström, J. S., managing director Allmanna Svenska Elektriska Aktiebolaget, Vesterås, Sweden.
EENBERG, B. REIMERS, electrical engineering, the Bergmann Interior Conduit System; electrical machinery & appliances. Speciality: Edison type sockets, switches, & cut-outs, 22, Place de Brouckère, Brussels. (Telegs.: "Eenberg, Brussels.") *See advt., page* 1042.
Efron, B. A., electrical engineer, Siemens & Halske, Moïka 9, St. Petersburg. (Teleph. No. 22841.)
Egger, B., electrical engineer, 60A, Wienerbergstr., St. Gallen, Switzerland.
Egger, Ernst, general manager, Vereinigte Elektr. Akt.-Ges., 187, Gudrunstr., Vienna X/1. (Teleph. No. 6374.)
Egger, Gyula, manager United Incandescent Lamps & Electrical Co., Ltd., Ujpest 4, nr. Budapest.
Eggermont, E., constructing electrician, boul. du Petit Dock 9, Ghent, Belgium.

Eggersmann & Lang, electric light engineers & contractors, Aachen, Germany. (Telegrams: "Eggersmann Lang, Aachen." Telephone No. 480.)

Eggington, Alfred, M.I.E.E., Eastern Telegraph Co., 28, via Venti Settembre, Rome. (Telegrams: "Eggington, Rome." Telephone No. 993.)

Egli, H., engineer, Fabrik für Elektrische Industrie, Seebach-Zurich, Switzerland.

Egloff, W., & Co., manufacturers of electroliers & lamps, Turgi-Limmatthal, Switzerland.

Ego, H., electric light contractor, quai aux Pierres de Taille 19, Brussels.

Eguren, R. de, electrical engineer, 35, Gran Via, Bilbao, Spain.

Ehestädt & Robert, electric light fittings makers, 35, Brandenburgstr., Berlin, S. 42. (Teleph. No. 9245, Amt. IV.)

Ehinger & Hilpert, electric installations, Seerbachstr. 26, Frankfurt-a.-M.

Ehrenberg, J., engineer, Geb. Ehrenberg, Lucerne, Switzerland.

Ehrhardt, Myl., Röntgen tubes, batteries & lamps, Ackerstr. 132, Berlin, N. 31. (Tel. No. 2888, Amt. III.)

Ehrling, O., electric light engineer & contractor, 3, Schmiedestr., Leipzig-Plagwitz, Germany. (Telephone No. 8036.)

Ehrhardt & Sehmer, G. m. b. H., gas engine builders, Schleifmühle, post Saarbrücken, Germany.

Ehrich & Graetz, electric light fittings & lamps, 105 & 106, Alexandrinenstr., & 92 & 93, Elsenstr., Berlin, S.O. 36. (Teleph. Nos. 3461–3463, Amt. IV.)

Eichapfel, B., electric bells & medical apparatus, Palmstr. 26, Dresden, Germany. (Teleph. No. 3549.)

Eichberg, Dr. F., electrical engineer (Allgemeine Elektrizitäts-Ges.), Brunnenstr. 107, Berlin, N. 31.

Eichel, Eugen, consulting engineer, editor *Elektrische Kraftbetriebe und Bahnen*, Alte Jacobstr. 106, Berlin, S.W. 68. (Telegs.: "Ekabe." Teleph. I. No. 9404.)

Eichler, Ant., electrical & steam apparatus, IV. Favoritenstr. 20, Vienna. (Telephone No. 3484.)

Eiffe & Fehr, patent expanding bolts, screws, &c., Rödingsmarkt 70, Hamburg. (Telegs.: "Metaleiffe, Hamburg." Teleph. No. 3867, Amt. II.)

Einbeck, J., electrician, director der Accumulatoren Fabrik Akt. Ges., Roonstr. 5, Kiel.

Einbock Gesellschaft für Beleuchtungskörper, Tauentzienstr. 51, Breslau. (Teleph. No. 7840.)

Einhorn & Damcke, makers of insulators, Tilsiterstr. 70, Berlin. (Telephone Amt. VII. No. 2599.)

Einkaufsgenossenschaft Österr.-Ungar. Elektricitätswerke, IV. Johann Straussgasse 36, Vienna.

Einkaufsvereinigung für Elektrotechnische Bedarfsartikel, G. m. b. H., Scheffelstr. 1, Frankfort-on-Main.

Einstein, R., "Aron" electricity meters, via Felice Cavalotti 11, Milan, Italy.

Eisemann, Ernst., & Co., G. m. b. H., magnet-electro igniters, Rosenbergstr. 61 & 63, Stuttgart. (Telegs.: "Eisemann, Stuttgart." A.B.C. Code, 5th ed., & Lieber's.)

Eisenach, Franz, & Cie., platinum, Offenbach a. M., Germany. (Telegs.: "Eisenach, Offenbachmain." Teleph. No. 516.)

Eisenbahnbau-Gesellschaft Becker & Co. (G. m. b. H.), Potsdamerstr. 28, Berlin, W. (Teleph. No. 9228, Amt. VI.)

Eisenbahnsignal-Bauanstalt Max Jüdel & Co., A. G., manufacturers of electrical apparatus, Brunswick. (Telegs.: "Jüdel, Brunswick." Teleph. Nos. 32 & 606.)

Eisenburger Elektrizitätswerke A. G., Szombathely, Hungary.

Eisenführ, W., maker of electricians' tools, 31A, Kommandantenstr., Berlin, S. (Tel. No. 1740, Amt. IV.)

Eisengiesserei Rödinghausen Comm.-Ges., electrical apparatus manufacturers, Menden, bei Iserlohn, Westfalen, Germany. (Telegs.: "Eisengiesserei, Menden." Teleph. No. 9.)

Eisenstädter Gebr., insulating material manufacturers, 40, Wiedener Hauptstr., Vienna IV/1. (Telegs.: "Buzias, Vienna." Teleph. No. 2452.)

Eisenstuck, Paul, electrician, Bayerschestr. 80, Leipzig, Germany.

Eisenwerk (vorm. Nagel & Kaemp), A. G., electric crane & hoist makers, Hamburg-Uhlenhorst, Germany. (Telegs.: "Kampnagel, Hamburg." Teleph. Nos. 4039 & 4040, Amt. II.)

Eisenwerk-Aktiengesellschaft Bosshard & Co., iron poles & masts, & cases & towers for transformers, Näfels, Switzerland.

Eisenwerk Fraulautern A. G., reflectors of all kinds, Fraulautern a. Saar, Germany.

Eisenwerk-Gerlafingen, insulator supports, iron brackets, &c., Gerlafingen, Solothurn, Switzerland.

Eisig, Dr. M., director of the Städtische Strassenbahn, Chemnitz, Germany.

Eitel, Nikolaus, & Co., electrical engineers, VII. Burggasse 106, Vienna. (Teleph. No. 4570.)

Ekeberg, L. E., telephone director, Rikstelefonstation, Malmo, Sweden.

Ekman, A., & Co., electro-platers, 1–5, Frilager, Toldboden, Copenhagen K.

El Porvenir de Zamora, electric light & power, calle de S. Bernabé 1, Zamora, Spain.

Elala, L. d', mechanical electrician, 42, Cours de l'Intendance, Bordeaux, France.

Electra, L', Société Anon., electric light & power contractors, rue Frédéric Bastiat 12, Bayonne, France.

Electra Alicantina, La, Calderon de la Barca, Alicante, Spain.

"Electra" Apparatenbau Gesellschaft m. b. H., electric meter makers, 45, Elisabeth Promenade, Vienna IX.

Electra Asturiana, electricity company, Oviedo, Spain.

Electra Baselland, electrical central station, Liestal, nr. Basle, Switzerland.

Electra Birseck, electrical central station, Neue Welt, nr. Basle, Switzerland.
Electra Castellana, Vega L., Bustamante y Co., Gran Via 50, Bilbao, Spain.
"Electra" Compania General de Electricidad, Bilbao, Spain. (Telegs.: "Electra, Bilbao.")
Electra de Bolueta, Ripa 1, Bilbao, Spain.
Electra de Pamplona, electrical engineers, Pamplona, Spain.
"Electra del Guadalquivir" Sociedad Mercantil Anonima por Acciones, Andujar, Spain.
Electra Naamlooze Vennootschap, electric central station, Heerengracht 146, Amsterdam. (Teleph. No. 2179.)
Electra Popular Vallisoletana, Valladolid, Spain. (Telegs.: "Electra, Popular." Teleph. No. 196.)
Electra Société Anonyme Emile Closset, electricians & contractors, 26, rue St. Jean, Brussels.
Electric Co. (Elektr. aktb.), "Magnet," Ltd., Ö, Hamng. 17, Gothenburg, Sweden.
Electric Light Co. A. E. G. (Elektriska Aktiebolaget), St. Vattug 9, Stockholm, Sweden. (Telegrams: "Elektron, Stockholm.")
Electric Light Co., Ltd., for Fyen (Fyens Belysnings Kompagnie, Akts.), Odense, Denmark.
Electric Power Co., Ltd., Bakou, Russia. (Telegrams: "Elektrosila, Bakou." Telephone No. 895.)
"Electrica" Societate Română pe actiuni fost Lahmeyer, Str. Sărindar 22, Bucharest. (Telegrams: "Electrica, Bucharest." Telephone No. 764.)
Electrical Institute of the Royal Hungarian Technical "Joseph" University, Budafoki-ut. 8, Budapest I., Hungary (75–30).
Electrical Works (manager, H. Flygt), Boden, Sweden.
ELECTRICIEN, L'; REVUE INTERNATIONALE DE L'ELECTRICITE ET DE SES APPLICATIONS (weekly—ann. sub., 25 frs.), director, J. A. Montpellier, 130, rue Lecourbe, Paris, published by Dunod et Pinat, libraires éditeurs, 49, quai des Grands-Augustins, Paris. (Teleph. No. 819–38.)
Electricista Segoviana, La, fabrica de Luz Electrica, Segovia, Spain.
Electricista Toledana, La, Fabrica de Luz Electrica, Toledo, Spain. Chief engineer, N. Labandera.
Electricitäts Actiengesellschaft Kapellenmühle Schlettstadt i/E, Germany.
Electricitäts Gesellschaft, Baden, Switzerland. (C. Pfister, manager.)
Electricitäts-Gesellschaft Gelnhausen, Ltd., incandescent lamps, Gelnhausen, Germany. (Telegrams: "Filament, Gelnhausen.")
Electricitäts-Gesellschaft Hochstrate und Böttcher Nachf. G. m. b. h., Witten, Germany. (Telegs.: "Adv., Lichtkrauz." Teleph. No. 321.)
Electricitätsgesellschaft Sanitas, Röntgen apparatus, Friedrichstr. 131D, Berlin, N. 24. (Teleph. Amt. III. No. 3494.)
Electricitäts Haus, Ing. H. Zühl, 35, Potsdamerstr. 26b, Berlin, W. 35. (Telegs.: "Technical, Berlin." Teleph. No. 9924, Amt. 6.)
Electricitätswerk der Gemeinde, Bözingen bei Biel, Switzerland.
Electricitätswerk Eisenach, A.-G., electric light & power contractors, Eisenach, Germany.
Electricitätswerk Hagneck, Chemical Works, Nidau bei Biel, Switzerland.
Electricitätswerk der Stadt Schaffhausen, Switzerland. H. Geiser, director.
Electricitätswerk of the town Solothurn, Switzerland. (Telegrams: "Electricitatswerk, Solothurn.")
Électricité de Stavelot (Société Anonyme), Stavelot, Belgium.
Électricité et Électro-Mécanique (formerly Ch. Arendt), electric drilling machines, 34, rue Bosquet, Brussels, Belgium. (Telegs.: "Electromécanie, Brussels." Teleph. No. 3969.)
Électricité Industrielle, A. Lecorsais, dynamo & motor maker, Luxembourg. (Telegrams: "Lecorsais, Luxembourg." Telephone No. 424.)
Électricité Industrielle Ancienne Maison Milde, manufacturing electrical engineers, 13, place de l'Hôtel de Ville, Hâvre. (Telephone No. 552.)
Electricité, L', Moderne, electric heating & cooking. Offices: 9, rue Montesquieu. Paris. Works: 12. rue Rochambeau. (Teleph. No. 214–74.)
Electricité Neuchateloise S. A., distribution of electricity, Switzerland. Director, A. Bellenot.
Electriciteits Maatschappij "Maarssen," accumulator, dynamo & motor manufacturers, Maarssen, nr. Utrecht. C. E. Wolff, manager.
Electricitets Kompagni (det danske), electrical engineers & contractors, Gothersgade 30, Copenhagen K., Denmark.
Electricitetswerk Gjemsö Kloster, Skien, Norway. (Telegrams: "Klosteret, Skien.")
Electricity Supply Co. for Spain, Ltd., calle Espoz y Mina 6, Madrid.
Electrische Drahtseilbahn, Biel-Leubringen, Switzerland.
Electrische Glühlampen-Fabrik, Zofingen, Switzerland.
Electrische Glühlampen-Fabrik "Watt," Scharf, Löti & Latzko, incandescent lamp manufacturers, 95, Grinzingerstr., Nussdorf (Teleph. No. 14298); & I. Schottenring 17, Vienna. (Telegs.: "Watt, Wien." Telephone No. 15931.)
Electrischer Ferndrucker, G. m. b. H., Zimmerstr. 28, Berlin, S.W. (Teleph. No. 8425, Amt. I.)
Electrizitäts-Actiengesellschaft Hydrawerk, Windscheidstr. 23, Charlottenburg 5. (Teleph. No. 6507, Amt. Ch.)

Electrizitäts-Lieferungsgesellschaft (Electrical Supply Co.), Friedrich Karl-Ufer 2–4, Berlin, N.W. 40.
Electrizitätswerk an der Sibl, electric works, Wädensweil, Zurich, Switzerland. (Telegs.: "Sihlwerk.")
Electrizitätswerk Ilmenau, electric light & power contractors, Thuringia, Germany.
Electro: International Review of Electricity (ann. sub., 10 frs.; P.U., 12 frs.), 14, rue du Méridien, Brussels.
Electro-Cervera, electric meters, 66, rue Turbigo, Paris. (Teleph. No. 291–57.)
Electrochemische Zeitschrift (monthly; ann. sub., 16 marks), 11, Kurfurstenstr., Berlin, W. 57. M. Krayn, publisher.
Electrochimie, L' (monthly, price 1s.), rue de Berne 37, Paris.
Electrogène, L', electrical installations, 4, rue de Clichy, Paris.
Électro-Industrielle, L' (Soc. Anon.), electrical engineers, 40, rue du Chemin Vert, Paris.
Electrolyse Française, Soc. Anon. L', 4, rue de Ecluses, St. Martin, Paris.
Electro-Matériel, L', accessories, insulators, mica, 7, rue Dupuis, Paris. (Telegs.: "Phalectro, Paris." Teleph. No. 300–82.)
Electrométrie Usuelle, measuring apparatus, 81, boul. Voltaire, Paris. (Teleph. No. 922–53.)
Electromotion, Société Française des Voitures Électriques, 7 bis, rue Deguingand, Levallois-Perret (Seine), France. (Telephone No. 517–52.) Offices: 54, ave. Montaigne, Paris.
Electromotoren Werk, "Glück Auf," Dortmund. (Telegs.: "Ega, Dortmund." Teleph. No. 7951.)
Electron (3 times a month), Espiritu Santo 35 triplicado, Madrid. Publisher, Lorenzo Camarero.
"Electron," Electrical Co., Nijni-Novgorod, Russia.
Electrophile, L', electric installations, 66, ave. de la Republique, Paris. (Teleph. No. 936–72.)
"Electrosvet" Society, Fontanka 52, St. Petersburg, Russia. (Teleph. 3025.)
Electrotechnic Society (Elektroteknisk Forening). Chairman, H. P. Prior, Copenhagen F.
Electrotechnisch-Bureau der Industriëele Maatschappij, Keizersgracht 127, Amsterdam, Holland. (Teleph. No. 1357.)
Electrotechnische Fabrik, Carl Fuchs, Lindenstr. 3, Berlin, S.W.
Electrotechnische Industrie (formerly Willem Smit & Co.), manufacturing electrical engineers, Slikkerveer, Holland. (Telegrams: "Electro, Slikkerveer." Telephone No. 2786.)
Electrotechnische Mechanische Industrie, electric fans & small motors, Utrecht, Holland. (Telegs.: "Emi, Utrecht." Teleph. No. 432.)
Electrotechnisches Institut der Technischen Hochschule, Danzig, Germany. (Teleph. Nos. 717 & 793.)
Electrotechnische u. Polytechnische Rundschau (weekly, 12 marks per ann. in Germany; other countries, 22 marks), 3, Hohenzollernstr., Potsdam, Germany. (Teleph. No. 255.)
Electrotechnisches Echo (Dr. M. Krieg), Magdeburg, S.
"Elektra" Accumulatoren-Ladestation, Erich Markert, Rossstr. 7, Berlin, C. (Teleph. No. 3937, Amt. I.)
"Elektra" Aktien-Gesellschaft, Lüttichaustr. 21i, Dresden. (Teleph. No. 79.)
"Elektra" F. Schindler, Bregenz, Vorarlberg, electric heating & cooking apparatus makers, Bregenz, Vorarlberg, Austria.
"Elektra" Fabriken Elektrischer Heiz-u-Koch-Apparate, manufacturers of electrical heating & cooking apparatus, Waedensweil, bei Zurich, Switzerland.
"Elektra" Vertrieb elektrischer Uhren (Patent Möller), Jacob Neuweck, Ritterstr. 87, Berlin, S. (Teleph. No. 2152, Amt. IV.)
Elektria, R. Sauermann, electric light engineers, Wilhelmstr. 124, Berlin, S.W.
Elektricitaets Aktiebolaget (f. d. Paul Wahl & Co.), electrical engineers, Wiborg, Russia. (Telegrams: "Elektra, Wiborg.")
Elektricitäts Actien Gesellschaft, vorm. Herm. Pöge, Ingenieur-Bureau, Dresden, Waisenhausstr. 27, Dresden (Telephone No. 2256); & Chemnitz, Saxony.
Elektricitäts Actien Gesellschaft, vorm. Kolben & Co., electrical engineers & manufacturers of dynamos & motors, Prague-Vysočan, Bohemia, Austria (Telegs.: "Kolben, Prague." Teleph. Nos. 2041 & 3772); & Marxergasse 28c, Vienna III./2. (Teleph. No. 29.)
Elektricitäts-Gesellschaft Richter, Dr. Weil & Co., electric signs & electrical apparatus, Heiligkreuzgasse 26, Frankfort-on-the-Main. (Telegrams: "Richterweil, Frankfurtmain." Teleph. No. 532.)
Elektricitäts-Gesellschaft Sirius, G. m. b. H., makers of dynamos, motors, &c., Leipzig, Germany.
Elektricitäts-Gesellschaft Zschockelt, m. b. H., electrical apparatus makers, Dresden, 18 A. (Teleph. No. 1868.)
Elektricitätsgesellschaft "Sanitas," electro-medical apparatus manufacturers, 131D, Friedrichstr., Berlin, N. (Teleph. No. 3494, Amt. III.)
Elektricitäts und Maschinen Industrie Ing. R. Valentin, I. Gr. Feldstr. 31, Breslau, Germany. (Telephone No. 7495.)
Elektricitätswerk, Frain, Mähren, Austria.
Elektricitätswerk, Horn, Austria.
Elektricitätswerk Sempach-Neuenkirch (Schmid & Cie.), Sempach, Switzerland.
Elektricitätswerk Südwest Aktiengesellschaft, Motzstr. 48, Wilmersdorf-Berlin. (Teleph. No. 1394.)
Elektricitätswerke der Stadt St. Gallen, St. Gallen, Switzerland.

Elektricitetsva Elfkulla elektr. aktb., Mjölby, Sweden.

Elektricitetswerk (managing engineer, Sverre Lund), Fredrikshald, Norway.

Elektrické Podniky Král. hlav. města Prahy, electric tramway contractors, Prague, Bohemia.

Elektrische Blockstationen Ges. m. b. H., Bernburgerstr. 15/16, Berlin, S.W. (Tel. No. 4995, Amt. VI.)

Elektrische Blockstationen-Gesellschaft m. b. H., Metzer Str. 2, Cologne.

Elektrische Bogenlampen & Apparate Fabrik G. m. b. H., arc lamp makers, Nürnberg, Germany. (Telegs.: "Norulampe, Nürnberg.")

Elektrische Glühlampenfabrik Aarau A.-G., Aarau, Switzerland.

Elektrische Kleinbahn im Mansfelder Bergrevier Aktiengesellschaft, Linkstr. 19, Berlin, W. 9.

Elektrische Kohlenfabrik Gesellschaft m. b. H., Baden, nr. Vienna.

Elektrische Kraftbetriebe und Bahnen (36 times a year; ann. sub., M. 16; abroad, M. 19.60). Editor, Ing. Eugen Eichel, Alt Jakobstr. 106, Berlin. (Telegs.: "Ekabe, Berlin." Teleph. I. No. 9404); publisher, R. Oldenbourg, 8, Glückstr., Munich, Germany. (Teleph. No. 850.)

Elektrische Licht & Kraft Anlagen, Akt. Ges., Kanonierstr. 17–20, Berlin. (Teleph. No. 5476, Amt. I.)

Elektrische Normal Uhr. G. m. b. H., Landeshuterstr. 35, Berlin, W. 30. (Teleph. Nos. 6926 & 6937. Amt. VI.)

Elektrische Normal Uhr. G. m. b. H., Mainzer Landstr. 193, Frankfort-on-Main. (Teleph. No. 6256.)

Elektrische und Maschinelle Betriebe (semi-monthly; ann. sub., 8s.), Hospitalstr. 15, Leipzig; Vienna VI./1; & Berlin, W. 35. A. Pluemecke, editor.

Elektrische Schwebebahn Barmen-Elberfeld-Vohwinkel, Elberfeld, Germany.

Elektrische Strassenbahn Altstätten-Berneck & Elektrizitatswerk, Altstätten, Switzerland.

Elektrische Strassenbahn Barmen-Elberfeld, Elberfeld, Germany. (Teleph. No. 343.) J. Lehrmann, engineer. (Teleph. No. 1753.)

Elektrische Strassenbahn Valparaiso Aktiengesellschaft, Kanonierstr. 29/30, Berlin, W. (Telegs.: "Alemantras, Berlin.")

Elektrisches Vier-Zellen-System G. m. b. H., electrical apparatus makers, Schellingstr. 9, Berlin, W. 9.

Elektrisk Bureau, electrical engineers & agents, 28, Kjobmagergade, Copenhagen. (Telegrams: "Elektrisk Bureau, Copenhagen." Teleph. No. 4523.)

Elektrisk Bureau (Luth & Rosén), 1, Rosenlundsg., Stockholm. (Telegrams: "Luth, Stockholm.")

Elektrisk Kompagni, electrical engineers, 1, Rosenkr-gade, Christiania.

Elektriska Aktiebolaget A. E. G., Karduansmakaregatan 9, Stockholm; Gefle; Norrköping; Orebro; Gothenburg; Malmö; Copenhagen; Helsingfors; Christiania; Bergen; Stavanger; Trondhjem.

Elektriska Prőfningsanstalten (Holmgren & Rossander), electrical consultation office, Regeringsgatan 38, Stockholm. (Telegs.: "Elektroprof, Stockholm." Teleph. Nos.: 3505, 3562, Riks.; & 896, Allm.)

Elektritschestvo: Journal Russe (monthly; sub., P.U., 12 roubles, or 30 frs.). Edition de la Sté. Imperiale Technique de Russie, Roshdestv. 4, St. Petersburg, Russia.

Elektrizität, A. G., electrical engineers & contractors, 5, Birsigstr., Basle.

Elektrizität, Die, Münzstr. 16, Berlin, C. (Every Friday; ann. sub., 6 marks.) Editor, P. Huckewitz. (Teleph. Amt. VII. No. 6582.)

Elektrizitäts A. G. Hydrawerk, Hydra elements, Windscheidstr. 23, Berlin-Charlottenburg, Germany. (Teleph. No. 6507.)

Elektrizitäts Actien Gesellschaft vorm. Kolben & Co., 28c, Marxergasse, Vienna III. (Telegs.: "Elektrokolben, Vienna." Teleph. No. 29.)

Elektrizitats-Act.-Gesellschaft, vorm. W. Lahmeyer & Co., Höchsterstr. 45, Frankfort-on-Main. (Teleph. No. 13201/06.)

Elektrizitäts Aktiengesellschaft vorm. C. Buchner, Wiesbaden, Germany. (Telegs.: "Elektrobuchner, Wiesbaden." Teleph. No. 30.)

Elektrizitäts Aktiengesellschaft, vormals Hermann Pöge, dynamo makers, &c., Chemnitz, Saxony.

Elektrizitäts-Aktiengesellschaft, vormals Schuckert & Co., Nürnberg.

Elektrizitäts Anlagen Gesellschaft m. b. H., Neustädter Markt 17, Chemnitz; Osterweihstr. 14, Zwickau, Saxony (Teleph. No. 300); Windmühlenstr. 4, Plauen i. V.; Blücherstr. 11, Leipzig; & Bürgerstr. 686, Tetschen a. d. Elbe.

Elektrizitäts Gesellschaft Alioth, electrical engineers, machine builders & contractors, Munchenstein, Basle, Switzerland; & Lyons, France. (Telegs.: "Alioth, Munchenstein.")

Elektrizitats. Bogenhard & Co., light, power & telegraph contrs., Eichengasse 1, Erfurt, Germany.

Elektrizitäts-Gesellschaft Haas & Stahl, manufacturers of apparatus for bleaching by electrolysis, Aue-i.-S., Erzgeb., Germany. (Telegs.: "Haas Stahl, Aueerzgeb." Teleph. No. 51, Amt. Aue.)

Elektrizitätsgesellschaft Hansa m. b. H., electrical installations, Obernstr. 25, Bremen. (Telegs.: "Motorhansa, Bremen." Teleph. No. 497.)

Elektrizitätsgesellschaft m. b. H., Hammel & Radloff, Kaiserstr. 11, Frankfort-a-Main.

Elektrizitätsgesellschaft Schönenwerd, Schönenwerd, Switzerland.

Elektrizitäts Ges. "Sirius," Monumentenstr. 28, Berlin, S.W. 47. (Teleph. No. 7604, Amt. VI.)

Elektrizitäts-Sicherungsgesellschaft m. b. H., makers of electrical accessories, Friedrichstr. 129, Berlin, N. 24.

Elektrizitäts- und Accumulatorenwerke Göritz & Co, makers of accumulators & electrical accessories, Romintenerstr. 24/5, Berlin, O. 34.

Elektrizitätswerk der k. k. Staatsbahnen, Stanislau, Galicia.

Elektrizitätswerk Kubel, St. Gallen, Switzerland.

Elektrizitätswerk Lehmann, battery makers, 2, Uferstr., Guben, Germany.

Elektrizitätswerk Luisenstadt, G. m. b. H., lighting & power transmission plants, Mariannenstr. 31, Berlin, S.O. 26.

Elektrizitätswerk Marktbreit, electricians, Markbreit-a.-M., Germany.

Elektrizitätswerk Schwandorf, G. m. b. H., Schwandorf, Germany.

Elektrizitätswerk und Strassenbahn Gotha, A.-G., Gotha, Germany. (Teleph. No. 90.)

Elektrizitätswerk Wannsee A. G., lighting & power transmission plants, Friedrich Karl-Ufer 2–4, Berlin, N.W. 40.

Elektrizitätswerk Zufikon-Bremgarten, Bremgarten, Switzerland. E. Freund, engineer.

Elektrizitätswerke Abo Aktiengesellschaft, Friedrich Karl-Ufer 2–4, Berlin, N.W. 40.

Elektrizitätswerke Bernstein N.M., Ltd., An der Spandauerbrücke 1, Berlin, C. 2.

Elektr. belysningsanläggning, electric light, H. Karlsson, Örebro, Sweden.

Elektr. Kraftöverförings-o-belysningsanläggn, Motala, Sweden.

Elektrochemische Industrie Dr. Riep & Friedländer G. m. b. H., electrochemical factory, Reichenbergerstr. 3–4, Berlin, S.O. 26.

Elektrochemische Technik (monthly; ann. sub., 14*s*.). Prof. Dr. Franz Peters, Gross Lichterfelde, nr. Berlin, W., editor & publisher.

Elektro-Chemische Fabrik Natrium G. m. b. H., Weissfrauenstr. 7/9, Frankfort-on-Main.

Elektrodon Gesellschaft m. b. H., Mullerstr. 30, Berlin, N.

Elektrolampen-Fabrik G. m. b. H., makers of electric lamps, Friedrichstr. 12, Berlin, S.W. 48.

Elektro-Metallurgie, G. m. b. H., Hollmannstr. 32, Berlin, S.W. (Teleph. No. 568, Amt. IV.)

Elektrom. Techn. Bureau, Juh. Julius Kleinert, exporter of electrical plant, Hettnerstr. 5, Dresden A. (Teleph. No. 4929.)

Elektromagnetische Gesellschaft m. b. H., Zeil 56–64, Frankfort-a.-M.

Elektromechanische Werke, Gustav Rendel, electrical engineer, Sternstr. 27, Frankfort-on-Main.

Elektromobil-Ges. m. b. H., Mittelstr. 25, Berlin, N.W.

Elektromontana G. m. b. H., electrical power transmission plants, Schiffbauerdamm 21, Berlin, N.W. 6.

Elektromotor G. m. b. H., electrical engineers, 21, Schiffbauerdamm, Berlin, N.W. 6. (Teleph. Nos. 9040–44, Amt. III.)

Elektromotoren- und Dynamowerke Werner & Menchen, electromotor & dynamo manufacturers, Residenzstr. 133A, Reinickendorf-Berlin.

Elektromotorenwerke Heidenau, G. m. b. H., dynamos, motors, starters, &c, Heidenau, Bez Dresden. (Telegs.: "Elektromotor, Heidenau-Dresden." Teleph. Amt. Mügeln, Dresden, No. 761.)

Elektromotoren Werke Hermann Gradenwitz, Kürfürstenstr. 146 & 147, Berlin, W. 35. (Teleph. No. 9093, Amt. VI.)

Elektromotorfabriken (R. de Wendel), Drottinngg. 24, Gothenburg, Sweden. (Telegs.: "Freyr, Gothenburg.")

Elektron (semi-monthly; ann. sub., 25*s*.), Waterloo-Ufer 15, Berlin, S.W. 61. (Tel. Amt. IV. No. 1480.)

Elektron Lighting Co., Ltd., Kyrkogatan 38, Gothenberg, Sweden. (J. G. Calvert, managing director.)

Elektrotechnik (*Electrician*) (semi-monthly; subscription, P.U., 7 roubles, or 18 frs.). Editor & publisher, N. Wolkoff, Catherinehoff Perspective 63, St. Petersburg, Russia.

Elektrotechnik und Maschinenbau Zeitschrift des Elektrotechnischen Vereines in Wien (weekly; ann. sub., 22 kr. post free; abroad, 30 frs.), Nibelungengasse 7, Vienna I.

Elektrotecknika, official journal of the Hungarian Electrical Society. Editor, H. Stark, Budapest.

Elektrotechniker, Der (semi-monthly), Servitengasse 20, Vienna, IX/1. (Ann. sub., 12M. = 12*s*.) (Teleph. No. 16067.)

Elektrotechnische Anstalt vorm. P. Ludwig, makers of all kinds of electrical apparatus, Acherstr. 13A, Bonn-a.-Rhein, Germany. (Telephone No. 221.)

Elektrotechnische Fabrik Westfalen G. m. b. H., safety fuses, Kierspe i. W., Germany.

Elektrotechnische Fabrik Nürnberg (Gottlieb Heckel), 13, Jacobstr., Nürnberg, Germany.

Elektrotechnische Fabrik Offenbach, makers of electrical apparatus, Taunusstr. 56, Offenbach-am-Main. (Telegs.: "Contact, Offenbachmain." Teleph. No. 188.)

Elektrotechnische Fabrik Schmidt & Co., battery manufacturers, 88, Chausseestr., Berlin, N. 39. (Telegs.: "Daimon, Berlin." Teleph. Nos. 1045 & 1046, Amt. II.)

Elektrotechnische Gesellschaft (director, Max Vogelsang), 5, Götheplatz, Frankfort-on-the-Main, Ger.

Elektrotechnische Gesellschaft zu Leipzig, Leipzig.

Elektrotechnische Lehr- und Untersuchungs-Anstalt des Physikalischen Vereins zu Frankfurt-am-Main. (Teleph. Nos. 701 & 13701.) Dipl. Ing. K. Hoerner, director.

Elektrotechnische Messinstrumente und Apparatebau G. m. b. H., 13A, Ackerstr., Bonn, Germany. (Telegs.: "Emag, Bonn.")

Elektrotechnische Versuchsstation (Dr. Krieg), Westendstr. 21 & 22, Magdeburg, Germany.

Elektrotechnische Werke Darmstadt, G. m. b. H., electrical engineers & dynamo, motor & ventilator makers, Pfründnerzausstr. 3, Darmstadt, Germany. (Teleph. No. 414.)

Elektrotechnische Zeitschrift (E. C. Zehme & Dr. F. Meissner, editors), 3, Monbijouplatz, Berlin, N. 24. (Teleph. Amt. III. No. 9151.)

Elektrotechnischer Anzeiger (bi-weekly), F. A. Günther & Son, Act. Ges., editors, 10, Schönebergerstr., Berlin, S.W.

Elektrotechnischer Ratgeber (twice a month; ann. sub., 2 marks), Schönhauser Allee 163A, Berlin.

Elektrotechnischer Verein, Leipzig. Vereinslokal: Hôtel Müller.

Elektrotechnischer Verein (weekly, price 70 heller), Nibelungengasse 7, Vienna I. (Teleph. No. 2403.)

Elektrotechnischer Verein in Wien (Ing. F. Neüriter, director; Ing. J. Seidener, secretary), 7, Nibelungengasse, Vienna, I. (Teleph. No. 2403.)

Elektrotechnisches Installationsgeschäft A. G. Boehnke, electrical engineer, Alte Schönhauserstr. 2, Berlin, C. 54. (Teleph. No. 5708, Amt. III.)

Elektrotechnisches Institut der Grossh. Hess. technisch. Hochschule, Darmstadt. (Teleph. No. 328.)

Elektrotechnisches Institut der k. k. Tech. Hochschule, IV. Gusshausstr. 25, Vienna. (Teleph. No. 1710.)

Elektrotechnisches Institut der Technischen Hochschule, Helmholtz-str. 9, Dresden, Germany. (Director, Prof. H. Görges.) (Telephone No. 1761.)

Elektroteknisk Tidsskrift (3 times a month), Christiania, Norway.

Elektrotermische Werke G. m. b. H., Frankfurterstr. 36, Frankfort-on-Main.

Elettricista, L' (fortnightly, illustrated), edited by Prof. Dr. A. Banti, 222–226, via Cavour, Rome. (Ann. sub., 13*s.*) (Telegs.: "Elettricista, Rome." Teleph. No. 28–47.)

Elettricità, Revista Tecnica d', (weekly; P.U., 25 frs. per ann., in Italy, 15 Lire), corso Magenta 31, Milan. Founded 1882.

Elflein, E., manufacturer of telegraph apparatus, 1, Gneisenauplatz, Breslau, Germany. (Telegs.: "Elflein, Breslau." Teleph. No. 2262.)

Elger, Wm., electrical engineer, 133, Leystr., Vienna XX/2.

Eliot, L., electric light apparatus maker, 11, passage Charles Dallery, Paris. (Telegrams: "Eliot, Chardallery, Paris." Telephone No. 901–43.)

Ellinger & Geissler, manufacturers of electrical requisites, Dorfhain 24, Germany.

Ellis, A. G., A.AM.I.E.E., elec. engr., Elektrizitäts Gesellschaft Alioth Munchenstein, Basle, Switzerland.

Elmer, J. W., city electrician, Electricity Works, Geneva, Switzerland.

Elsässische Elektricitäts Werke, vorm. Otto Schulze, electrical engineers & contractors, Strassburg, Germany. (Telegs.: "Elektricität-Schulze, Strassburg." Teleph. No. 196.)

Elster, Prof. Dr. J., electrician, teacher of physics, Gymnasia, Wolfenbüttel, Germany.

Elÿ, Otto, director of the Städt. Elektricitätswerk, Nürnberg, Bavaria. (Teleph. No. 1303.)

"Emag" Elektr. Messinstrumente und Apparatebau, G. m. b. H., Bonn-on-Rhine, Germany.

Emmericher Maschinenfabrik & Eisengiesserei, Emmerich, Germany.

Empresa Alcoya de Gaz y de Electricidad, Alcoy (Alicante), Spain. (Telegs.: "Albors Raduán, Alcoy.")

Empresa de Electricidad de Casillas, Cordoba, Spain.

Empresa de Tranvias Electricos, Ensanche 1, Seville, Spain.

Ende & Devos, electrical engineers, 74, Gitschinerstr., Berlin, S. (Teleph. No. 7265, Amt. IV.)

Energia Electrica, La, Plaza Izabel II. 5, Madrid.

Energia Elettrica, L' (monthly; ann. sub., L. 7), 11, via Cernaia, Milan. G. Mantica, director.

Energie Électrique, L' (Soc. Anon.), electrical engineers, 4, rue de Traktir, Paris.

Energie Electro-Mécanique, L', transformers Berry, 2, rue Delaunay, Suresnes (Seine), France.

Energy (monthly; ann. sub., 8*s.* = $2), Reudnitzerstr. 1–7, Leipzig, Germany.

ENGEL, CARL. Proprietor: Dr. Paul Holitscher, civil engineer, Nagy Janosutca 3, Budapest VI. (Telegs.: "Noris, Budapest." Teleph. No. 12–36.) Sale of all kinds of electrical goods. Sole agents for Hungary of C. Conradty, Nurenberg; Voigt & Haeffner, Frankfort-on-Main; Hartmann & Braun & the European Weston Electrical Instrument Co., U.S.A., &c.

Engel, G., telegraph contractor & lighting conductor, Weissenfelserstr. 3, Merseburg, Germany.

Engelfred, R., consulting electrical engineer & official patent agent, rue Nollet 74, Paris.

Engelhardt, Victor, chief engineer, Siemens & Halske A. G., Berlin, 11, Schloss-str., Charlottenburg.

Engl, M., storage batteries, Elisabethstr. 13, Vienna I. (Telephone No. 1227.)

Engländer, Richard, engineer & professor, VI. Kopernikusgasse, 7, Vienna. (Teleph. No. 544.)

Englebert, O., Fils & Cie., hard & soft rubber manufacturers, ebonite, insulating tape, rue de Vennes 29–37, Liége. (Telegs.: "Caoutchouc, Liége." Teleph. Nos. 927 & 1081.)

Enke, Ferd., technical publisher, Stuttgart, Germany.

Enström, A. F., consulting electrical engineer, Regeringsgatan 38, Stockholm, Sweden. (Telegs.: "Elektroprof, Stockholm." Teleph. Nos. 3505, 3562, Riks, & 896, Allm.)

Entreprise Electro-Mecanique, electric installations, 19, rue de Milan, Paris.

Entreprise Thusy-Hauterive, electric light & power contractors, Fribourg, Switzerland.

Eon fils, electric thermometers, 13, rue des Boulangers, Paris.

Eötvös, Lorand. dr. br., professor of physics & electricity at the Hungarian University of Sciences, president of the Royal Academy of Science, 3, Eszterházy-utcza VIII., Budapest, Hungary.

Epstein, Prof. Dr. J., M.I.E.E., electrical engineer, Felten & Guilleaume-Lahmeyer-Werke, Frankfurt-a.-M.
Erens, M. F. H. J. H., electrical engineer, director Municipal Electric Works, Arnhem, Holland.
Erfurth, C., manufacturing electrician, 7, Neuenburgerstr., Berlin, S.W. (Telegs.: "Hakabe, Berlin." Teleph. IV. No. 1826.)
Erhard, Th., director Städt Elektricitätswerkes, 37, Sophienstr., Stuttgart, Germany.
Ericson, E. C., electrical engineer, government inspector of electric plants, Kommers Kollegium, Stockholm, Sweden.
Ericson, R., engineer & electrical agent, Miasnitskaja 20, Moscow, Russia (Telegs.: "Turbo, Moscow." Teleph. No. 1322); & 92, Nevsky, St. Petersburg. (Telegs.: "Turbo, St. Petersburg." Teleph. No. 2151.)
Ericsson, L. M., & Co., telephone & telegraph apparatus makers, Tulegatan 5, Stockholm, Sweden (Telegs.: "Mikrofon, Stockholm"); & Gr. Sampsonewsky Prosp. No. 70, St. Petersburg, Russia.
Erk & Co., electrical goods, Pallas Str. 3, Berlin, W. 57. (Teleph. VI. No. 8576.)
Erlacher, Geo. J., electrical engineer, 67 bis, rue des Canipeaux, Courbevoie (Seine), France.
Erlwein, Dr., chief of electro-chem. dept. of Siemens & Halske, A. G., Fasanenstr. 70, Charlottenburg, Berlin.
Erste Glatzer Elektrotechnische Anstalt "Elektra," Inh. F. Herrmann, electrical engineers, Glatz, Germany. (Telegrams: "Herrmann Elektra, Glatz." Telephone No. 137.)
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Escher, Wyss & Co., engineers, Zurich, Switzerland (Telegs.: "Neumuehle, Zurich." Teleph. No. 3920); & Ravensburg, Germany.
Eschger, Ghesquiére et Cie., zinc rod & battery plate manufacturers, 28, rue St. Paul, Paris.
Eschwege, Paul, chief engineer, Société d'éclairage et de force par l'électricité, 26, rue Laffitte, Paris.
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Escrinier, J. J., electric bell fittings, rue Wynants 7, Brussels.
Eskens, A., electrician, 1, rue Denrées, Brussels.
Eskilstuna, Electric Light Co., Ltd. (Elektricitetsverk), manager, Carl Söllscher, Eskilstuna, Sweden.
Esnault, —, electric bells, 20, rue des Ursulines, Le Mans (Sarthe), France.
Esnouf & Cie., dynamo brushes, rue d'Havre 39, Mons, Belgium. (Telegs.: "Esnouf, Mons." Tel. 53.)
España, Marcel, electrical contractor, 37, rue des Remparts, Bordeaux (Gironde), France.
Espié, A., artistic bronze fittings, 72, rue de Turenne, Paris.
Espinal y Calderón, engineers, electrical apparatus, 14, Serrano, Madrid.
Espir, L., director of the "General Electric de France, Ltd.," 10 & 12, rue Rodier, Paris.
Espla Visconti, Trino, director of the "Alumbrado Electrico," & manager of "Espla y Muñoz," electric fitters & mechanics, Alicante, Spain. (Telegs.: "Espla-Alicante." Teleph. No. 227.)
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Esterle, Carlo, electrical engineer & manager of the Società Edison d'Elettricità, Milan, Italy.
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Estrade, J., manager Sté. Meridionale d'Electricité et de Transport de Force, Carcassone (Aude), France.
Etablissement Céramique de Montreuil-sous-Bois, porcelain fittings for electrical purposes, 64, rue François-Arago, Montreuil-sous-Bois (Seine), France.
Etablissement d'Electricité de Aug. Hüffer, Lodz, Russia.
Etablissements Ader (Soc. Anon.), electrical engineers, 98, rue de Cormeilles, Levallois (Seine), Paris.
Établissements Français Aubert-Grenier (Soc. Anc.), wire & cable manufacturers, 3, rue du Havre, Paris. (Telegs.: "Firmindus, Paris." Teleph. No. 304-38.) Works: Dijon & La Ferrière-sous-Jugne, France.
Etablissements Gallois, arc lamp makers, 104, rue de Maubeuge, Paris.
Établissements Hutchinson Compagnie Nationale du Caoutchouc Souple, indiarubber & gutta-percha manufacturers, 60, rue St. Lazare, Paris. (Telegs.: "Hutchinson, Paris." Teleph. No. 129-50.)
Établissements L. Kessler, apparatus for concentration of sulphuric acid for accumulators, Clermont-Ferrand, France. (Telegrams: "Kessler, Clermont Ferrand." Telephone No. 1-62.)
Établissements L. Liotard, electric light apparatus makers, 22, rue de Lorraine, Paris. (Teleph. 414-61.)
Etablissements Metallurgiques de Rai-Tillières (Anciens Etablissements Mouchel) Cie. Gle. d'Électricité, copper wire manufacturers, 5 rue Boudreau, Paris. (Teleph. No. 214-69.)
Établissements Poulenc Frères, chemicals & accessories for electrical purposes, 92, rue Vieille-du-Temple, Paris. (Telephone No. 251-72.)

Etienne, —, electrical installations, 7, rue Michel Charles, Paris.
Etoile Magnétique, L', makers of electric meters, 45, rue Jacob, Paris.
Ette, Hugo, electric apparatus, 4, Austr., Oberursel, nr. Frankfort-on-Main.
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Even, Victor, electrician, 6, rue Jonfosse, Liége, Belgium.
Evesque, —, manufacturer of electric light & telephonic apparatus, 37, rue Beaunier, Paris. (Telephone No. 805-35.)
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"Excelsiorwerk" Fabrik für Feinmechanik, m. b. H., scientific instrument makers, Köln-Nippes, Germany. (Telegs.: "Excelsiorwerk, Köln." Teleph. No. 418.)
Expert, Besançon & Cie., accumulators, 187, rue du Château des Rentiers, Paris.
Eytner, Prof. T. J., electrical engineer & representative, 2, rue Kempna, Warsaw. (Teleph. No. 137.80.)

Fabbrica Italiana di Occhialeria U. Cargnel & Co., optical instrument manufacturers, Pieve di Cadore (Prov. di Belluno), Italy. (Telegs.: "Occhialeria, Pieve Cadore, Italy.")
Fabbrica Nazionale Accumulatori Brevetto Tudor (Ing. G. Dossmann), via U. Bassi 26, Genoa, Italy. (Telegs.: "Accumulatore, Genoa." Teleph. No. 918.)
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Fabrica de Electricidad de Cabra, Cordoba, Spain.
Fabrica de Electricidad de Cartagena, Spain.
Fabrica de Electricidad de Cazorla, Cazorla (Jaen), Spain. Engineer, Juan Martinez.
Fabrica de Electricidad de Jaen, Spain.
Fabrica de Electricidad de la Cia. de Tranvias de Madrid, S. Bernardo 105, Madrid.
Fabrica de Electricidad de Lebon, Camino viejo del Grao, Valencia, Spain.
Fabrica de Electricidad, Montilla, Cordoba, Spain. Chief engineer, John W. Chisholm.
Fabrica de Fluido Electrico "La Concepcion," San Francisco, Linares, Spain. (Telegs.: "Alvarez, Electricidad, San Francisco, Linares." Teleph. No. 30.)
Fabrica de Luz Electrica de Albacete, Spain.
Fabrica de Luz Electrica de Baena, Provincia de Cordoba, Spain.
Fabrica de Luz Electrica Navalcarnero, Province of Madrid, Spain.
Fabrica de Luz Electrica, Puente Genil, Cordoba, Spain.
Fabrik Galvanischer Elemente Hermann Groeneveld, Prinzenstr. 23, Berlin, S. 42. (Telegs.: "Galvanelemente, Berlin." Teleph. No. 4051, Amt. IV.)
Fabrik Isolierter Drähte zu Elektrischen Zwecken (late C. J. Vogel Telegraphendraht Fabrik), Ltd., makers of insulated wires, Adlershof, nr. Berlin; & Ritterstr. 39, Berlin, S.W. 69.
Fabrique Belge de Crayons Électriques (Société Anonyme), electric light carbons, 468, rue St. Léonard, Liége, Belgium.
Fabrique d'Appareils Electriques, clocks & measuring instruments, plan Perret, Neuchâtel, Switzerland.
Fabrique d'Ebauches de Sonceboz, manufacturers of electrical apparatus, Sonceboz (Bern), Switzerland.
Fabrique de Télégraphes et Appareils Électriques (Favarger & Cie.), Neuchâtel, Switzerland.
Fabrique Suisse de Lustrerie, Le Pont, Vaud, Switzerland.
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Fagnon, Perè & Fils, metallic poles for electric lines, 44-46, rue des Vinaigriers, Paris. (Teleph. No. 435-97.)
Fahle, —, general agent of Fabrique Suisse d'Accumulateurs Olten, 19, rue de Milan, Paris.
Fahrenwaldt & Vogel, electricians, Martin Lutherstr. 75, Berlin, W. 30. (Teleph. No. 1212, Amt. VI.)
Faisan, Ant., electrician, rue de la Régence 18, Liége, Belgium.
Faisant, A., manager Société Anonyme de Telephone privée, rue des Clarisses 8, Liége, Belgium.
Falbe, Osc., Aktienges., electroliers, Manteuffelstr. 77, Berlin, S.O. 36. (Teleph. Amt. IV. Nos. 9457 & 9458.)
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Falcó y Cia., mfrs. of porcelain for electric apparatus, Valdemorillo, por El Escorial, Madrid.
Falconnet, Perodeaud, indiarubber & gutta-percha manufacturer, Choisy-le-Roi, Seine, France.
Falcou, —, electrical engineer, quai Bourbon 19; & rue Oberkampf 6, Paris.
Falk & Frank, electricians, Dresdenerstr. 84, Berlin, S. (Teleph. Amt. IV. No. 5817.)
Falkenberg, Andreas, electrical engineer & director of the Electric Street Railway, Bergen, Norway.
Falkenstein, M., & Co., makers of transportable power stations, Reinickendorferstr. 46, Berlin, N. 65.
Fallgatter, E. (Inh. Ad. Grosse), electrical engineer, 13, Albertstr., Leipzig. (Telegs.: "Fallgatter, Leipzig." Teleph. No. 7418.)
Fallou, J., manufacturing electrician, 33, rue St. Ambroise, Paris. (Telephone No. 903-36.)
Falsen, H., electric light contractor, &c., 17, Kirkegade, Christiania.
Falun Electric Light Co. (manager, O. Herdin), Falun, Sweden.
Fano, Giacomo, electric light contractor, via Agnello 8, Milan, Italy.
Fanta, Carl, electrical engineer, Ungargasse 20, Vienna III.
Faradit Isolierrohr Werke Max Haas, first-class installation materials, Chemnitz-Reichenhain, Saxony.
Faramond, R. de Lafajole, engineer, Société des Moteurs à Pétrole Lourd (Système Priestmann) pour l'Éclairage Électrique, 54, ave. de Breteuil, Paris. (Teleph. No. 701-38.)
Faraut, L., & Co., wire coverers, Galleria Natta, Turin, Italy.
Farcot, E., ventilators, 163, ave. de Paris, Plaine St. Denis (Seine), France. (Telegrams: "Farcot, Plaine St. Denis." Telephone No. 401-13.)
Farcot Frères & Cie., steam-engine, dynamos & boiler makers, 17, ave. de la Gare, St. Ouen, France. (Teleph. No. 504-55.)
Fardella, Vincenzo, dealer in electric bells, annunciators, &c., via Cintorinai 23, Palermo, Italy.
Faria, Oswa'd de, electrical engineer, 14, rue Théodule Ribot, Paris.
Farini, Ing. Licinio, professor of physical & chemical sciences in the "Liceo Dante Alighieri," & the Institute Tecnico "Giuseppe Gianni," Ravenna, Italy.
Farkas, Armand, electric light apparatus manufacturer, 13, rue Taitbout, Paris. (Telegrams: "Farkas, Paris." Telephone No. 263-48.)
Farman, Dick, M.I.E.E., electrical engineer, 28, rue Marbeau, Paris. (Telegs.: "Farmotors, Paris." Teleph. No. 559-05.)
Fasella, Felice, electrical engineer, corso Vittorio Emanuele 26, Turin.
Fasse, J. E., electrician, 12, rue de l'Hôtel-de-Ville, Lyon, France.
Fastenakel, Victor, & Cie., electricians, 19, rue de Chartres, Neuilly-sur-Seine, France.
Fato Lionetti, G., electrical agent, via Abate Gimma 251, Bari, Italy. (Telegrams: "Fatolionetti, Bari.")
Fauconnier, P., electrical engineer, 2, rue Verte, Orléans, France. (Telegrams: "Gaz, Orleans." Telephone No. 23.)
Faure, A., fils, detached accessories for electrical, telegraphic & telephonic apparatus, 88, rue Alexandre Dumas, Paris.
Faure, Jean, manager, Les Ateliers de Construction Electrique du Nord et de l'Est, 204, rue Nationale, Lille (Nord), France.
Faure, P., & Cie., electricians, 77, rue des Vignes, Paris.
Faussemagne, F., carbons & incandescent lamps, 316, avenue de Saxe, Lyons (Rhône), France.
Fauvin, Amiot & Cie., measuring instruments, 81, rue St. Maur, Paris.
Favarger, Albert, electrical engineer (Favarger & Co.), Neuchâtel, Switzerland.
Favarger & Cie., electrical apparatus manufacturers, Neuchâtel, Switzerland.
Favero, Ing. Valentino, electric light contractor, Bassano (Prov. di Vicenza), Italy.
Favier, Charles, & Cie., electric light apparatus, 10, rue des Pîetres, Lyon (Rhône), France.
Favre & Cie., bronze fittings, 4, rue de Saintonge, Paris III^e. (Telephone No. 251-76.)
Favre, W. J., & Gavillet, dealers & makers of electrical apparatus, rue de la Halle 3, Geneva, Switzerland. (Teleph. No. 1466.)
Favre-Jacot, Georges, & Co., manufacturers of chronometers & clock movements, Le Locle, Neuchâtel. (Telegrams: "Billodes, Locle.")
Favret, P., general applications of electricity, 37, boul. de le Liberté, Marseille (Bouches-du-Rhône), France.
Favrolle, —, brushes for dynamos, 5, rue Moreau, Paris, XII.
Fayaud, Vve. A., fils & gendre, makers of insulating materials, 100 & 102, rue St. Denis, Paris.
Fayot, Louis, director of the works, Maison Bréguet, boul. Vauban, Douai (Nord), France.
Federer & Nägeli, patent solicitors, Spitalgasse 32, Berne, Switzerland.
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Feilchenfeld, Henry, electric novelties, Alexandrinenstr. 37A, Berlin, S. (Teleph. No. 4138, Amt. IV.)
Feilendorf, R., elec. engineer & accumulator maker, VII. Schottenfeldgasse 76, Vienna. (Tel. No. 8716.)
Fein, C. & E., electrical engineers, dynamo & motor manufacturers, Stuttgart, Germany.
Feiser F. K., electrical agent, Wassily Ostrow, 9th line, N. 42, St. Petersburg, Russia. (Tel. No. 21001.)

Feller, Josef, manufacturer of electric wires & cables, VII. Kaiserstr. 54, Vienna. (Telegs.: "Josef Feller, Vienna." Teleph. No. 2903.)

Felsing, Conrad, non-magnetizable clock & watch maker, 20, Unter den Linden, Berlin, W. (Teleph. No. 278, Amt. I.)

Felsing, Conrad, jun., Maschinenbauanstalt für Kabelfabrikation, cable machinery manufacturer, Kaulsdorferstr. 4, Coepenick, nr. Berlin. (Telegs.: "Felsing, Coepenick." Teleph. No. 71.) *See advt., page* 14.

FELTEN & GUILLEAUME LAHMEYERWERKE ACTIEN GESELLSCHAFT, manufacturers of wire of all descriptions for electrical & all other purposes, cables, wire-rope, &c., makers, Carlswerk, Mülheim-am-Rhein; & V. Vaczi-ut. 1458, Budapest.

Felten & Guilleaume-Lahmeyerwerke A. G., Kronprinzenufer 4, Berlin, N.W. 40. (Telegs.: "Starkstrom, Berlin." Teleph. Amt. II. Nos. 245 & 232.)

Felten & Guilleaume Fabrik Elektrischer Kabel, Stahl und Kupferwerke Actien Gesellchaft, manufacturers of electric cables, Vienna, Austria. (Telegs.: "Guilleaume, Vienna." Teleph. No. 2588.)

Fenner, A., & Co., dealers in electrical supplies, 32, Löwenstr., Zurich.

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Ferrari, Antonio, electrical engineer & representative, via Roma (Palazzo Vivanet), Cagliari, Sardinia.

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Ferraris, Lorenzo, electrical engineer, via Sagliano 4, Turin, Italy.

Ferreira d'Araujo e Silva, Antonio, engineer, rua Fernandes Thomaz 314, director of the Public Works, Porto, Portugal.

Ferreira da Silva, Conseiller Antonio Joaquim, professor of chemistry organic & analytic, in the Polytechnic Academy, &c., rua de Santa Catharina 846, Porto, Portugal.

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Ferrer, Salvador, electrical material, Claris 34, Barcelona. (Teleph. No. 482.)

Ferrère, Edmond, manager, Hydro Electrique de la Dronne, Bonnes par Aubeterre sur Drôme (Charente), France.

Ferrero, Ph., electrical contractor, 19, rue Delille, Nice (Alpes Maritimes), France.

Ferrero & Craveri, apparatus, corso Massimo d'Azeglio 74, Turin, Italy.

Ferrioli, Francesco, telephone & electric light, Vercelli, Italy.

Ferro, G. & G., & Co., telegraph & telephone galvanized iron & steel wire manufacturers, Stabilimento Metallurgico di Bussoleno, Bussoleno (Prov. di Torino), Italy. (Telegrams: "Ferro, Bussoleno.")

Ferrovia Funicolare al monte dei Cappuccini, Turin, Italy.

Ferruccio Guidetti & Co., agents for electrical apparatus, Corso Vitt. Emmanuele 34, Turin. (Telegrams: "Ferruccio Guidetti, Turin.")

Ferry, P., electrician, 37, rue Gambetta, Lunéville, France. (Telephone No. 44.)

Fervaille & Deschryver, electricians, 39, rue de la Balle Dorée, Antoing, Belgium.

Fessler Johann, Nietenfabrik, screw & nut manufacturers, 108, Auenstr., Munich, Germany. (Telephone No. 6316.)

Fest & Co., Turmalin Werke, makers of electrical accessories, Wienerstr. 50, Berlin, S.O. 36.

Fetke, —, engineer, manager of Niederschl. Elektricitäts & Kleinbahn Akt. Ges., Waldenburg i. Schl., Germany.

Feüchtmeyer & Koenitzer, lighting goods & installations, Nymphenburgerstr. 32/0 R. Y., Munich.

Feugray, E., manufacturing electrician, electrical appliances, bells, telephones, &c., 36, rue de Dunkerque, Paris. (Telephone No. 406-26.)

Feuillet, Vve. & Fils, glass shade makers for export, 3 & 5, rue des Guillemites, Paris.

Feurrier, Ch., electro-medical apparatus, ave. de la Gare, Epinal (Vosges), France.

Feussner, Prof. Dr. K., Geh. Reg. Rat., electrical engineer, 80A, Berlinerstr., Charlottenburg, Berlin.

Fevrier, Eugene, electrical apparatus, Neuchâtel, Switzerland.

Fiat Lux, electricity company, Marquis de Larios 10, Málaga, Spain.

Fichtel & Sachs, ball bearings for machines of all kinds, Schweinfurt a. M., Germany.

Fidler, F., director of telegraphs, Polesky R.R., Wilna, Russia.

Fiedler, Richard, manufacturing electrician, Kreuzbergstr. 42F, Berlin, S.W. (Teleph. No. 3127, Amt. VI.)
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Figee & de Kruijff, engineers, N.Z, Voorburgwal 28 & 30, Amsterdam, Holland. (Teleph. No. 594.)
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Filagrana, Luigi, optical dealer & installer of bells & instruments, Spaderic 10c, Bologna, Italy.
Filliol, J. de, electrical apparatus, 31, rue de Constantinople, Paris.
Filsinger, Richard, electrical engineer, Lausanne, Switzerland. (Teleph. No. 1693.)
Filzfabrik Adlershof, Ltd., in Adlershof, Berlin branch, makers of insulating felts, Neue Friedrichstr. 38/40, Berlin, C. 2.
Finnis, Herbert, electrican, Eastern Telegraph Co.'s c.s. "Levant One," Piraeus, Greece.
Finska Elek. Aktiebolaget, 2, Södra Magasinsgatan, Helsingfors, Russia. (Telegs.: "Elektriska.")
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First Electric Supply Co., Obwodny Canal 76, St. Petersburg; & Moscow, Russia.
Fischbach, Paul, & Co., accumulator makers, 17, Neuenburgerstr., Berlin, S.W. (Teleph. No. 4576, Amt. IV.)
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Fischer, Ferd., electrical engineer, Eisenbahnstr. 3, Kaiserslautern, Germany. (Teleph. No. 421.)
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Fischer, Julius, electrical apparatus manufacturer, 10, Ottenweg, Zurich, Switzerland.
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Fischer, Ing. Stefano, technical, scientific & electrical specialities, 36, via Solferino, Milan.
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Fischer & Co., electric light fittings makers, 36, Rheinstr., Mainz, Germany. (Teleph. No. 184.)
Fischer, F., & Röwer, makers of hydrometers for accumulators, Stützerbach-i-Thür., Germany.
Fischer & Pöthig, telegraph apparatus manufacturers, Glashütte-i.-Sachs, Germany.
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Fizzotti, Charles, lead plates for accumulators, 91, quai Valmy, Paris.
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Flamand, J. B., electrician, 25, rue du Nord, Brussels.
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Fleischhacker Lampen Compagnie, incandescent lamp manufacturers, Grossenhainerstr. 92, Dresden. (Telegs.: "Fleischhacker Lampencompagnie, Dresden." Teleph. No. 4736.)
Fleischhauer, G., electric light & power installations, Königstr. 68, Magdeburg, Germany. (Teleph. No. 493.)
Fleischhauer, G., electrical agent, 78, Osterstr., Hanover. (Telegs.: "Ingenieur Fleischhauer, Hanover." Teleph. No. 493.)
Fleischmann, M., glow lamp manufacturer, Antonigasse 65, Vienna XVII/1, Austria. (Telegs.: "Kohlenfabrik, Vienna." Teleph. No. 13657.)
Fleischmann, R., & Co., lift makers, Chausseestr. 8, Berlin, N. 4.
Fleischner, Julio, electrical apparatus, Carretas 33, Madrid.
Fleurman, A., electrician, 35, courte rue des Foulons, Bruges, Belgium.
Fleumer Frères, electrical contractors, 46, rue du Molinel, Lille (Nord) France. (Teleph. No. 2218.)
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Florand, Robert, electric light fittings, 116 & 118, rue St. Georges, Lyons. (Telegs.: "Florand, Lyon." Teleph. No. 1–31.)
Floret Frères, dealers in electrical sundries, bells, &c., 74, rue de Turbigo, Paris. (Teleph. No. 315–58.)
Flügger & Boecking, insulator makers, Hammerdrich 60.70, Hamburg (Teleph. No. V. 1067); & at Vienna.
Foà, Icilio, electrical & civil engineer, 9 bis, via San Carlo, Naples, Italy.

Focquet, Ch., manufacturing electrician, 100, chaussée St.-Pierre, Etterbeck, Brussels. (Tel. No. 649.)

Focsăneanu Ing., Paul E., Représentant de la maison Fabius Henrion Nancy, Strada Soarelui Nr. 1 (Covaci), Bucarest.

Foerster, Chr. Gottlob, manganese merchant, Ilmenau, i/Th., Germany.

Fogliacco, Giov., general commission agent for electric wire & carbons, via dei Mille 6, Turin. (Teleph. No. 1282.)

Foiret, Anatole, manager Cie. Française pour l'Exploitation des Procédés Thomson-Houston, 31, rue Claude Vellefaux, Paris.

Fölsche, R., electrical engineer, electric transmission of power, 5, Hagenstr., Halle-a.-Saale, Germany. (Telegrams: "Fölsche, Hallesaale." Telephone No. 218.)

Fonderia del Pignone, electric light brackets, poles, &c., via Por Santa Maria 8, Florence, Italy.

Fonderies et Laminoirs de Biache-Saint-Vaast (soc. anon.), metal manufacturers, makers of electric wires, 28, rue St. Paul, Paris. (Telegrams: "Biache, Paris." Telephone No. 157–77.) Works: Biache-Saint-Vaast (Pas-de Calais), & Ougrée (Belgium).

Fonos Gesellschaft m. b. H., electric bells, indicators, dry cells, &c., Lindenstr. 16 & 17, Berlin, S.W. 68.

Fonreau, Marcel, dynamos, motors, cables, &c., 54, rue de Chabrol, Paris.

Font, Federico, maker of electric bells, annunciators, &c., rambla del Centro 17, Barcelona, Spain.

Fontaine, Eugène Paul, consulting mining engineer, general secretary to the Syndicat Professionel des Usines d'Électricité, 27, rue Tronchet, Paris VIII^e. (Teleph. No. 225–92.)

Fontaine, G., electrical instrument maker, 16, 18, 20, rue Monsieur-le-Prince, et 24, rue Racine, Paris. (Telegrams: "Fongorges, Paris." Telephone No. 810–83.)

Fontaine, Hipp., electrical engineer, 58, rue Notre Dame des Champs, Paris. (Teleph. No. 815–74.)

Fontana, Alessandro, maker of electric bells & electric light fitter, via ai Quattro Canti di S. Francesco 43, Genoa, Italy.

Fontana, Paolo, & Co., electrical instrument makers, via Asse 14, Bologna, Italy.

Fontvielle, Ch., electrician, 61, rue de la République, St. Chamond (Loire), France.

Force et Éclairage par l'Électricité (Soc. Anon.), electric light & power contractors, boul. d'Anderlecht, Brussels; & 30, rue Breughel, Antwerp.

Force et Lumière Électrique (Soc. Anon.), 9, rue de Rocroy, Paris. (Teleph. No. 405–91.)

Forde, H. B., A.M.I.C.E., A.I.E.E., Norddeutsche Seekabelwerke, Nordenham, a/d Weser, Germany. (Telegs.: "Kabelwerke, Nordenham." Teleph. No. 11.)

Forges de Douai (Soc. Anon.), electrical & mechanical engineers, 52, boul. Haussmann, Paris (Telephone No. 245–42); & Douai (Nord), France. Pierre Arbel, managing director.

Forges de Vulcain, Aux. (A. Chouanard), electrical engineers' tool makers, 3, rue St. Denis, Paris.

Forges et Chantiers de la Mediterranée (Soc. Anon.), electrical & mechanical engineers, La Seyne (Var); & Marseilles (Bouches-du-Rhône), France.

Fornara, Giov., & Co., wire manufacturers for telegraphic purposes, via Garibaldi 43, Turin, Italy. (Telephone No. 980.)

Fornier, A., electrician, 40, rue Victor Hugo, Lyons (Rhône), France.

Forns y Cia., Pedro, engineers, D. Jaime I. 54, Zaragoza, Spain. (Telegrams: "Forns, Zaragoza." Telephone No. 1021.)

Forsman, Fritz, manager, Gefle Electric Works, Gefle, Sweden.

Forster, W. G., telegraph engineer, Eastern Telegraph Co., Cadiz.

Förster & Leuchtag, carbons for electric purposes, Kaufmannhaus, Hamburg. (Teleph. No. 3687, Amt. V.)

Fortin, Georges, electrician, Thury-Harcourt (Calvados), France.

Fortschritte der Elektrotechnik, Dr. Karl Strecker, editor; Julius Springer, publisher, Monbijouplatz 3, Berlin, N. (Telegrams: "Springer, Monbijou, Berlin." Telephone Amt. III. No. 529.)

Foscarini, A., engineer & manager, Electric Tramways, 39, via Manzoni, Milan, Italy.

Foster, Thomas Wallace, electrical engineer, via Quintino Sella 2, Milan, Italy.

Fouché & de Laharpe, steam engines for dynamos, 38, rue des Ecluses St. Martin, Paris. (Telephone No. 403–36.)

Foulhouze, A., electrical engineer, Société Anon. Westinghouse, 38 bis, rue Casimir-Périer, Havre, France.

Fouque, J., electrical general supplies, 55, Allées Lafayette, Toulouse (Hante-Garonne), France.

Foureault, A., electrical engineer, 8, rue Rottembourg, Paris.

Fournier, Georges, chief engineer of tramways installation of La Compagnie Française Thomson-Houston, 32, rue Desrenaudes, Paris.

Fournier (Agence) Co., Ltd., telegraphic news agents, 1, rue de la Bourse, Paris.

Foveau de Courmelles, Dr., director of *L'Année Electrique*, 26, rue de Châteaudun, Paris.

Foy, Fernand, forced card insulating articles, 54, rue de l'Haij, Gentilly (Seine). (Teleph. No. 13.)

Frachebois, Ch., electrician, 66, rue Lafayette, Paris. (Telephone No. 218–48.)

Frager, —, manager of the Compagnie pour la Fabrication des Compteurs et Matériel d'Usines, 23, boul. de Strasbourg, & 18 boul. de Vaugirard, Paris.

Fraigneux et Cie., electrical signs, 31, rue Orfila, Paris. (Teleph. No. 928–04.)

Frajese, D., & Co., installation contractors, via Medina 33, Calata S. Marco 45/47, Naples, Italy.

Française Électrique (Société Anonyme), La, manufacturing electrical & traction engineers. Head office & works: 99, rue de Crimée, Paris, XIXème. (Telegs.: "Polyphase, Paris." Teleph. Nos. 404-28 & 420-05.)

Française, La, manufacturers of electrical apparatus, 59, boul. de Strasbourg, Paris. (Telegrams: "Farkas, Paris." Telephone No. 402-50.)

Franck, A. & J., frères, zinc rods & battery plates manufacturers, 6, ave. de Versailles, Paris. (Telephone No. 691-98.)

Franck & Co., dynamo brushes, Schlettstadt, i/E, Germany.

Franco-Belge, La, manufacturers of indiarubber, cables, & vulcanite fibre, boul. du Hainaut 99, & rue de la Caserne 22, Brussels. (Telegrams: "Franbelge, Brussels." Telephone No. 1224.)

Francois, electric medical instruments, 114 bis, ave. des Batignolles, S. Ouen près Paris. (Teleph. No. 42.)

François, J. V., electrical engineer, director of La Maison L. Viette, 89, rue d'Antibes, Cannes (Alpes-Maritimes), France.

François, L., Grellou, A., & Cie., electric wire & cable manufacturers, 77, rue Saint Charles, Paris. (Telegs.: "Fabricant, Paris." Teleph. No. 710-48.)

Françoise, V., electrical engineer, 72, boul. Audent, Charleroi, Belgium.

Franke, C. F., electrical engineer, Potsd. Claussee & Linden Allee Zehlendorf-West. (Teleph. D. R. 18.)

Frankfurter Asbestwerke Aktienges., vorm. Louis Wertheim, Frankfort-on-Main. (Teleph. No. 3151.)

Frankfurter Eisenbau-Anstalt, Rohnstadt & Zweigle, lamp-holders & post manufacturers, Taunusstr. 44, Frankfurt-a-Main.

Frankfurter Glimmerwarenfabrik Landsberg & Ollendorff, mica manufacturers, Frankfurt-a.-M., Bockenheim, Germany. (Teleph. No. 5495.)

Frankfurter Lackfabrik G. m. b. H., manufacturers of varnishes for electrical purposes, Frankfurt-a.-M. (Telephone No. 1132.)

Frankfurter Privat Telefon-Gesellschaft G. m. b. H., Hiftstr. 29-33, Frankfort-on-Main.

Frankl & Kirchner, electrical engineers & contractors, Mannheim. (Telephone No. 214.)

Franzosi Fratelli, electric light contractors, Omegna (Prov. di Novara), Italy.

Frassl, F. S., electrical engineer, VI. Luftbadgasse 17, Vienna.

Frassoni, Ditta, G., electric bell maker, 7, Pescheria Vecchia, Verona, Italy.

Frazer, R. W., M.I.E.E., electrical engineer, Anglo-Portuguese Telephone Co., Lisbon, Portugal. (Telegs.: "Edison, Lisbon.")

Fredecke & Suffenplau, electrical contractors, Bahnhofstr. 6, Hanover.

Frederiksberg Sporvejs-Og Elektricitets-Aktieselskab, Hortensiavei 1, Copenhagen, F. C. Winslow, director.

Fredrikshalds Elektrik Bureau (Birgir N. Björnstad), Fredrikshald, Norway.

Fredriksson, Edv., electrician, Granbergsdal, Sweden.

Fredriksstad Gas & Electricitetsverk (managing engineer, Arvid Ruth), Fredriksstad, Norway.

Fredriksstad Telephone Co. (general manager, Olaf M. Holwech), Fredriksstad, Norway.

Frei, P., principal telegraph inspector of Federal Railways, Berne, Switzerland.

Freissler, Ant., electric lifts maker, X. Erlachplace 4, Vienna; & David-utcza 2, Budapest VI.

Freitag, Gustav, electric light contractor, Barmen, Germany. (Teleph. No. 2065.)

Fremin, Oscar, installation contractor, 76, rue Victor Hugo, Hautmont (Nord), France.

Frémy, E., manufacturing electrical engineer, 57, boul. du Hainaut, Brussels.

Frenell, P., consulting electrical engineer, Regeringsgaton 38, Stockholm.

Frenzel, A. T., manufacturer of crystal & brass fittings for electric light, &c., Steinschönau, Bohemia. (Telegrams: "Frenzel, Steinschönau.")

Frère, G., electrician, rue du Jardinier 65, Ledeberg, Ghent, Belgium.

Frété, —, iron, steel & copper cables, 12, boul. Sébastopol, Paris. (Telegrams: "Corderie Centrale, Paris." Telephone No. 128-52.)

Freund, Alb., maker of electric pocket lamps, neue Friedrichstr. 56, Berlin.

Freund, E., electrical engineer, Kraftwerke an der Reuss, Bremgarten, Switzerland.

Freund, J., jun., electric motor maker, Gitschinerstr. 106A, Berlin, S.W. (Teleph. No. 9516, Amt. IV.)

Freund, M., manufacturing electrician, Wilhelmstr. 23, Gleiwitz, Germany.

Frey, Col. E., director Bureau Internat. de l'Union Télégr., Berne, Switzerland. (Teleph. No. 520.)

Frey, Dr. E., director Kraftübertragungswerke, Rheinfelden, Germany.

Freydier, Vve. H., screw makers & all small fittings for electrical apparatus, rue St. Maur 204 (9, Passage Hebrard), Paris. (Telephone No. 421-59.)

Frezoul, A., electric bell manufacturer, 11, rue de Thorigny, Paris.

Friant, —, electric bell manufacturer & contractor, 26, rue Jeanne-d'Arc, Nancy, France.

Friart, J., electric bells & medical instruments, 8, rue Simonis, Brussels.

Frich's, S., Eftf., electrical engineers, Aarhus, Denmark. (Telegrams: "Frichs, Aarhus.")

Fried. Krupp Act. Ges. Grusonwerk Engineering Works, iron & steel foundry, Magdeburg-Buckau, Germany. (Telegrams: "Grusonwerk, Magdeburg.") Sole agent for Great Britain & Ireland: W. Stamm, 25, College Hill, Cannon-st., London, E.C.

Friedlaender, Albert & Co., telephone & scientific instrument makers, 16 & 17, Lindenstr., Berlin.

Friedrich, A., electric light fittings, 3 & 4, Reichenbergerstr., Berlin, S.O. (Tel. Amt. IV. No. 9024.)
Friedrich, Carl, incandescent lamp maker, 118, Linienstr., Berlin, N.
Friedrichs, Ernst, electric light engineer & contractor, 8, Gemarkerstr., Barmen, Germany. (Telegs. : "Engineer, Friedrichs, Barmen." Teleph. No. 29.)
Friedrichswerk, Inh. Friedr. Vaerst, lampholders & fasteners, Kleinschmalkalden i. Thür., Germany.
Friese, A., dry cells, Waldemarstr. 34, Berlin, S.O.
Friese, Prof. Robert, director Siemens-Schuckertwerke G. m. b. H., Schillerstr. 13/14, Charlottenburg.
Frigerio, Ing., Carlo & Co., electrical tramways contractors, via Vignola 6, Milan, Italy.
Friis, Hans Wingaard, electrical engineer, superintendent Royal Norwegian Telegraphs, Bergen, Norway.
Friis, H., electrical engineer, Vestergade 19, Odense, Denmark.
Frings, Xavier, engineer & representative of Soc. Alsacienne, N. Mulhouse, 2 rue Neuve, Brussels.
Fris, M., electrical engineer, 22, via Cappricini Milan.
Frisch, Gustav., manager of the International Electric Co., II./3 Unt. Augartenstr. 1A, Vienna.
Frischauer & Co., insulating material manufacturers, 41, Gumpendorferstr., Vienna VI. (Telegrams : "Frischauer Compagnie, Vienna." Telephone No. 7627.)
Frisé, Ernest, electrical manufacturer, 38, boul. de la Rochelle, Bar-le-Duc (Meuse), France.
Frison, Emile, Fils, electricians, Jouchery (Haute-Marne), France.
Frister, R., Akt. Ges., makers of electric light fittings, Oberschöneweide-Berlin. Show-rooms : Lindenstr. 23, Berlin, S.W. (Telegs. : "Lucifer, Oberschöneweide." Teleph. Nos. 140, 141 & 144.)
Fritsche & Pischon, electrical engineers & manufacturers, Kurfürstenstr. 146 & 147, Berlin, W. (Teleph. No. 9093, Amt. VI.)
Fritz, Capt., electrician, Orient, Vaud, Switzerland.
Fritze, Joh., electrical engineer, Bochumerstr. 3, Berlin, N.W. 21. (Teleph. No. 3690, Amt. II.)
Frobeen, L., lubricator makers for electric machines & engines, 15, Hedemannstr., Berlin, S.W. (Teleph. Amt. VI. No. 387.)
Frognerkilens Fabrik, manufacturers of dynamos & electric machines, Bygdö, near Christiania, Norway. (Telegrams: "Elektromotor, Bygdo." Telephone Nos. 162 & 102.)
Fröhlich & Perthen, electric light engineers & contractors, Kolowratring 3, Vienna I. (Telephone Nos. 8612 & 3874); & III. Salesianergasse 7, Vienna.
Frohn, Gustav, & Co., electric light engineers & contractors, Elberfeld, Germany.
Froitzheim & Rudert, electric cable machinery makers, 11, Neue Königstr., Berlin, N.O. (Teleph. No. 155, Amt. VII.)
Frost, H., & Söhne, manufacturers of electrical apparatus, 6, Wilhelmstr., Berlin, S.W. (Teleph. Amt. VI. No. 8483.)
Frouin, André, director of Electric Departments de la Region de Paris, 6, rue Baru, Paris, VI.
Frühauf, Richard, electrical agent, Schützenstr. 21, Leipzig. (Teleph. No. 26.)
Fryd, H. P., telegraph superintendent, Horsens, Denmark.
Frymann & Sundt, dealers in electrical supplies, 4, rue Deloye, Nice. (Teleph. No. 8-93.)
Fuchs, Carl, manufacturer of electrical goods, Lindenstr. 3, Berlin, S.W.
Fuchs, J. W., maker of flexible wire cords, Nuremberg, Bavaria.
Fuchs & Müller, C., makers of electrical accessories, Britzerstr. 7, Berlin, S.O. 26.
Fuente Cardénas, Manuel de la, electrical expert, Conde del Asalto 143, Barcelona, Spain.
Fuerstenberger Telephonfabrik, Ltd., telephone makers, Fürstenberg (Mecklenberg); & Nostizstr. 30, Berlin, S.W.
Fuhrmann's, G., Sohn, anchor sheaths, Jessen b. Halle a. S., Germany.
Füllner, Dr., & Boldt, electrical engineers, Theaterstr. 11, Chemnitz.
Fulmen, electric accumulators, 18, quai de Clichy, Clichy (Seine), France.
Fumero Franco Ernesto, consulting electrical engineer, patent agent & chief editor of *Revista Tecnica d' Elettricità*, 31, corso Magenta, Milan, Italy. (Teleph. No. 2437.)
Fumière & Cie., complete electrical installations. Stores : 32, ave. de l'Opéra, Paris. (Teleph. No. 234-74.) Works : 32, rue Guersant, Paris. (Teleph. No. 511-01.)
Fundiçaõ de Belem, dynamos, motors, fittings, &c., Calçada d'Ajuda, No. 18, Belem, Lisbon.
Funger & Haage, engineering bureau for the electric extension of the growth of field fruits, Magdeburgstr. 8, Halle, Germany.
Funk, Fr., commercial manager, Brown, Boveri & Co., Ltd., Baden, Switzerland.
Funk, Joh. Marmorwerke Nürnberg, insulating material manufacturers, Schwabacherstr. 99, Nürnberg, Germany. (Telegs. : "Funk, Marmorwerke, Nürnberg.")
Furrer, J., electric light contractor, Weesen, St. Gallen, Switzerland.
Fürst, —, works chief of electric tramway, Oerlikon, Zurich, Switzerland.
Fürstlich Stolberg'sche Maschinenfabrik, steam-engine makers, Ilsenburg-am-Harz, Germany.
Furter, J., electrical apparatus, 7, rue Cendrier, Geneva, Switzerland.
Fuselli, Vittorio, electric light contractor, via S. Sebastiano, Genoa, Italy.
Fuster Fabra, Hermanos, electrician & mechanical engineer, calle Claris 30, Barcelona, Spain. (Telegs.: "Fuster, Barcelona." Teleph. No. 1212.)
Fynn, A., electrical engineer, 2, rue Postale, St. Petersburg. (Telegrams: "Fynn, St. Petersburg.")

Gaa, Ch., electrical engineer & manager Brown, Boveri & Co., Mannheim-Kaeferthal, Germany.
Gablonzer Elektricitätswerk, Mahla, Hoffmann & Co., Gablonz a. d. Neisse, Bohemia. (Telephone No. 51.)
Gabriel, R., electricity meters, Zentagasse 4, Vienna V/1. (Teleph. No. 9978.)
Gabriel, F., & H. Angenault, incandescent lamp makers, 10, rue Gaillon, Paris (Teleph. No. 155-79); & 15, Victoria-st., London, S.W.
Gad & Lauritzen, electricians, Odense, Denmark.
Gadois & Dumanche, electricians, 58, rue de la Faisanderie, Paris.
Gaebler, O., electrician, Hartmann & Braun A. G., Frankfort-on-the-Main.
Gaertner, A., wood cases for all electrical purposes, Dresdenerstr. 38, Berlin, S. (Teleph. Amt. IV. No. 5059.)
Gagge, G., electrical engineer, Sundsvall, Sweden.
Gaggia, A., electrical engineer, Gio. Ansaldo & C., Cornigliano Ligure, Genoa, Italy.
Gaiero, Debernardi & Co., installation contractors, via San Domenico 40, Turin.
Gaiffe, G. E., maker of scientific electrical instruments & electro-medical apparatus, 9, rue Méchain, Paris.
Gaillard, A., manufacturer of wood telegraph poles injected with sulphate of copper, 1, rue Montmorency, Beziers, Hérault, France. (Telegs.: "Gaillard Bois Beziers." Teleph. No. 226.)
Gaillard, Em., professor l'École d'Ingenieurs, electrical engineer, chief of the Contrôle des Installations Électriques et Industrielles, ave. des Alpes, Lausanne, Switzerland. (Teleph. No. 130.)
Gaillard, Henri, electrical engineer, Orange (Vaucluse), France.
Galey Frères, electrical engineers, installations, 16, rue de Varennes, Paris. (Teleph. No. 724-74.)
Gallais, A., chemical manufacturer, 73, boul. de la Villette, Paris.
Galland, Leo, electrical engineer, Bülowstr. 10, Berlin, W. 57. (Teleph. No. 4976, Amt. VI.)
Galle, Richard, manufacturer of electro-medical apparatus, constant batteries, &c., Alte Jacobstr. 8, Berlin, S.W. (Teleph. Amt. IV. No. 583.) Established 1874.
Gallego y Carranza, Lorenzo, Commanding the Telegraph Battalion, Ferraz 1 & 3, Madrid, Spain.
Gallet, —, engineer, director of Ateliers Thomson-Houston de Lesquin-lez-Lille, 2, rue Ste. Anne, Lille (Nord), France.
Galli, E., electrical engineer, via S. Agostino degli Scalzi 5, Naples.
Gallino, G., electrical apparatus, via San Francesco da Paola 36, Turin.
Galliot, —, electrical engineer, Ingénieur en Chef des Ponts et Chaussées, 45, rue Saint Philibert, Dijon, France.
Gallois, L., electric bells, 28, rue Ducange, Paris.
Gallois, electrical engineers, arc lamps, 104, rue de Maubeuge, Paris. (Teleph. No. 446-42.)
Gallonier, A., telephone apparatus manufacturer, 97, rue de Grenelle, Paris.
Gallud, Ramon, electrician, Lealtad, Santander, Spain.
Galvanische Metallpapierfabrik Aktien Gesellschaft, Gerichtstr. 2, Berlin, N. (Telegrams: "Galvanopapier, Berlin." Telephone No. III. 2083.)
Galvanophoren-Werke (system Vogt), S. Szubert, Com.-Ges., Erdmannstr. 12, Berlin-Schöneberg. (Telegrams: "Galvanophorwerk Szubert, Schönebergberlin." Telephone Amt. VI. No. 6215.)
"Galvanoplastik" G. m. b. H., electrotypers, Friedrichstr. 16 & Lindenstr. 101/102, Berlin, S.W.
Galvany, Palissy, electrical instruments, rua Serpa Pinto 91, Lisbon, Portugal.
Gambs, J., electrician, 8, pl. des Jacobins, Lyons (Rhône), France. (Telegs.: "Gambs, Jacobines, Lyons." Teleph. No. 28-51.)
Gandillon, A., pump manufacturer, Senlis (Oise), France. (Telegs.: "Gandillon, Senlis." A.B.C. Code, 5th edit. Teleph. No. 15.)
Ganelli, Ernesto, electrotechnical apparatus maker, via Venezia 2, Cremona, Italy.
Gans & Goldschmidt, electric measuring apparatus, Chausseestr. 25, Berlin, N. 4. (Teleph. No. 4110, Amt. III.)
Gantert, C., director of Russische Gesellschaft Schuckert, Moscow.
Gantke, Hugo, domestic electrician, 52, Heidestr., Berlin, N. (Teleph. No. 7553, Amt. II.)
Gantois, J., & Cie., manufacturers of material for dynamo brushes, St. Dié-Vosges (Telegs.: "Gantois, St. Dié-Vosges." Teleph. No. 0.34); & 46, boul. Magenta, Paris. (Teleph. No. 435.75.) Sole agents for England: Percy G. Green & Co., Berkhampstead, England.
Ganz Electric Co., Ltd., electrical apparatus & machine manufacturers, Lövöház-u. 39, Budapest II., Hungary; Riberstr. 26, Vienna I. (Telegs.: "Alterno, Budapest.")
Ganz, Gustav, & Co., incandescent lamp makers, 20, Goldeggasse, Vienna IV.
Garatti, V., electrical apparatus maker, via Vittorio Emmanuele, Treviso, Italy.
Garbayo y Moreno, Manuel, engineer, Compania Electrica, San Sebastian, Spain.
Garcia Gomez, José, mechanical electrician, Fúcar 5, Madrid.
Garcia, J., electrical engineer, Independencia 28, Zaragoza, Spain. (Telegs.: "Javier Garcia, Zaragoza.")
Garcia, A., & Co., engineers, gas engines, 8, rue du Marché, Brussels. (Telegrams: "Garcia, Brussels, Nord." Telephone No. 3206.)
Gardelli, Dante, electrical apparatus, borgo Giacomo Tommasini, Parma, Italy.

Gardy, R., electrical instruments, rua do Assumpção 99, Lisbon. (Telegs.: "Rgardy, Lisbon." Teleph. No. 1714.)
Garfield, A. S., M.I.E.E., 67, ave. de Malakoff, Paris.
Gariboldi, Luigi, electrical engineer, via Stella 10, Milan.
Gariel, C. M., electrician, 6, rue Edouard-Detaille, Paris, XVII^e. (Telephone No. 515-27.)
Garin, M., electric bells, rue de Vaugirard 193, Paris.
Garnier, P., electric clock maker, 9, rue Beudant, & 17, boul. Haussmann, Paris. (Teleph. No. 574-99.)
Garnier, V., electrical engineer, Soc. Bergamasca di Distribuzione della Energia Elettrica, Bergamo, Italy.
Garrone & Co., electric light supply, via Massara, Pavia, Italy.
Garrone, Ing., & Arigo, electrical engineers, 8, via Gioberti, Turin, Italy. (Telephone No. 36.)
Garrone e Marchetti, electric light contractors, Varallo Sesia (Prov. di Novara), Italy.
Garsonnin et Cie., wires & cables, 114, rue de Turenne, Paris. (Teleph. No. 260-67.) Works: 101, ave. de Paris, Gennevilliers. (Teleph. No. 26.)
Garteiz Hermanos, Yermo & Cia., electrical & mechanical engineers, Gran Via 20, Bilbao; & Valladolid. (Telegs.: "Garteiz, Bilbao.")
Gärtner, Arth., electrical engineer, Technisches Bureau, Victoriastr., Breslau XIII, Germany.
Gas & Elektricitäts Co., Ltd., "Brema," Bremen, Germany.
Gas-Elektrizitäts und Wasserwerke der Stadt Cöln, Cologne, Germany. (Telegs.: "Gaswerke, Cöln." Teleph. No. 15001-15005.)
Gas und Wasserleitungsgeschäft Stuttgart G. m. b. H., electric light fittings makers, 36, Calwerstr., Stuttgart, Germany.
Gas-, Wasser- und Elektrizitäts Werke, Biel, Switzerland.
Gasca, Albin, electric fans, 220, rue Lafayette, Paris.
Gascard, A., electrician, electrical supplies, rue Pierre-Bullet 6, Paris.
Gasmotorenfabrik Deutz, Börsenplatz 7, Frankfort-on-Main.
Gasmotoren Fabrik Deutz, Otto gas engine works, Cologne-Deutz, Germany. (Telegrams: "Ottomotor, Cologne." Telephone Nos. 2295, 2296 & 2297.)
Gasmotorentechnik, Georgenstr. 23, Berlin. (Monthly; ann. sub., 11 marks.)
Gasnier, P., consulting engineer, chief of practical electricity, Ecole de Physique et de Chimie Industrielles de Paris, 20, rue Hallé, Paris. (Teleph. No. 811-02.)
Gason, A., manufacturer of electrical apparatus, 43, rue de Ribaucourt, Brussels.
Gasquet, E., electric light & power contractor, rue de Gand, Iseghem, Belgium.
Gasquet, Mateo, representative of the Compagnie Générale d'Electricité, Sierpes 47, Seville, Spain.
Gass, Charles, electrical & mechanical engineer, quai à la Chaux 4, Brussels. (Telephone No. 5526.)
Gassovsky & Co., electro-technical office, Kamenvostrovsky pr. 2, St. Petersburg, Russia. (Teleph. No. 91-15.)
Gasterstaedt, J., electro-plater, silverer & gilder, VII. Zieglergasse 69, Vienna, Austria. (Telephone Nos. 1743 & 3089.)
Gatliff, P., agent Eastern Telegraph Co. & the Anglo-American Telegraph Co., 37, rue Caumartin, Paris. (Telegs.: "Anglorient, Paris." Teleph. Nos. 249-74 & 284-69.)
Gatti, Francesco, installation contractor, via Valperga Caluso 28, Turin.
Gatti, Louis, electrical engineer, rue Baretti, 31, Turin, Italy.
Gaudet, Charles, general director of Société l'Eclairage Electrique, 364, rue Lecourbe, Paris, XV.
Gaudin, Louis, electrician, Coppet, Vaud, Switzerland.
Gauernack & Reinboth, electro-medical apparatus manufacturers, Louisenstr. 7, Dresden, Germany.
Gaultier, Georges, engineer, 14, rue Dumont d'Urville, Paris.
Gaumont, Léon, director of Soc. des Etablissements Gaumont, 57, rue St. Roch, Paris.
Gaupillat, Marcel, & Cie., makers of electric pumps & explosives for mines, 2, rue Marbeuf, & 39, rue Bouret, Paris. (Teleph. No. 435-54.)
Gauquelin, —, magnets, 220, rue Lafayette, Paris.
Gauthier, H., electric flowers for lighting, 61, rue des Prairies, Paris, XX. (Teleph. No. 919-73.)
Gauthier & Augier, electric light contractors, à Serres (Hautes-Alpes), France.
Gauthier, P., & Cie., consulting engineers, Geneva-Versoix. (Telegs.: "Anglometa, Versoix." Teleph. No. 4102.)
Gauthier-Villars, technical publishers, 55, Quai des Grands Augustins, Paris, 6^e.
Gauthron-Petit, electric bell manufacturer, rue de Rémigny 3, Nevers, France.
Gautier, L., electrician, Monthureux-sur-Saône, Vosges, France.
Gautier, M., bronze fittings, complete light & power fittings, quai des Brotteaux 29, Lyons, France.
Gautier, Mathieu, electric light, bell & telephone fitters, 36, rue St. Lazare, & 78, rue Taitbout, Paris. (Teleph. No. 279-42.)
Gauverit, J. M., electric bells & telephones, 114, rue d'Irlande, Brussels.
Gauverit & de Kanter, electrical & mechanical engineers, Heerenstraat, Zeist, Holland. (Teleph. No. 2.)
Gavarry, L., general application of electricity, 30, rue Gay Lussac, Paris.
Gavazzi, Ad., manufacturing electrician, via S. Nicolao 2, Milan, Italy.
Gay, —, electrical engineer, 20, ave. Rapp, Paris.

Gaye, George, electric sets, 11, rue des Graviers, Puteaux (Seine), France. (Teleph. No. 222.)
Gazagnaire, electricians, rue d'Antibes 56, Cannes (Alpes-Maritimes), France.
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Gebauer, Fr., electric bleaching apparatus maker, Franklinstr. 11/14, Charlottenburg, Berlin.
Gebauer & May, electricians, Köthenerstr. 21, Berlin, W. (Teleph. No. 5915, Amt. VI.)
Gebhard, Ludwig, director to the Accumul. Factory, I. Bellariastr. 8, Vienna. (Teleph. No. 4180.)
Gebhardt Söhne, Paul, electrical school apparatus maker, Neue Schönhauserstr. 6, Berlin, C. (Teleph. Amt. III. No. 5637.)
Geck Gebr., continuous wire drawing machinery, Altena, Westphalia.
Gefle Electric Works, Gefle, Sweden.
Geiger, Arm., electrical engineer, 21, via Monte di Pietà, Milan.
Geisel, J., installation contractor, Deisterstr. 2B, Hannover-Linden, Germany.
Geiser, Herm., engineer, director of the Municipal Electrical Works, Schaffhausen, Switzerland.
Geiss & Heimlich G. m. b. H., switchboard makers, Sachsenhausen, Gutzhawstrasse 40, Frankfort-on-Main; & at Erfurt, Germany.
Geisse, R. & F., electric bells, Waldschmidtstr. 17, Frankfort-on-the-Main. (Telephone No. 3001.)
Geisselbrecht, K., electrical apparatus maker, Nuremberg, Germany.
Geissler, Dr. H., successor Franz Müller, maker of all kinds of electrical & chemical apparatus, Bonn-am-Rhein, Germany. (Telegrams: "Geissler, Succr., Bonn." Telephone No. 794.)
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Geissler, E., & Co., electrical apparatus manufacturers, 51, Hohenstaufenstr., Berlin, W. 30. (Teleph. No. 5958, Amt. VI.)
Geist, Ernst Heinrich, Elektricitäts Aktien Gesellschaft, electrical engineers & dynamo manufacturers, Zollstock-Cologne, Germany. (Telegs.: "Dynamogeist, Kölnrhein." Teleph. Nos. 5204 & 5205.)
Geitler, Dr. J. von, professor of physics, The University, Czernowitz, Austria.
Geitner's, Dr., Argentanfabrik, F. A. Lange, German silver, nickelin & rheotan manufacturers, Auerhammer bei Aue, Saxony.
Gelder, Dr. G. de, engineer, Municipal Works, Oosterpark 27, Amsterdam, Holland. (Teleph. No. 5785.)
Geldner, J., & Co., hard rubber, Fröbelstr. 11, Leipzig-Plagwitz, Germany. (Teleph. No. 11183.)
Gelsenkirchener Bergwerks Act. Ges. Abt. Aachener Hütten-Verein, telegraph wire manufacturers, Rothe Erde, nr. Aix-la-Chapelle, Prussia. (Teleph. Nos. 1, 1342, 1343 & 1344.)
Gemeinde Wien Städtisches Electricitätswerk, Mariannengasse 4, Vienna IX.
Gemp, Kon. D., electrical stores, Vassily Ostrow, 11th line, N. 24, St. Petersburg. (Teleph. No. 21105.)
Gendre & Gény, general applications of electricity, 37, rue Saint Thiebaut, Nancy (Meurthe-et-Moselle), France. (Teleph. No. 8-74.)
General Austrian Electricity Co., electric light contractors, Wallnerstr. 2, Vienna I.
General Electric de España (S. A.), electrical suppliers & engineers, Fuencarral 134, Madrid. (Telegs.: Polifásico, Madrid.")
General Electric de France, Ltd., agents for General Electric Co., Ltd., of London (Lucien Espir, general manager), 10–12, rue Rodier, Paris. (Telegs.: "Cespir, Paris." Teleph. No. 147–80.)
General Export Association of Sweden, Vasagatan 6, Stockholm.
General Office of Electricity & Industrial Appropriations, 5, rue Ballu, Paris. (Telegs.: "Voltamper, Paris." Teleph. No. 284–21.)
General Swedish Electric Co., Ltd., manufacturers & installers of electric machinery for transmission of power & light, Stockholm & Westerås, Sweden. (Telegrams: "Elektriska.")
General Telephone Co. (Allmänna Telefon Aktiebolaget), telephone engineers & contractors, Stockholm.
Genest, Werner, electrical engineer, Boothstr. 16, Gross Lichterfelde, Berlin. (Teleph. No. 3395.)
Geneux, François, director of the Société des Forces Électriques de la Goule, St. Imier, Switzerland.
Génie Civil, Le (weekly; ann. sub., P.U., 45 frs. = £1 16s.), 6, chaussée d'Antin, Paris. (Telegs.: "Génie Civil, Paris." Teleph. No. 115-98.)
Geniets, A., electric bells & fittings, 14, rue de Brabant, Ghent, Belgium.
Genteur, J. A., electrical fitting manufacturer, 122, ave. Philippe Auguste, Paris. (Teleph. No. 910-38.)
Genti, Antonio, & Co., electrical apparatus, via dei Fiori 18, Turin.
Gentile, Marco Tullio, consulting engineer & electric light & power contractor, via Solferino 7, Milan.
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Geoffroy et Delore, engineers, makers of cables & wires for all electrical purposes, 28, rue des Chasses, Clichy (Seine), France. (Teleph. Nos. 503-71 & 588-84.)
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Gerken, L., director of telegraphs, South-West Railway, Kiew, Russia.
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Germot et Crudenaire, insulating material, 23, quai Michelet, Levallois-Perret (Seine), France. (Teleph. No. 500-32.)
Gernaert, J., general engineer, editor of *L'Industrie*, 13, rue Ducale, Brussels. (Telephone No. 1761.)
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Gerson & Sachse, patent agents, Gitschinerstr. 110, Berlin, S.W. (Teleph. No. 3898, Amt. IV.)
Gervais, Fd., electric light fittings, 12, rue des Filles du Calvaire, Paris. (Teleph. No. 1002-57.)
Gès Emmanuel, electrical agent, Paseo de Colón 17, Barcelona, Spain. (Telegs.: "Ges, Barcelona.")
Gesellschaft des Aare- und Emmenkanales, Solothurn, Switzerland.
Gesellschaft des Aechten Naxos-Schmirgels, "Naxos-Union," makers of emery wheels & emery wheel machines, 43, Waldschmidtstr., Frankfort-on-the-Main; & 23, Crutched Friars, London, E.C.
Gesellschaft des Elektrischen Personenaufzugs, Matte-Plattform, Bern, Switzerland.
Gesellschaft für Beleuchtungskörper, vormals Zeisser, Habiger & Co., bronze fittings for gas & electric light, Neustiftgasse 72, Vienna VII/3. (Telegrams: "Lusterwerk, Vienna." Telephone No. 4135.)
Gesellschaft für den Bau von Untergrundbahnen G. m. b. H., Unter Den Linden 75, Berlin, N.W. (Teleph. No. 5328, Amt. I.)
Gesellschaft für Drahtlose Telegraphie m. b. H., Tempelhofer Ufer 9, Berlin, S.W. 61. (Teleph. Nos. 7920-7921, Amt. VI.)
Gesellschaft für Elektrische Beleuchtung, Frutigen, Berne, Switzerland.
Gesellschaft für Elektrische Hoch und Untergrundbahnen, Köthenerstr. 12, Berlin. (Telegs.: "Schnellverkehr, Berlin" Teleph. Nos. 16840-46, Amt. VI.)
Gesellschaft für Elektrische Industrie, makers of electric machinery & electric hoists, Karlsruhe, Baden. (Telegs.: "Electra, Karlsruhebaden." Teleph. No. 418.)
Gesellschaft für Elektrische Industrie, Volksgartenstr. 3, Vienna I. (Telegrams: "Fulgur, Vienna." Telephone No. 17508.)
Gesellschaft für Electrische Kraftübertragung & Elektr. Licht, Pfäffikon, Zurich.
Gesellschaft für Elektrische Maschinen und Installationsbedarf (m. b. H.), manufacturers of electrical supplies, Lindenstr. 101/102, Berlin, S.W. 68. (Telegs.: "Rapidos, Berlin." Teleph. Nos. 906-907, Amt. IV.)
Gesellschaft für Elektrische Unternehmungen, 45, Dorotheenstr., Berlin, N.W. (Teleph. Nos. 5218 & 5209, Amt. I.)
Gesellschaft für elektrische Zugbeleuchtung m. b. H., electric train lighting, Luisenstr. 36, Berlin, N.W. 6. (Telegs.: "Zuglicht, Berlin." Teleph. Nos. Amt. III. 1059 & 1061.)
Gesellschaft für Elektrizität Wirth & Futterknecht, electrical engineers, Schmetzthor & Wessenbergstr., Konstanz, Germany. (Teleph. Nos. 293 & 281.)
Gesellschaft für Elektrotechnische Industrie mit beschränkter Haftung, makers of electrical apparatus, Belle-Alliancestr. 92, Berlin, S.W.
Gesellschaft für Gleislose Bahnen Max Schiemann & Co., Wurzen i/Sa., Germany. (Telegs.: "Schiemann, Wurzen." Teleph. No. 69.)
Gesellschaft für Herkules Elemente m. b. H., battery makers, Duisburgerstr. 23, Düsseldorf, Germany. (Telegs.: "Hercules, Düsseldorf." Teleph. No. 4882.)
Gesellschaft für Licht u. Kraftanlagen m. b. H., Gebr. Kohl, III. Dudreilerstr. 8, Saarbrücken, Germany. (Telegs.: "Energie, Saarbrucken." Teleph. No. 1333.)
Gesellschaft für Schwachstromtechnik G. m. b. H., Mannheim. (Telegs.: "Schwachstrom, Mannheim." Teleph. No. 4369.)
Gesellschaft für Strassenbahn Bedarf m. b. H., electric tramway engineers & contractors, Schönhauser-Allée 62, Berlin, N. (Telegs.: "Condensator, Berlin." Teleph. III. No. 5,300.)
Geslin, Auguste, maker of electric lifts, 10, rue Guillaume Tell, Paris. (Telegrams: "Geslin, Ascenseurs, Paris." Telephone No. 501-59.)
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Ghien Fils & Muret, electro-medical apparatus, 12, rue Gubernatis, Nice, France.
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Ghysens, J., electric light contractor, 22, rue du Vivier, Liége, Belgium.
Ghysens, M., & Cie., lightning conductors, 50, rue des Clarisses, Liége, Belgium.
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Giannantoni & C., electrical engineers, Mantua, Italy.
Giannini, Carlo, agent for electric machines for continuous & alternating current, Rieti, Umbria, Italy. (Telegrams: "Giannini, Rieti.")
Gianoli, —, magnets & all electrical apparatus for automobiles, 26, boul. Magenta, Paris. (Telegrams: "Gianolaco, Paris." Telephone No. 440–08.)
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Gibault, Vve. Ch., engineer & contractor, ave. Philippe-Auguste 68 & 70, Paris. (Telephone No. 904–95.)
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Gibert Fils, manufacturing electrician, 17, rue du Soleil, Angoulême, France.
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Gibier, C., dealer in electrical supplies, 37, boul. Longchamp, Marseille (Bouches-du-Rhône), France. (Teleph. No. 5–54.)
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Giles, Georges, director Société de Condensateurs, Fribourg, Switzerland.
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Gillon, Prof. G., electrical engineer, 5, rue des Joyeuses Entrées, Louvain, Belgium.
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Gin, Gustave, engineer & electro-metallurgist, 149, rue Rome, Paris, XVII^e. (Teleph. No. 550–79.)
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Giovanni, Ansaldo, Armstrong, & Co., naval & general engineers, Sampierdarena, Cornigliano, & Sestri Ponente, Genoa. (Telegs.: "Armansaldo, Genoa.")
Giralt y Laporta, Juan, electrical instrument maker, Aribau 28, Barcelona, Spain.
Girard de Vasson, director of Société Anonyme d'Eclairage & d'Application Electriques, Arras (Pas-de-Calais), France.
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Girard & Lancelot, small electrical articles, 84, rue des Tournelles, Paris. (Teleph. No. 314–53.)
Girault, Davene & Baignères, manufacturing chemists, 27, rue des Pyramides, Paris. (Telegs.: "Hebgir, Paris." Teleph. Nos. 144–27 & 144–28.)
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Giros, A., & Loucheur, electrical & hydraulic engineers, 69, rue Miromesnil, Paris. (Teleph. No. 540.33.)
Girshausen, Adolfo, electrical material, P.O. Box 290, Aragon 259, Barcelona. (Telegs.: "Girshausen, Barcelona." Teleph. No. 2155.)
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Gischler, Jean, electric bells & electric light installations, 52–56, Gr. Zockenheimerstr., Frankfort-on-Main, Germany.
Gittens, Charles, electric light & power contractor, chaussée de Malines 116, Antwerp.

Giuseppe, Arri, dealers in electric bells, annunciators, &c., vico Casana 27–29, Genoa, Italy.
Giuseppe & Redaelli, electic wires and cables, Lecco, Como, Italy.
Gladow, Bernhard, electro-medical apparatus maker, Charitéstr. 2, Berlin, N.W. 6.
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Glaenzer & Cie., electrical engineers, 35, boul. de Strasbourg, Paris.
Glaesner Frères, manufacturing electricians, accumulators, &c., Chatillon (Luxembourg), Belgium.
Glaive, —, electric light apparatus & fittings, 4, rue du Parc-Royal, Paris. (Telephone No. 248–88.)
Glaser, F. C., patent attorney, Lindenstr. 80, Berlin, S.W. (Telegrams: "Argument, Berlin." Telephone IV., 1721.)
Glasfabrik "Marienhütte" Carl Wolffhardt, reflectors, glass bulbs for incandescent lamps, VII/1, Andreasgasse 13, Vienna. (Telegrams: "Marienhütte, Vienna." Telephone No. 6368.)
Glasfabrik Sophienhütte, glass tube makers, &c., Ilmenau (Thür.), Germany.
Glashüttenwerke vorm. J. Schreiber & Neffen, glass manufacturers, 22, Liechtensteinstr., IX., Vienna. (Telegs.: "Glasschreiber, Vienna." Teleph. Nos. 14235 & 15320.)
Glathe, W., electric light fittings makers, Zwickauerstr. 75, Chemnitz.
GLEBOFF, N., & CO., electro-mechanical office, Chaussée de Moscou 6 près du Pont Pontiloff, St. Petersburg, Russia. (Teleph. No. 449.) Office & stores at the works address. (Telegs.: "Mechanika, St. Petersburg.") Branches at Moscow, Miasnitzkaia, Maison Dauidowoi (Teleph. Nos. 2–68 & 201–11); Charkoff, Soumskaia, Maison Lifchitz (Teleph. No. 862); & Samara, pl. d'Alexis. (Teleph. No. 164.) (Telegs.: for all branches, "Mechanika.")
Gleichmann, Dr. B., engineer to electrical department of Bavarian States Railway, Georgenstr. 104/3, Munich, Bavaria. (Teleph. No. 11002.)
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Glimmerwerke Bardt & Co., mica merchants, Gothenstr. 10/16, Hamburg 15. (Teleph. Amt. V. No. 4222.)
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Glöss, Max, bell & telegraph apparatus, Pirnaische Strasse 16, Dresden. (Teleph. No. 2468.)
Glühlampenfabrik Adler (engineer, Dr. Rühling), incandescent lamp manufacturers, Rosenthalerstr. 26, Berlin, C. 54.
Glühlampenfabrik "Phœbus," A. Berrenberg, metal filament lamps, Oberbilker allee 68, Düsseldorf-Reisholz, Germany. Works: Düsseldorf. (Telegs.: "Berrenberg, Dusseldorf-Reisholz." Tel. 5413.)
Glühlampenfabrik Plechati, incandescent lamp makers, Mühlenstr. 22, Berlin-Pankow. (Tel. No. 437.)
Glühlampen Fabrik "Union" G. m. b. H., 31, Dorotheenstr., Berlin, N.W. 7. (Tel. No. 2520, Amt. I.)
Glühlampenwerk "Anker" G. m. b. H., Steinmetzstr. 45, Berlin-Rixdorf. (Teleph. No. 782.)
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Goebel, Maison, electrical apparatus, 5, rue Fenderie, Charleroi, Belgium. (Telegs.: "Goebel, Charleroi." Teleph. No. 238.)
Goeben, Oskar von, electrical engineer, director of the Deutsche Elektrizitätswerke, Aachen, Germany.
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Gola, Giovanni, electrical engineer, manufacturer of lightning arresters, 32, corso Francia, Turin, Italy. (Telegs.: "Ing. Gola, Turin." Teleph. No. 2107.)
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Goldberg, Karl, glass lamps, globes, &c., for electric lighting, Haida, Bohemia.

Goldberg, L., electrical stores, Nicolaevskayastr. 59, St. Petersburg, Russia. (Teleph. No. 25–32.)
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Göschen'sche Verlag-handlung, G. J., technical publisher, Salomonstr. 10, Leipzig, Germany. (Telegs.: "Gigo, Leipzig." Teleph. No. 2966.)
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Gretler & Weber, electricity works, Wetzikon, Switzerland.

Gretsch & Cie., G. m. b. H., pressed steel rolling plates, Feuerbach, Germany.

Greulich Bros., makers of pushes & bells, Adalbertstr. 75, Berlin, S.O. (Teleph. No. 522, Amt. IV.)

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Grimsehl & Stümpeley, electric articles, Ferdinandstr. 38-44, Hamburg. (Telegs.: "Lesmirg, Hamburg." Teleph. No. 3293, Amt. V.)

Grisson G. m. b. H., grissonators & rectifiers, Friedrichstr. 131D, Berlin, N. 24. (Telegs.: "Grissonator, Berlin." Teleph. No. 1606, Amt. III.)

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Grunberg, Léon, & Cie., electric furnaces, 49, rue de Tanger, Paris.
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Gründig & Horeld, cleaning cotton & dusting cloths, Lessingstr. 8, Chemnitz i. S., Germany.
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Guggemos, Marius, telegraph instrument manufacturer, 73, rue St. Fuscien, Amiens, France.
Guggenheim, J., & Co., tachometers & revolution counters, Basel, Switzerland. (Telegs.: "Tachoscope, Basel." Teleph. No. 4064.) Gold Medal, Thoune, 1899; Member of Jury, Lille, 1902.
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Günther & Kleinmond, manufacturers of spiral drills, Rödelheim, Frankfurt-a.-Main. (Telegrams: "Gunther, Kleinmond, Rödelheim." Telephone No. 6341.)
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Guyard, —, springs for electrical apparatus, 25, rue de Poiton, Paris.
Gy, Henri, & Cie., electrical engineers & contractors, 9, Impasse du Valot, Elbeuf (Seine-Inférieure), France.

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Helios, Fach und Export Zeitschrift für Elektrotechnik (weekly, in German, English & French), 20, Inselstr., Leipzig. (Telegs.: "Helios, Leipzig." Teleph. No. 4382.) Editors: Dr. C. Fredenhagen & O. Etienne. Publishers: Hachmeister & Thal.

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Horrix, Mz. W., electrical engineer & manufacturer, Ged. Burgwal 12, The Hague, Holland. (Telegs.: "Horrix, Electrician, Haag." Teleph. No. 832.)
Horrix, W. A. J. M., electrical engineer, & importer of electrical appliances, Electrisch Bureau, Willem de Zwygerlaan, 10, The Hague, Holland. (Teleph. No. 3745.)
Horwitz, L., electrician, Greifswalderstr. 221–223, Berlin, N.O. (Teleph. No. 976, Amt. VII.)
Hoser, G., A.I.E.E., Czysta 4, Warsaw, Russia.
Houard, L., & L. Brossier, electric bells, ave. de Choisy 178, Paris.
Houart, Oct., complete insulating material for electrical apparatus, Sclessin, Quai de L'Industrie, lez Liége. (Teleph. No. 1067, Liége.)
Houben & Cie., leather driving-belt makers, Verviers, Belgium.
Houbois, Jean, maker of silver glass reflectors, Oberdollendorf (Rhein), Germany.
Houdebine, E., electric light fittings, 64, rue de Turenne, Paris. (Teleph. No. 227–41.)
Houis, J., electrical installations, 167, rue Saint-Maur, Paris. (Teleph. No. 938–61.)
Houlon, A., electrical engineer, 95, rue Chanzy, Reims (Marne), France.
Houpeau, F., incandescent lamps, 52, faub. du Temple, Paris. Works: 51, rue Sedaine, Paris.
Houpied, Emile, electric exploder, rue Royer Collard 16, Paris.
Houry & Filleul-Brohy, wire & cable makers, 60, rue de Provence, Paris. (Telegs.: "Luxvis, Paris." Teleph. No. 109–36.) Works: Argenteuil (Seine), France.
Houtman, Jr. D., consulting engineer, Anna Paulownastraat 107, The Hague, Holland. (Teleph. No. 3979.)
Houy, Fritz, fine wire drawer, Hanau-a.-M., Germany. (Teleph. No. 343.)
Hovent, Dr., electrician, director of the Institut Pneumothérapique et Électrothérapique, 18, rue de la Révolution, Brussels.
Howald, J., lightning rods installation & construction, 23, rue Damrémont, Paris.
Howe, Dr. W., director Siemens Schuckert Werke, 4, Kastanien-Allee, Charlottenburg, Berlin.
Howell, B. Hunting, president, L'Industrie Internationale, 20, rue St. Georges, Paris. (Telegrams: "Kurkee, Paris." Telephone Nos. 213–76 & 236–23.)
Howitz, J. C. B., electrical engineer, Vestervoldg. 14, Copenhagen B.
Hubau, A., lightning conductors, Roulers, Belgium.
Huber, Col., M.I.E.E., president of the Maschinenfabrik Oerlikon, Zurich V., Switzerland. (Telegrams: "Huberus, Zurich." Telephone No. 1301.)
Hüber, E., manager Maschinenfabrik Oerlikon, Zurich, Switzerland.
Hüber & Cia., Ltd., Sociedad Española Oerlikon, Principe 30, Madrid. (Telegs.: "Oerlik, Madrid." Teleph. No. 853.)
Huber, Josef, & Co., electrical engineers & agents, Steyr, Upper Austria. (Telegrams: "Huberwerk, Steyr." Teleph. No. 12.)
Huber, R. & E., makers of electric wires & cables, Pfäffikon, Zurich.
Hubert, L., electric lighting supplies, 87, boul. Beaumarchais, Paris. (Teleph. No. 213–21.)
Hubert, M., electrician, 16, rue Cardinal Lemoine, Paris.
Hubert, Maurice, electrical contractor, 35, rue Grignan, Marseille (Bouches-du-Rhône), France.
Hubert, Fülöp és Isai, armatures; water, steam, bath fittings & electrical work, Kerlesz-ut. 39, Budapest. (Telegrams: "Hubert, Telefon, Budapest." Telephone No. 22.67.)
Hubrecht, Dr. H. F. R., director of the Netherland Bell Telephone Co., Amsterdam. (Teleph. No. 135.)
Huck, E., fittings, 23, rue du Caire, Paris.
Huck, Rob., electrical engineer, Ziegelstr. 3, Berlin. (Teleph. Nos. 2838 & 8320, Amt. III.)
Huelva Gas & Electricity Co., Huelva, Spain.
Huertas, Tomás, electrical engineer, Soc. La Electricista Segoviana, Segovia, Spain.
Huet, G., electrical apparatus, 66, rue Val de Mayenne, Laval (Mayenne), France.
Hugon, A., electrician, Grand Rue 14, Alfortville (Seine), France.
Huguenin, Louis, fils, electrical engineer & machine maker, La Sarraz, Vaud, Switzerland.
Huguet, H., electrical engineer, 22, rue Vicq d'Azir, Paris. Works: Persan.
Huguet & L. Roquet, electricians, 5, cité Bergère, Paris.
Huici, Em., civil engineer, "La Electrica de la Vega de Armijo," Marmolejo (Jaen), Spain.
Huidobro, Gabriel, electrical engineer, Soc. Volta, Santander, Spain.
Huijgen & Wessel, consulting engineers, Oldenbarneveltstraat 116B, Rotterdam, Holland. (Telegs.: "Huijgen Wessel, Rotterdam." Teleph. No. 2330.)
Hulin, Léon, engineer & electro-chemist, 6, rue Felix Poulat, Grenoble (Isère), France.
Hülss, Fr., chief engineer, Elektrizitätswerke, Zweibrückenstr. 33, Munich. (Teleph. No. 636.)
Hultman, Axel, managing director, General Swedish Electric Co., Ltd., Stockholm, Sweden.
Humann & Teisler, carbon manufacturers, Weesensteinerstr. 22, Dohna, bei Dresden, Saxony. (Teleph. Amt. Mügeln 825.)
Humaran, F. Gomez, A.M.I.E.E., Estacion 24–2°, Vitoria, Spain.
Humblot, J. M. M., electrical engineer, Chemins de fer du Sud, 22, rue Michel-Ange, Nice (Alpes Maritimes), France.
Humboldt, Ateliers de Construction, electro-metallurgists, 17, boul. Haussmann, Paris. (Tel. 116.02.)
Hummel (Carbons Conradty, Nurnberg), 26, rue St. Christophe, Brussels.

Huré, P., & Cie., machine tools for electrical engineers, 218, rue Lafayette, Paris. (Telegs.: "Huré, constructeur, Paris." Telephone No. 403.65.)
Hurseaux, —, manufacturing electrician, 70, rue de Loos, Lille, (Nord) France.
Hurwitz, H., & Co., electrical engineers, 56, Stralauerstr., Berlin, C. (Teleph. No. 7584, Amt. I.)
Huskamp, Franz E., electrical contractor, Knochenhauerstr. 13, Bremen, Germany. (Telephone No. 3896.)
Hussenot & Raynaud, electric supplies for automobiles, 39, rue de la Boëtie, Paris VIII.
Husson, Leon, telegraph engineer, 3, square de Croisic, Paris.
Huth, L., & Co., electroliers, Prenzlauerstr. 41, Berlin, C. (Teleph. No. 271, Amt. VII.)
Hutte, —, sockets for incandescent lamps, 163, rue de Charonne, Paris.
Hüttel, Hermann, manganese, Ilmenau, Thuringia, Germany.
Hüttel & Haugwitz, telegraph contractors, Markstr., Ilmenau, Germany.
Hütten, Th., electrical engineer, rue de la Caserne 53, Brussels.
Hüttlinger, J. L., maker of wire scratch brushes, Schwabach, bei Nürnberg, Germany. (Teleph. No. 15.)
Huvé, L., marble for electrical purposes, 62, rue St. Sabin, Paris. (Telegrams: "Marbrhuvé, Paris." Telephone No. 933-47.)
Huygens, W., manager of the Electric Lighting Station, Siemens & Halske, Cornelis Jolstraat 77, Scheveningen, Holland.
Hydrawerk, Dr. Louis Röder, primary battery makers, Zieglergasse 7, Vienna VII. (Telegs.: "Hydrawerke, Vienna." Teleph. No. 4560.)
Hyvert, Georges, engineer, Carcassone (Aude), France.

Ibanez, Enrique, electrician, Rosario 14, Albacete, Spain.
Ibarra y Cia., manufacturers of tramway plant, Bilbao-Ortuella, Spain.
Ichounine, A., engineer, Koursk Municipality, Koursk, Russia. (Telephone No. 36.)
Iffland, Karl, consulting engineer for electrical & machine installations, Arndtstr. 70, Dortmund, Germany. (Telegs.: "Karl Iffland, Dortmund." Teleph. No. Amt. Dortmund 2100.)
Iglesias, Florencio, director of Fabrica de Luz Electrica, Monforte (Lugo), Spain.
Iglesias & Torralva, makers of electrical apparatus, Desengaño 22 & 24, Madrid.
Iglesis & Regner, dynamo makers, 32, rue Reunequin, Paris.
Ihlen, G. O., superintendent Norwegian telegraphs, Horten, Norway.
Iliyne-Berline, manufacturer of incandescent lamps & electrical apparatus, 8, rue des Dunes, Paris. (Telephone No. 421-87.)
Ilmenau Glas Instrumentenfabrik Albert Zuckschwerdt, electric thermometer maker, Ilmenau (Thuringia), Germany.
Il Politecnico (monthly), civil & industrial engineering journal, 2, Piazza S. Giov. in Conca, Milan. (Teleph. No. 246.)
Imbault, P. M., electrical engineer, rue du Cail, Châteauneuf-sur-Loire, Loiret, France.
Imhoff, Ewald, electric light contractor, Barmen, Germany. (Teleph. No. 2253.)
Imme & Löbner, mfrs. of electrical supplies, 42, Wasserthorstr., Berlin, S. (Teleph. No. 9453, Amt. IV.)
Imoda, G. & E., electrical & water power plants, via Arsenale 14, Turin, Italy.
Imperial Continental Gas Association, electric light engineers & contractors, I. Schenkengasse 10, Vienna.
Imperial Royal Technical High School, Karlsplatz 13, Vienna IV. (Teleph. No. 1354.)
Impresa Illuminazione Elettrica, Acqui, Italy.
Impresa Illuminazione Elettrica, Aosta, Italy.
Impresa Illuminazione Elettrica, Capua, Italy.
Impresa Illuminazione Elettrica, Casalpusterlengo (Prov. di Milano), Italy.
Impresa Illuminazione Elettrica (Alimonda, Burgo & Co.), Albenga, Liguria, Italy. (Telegrams: "Burgo, Albenga.")
Impresa Illuminazione Elettrica, Grosseto, Italy.
Impresa Illuminazione Elettrica, Moncalieri, Italy. Engineer, — Jestucci.
Impresa Illuminazione Elettrica, Pesaro, Italy.
Impresa Illuminazione Elettrica, St. Marcello Pistojese (Prov. di Firenze), Italy.
Impresa Illuminazione Elettrica, Stradella, Pavia, Italy.
Impresa Illuminazione Elettrica, Trino Vercellese, Piemonte, Italy.
Impresa Illuminazione Elettrica, electric light contractors to the town, Tizzana (Florence), Italy.
Impresa Illuminazione Elettrica, electric light engineers & contractors of the town of Susa, Italy.
Impresa Illuminazione Elettrica (Garrone, Mannetti & Co.), Pieve di Teco (Prov. di Genova), Italy.
Impresa Impianto Elettrico della Valle Brembana, Bergamo, Italy.
Impresa Impianto Elettrico di Todi, Todi (Umbria), Italy.
Impresa Luce Elettrica, Crema (Prov. di Cremona), Italy.
Impresa Luce Elettrica di Avellino, Esercita dalla Banca Popolare, Avellino, Italy.
Impresa per Applicazioni Elettriche, Forli, Italy.
Impresa per l'Illuminazione Elettrica di Molfetta, Molfetta, Bari, Italy.
India Rubber, Gutta Percha & Telegraph Works Co., Ltd., 97, boul. Sebastopol, Paris; & Persan-Beaumont, France.

Industria, L' (Rivista Tecnica-Economica) (weekly; ann. sub., P.U., 38 frs. = £1 10*s.*), Palazzo delle Assicurazioni Generali Venezia, Piazza Cordusio 2, Milan. (Telephone No. 820.)

Industria é Invenciones (weekly, 15 pesetas; abroad, 25 pesetas per annum), Ronda Universidad 17, Barcelona, Spain. (Telegrams: "Bolibar, Barcelona." Telephone No. 1048.)

Industrie Chimique, L' (weekly), 60, rue de Provence, Paris.

Industrie, L' (weekly; ann. sub., P.U., 25 frs. = £1), combining *L'Ingénieur Conseil, L'Industrie Moderne & Industria*, rue Ducale 13, Brussels; & Boyveau & Chevillet, 22, rue de la Banque, Paris. (Jules Gernaert, editor-in-chief.)

Industrie Électrique, L' (twice monthly; ann. sub., Paris, frs. 24; P.U., frs. 26). Editor & publisher, A. Lahure, 9, rue de Fleurus, Paris, VI^{e}; secretary, Alfred Soulier. (Telegs.: "Alahure, Paris.")

Industrie Electrochimique, L' (ann. sub., 12 frs.), H. Becker, 5, rue Guy Patin, Paris.

Industrie-Elektrizitäts-Gesellschaft m. b. H., lighting & power plants, Neue Friedrichstr. 37, Berlin, C. 2.

Industrie Internationale, L' (Sté. Anc. Française), 20, rue St. Georges, Paris (Telegrams: "Kurkee, Paris." A1, A.B.C., Lieber's & Western Union Codes. Telephone Nos. 213-76 & 236-23); & 40, quai Michelet, Levallois-Perret, France. Capital: 450,000 francs.

Industrie Métallique, brass foundry, speciality: plates for electric apparatus, rue de la Princesse 10, Brussels, Belgium.

Industrieële Maatschappij, Keizersgracht 127, Amsterdam. (Telephone No. 1357.)

Industrielle Générale, l' (Sté. Anonyme), dynamo makers, 27, rue la Bruyère, Paris. (Teleph. No. 283-20.)

Ingegneria Ferroviaria, L. (fortnightly), Via del Leoncino 32, Rome. (Telegs.: "Ingegneria, Rome." Teleph. No. 9323.)

Ingenieur, Der (semi-monthly; ann. sub., P.U., 15*s.*), 3, Lietzenburgerstr., Berlin, W. 15. (Teleph. Amt. Charlottenburg, No. 10370.)

Installations-Werke Gr. Lichterfelde, electrical installations, Söhtstr. 9, Gr. Lichterfelde-Berlin.

Institut d'Electrothérapie, medical electricity, 70, rue de Miromesnil, Paris.

Institut d'Electrothérapie de Brussels, 31, rue de Malines, Brussels. (Teleph. No. 2871.)

Institut Elettrotcchnique et de Mécanique appliquée à la Faculté des Sciences de Nancy, 2, rue de la Citadelle, Nancy (Meurthe-et-Moselle), France.

Institut Electrotechnique de Grenoble, Grenoble (Isère), France.

Institut Electrotechnique Montefiore, Université de Liége, courses in telegraphy & electrical engineering, rue St. Gilles 33, Liége, Belgium. Professor manager, Eric Gerard.

International Bell Telephone Co., Ltd., of New York, 48, Rempart Kipdorp, Antwerp.

Internationale Elektricitäts Gesellschaft, electric light engineers, &c., 1, Wipplingerstrasse 30, Vienna. (Telegs.: "Intelectro, Vienna." Teleph. Nos. 14714 & 12639.)

Internationale Elektricitats Gesellsch. Central station, Bielitz-Biala, Silesia, Austria.

Internationale Elektrizitäts-Gesellschaft, electrical engineers & contractors, Unter den Linden 35, Berlin, W. 64.

Internationale Gesellschaft für Electrische Apparate und Installationsbedarf (m. b. H.), Johannisstr. 20/21, Berlin, N. 24. (Teleph. No. 2308, Amt. III.)

Internationale Pressluft- und Elektrizitäts-Gesellschaft m. b. H., makers of electrical supplies, Kaiser Wilhelmstr. 48, Berlin, C.

Internationale Vulcanfibre Cie., G. m. b. H., vulcanized fibre, Wilhelmsburg b. Hamburg, Germany. (Telegs.: "Vulcanfibre, Wilhelmsburgelbe." Teleph. Amt. I. Hamburg, No. 5854.)

Internationale Wolfram-Lampen Aktiengesellschaft, Ujpest bei Budapest.

Internationalt Patent Bureau (Axel Lahn, engineer), Carl Johans Gade 13, Christiania. (Telegrams: "Patent, Christiania." Telephone No. 2289.)

Invernizzi, Ernesto, electrical apparatus dealer, via del Corso 49, Rome, Italy.

Inwald, Josef, Glass Works, Act. Ges., manufacturers of glass for all electrical purposes, Mariahilferstr. 103, Vienna VI/2. (Teleph. Nos. 2578 & 7895.) London office: 69, Farringdon-rd., E.C.

Irgens & Schuman, electrical engineers & agents, Walkendorffsgd. 12, Bergen, Norway. (Telegrams: "Electric, Bergen.")

Isaac, J., & Fils (Soc. Anon.), screws & accessories, Nyon, Switzerland.

Isambert, M., chief engineer, Cie. Parisienne de l'Air Comprimé, 132, quai Jemmapes, Paris X.

Isaria Zählerwerke A. G., electricity meters, ventilators, &c., Hofmannstr. 51, Munich 25, Germany. (Telegs.: "Zaehlerwerk, Munich." Teleph. Nos. 12848 & 12849.)

Isnard, Maxence, electrician, 36, ave. Alsace Lorraine, Grenoble, France.

Isnoskoff, A., electrical engineer, Galernaja 5, St. Petersburg. (Teleph. No. 25362.)

Isoard, —, professor of physics, Lycée de Galata Seraï, Constantinople.

Isola Werke A.G., insulators for electrical purposes, Oerlikon, Switzerland.

Isolation Aktiengesellschaft, Mannheim, Germany. (Otto Wolfer, manager.) (Telegrams: "Isolation, Mannheim." Telephone No. 1491.)

Isolatoren Werke München, G. m. b. H., insulating materials, Gummon-Werke, Munich-Gräfelfing 30, Germany.

"Isolectra" Société Anonyme, manufacturers of insulating tubes & accessories, rue du Canal 44, Borgherout, Antwerp. (Telegs.: "Isolectra, Antwerp.")

Isolierrohr G. m. b. H., insulating pipes, Friedrich Karl-Ufer 2/4, Berlin, N.W. (Tel. 4288, Amt. III.)
Israel, Jules, e C., electric material importers, via Pantano 7, Milan, Italy.
Istituto Superiore Postale e Telegrafico, Viale del Re 131, Rome.
Iung, Charles, engineer, director of works, Société des Telephones, 25, rue du Quatre-Septembre, & 55, rue de Babylone, Paris.
Izard, Justin, telegraph engineer, Posts & Telegraphs, Clermont Ferrand, France.
Izart, J., consulting engineer for boiler & generating plant, 4, ave. Sœur Rosalie, Paris.

Jackson, Arthur, A.I.E.E., Conde de Aranda 1, Madrid. (Local hon. secretary & treasurer I.E.E.)
Jackson, E. P., M.I.E.E., Conde de Aranda 1, Madrid.
Jackson, Michel, accumulator jar maker, Halluin (Nord), France.
Jackson, Rear-Admiral H. B., M.I.E.E., H.M.S. *Bacchante*, Mediterranean Station.
Jackson & Phillips, Ltd., engineers & contractors, Conde de Aranda 1, Madrid.
Jacob, Georges, electrician, 61, rue Paradis, Marseille (Bouches-du-Rhône), France.
Jacob, R., electric bell, Iverskaya tschaste, dome Seleznewa, Moscow, Russia.
Jacob, Delafou & Co., earthenware manufacturers for electrical purposes, à Pouilly-sur-Saône (Côte d'Or), France; & 14, quai de la Rapée, Paris.
Jacob, Schappel, electric light fittings maker, 28, Schillerstr., Frankfort-on-Main. (Teleph. No. 7973.)
Jacobi, H., & Co., telegraph & telephone apparatus & lightning conductors, Seidengasse 40, VII. Vienna. Austria. (Teleph. No. 2295.)
Jacobs, André, constructing electrician & contractor, 26, rue Saxe-Coburg, Brussels.
Jacobs, H., Fils, electrician, rue Luther 84, Brussels.
Jacobs, J. B., electrician, rue de l'Abondance 66, Brussels.
Jacobs, Joh. F., electrical installations, Tettstr. 12, Hamburg. (Teleph. Amt. II. No. 1494.)
Jacobs, Th., manufacturing electrician, 11, rue de la Province (Nord), Antwerp.
Jacobsen, N., electric workshop, electrical instruments, &c., Pilestræde 25, Christiania.
Jacolliot, Paul, electrician, 101, rue Notre Dame, Troyes (Aube), France.
Jacopetti, Alfonso, practical electrician, via Pace a Chiaja 11 & 13, Naples.
Jacopozzi, Fernand, electric signs & letters, 44, rue de Bondy, Paris. (Teleph. No. 433-90.)
Jacquemard, Jean, fils, brackets for electrical installation, La Ricamarie près St. Etienne (Loire), France.
Jacques, L., electrical apparatus maker, 24, place de la Cathédrale 24, Liége, Belgium. (Teleph. 829.)
Jacques, N., electrician, Chaussée Deurne 24, Borgerhout, Antwerp.
Jacques, Pierre, electric light installations, telephones, 83, rue de Dunkerque, Paris.
Jacquet Frères, manufacturing electricians, dynamos, motors, &c., Vernon (Eure), France.
Jacquin, Louis-Paul, engineer, Compagnie d'Éclairage Électrique du Secteur des Champs-Elysées, 47, ave. Henri Martin, Paris XVI.
Jacquot, J., agent for Messrs. Felten & Guilleaume, 30, rue des Bourdonnais, Paris. (Teleph. No. 225-19.)
Jaeger Bros., electricians, Mariannenplatz 25, Berlin, S.O. (Teleph. No. 5773, Amt. IV.)
Jaeger, E., & Fils, dynamo makers, 22, rue des Petits, Epernay (Marne), France.
Jaeger Gebr., electric light apparatus manufacturers, Schalksmühle i. W., Germany.
Jaeggé, Ch., & Fils, electrical apparatus makers, 97, ave. de Choisy, Paris. (Telephone No. 800-67.)
Jagenberg, Ferd. Emil., Morse & insulating paper maker, Himmelgeisterstr. 107, Düsseldorf. (Teleph. Nos. 483, 435 & 2224.)
Jagoury & Cie., electro-medical apparatus, 14, rue Vivienne, Paris. (Teleph. No. 318-11.)
Jahn & Cie., constructing electricians, rue Zérézo, 9, Brussels.
Jahnel, Josef, bronze fittings for electrical purposes, Haida, Bohemia.
Jahrbuch der Drahtlosen Telegraphie und Telephonie, 1, Dufourstr., Zürich V. Dr. G. Eichhorn, editor.
Jahrbuch der Radioaktivität und Elektrotonik (quarterly; ann. sub., m. 12-16), S. Hirzel, Leipzig, Saxony.
Jahrbuch für Drahtlose Telegraphie und Telephonie (editor, Dr. G. Eichhorn; publisher, T. A. Barth), (6 parts, 20 m. per ann.; abroad, 22·40 m.), Dörrienstr. 16, Leipzig.
Jaillard, Jeune, electric light fittings, 58, rue des Tournelles, Paris. (Teleph. No. 321-71.)
Jaillard & Veraud (Beziel & Ribot, successors), bronze fittings for electrical purposes, 54, boul. Voltaire, Paris. (Telephone No. 254-98.)
Jamar, Ernest, electrical engineer, quai de Fragnée 22, Liége, Belgium.
James, L., maker of storage batteries, Thury-Harcourt (Calvados), France.
James, M., & Delaporte, small incandescent lamps, rue Saint-Antoine 62, Paris.
Jandin, Henry, electric pump maker, Cours Morand 60, Lyons. (Telephone No. 24-81.)
Jandus, long-burning arc lamps, 35, rue de Bagnolet, Paris.
Jandus Elektricitäts-Gesellschaft, 11, Berggasse, Vienna IX. (Teleph. No. 21231.)
Jänecke, Dr. Max, technical publisher, Osterstr., Hanover.
Janet, Paul, director of Laboratoire Central et de l'Ecole Superieure d'Electricité, 8, rue du Four, Paris VI.
Janin, A., accumulators, electric lighters, 17, rue Pauquet, Paris.
Janke & Gutherz, dynamo-belt makers, Elisabethstr. 9, Berlin, N. 24.
Janowsky, Bogdan, mechanical & electrical engineer, Municipal Electric Station, Orenburg, Russia.
Jansohn, G., electrical installations, Fruchthallstr., Kaiserslautern, Germany. (Teleph. No. 61.)

Janson, J., electrician, Nijni-Nowgorod, Russia.
Janssen, Fritz, chief engineer, Bergmann-Elektrizitäts-Werke, A.G., Bismarkplatz 1, Niederschönhausen, nr. Berlin.
Janssen & Fügner, bells, battery salts, commutators, Hanover. (Teleph. No. 2996.)
Janssens, P., electrical engineer, 126, rue Masui, Brussels.
Japy Frères et Cie., electrical apparatus makers, 4, rue du Chateau d'Eau, Paris. (Telephone No. 165–97.)
Jaquet, James, Ltd., speed indicator makers, 26–28, St. Johannring, Bâle, Switzerland.
Jaretzki & Paul, electrical engineers, Victoriastr. 12, Posen, Germany.
Jaro, A., electrical apparatus maker, Krottenbachstr. 48, Vienna XIX.
Jaroslaws Erste Glimmerw. Fabrik, mica, Fregestr. 60, Berlin-Friedenau. (Teleph. No. 98.)
Jarre, L. H., electrical engineer, manager Sté. Anon. de Force et Lumière Elec, 9, rue de Rocroy, Paris.
Jarriant, A. M., jeune, makers of electric wires & cables, 233, rue Croix Nivert, Paris. (Tel. No. 717–96.)
Jasiusky, J., electrical engineer, Dolgaya 28, Warsaw.
Jaspar, Albert, electrician, rue Jonfosse 2, Liége.
Jauffrion, L., electrician, 23, avenue Malakoff, Paris.
Jaumann, Dr. G., professor of chemistry & physics, The University, Prague.
Jausseran, B., electrical apparatus manufacturer, 9, rue de la Chapelle, Paris.
Jauvier, A., electric letters & signs, 47, rue Oberkampf, Paris. (Teleph. No. 910–97.)
Javal, Jean, electrical engineer, 45, rue de Boulainvilliers, Paris.
Javaux, E., electrical consulting engineer, managing director Sté. Gramme, 20, rue d'Hautpoul, & 130, boul. Pereire, Paris. (Telegs.: "Gramme, Paris." Teleph. No. 402–01.)
Javey et Cie., electrical engineers, fittings, 106, rue Réaumur, Paris. (Teleph. No. 145–76.)
Jean & Bouchon, electrical engineers, electroliers, 52 *bis*, rue des Martyrs, Paris.
Jeanpan, electrical engineer, rue du Pavée 35, Brussels.
Jeanson, Veuve, casing for electric wires, 34, rue de Bondy, Paris. (Telephone No. 266–36.)
Jehan, Henri, bronze fittings for electric lighting, 5, rue Oberkampf, Paris. (Teleph. No. 941–13.)
Jelenkovsky, J., electrical engineer, Nigni-Nowgorod, Russia. (Telegrams: "Jelenkovsky, Nijni.")
Jeliseef, L., electrical engineer, Koursk-Charkow-Sevastopol Railway, Charkow, Russia.
Jellinek, Friedrich, electrolier manufacturer, VII. Kirchengasse 24, Vienna. (Teleph. No. 4253.)
Jenaer Elektrizitätswerke A.G., electrical engineers, Potsdamerstr. 28, Berlin, W. 35.
Jenatzy-Leleux, C., insulating material manufacturer, rue Stephenson 10, Brussels, Belgium. (Telegrams: "Jenatzy-Leleux, Brussels.")
Jenisch, P., & Boehmer, teleg. & teleph. makers, Krautstr. 4/5, Berlin, O. (Teleph. No. 10, Amt. VII.)
Jenkins, Fred. C., Vereinigte Spezialfabriken für Elektrotechnik Maschinenbau, Kœnigstr. 7, Hamburg. (Telegs.: "Jenkins, Hamburg." Teleph. No. 3717, I.)
Jenny, Ferdinand, city electrical engineer, 28, rue du Polygone, Grenoble (Isère), France.
Jénot, Celestus, engineer, chief of Electrical Service aux Usines Metallurgiques, Neuves Maisons (Meurthe-et-Moselle), France.
Jensen, Charles, electric light, telegraph & telephone engineer, Kgl. Weinberge, Nerüdagasse 26, Prague, Austria. (Teleph. No. 313/VIII.)
Jensen, J. L. W. V., M.I.E.E., Frederiksberg Allé 68, Copenhagen (local hon. secretary & treasurer of the Institution of Electrical Engineers).
Jensen, J. P., electrical works, Esbjerg, Denmark.
Jensen, N. P., superintendent & electrician, Danish Telegraphs, Helsingör, Denmark.
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Jourdan, Simon & Co., oils for dynamo lubrification, Cette (Hérault), France. (Teleph. No. 1-32.)
Journal de Physique, Chimie et Histoire naturelle élémentaire, Abel Buguet, Rouen, France. (Tel. No 225.)
Journal de Physique Théorique et Appliquée (monthly; annual subscription, 17 frs. France, & 18 frs. in other countries), 5, rue de la Santé, Paris XIII.
Journal des Postes, Télégraphes et Téléphones, 27, rue Général-Saussier, Troyes (Aube), France. (Teleph. No. 2.36.) J. L. Paton, director.
Journal du four électrique et de l'Électrolyse (bi-monthly; ann. sub., P.U., 30 frs. = 24s.), 68, Chaussee d'Antin, Paris.
Journal Télégraphique (monthly; ann. sub., Switzerland, 4.40 frs.; P.U., 5 frs.), Berne, Switzerland. (Telegrams: "Burinterna, Berne." Telephone No. 1308.)
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Kabelfabrik, wire ropes & wire cords for electric lamps, Angerstrasse, Landsberg, a.d. W., Germany; Köpnickerstr. 190, Berlin, S.O. (Teleph. No. 2648, Amt. IV.)
Kabelfabrik und Drahtindustrie Aktien Gesellschaft, electric cables, rubber & copper mills, Stelzhammerg. 4, Vienna XII/2. (Telegs.: "Kabel, Vienna." A.B.C., 5th. ed., & Lieber's Eng. Codes.)
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Klaar & Schultz, the "Perfect" lamp bracket, 14, Waldemarstr., Berlin, S.O. 26. (Telegs.: "Klaarschultz, Berlin." Teleph. No. Amt. IV. 1816.)
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Kölnische Schieferplatten und Schieferwaaren Fabrik J. Hegmanns, Cologne-Ehrenfeld, Germany. (Telegs.: "Hegmanns, Ehrenfeld." Teleph. No. 7586.)
Kon. Ned. Machinefabriek voorh. E. H. Begemann, electrical engineers, Kanaaldijk L31, Helmond, Holland. (Telephone No. 90.)
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Kongsbergs Elektricitatsvärk, Kongsberg, Norway. (G. Garathun, manager.)
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König, Carl, Breinhälder & Co., telephone manufacturers, Richgasse 3, Vienna IX.
König & Willings, electricians, Bielefeld, Germany.
Königswarter & Ebell, chromic acid, ammonia-muriate, zinc chloride, &c., Linden, nr. Hanover, Germany. (Telegs.: "Königebel, Hanover." A.B.C. Code, 5th edit. Teleph. No. 106.)
Königswerther, Alex., electricity meter maker, 79, Pankstr., Berlin, N. 39.
Koninklijke Akademie van Wetenschappen, Amsterdam. (Prof. J. D. van der Waals, secretary.)
Konstruktionswerk Bingen, manufacturing electrical engineers, Bingen a. Rh., Germany. (Teleph. No. 361.)
Kontinentale Bremsen-Gesellschaft m. b. H. (vorm. Bökerbremsen), Charlottenstr., Gross-Lichterfelde, Germany. (Telegs.: "Luftbremse, Gross-Lichterfelde." Teleph. No. 233.)
Kontny, Edward, globe & shade maker, 42, Schubertstr., Dresden-Blasewitz, Germany. (Teleph. No. 9508.)
Koomans, Dr. N., engineer, Netherland telegraphs, van Kinsbergenstr. 3, The Hague, Holland.
Koopman & Co., electrical engineers & telephone contractors, Heerengracht 370, Amsterdam. (Telegs.: "Kjoebmand, Amsterdam." Teleph. No. 1269.)
Koopmans, Frans, electrical supplies & installations, Keizerstraat 1, Rotterdam. (Telephone No. 2850.)
Köppe & Schulz, electrical machine manufacturers, Franseckistr. 53, Berlin, N. 58.
Koppermann, Aug., manufacturer of wooden articles for electrical engineers, Wilkau-i-Sa., Germany.
Koppin, Richard, maker of artistic fittings, Elisabeth Ufer 5–6, Berlin, S.O. (Teleph. No. 9175, Amt. IV.)
Körber, Karl R, electrical apparatus, Wahringerstr. 37, Vienna IX.
Korda, Désiré, engineer, manager Ste. Boulonnaise d'Eclairage et de Force, 15, rue Ambroise Thomas, Paris.
Koristka, Francesco, optical apparatus maker, via G. Revere 2, Milan, Italy.
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Koronzwitt, A., manufacturers' agent, Presbrajenskaia 39, Odessa.
Korsak, N., electric bell fittings, Potschtovaya, house Beltak, Odessa, Russia.
Körting, Wilh., coil-spinning & braiding machines, Barmen, Germany. (Telephone No. 55.)
Körting Bros., electrical agents & stores, Erteleff pereul. 4, St. Petersburg, Russia. (Teleph. No. 748.)
Körting, Gebr., Akt. Ges., gas engine makers, Körtingsdorf, nr. Hanover. (Telegrams: "Körtingsdorf, Hanover." Telephone No. 561.)
Körting Gebrüder, gas motors, Markgrafenstr. 8, Leipzig, Saxony.
Körting Gebr., electric light & power contractors, Pragerstr. 49, Dresden. (Telephone No. 282.)
Korting, Gebr., Elektrizität. A. G., Alt Moabit 3, Berlin, N.W. 40. (Telegs.: "Gas-dynamo, Berlin." Teleph. Amt. II. Nos. 2650, 2628 & 2198.)
Körting & Mathiesen, Ltd., electrical engineers & makers of arc lamps for alternating & direct currents, also resistances, choking coils, search lights, & all arc lamp accessories, Leutzsch, nr. Leipzig. (Telegs.: "Bogenlampe, Leutzsch.") Sole agents for England: Union Electric Co., Ltd., Park-st., Southwark, London, S.E. (Telegs.: "Abeam, London." Teleph. No. 2970, Hop.)
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Köth, Jos., installation contractor, Piusstr. 8, Cologne-Ehrenfeld, Germany. (Teleph. No. 8672.)
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Köttgen, H., & Co., electric fittings makers, Berg.-Gladbach (Telegrams: "Köttgen, Berggladbach." Telephone No. 18); & Severinstr., Cologne, Germany. (Telephone No. 1555.)
Koultschitsky, M., engineer, B. Palachovsky per., h. Kriloff, Moscow.
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Kowalski & Trybski, electrical engineers, 4, Miodowa, Warsaw.
Kraetschmer, Henry, bell pushes, switches & wood fittings for electrical purposes, Quellengasse 145, Vienna X.; & Kerbach Gross Gerungs, Lower Austria.
Kraft und Licht Anlagen Gesellschaft (A. Brauner & Cie.), Sobieskiplatz 3, Vienna XIII/1. (Teleph. No. 16798.)
Kraftmaschinen mit Elektrischem Ausgleich, Ltd, makers of electromobiles, Luisenstr. 21, Berlin, N.W. 6.
Kraftübertragungswerke Rheinfelden, water power owners, Badisch-Rheinfelden. (Telegs.: "Kraftwerke, Rheinfelden.")
Kraftwerke an der Reuss, Bremgarten, Switzerland. (Telegrams: "Kraftwerke, Bremgarten.")
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Kragl, Carl, & Sohn, Etablissement für Elektrotechnik, Pázmánygasse 2, Pozsony, Hungary.
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Kramer & Löbl, glass goods of every description for electric lighting, Gablonz, Bohemia, Austria. (Telegs.: "Loebl, Gablonz." A.B.C. Code, 4th edit. Teleph. Nos.: Office, 157A; Works, 157B); & Brussels.
Kramers, M. H. C., engineer, States Railway Co., Potgietersingel 1, Zwolle, Holland.
Kramher, small accumulators for portable lamps, 138, rue Amelot, Paris. (Teleph. No. 941-28.)
Kramme, C., electric light fittings, 76 & 77, Gitschinerstr., Berlin, S. (Teleph. No. 9548, Amt. IV.)
Krapp, Hermann, telegraph & telephone makers, 28, Morellstr., Augsburg, Bavaria. (Telegs.: "Hermann Krapp, Augsburg." Teleph. No. 837.)
Krarup, C. E., chief engineer, Royal Danish Telegraphs, Copenhagen K.
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Krause, M. A., manufacturer of "Caloricid" lubricating liquid, Windscheidstr. 23, Charlottenburg. (Telegs.: "Reformator, Berlin." Teleph. No. 154.)
Krause, Robert, makers of electrical signalling clocks, Oldenburgerstr. 13, Berlin, N.W. 21.
Krause, W., & Co., electro-medical apparatus mfrs., Ziegelstr. 3, Berlin, N. (Teleph. No. 498, Amt. III.)
Krausz, Emil, electrician & mechanician, Hajós-utcza 26, Budapest.
Krautheim, G., magnet manufacturer, Chemnitz-Altendorf, Germany. (Telegs.: "Krautheim.")
Kray, Max, & Co., electric light fittings, 7, Boeckhstr., Berlin, S. (Teleph. Nos. 9266 & 9267, Amt. IV.)
Kreidler's Metallwerk, copper, brass & aluminium manufacturers, Mörikestr. 69, Stuttgart.
Kreissler, Wilh., telegraph apparatus & lightning rods, Gerberstr. 26, Leipzig, Saxony. (Teleph. No. 2181.)
Kremenezky, Joh., incandescent lamp manufacturer, XX. Dresdnerstr. 55 & 57, Vienna. (Telegs.: "Kremenezky, Vienna." Teleph. No. 16087.)
Krenzler, Gustav, coiling machines, Unter-Barmen, Germany. (Teleph. No. 136.)
Kressmann, C., makers of electric bells, telephones, & lightning conductors, Boppstr. 6, Berlin, S. (Teleph. No. 858, Amt. IV.)
Kreuchen, G., telephone maker, Lutzowstr. 10, Berlin, W. (Teleph. No. 10723, Amt. VI.)
Kreuzberger & Sievers, makers of electroliers, 25, Ritterstr., Berlin, S.W. (Teleph. No. 9138, Amt. IV.)

Kreuzer, Albert, electrical apparatus manufacturer, Gerichtstr. 23, Berlin; & Czermaksg 2/4, Leipzig.
Kribben, Sucesores de, electric materials & patent agents, Juan de Mena 7, Madrid.
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Krieger, Hugo, electrical apparatus, Neuenburgerstr. 7, Berlin, S.W. (Telegs.: "Hakabe, Berlin." Teleph. Amt. IV. Nos. 1826 & 4961.)
Krièger, L., electrical engineer, director Cie. Parisienne des Voitures Electriques System Kriéger, 3, rue Ampere, Paris VIII.
Krimmel-Trautwein, Johs., screw manufacturer, Ebengen Württ., Germany.
Křižik, Fr., dynamo & electric machine maker, Königsstr. 131, Prag-Karolinenthal, Austria. (Telegs.: "Křižik, Prag." Teleph. Nos. 1289 & 1506.)
Kring, N. M., & Son, ivory & wood turners for electrical appliances, 14 & 16, Bredgade, Copenhagen K.
Krocber, W., dealer in sulphuric acid, Königsberg, Germany. (Telegrams: "Anilin, Königsberg." Telephone No. 837.)
Kröger & Schneider, G. m. b. H., lampholders, Wipperfürth, Germany.
Krogh, A. J., contractor for electric light installations, Övre Slotsgd. 7, Christiania, Norway.
Krogh, K. K. v., A.M.I.E.E., c/o Nissen & v. Krogh, Nedre Slotsgade 15, Christiania, Norway. (Telegs.: "Janis, Christiania.).
Krogh, Otto Peder, M.I.E.E., Vestergade 10, Copenhagen, Denmark.
Krogsgaard & Becker, electrical engineers, Gosslerstr. 65, Hamburg. (Teleph. No. 342, Amt. IV.)
Krolik, Hugo, & Wolf, shippers of electrical goods, Ritterstr. 33, Berlin, S. (Teleph. Amt. IV. No. 859.)
Kronenberg & Schröder Elektrizitätsgesellschaft, electric light engineers & contractors, Elberfeld, Germany.
Kröner, Wilh., pocket volt & ammeters, Bamberg, Bavaria.
KRÖTLINGER, CARL, ELECTRIC LIGHT CONTRACTOR & ELECTICAL ENGINEER, VII. HALBGASSE 3, VIENNA. (TELEPH. NO. 9825.)
Krucz, C., frames for ventilators, Schönhauser Allee 34, Berlin, N. 58. (Teleph. Amt. III. No. 7725.)
Krüger, Ferd. Paul, maker of holders for incandescent lamps, Yorkstr. 59, Berlin, S.W. (Teleph. Amt. VI. No. 1927.)
Krüger, R., manufacturing electrician, 41, Michaelkirchstr., Berlin, S.O. (Teleph. No. 2521, Amt. IV.)
Krüger, Wm., engineer, Potsdamerstr. 109, Berlin, W. 35.
Krüger & Friedeberg, incandescent lamps, Kastanien Allee 26, Berlin, N. (Tel. No. 1145, Amt. III.)
Krumm, G. u. A., enamelled reflectors, Remscheid-Vieringhausen, Germany.
Krüss, A., electrical instrument maker (phonometer), Adolphsbrücke 7, Hamburg, Germany. (Teleph. No. 1725, Amt. Ia.)
Kübler, Wilh., electrical engineer, professor, Kgl. Technische Hochschule, Helmholtzstr. 9, Dresden A.
Kücke, Wm., & Co., tools for electric lighting purposes, Elberfeld, Germany. (Telegs.: "Kücke.")
Kuckuk Gebruder, installation contractors, Dortmund, Germany.
Kuffer & Fontana, electrical apparatus, Neuchâtel, Switzerland.
Kufferath, —, electrical engineer, 38, ave. de la Renaissance, Brussels.
Kuhl & Klatt, electric piano makers, Wusterhausenerstr. 17, Berlin, S.O.
Kuhlewind, A., electrician, Aachenerstr., Köln-a.-Rh., Germany. (Teleph. No. 5768.)
Kühn, A., electric pocket lamps, &c., rue du Lavoir 51, Brussels.
Kuhn, G., G. m. b. H., steam engine & boiler makers, Stuttgart-Berg, Germany.
Kühne, Paul, installation contractor, Friedrichstr. 23, Chemnitz.
Kühne & Heinemann G. m. b. H., electric light fittings makers, Herrenstr. 13A, Hanover.
Kuhnt, A., & R. Deissler, patent agents, Gitschinerstr. 108, Berlin, S.W. (Teleph. Amt. IV. No. 10806.)
Kuksz, Lucdtke et Grether, mfrs. of dynamo & electric machines, 25, rue Leszno, Varsovie, Russia.
Kula, Ch., electrical apparatus maker, 84, boul. Haussmann, Paris. (Telephone No. 113-01.)
Kulicska, Anton, electric watch maker, Iskola-utcza 6, Budapest II. (Teleph. No. 47-07.)
Kullak, F. C. (Kom.-Ges.), incandescent lamp makers, 18, Gartenstr., Berlin, N. 4. (Telegs.: "Trololine, Berlin." Teleph. Nos. 3826 & 3836, Amt. III.)
Kummer, O. L., electrical engineer, dynamo & motor manufacturer, 35, Zollnerstr., Dresden, Saxony. (Teleph. No. 4838.)
Kummler & Matter, electric light fittings & electric heaters, electric tramway & railway contractors, Aarau, Switzerland. (Telegs.: "Kummlermatter, Aarau.")
Kunheim & Co., manufacturers of salammoniac for batteries, 32, Dorotheenstr., Berlin, N.W. (Teleph. Amt. I. No. 825-827.)
Kunitz, Heinrich, armatures for incandescent lamps, Mariannen Platz 12, Berlin, S.O. 26. (Teleph. No. Amt. 4, 167.)
Kunody, S., electrical & mechanical engineer, Strozzigasse 21, Vienna VIII/1.
Kuntze & Co., Ltd., indiarubber & gutta-percha, Drottningg 52, Stockholm. (Telegs.: "Kuntze.")
Kunze & Co., electro-technical office, Beulingstraat 19, Amsterdam, Holland. (Teleph. No. 3004.)
Küppers Metallwerke G. m. b. H., conduit makers, &c., Bonn, Germany; & at Berlin.
Kurbanoff, electrical engineer, Electric Light Station, Anitchkoff Palace, St. Petersburg, Russia.

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Kursch, C. V., superintendent Great Northern Telegraph Co., St. Petersburg, Russia.
Kurth, Anton, electric wire & cable manufacturer, Chemnitz-Kappel, Germany. (Telephone No. 781.)
Küstermann & Co., makers of electricity meters, Prinzen Allee 74, Berlin, N.
Küstner, Georg, installation contractor, innere Johannisstr. 141 H. G., Chemnitz.
Kuzel, Dr. Hans, electrical engineer, Baden, near Vienna.
Kyll, P., G. m. b. H., water-softening & purifying filters, Neumarkt 12, Cöln, Germany. (Telegs.: "Kyllmasch, Cöln." Teleph. No. 1327.)

Laakmann, Otto, electric supplies, Kaiserstr. 40, Frankfurt-a.-Main. (Teleph. No. 3042.)
Labarre, J. B. R., electrical instrument maker, rue du Midi 150, Brussels.
Labbé, J. B., electrician, 15, boul. du Jeu de Ballon, Cannes (Alpes-Maritimes), France.
Labbé, Z., electrical installations, 208, rue St. Maur, Paris. (Telephone No. 433-98.)
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Laboratoire Central d'Electricité (Société Internationale des Electriciens), 14, rue de Staël, Paris. (Teleph. No. 708-68.) Directeur, P. Janet, D.SC.; chefs de travaux, F. Laporte, A. Durand, Ch. David & R. Jouaust.
Laboratorio Central para Ensayo de Materiales de la Escuela de Ingenieros, Calle de Alfonso XII., Madrid.
Laboratorio Elettrico, Direzione di Artiglieria ed Armamenti, I Dipt. Marittimo, Spezia, Italy.
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Labour, H., A.M.I.E.E., 13, Chaussée de la Muette, Paris.
Labrosse, L., electric clocks, 5, rue Auguste Comte, Lyon (Rhône), France.
Labroue, —, electrical engineer & managing director Compagnie Électrique du Sud-Ouest, 21, rue de Mulhouse, Bordeaux (Gironde), France. (Teleph. No. 2704.)
La Canalisation Electrique Anciens Etablissements G. & H. B. de la Mathe, cable manufacturers, St. Maurice (Seine), France. Depôt: 84, rue Réaumur, Paris. (Teleph. No. 940-26.)
Lacarrière, M., manager of La Société Lacarrière pour la Fabrication des Lampes Z., 10, rue Eugène Labiche, Paris.
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Lachelli, Pietro, engineer, electrical apparatus, Casale Monferrato, Italy.
Lachmann, E., incandescent lamp manufacturers, 17, Gr. Reichenstr., Hamburg. (Telegrams: "Eduard Lachmann." Telephone Amt. I. No. 6561.)
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Lacoppe Frères, electric bell installations, 2, quai Saint-Léonard, Liége, Belgium.
Lacoste et Fils, lighting & heating, 87, rue Nationale, Lille (Nord), France.
Lacoste, electrical apparatus manufacturers, 28, boul. de Strasbourg, Paris. (Telegs.: "Lacostico, Paris." Teleph. No. 441-21.)
Lacourt, D., telephones & electric bells, rue Houdain 30, Mons, Belgium.
Lacourte & Cie., electricians, 26, rue Marbeuf, Paris. (Telephone No. 537-91.)
Lacretelle, Gaston de, managing director of the Société de Force et Lumière électrique, 9, rue de Rocroy, Paris. (Telephone No. 405-91.)
Lacroix, J. de, electrical contractor, 1, rue Théodore de Banville, Paris.
Ladiges, Greiner & Co., manufacturers of glass accumulator boxes, &c., Weisswasser o/L., Germany.
"La Electra" Sebastian Battaner, installation contractors, Constitución 6, Valladolid, Spain. (Telegs.: "Electra, Valladolid." Teleph. No. 185.)
La Eléctrica, Electric Works, San Sebastian, Spain.
La Electro-Industrial de Ubeda (Soc. Anon.), Ubeda, Spain.
La Electromotora, Murcia, Spain.
Laffay, A., manufacturing electrician, 1, place Emil Zola, Dijon (Côte d'Or), France.
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Lahaye & Blum, electric light & power contractors, 5, rue du Moniteur, Brussels.
Lahure, A., scientific publisher, 9, rue de Fleurus, Paris. (Telegrams: "Alahure, Paris." Telephone Nos. 704-23 & 704-44.)
"La Industria Electrica" Barcelona, soc. anon., electrical engineers & contractors, 6, Plaza Cataluña, Barcelona, Spain. (Telegs.: "Munluis, Barcelona.")
Lainé, E., manufacturing electrician, 59, quai de Valmy, Paris.
Laisné, L., electric bells, 12, rue Tournefort, Paris.

La Lampe Osram, Ste. Anon., 20, cité Trévise, Paris. (Telegs.: "Osram, Paris." Teleph. No. 328-90.)
La Lampe Osram, Ltd., lighting & power transmission plants, Rotherstr. 20-23, Berlin, O. 17.
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Lalande, M., electric apparatus maker & automatic circuit-breakers, 94, boul. Richard Wallace, Puteaux (Seine), France.
Lallouote & Lafouge, lamps & projectors for theatres, 3, passage de l'Industrie, Paris.
La Luz, electrical apparatus, Camino nuevo del Cementerio, Seville, Spain.
La Manchega Electrica, Plaza del General Espartero 7, Albacete, Spain.
La Maquinaria Electro-Industrial, electrical machinery, Arenal 12, Madrid.
Lamarche, A., indiarubber, 149, rue de Javels, Paris XV.
Lambalais, G., manufacturer of glass globes, &c., for electric light, 8, rue Martel, Paris. (Teleph. No. 246-27.)
Lambert, Aug., electrical engineer, 8, rue Frontispice, Brussels.
Lambert, George, electrician, gas engines, ave. de l'Hippodrome 147, Ixelles, Brussels. (Teleph. No. 4022.)
Lambert, L., electrician, 23, rue Jourdan, Marseille (Bouches-du-Rhône), France.
Lambert, A., & Cie., makers of electric motor cars, 27, ave. de la Grande Armée, Paris. (Telegs.: "Sonauto, Paris.")
Lambertin, Fr., Ingenieur-Bureau, Wilhelmstr. 40, Gleiwitz, Germany.
Lambotte, L., engineer-in-chief of telegraphs, 112, rue Wazon, Liége, Belgium.
Lammersch, F., electrical engineer, 30, rue vanden Bogaerde, Brussels.
Lampel, Géza, electrical engineer, Ungarische Elektr. Akt. Gesellschaft, 72, Váci út., Budapest V.
Lampmann, Carl, Söhne, packing materials, Koln-Ehrenfeld, Germany.
Lamy & Barillet, porcelain & china for electricity, Mehun-sur-Yèvre (Cher), France.
Land-und-Seekabelwerke Aktiengesellschaft. Plain & insulated copper wires & cables, Cöln-Nippes. (Telegs.: "Kabelwerke, Cologne." Teleph. Nos.: Cöln, 5207 & 5208.)
Landenne, C., general application of electricity, rue d'Espagne 58, Brussels.
Landis & Gyr, manufacturers of electricity meters, Zug, Switzerland. (Telegs.: "Divisor, Zug.")
Landré & Glinderman, electrical engineers & agents, 8, Spuistraat, Amsterdam. (Teleph. No. 188.)
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Landsberg & Ollendorf. *See* Frankfurter Glimmerwaarenfab.
Landwehr & Schultz, Technisches Bureau, Hohenzollernstr. 85, Cassel, Germany. (Teleph. No. 811.)
Lang, Viktor von, professor of physics at the Vienna University, Vienna.
Lang, Louis, & fils, wire cloths, Schlettstadt, Alsace, Germany.
Lang, W., & Co., electrical engineers & agents, Karlstr. 14, Düsseldorf, Germany. (Teleph. No. 1093.)
Langbein Pfanhauser Werke Akt. Ges., dynamo machines, electric motors, &c., Paunsdorferstr., Leipzig-Sellerhausen, Germany (Telegs.: "Elpewe, Leipzig." Teleph. No. 140); Güsenleitnergasse 14, Vienna XIII/4 (Telegs.: "Elpewe, Vienna." Teleph. Nos. 132 & 308); & Ritterstr. 15, Berlin, S.W. 68.
Langbein, Dr., & C., electroplating apparatus, via Brera 12-14, Milan.
Langdon, E. S., electrician, Eastern Telegraph Co., Carcavallos, Portugal.
Lange, Albert, representative & importer of electrical materials, via Monforte 40, Milan, Italy.
Lange, F. A., resistance wires & bands for rheostats, Westbahnstr. 5, Vienna VII., Austria. (Teleph. No. 1008.)
Lange, F. A., German-silver manufacturer, 1, boul. Voltaire, Paris. (Teleph. No. 932-92.)
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Lange & Gérrienne, electrical engineers, Löhrstr. 1, Leipzig, Germany.
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Langen & Wolf, motor manufacturers, Laxenburgerstr. 53, Vienna X., Austria. (Telegs.: "Langenwolf, Vienna." Teleph. No. 7893.)
Langensiepen & Co., société électrotech. et mécanique, 11, prospect Kamenno Ostrowky, St. Petersburg. (Teleph. No. 20726.)
Langer, Constantin, electric light fittings maker, kl. Plauensche-gasse 6, Dresden. (Teleph. No. 2503.)
Langer & Endler, G. m. b. H., spiral springs manufacturers, Turnstr. 12, Chemnitz, Germany.
Langer, Gebr., spiral springs manufacturers, insulator makers, Chemnitz-Altendorf, Germany.
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Lanz, Heinrich, high pressure & compound steam engine maker, Mannheim, Germany.
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Lapierre, E., electrician, 16, rue Mogador, Paris.
Lapipe, H., & Wittmann, engineers' tool makers, 141, rue Oberkampf, Paris. (Teleph. No. 902-66.)
Lapointe, G., & Cie., electrical sundries manufacturers & dealers, 100, rue Amelot, Paris.
Laporte, F. C. M., electrician, 2, rue St. Simon, Paris.
Laporte, Georges, director of the Systems of La Société Energie Electrique du Littoral Méditerranéen, 540, rue Paradis, Marseille (Bouches-du-Rhône), France.
Laporte, Louis Pascal, electrician, 1, rue Molière, Lorient, Morbihan, France.
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Lardinoy, Aimable, installation, telephone & electric light contractor, rue du Four-Chapitre 9, Tournai, Belgium. (Telegrams: "Lardinoy, Tournai." Telephone No. 61.)
Largiadèr, F., electrical engineer, manager of the Elektrizitätswerk Kubel, St. Gall, Switzerland.
Larini, Nathan & Co., electric crane makers, Milan, Italy.
Larivière, Charles Fouinat, & Cie., switchboards, 170, quai Jemmapes, Paris. (Telegs.: "Ardangers, Paris." Teleph. No. 417-77.)
Larmoyer, Georges, consulting electrical engineer, 58, ave. du Roi, Brussels, Belgium.
Larnaude, André, electrical engineer & incandescent lamp maker, 19, rue Camille-Desmoulins, Issy les Moulineaux (Seine), France. Office: 34, rue Godot de Mauroi, Paris. (Telegrams: "Pulp, Paris.")
Larsen, Fred., electrical engineer, 21, Sandakerv, Christiania.
Larsen, Simen, telegraph inspector for Arendal district, Arendal, Norway.
Larsonneau Frères & Co., makers of electric wires & cables, 29, rue des Cloys, Paris. (Tel. No. 508-66.)
Larviks Telefonselskab. (manager, Ths. Arbo. Höeg), Larvik, Norway.
La Salle & Co., copper plates, &c., Kriens, près Lucerne, Switzerland.
Lasche, O., electrical engineer, 12 & 16, Huttenstr., Berlin, N.W. 87. (Telegrams: "Lasche, Rheostat, Berlin." Telephone Amt. II. No. 3001.)
Lascombes & Danoux, electric lamps, 40, rue Vivienne, Paris.
Lasnier, A., maker of electrical apparatus & fittings, 6, boul. Richard Lenoir, Paris. (Telephone No. 900-15.)
Lasnier, Jean François, engineer, 18, rue La Fontaine, Paris.
Latécoère, G., wood casings for electric wires. Works at Bagnéres de Bigorre. D. Besse, representative, 32, boul. de l'Hôpital, Paris. (Teleph. No. 806-64.)
Latour, M., & Cie., electrical engineers, 22, rue de Tocqueville, Paris XVII.
Lattes, Comm. Oreste, electrical & consulting engineer, via Nazionale 96, Rome, Italy. (Teleph. No. 39-60.)
Latzko, Rud. (Electrische Glühlampenfabrik "Watt"), IX/1 Wehegasse 12, Vienna. (Teleph. No. 14647.)
Laub, L., manufacturer of electroliers, Andrassy-út 46, Gyár-utca 11, Budapest VI. (Teleph. No. 13-47.)
Laubscher Frères & Cie., detached accessories, Tauffelen, Switzerland.
Laugaudin, de, electrical engineer & metal manufacturer, 10, rue Claude Vellefaux, Paris. (Telephone No. 421-37.)
Laurent, L., electrical engineer, 109, boul. de la République, Reims.
Laurent Frères & Collot, makers of the Normale Turbine, Dijon, France.
Laurin, Alberto, electrical engineer & importer of electrical appliances, Ordone II. 1, Leon, Spain. (Telegrams: "Laurin, Leon.")
Lauriol, P., electrical engineer (Ingénieur en Chef des Services d'Eclairage de la Ville de Paris), 278, boul. Raspail, Paris.
Lausch, Carl, electrical supplies, Apostel Paulusstr. 26, Schöneberg bei Berlin. (Teleph. Amt. VI. No. 6348.)
Lausitzer Elektrizitäts-Werk, Ltd., electrical contractors, Friedrich Karl-Ufer 2-4, Berlin, N.W. 40.
Lauturner, Eugen, engineer, Gervinustr. 1, Charlottenburg, Berlin. (Teleph. No. 11282.)
Laval, —, inspector of posts & telegraphs, Nancy (Meurthe & Moselle), France.
Lavalette & Cie., magnetos, 175, ave. de Choisy, Paris.
La Vasconia (C. Laticule, successor), Electric Works, San Sebastian, Spain.
Lavenan & Cie., electricians, 78, rue des Archives, Paris.
Lavezzari, André, civil engineer, manager of the Ateliers Friedmann, deputy manager Cie. Française de l'Accumulateur Aigle & manager Sté. Anon. de Traction Electrique, 42, rue Blanche, Paris.
Lavini & Rampone, electrical apparatus, corso Vittorio Emanuele 73, Turin, Italy. (Telegs.: "Lavini, Turin." Teleph. No. 1006.)
Lavoisier, Ducoulombier, electrician, electric cranes, 3, rue de l'Amidonnerie, Tourcoing (Nord), France.
Lavoix & Mosès, patent agents, 7, rue de Châteaudun, Paris. (Telephone No. 222-22.)
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Lawton, G. F., telegraph engineer, manager Eastern Telegraph Company's Stations, Marseille & Bona Hotel des Postes et Télégraphes, Marseille, France.
Lax, Herm., G. m. b. H., manufacturers of dry batteries & accumulators, Köpnickerstr. 121A, Berlin, S.O. (Teleph. No. 4416, Amt. IV.)

Layh, Charles, gas engines, &c., 75, rue de la Clinique, Brussels.
Lazzar & Marcon, agents for insulators, Treviso, Italy.
Lean, Arthur L., A.M.I.E.E., Winterfeldtstr. 11, Berlin, W. 57. (Telegs.: "Lean, Berlin." Teleph. No. 12226, Amt. VI.)
Léauté, Henry, manager of the Société des Téléphones, 25, rue du Quatre Septembre, Paris.
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Lebaupin, G. L., electrical engineer, 59, rue de Plaisance, La Garenne Colombes (Seine), France.
Lebek, August, electric light contractor, Barmen, Germany. (Telegs.: "Lebek, Barmen." Teleph. No. 1814.)
Lebedeff, J. A., chief inspector of the Central Chamber of Weights & Measures, St. Petersburg. (Telegs.: "Glavnaya Palata, St. Petersburg.")
Lebelle, Paul, electric lighting installation, 16, rue des Filles du Calvaire, Paris.
Leblanc, Maurice, consulting engineer (Sté. Anon. Westinghouse), La Val sur Seine, Croissy (Seine-et-Oise), France.
Le Blanc, Jules & Fils, steam engine makers, rue du Rendez-Vous 52, Paris. (Telegrams: "Leblanc Rendes, Paris." Telephone No. 912-01.)
Leblanc-Barbedienne, G., electric light fittings maker, 30, boul. Poissonnière, Paris.
Lebocey & Cie., electrical engineers & contractors, 23, rue de Paris, Troyes (Aube), France.
Lebon, René, electrical engineer, Le Coteau (Loire), France.
Le Bras, Victor, electrician, 27, rue de Siam, Brest (Finistère), France.
Lebrun, B., electric light & power contractor, Mons, Belgium. (Telephone No. 37.)
Lebrun, Tardieu, electric lighting apparatus, 63, rue des Archives, Paris.
Le Carbone Akt. Ges., carbon brushes, Mainzerlandstr. 259, Frankfort-on-M.; & Oranienburgerstr. 34, Berlin, N. 24.
Lech Electricitäts-Werke Act. Ges., Viktoriastr. 4, Augsberg, Bavaria. (Teleph. No. 611.)
Lechat, J., & Cie., driving-belt makers, 16, ave. de la République, Paris. (Telegrams: "Lillegand, Paris." Telephone No. 257-07.)
Le Chatelier, Henry, electrical engineer, 73, rue Notre Dame-des-Champs, Paris.
Lechien, Albert, electrician, 155, rue Hamoir, La Louvière, Belgium.
Lechner, J., & Co., electric water level apparatus manufacturers, 8, Pfingstweidstr., Frankfort-on-Main, Germany. (Teleph. No. 1217.)
Leclanché et Cie., manufacturers of batteries, &c., 114, boul. Malesherbes, & 158, rue Cardinet, Paris. (Teleph. No. 507-03.)
Leclerc, Jules, installation contractor, 43, rue de Fives, Lille (Nord); & 32, rue Rabelais Fives, St. Maurice, France. (Teleph. No. 1074.)
Leclerc, L., electrical installations, rue de Carouge 94, Geneva, Switzerland. (Teleph. No. 119.)
Leclercq, E., electrical engineer, director Soc. Anon., Electricité & Mécanique, Charleroi, Belgium. (Telegs.: "Erg, Charleroi." Teleph. No. 737.)
Leclercq, J., electrical installations, rue d'Ecosse 68, Brussels.
Leclercq, J., electrician, rue de la Raquette 22, Mons, Belgium.
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Lecoq & Mathieu, electric & general engineers, 47, ave. Victor Hugo, Paris.
Lecorsais, A., dynamo & motor maker, Luxembourg.
Ledentu Frères, electric light fittings, 64, rue de Saintonge, Paris. (Telephone No. 291-27.)
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Leduc, Etienne, electrical engineer & technical adviser to the Administration of Ottoman Telegraphs, Constantinople.
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Leemans-Kaulen, electric light installations, rue de la Pacification 107, Antwerp.
Lefèbvre, E., electric light, rue Daubigny 17, Paris.
Lefévre, J., electrician, rue Bécassine 14, Bruges, Belgium.
Lefèvre, Vve., incandescent lamp maker, Gonesse (Seine-et-Oise), France.
Lefèvre, Alb., & Cie., electrical engineers, 42, rue Saint Ferdinand, & 9, rue du Debarcadère, Paris. (Teleph. No. 512-71.)
Leflaive & Cie., manufacturers of steam & gas engines & boilers for electrical installations, Saint-Etienne (Loire), France.
Lefort & Duvau, instruments of precision, 14, rue du Bourg. Tibourg, Paris.
Lefranc, J. B., electric apparatus, cut-outs, 109, faub. du Temple, Paris X.
Legay, L., accumulators, 128, rue du Bois, Levallois-Perret (Seine), France.
Legendre, Frères, manufacturing electricians, 105 & 107, rue de Turenne, Paris. (Telegs.: "Legfrer, Paris." Telephone No. 212-74.)

Leglise & Cie., wooden poles for telegraphy, 69, rue Lafaurie de Monbadon, Bordeaux (Gironde), France.
Legouëz, Raynald, manager of Ateliers & Constructions du Nord et de l'E t, 83, ave. Malakoff, Paris XVI.
Legrand, J., maker of tramway poles & brackets, rue Birmingham, Brussels.
Legrand, M., electric bell manufacturer & contractor, place des Halles, Mortagne (Orne), France.
Legras & Cie., chemical glass manufacturers, 85, ave. de Paris, Plaine-St. Denis, Seine, France.
Legros, Réné, small electric motors, 2, rue Jacques Huet, Fécamp (Seine-Inférieure), France.
Leguay, E., induction coils, lighting of motors, 39, rue de Montsourès, Paris.
Le Guevellon, reflectors, 52, rue Charlot, Paris.
Lehèque, O., marbles for switchboards, 76, boul. Richard Lenoir, Paris. (Teleph. No. 901-02.) Works: Juvisy (Seine-et-Oise), France.
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Lehmann & Co., electrical & technical apparatus manufacturers, 18, Gumpendorferstr., Vienna VI. (Telegs.: "Instrument, Vienna." Teleph. No. 1426.)
Lehmann, Dr. Max, & Co., chemical works, Dreibundstr. 1, Berlin, S.W. (Telegs.: "Densoloel, Berlin." Teleph. Amt. VI. No. 9378.)
Lehmann-Richter, Dr. E. W., consulting electrical engineer, Beethovenstr. 51, Frankfurt-a.-M. (Teleph. No. 8241.)
Lehnemann, Fritz, consulting engineer, 33A, Bahnstr., Düsseldorf.
Lehnert & Aron, exporter of electric wires, cables & insulating tapes, Schoeneberger Ufer 34, Berlin, W. 35. (Telegs.: "Lehnert, Berlin, W. 35." Teleph. No. 5013, Amt. VI.)
Leidel, J., electrical apparatus manufacturer, Duisburg, Germany.
Leigh, P. M., telegraph engineer, Thormöhlensgd. 49, Bergen, Norway.
Leiner, Oskar, electro-technical publisher, 26B, Königsstr., Leipzig, Germany. (Telephone No. 122.)
Leipziger Elektrische Strassenbahn, Leipzig.
Leipziger Gummi-Waaren-Fabrik Akt. Ges., vorm. Julius Marx, Heine & Co., insulating materials, Weststr. 72, Leipzig. (Telegs.: "Gummifabrik, Leipzig." Teleph. No. 933.)
Leipziger Stadtisches Elektrizitätswerk, Entritzscherstr. 14B, Leipzig.
Leitgebel, L., manager of the City Electric Light Works, Breslau, Germany. (Teleph. No. 173.)
Lejeune, P., fils, electrician, rue du Temple 26, Hodimont, Verviers, Belgium.
Le Las, Maurice, & Co., electrical marine engineers, 277, rue St. Honoré, Paris. (Telegrams: "Morilelas, Paris." Telephone No. 312-31.)
L'Électrométrie Usuelle, manufacturers of electric measuring apparatus, 81, boul. Voltaire, Paris.
Lelièvre, Vve., et Lepargneul, electric light contractors, Beuzeuille (Eure), France.
Lemach, A. C., dealer in carbons for batteries, IX., Liechtensteinstr. 3, Vienna. (Telephone No. 15943.)
Lemaire, G., electrical installations, 51, ave. de Versailles, Paris.
Lemaire, Gaston, manufacturer of dynamo brushes, rue Hinemart 10, Reims, France.
Lemaire, Léon, electrician & mining engineer, 92, de la Drève, Péruwelz, Belgium.
Lemaire & Hiltcher, electricians, 9, rue Roloud, Lille (Nord), France.
Lemaire-Leboutte, J., engraver & electrician, sewing machines & accessories for automobiles, rue du Brou 11, Verviers, Belgium.
Lemaître, Julien, sparking plugs, Bougie "Triplex," 51, ave. Gambetta, Paris. (Teleph. No. 929-20.)
Lemaitre et Lambert, electricians, rue du Pont Neuf 33, Charleroi, Belgium.
Lemaitre, P., et A. Bauby, general supplies for electricity, 5, rue Martignac, Bordeaux (Gironde), France.
Lemarchand G., Fils, wood casings for electricity, 83, boul. Felix Faure, Aubervilliers (Seine), France.
Le Maréchal Frères & Cie., copper merchants, 3, rue Chapon, Paris. (Telephone No. 137-11.)
Lembké, H., vulcanized fibre importer, insulators, mica, &c., 24, rue Albouy, Paris. (Telegs.: "Hylem, Paris." Teleph. No. 437-54.)
Lemerle, H., arc lamp, "Electra," 59, rue de la Roquette, Paris.
Lemmens, L., electrician, 4, rue du Corbeau, Antwerp.
Lemoine, C., electrical engineer, Ste. des Etablissements Gaumont, 11, rue Armaud Carrel, Paris.
Lemoine, J., & A. Jacob, electric bell manufacturers & contractors, 1 & 5, boul. Carnot, Mézières, France (Teleph. No. 129); & 77, cours d'Orléans, Charleville, France.
Lemonnier, M., consulting engineer, 285, ave. Louise 285, Brussels.
Lemonsu, E., manufacturing electrical engineer, 22, rue Violet, Paris.
Lenaerts, Auguste, speciality of wood telegraph & telephone masts, Turnhout, Belgium.
Lenglez, E., & Cie., electricians, boul. Sainctelette 89, Mons, Belgium.
Lenner, Cav. Ing. Raffaele, electrical engineer, 9, via Crescenzio, Rome. (Telegs.: "Lenner, Rome." Teleph. No. 4115.)
Lenoir, F. C., electrician, 191, boul. Malesherbes, Paris.
Lenoir, L., engineer, director de l'Usine à Gaz et Électricité, Huy, Belgium.

Lenoir & Forster, manufacturers of electric batteries, IV. Waaggasse 5, Vienna. (Teleph. No. 1519.)
Lenud, A., incandescent lamps, 46, rue Amelot, Paris.
Leoboldi, —, electrician, 60, boul. Emile Angier, Paris.
Léonard-Giot, extra soft steel, specially for dynamo & motor construction, Marchienne-au-Pont, Belgium.
Leopolder & Sohn, elec. & scientific apparatus makers, Erdbergstr. 52, Vienna III. (Teleph. No. 3005.)
Leperche & Cie., arc lamps "Eos," 26, rue de Navarin, Paris. (Teleph. No. 239-27.)
Leperre, Emile, electrician, 32, longue rue d'Argile, Antwerp.
Lepine, Ph., electro-medical apparatus, 14, place des Terreaux, Lyon (Rhône), France.
Leppin & Masche, electrical & physical apparatus makers, 17, Engelufer, Berlin, S.O. 16. (Teleph. No. Amt. IV. 3423.)
Lepreux, A., cable making machines, 119, rue de Flandre, Paris. (Teleph. No. 429-10.)
Lequeux, Paul, electrical engineer, 64, rue Gay Lussac, Paris. (Telephone No. 806-25.)
Lequy, C., electric light installations, 1ue du Canon 9, Brussels.
Le Renard fils, gutta-percha manufacturers, 90, rue Deterville, Alfortville (Seine), France. (Telephone No. 913-33.)
Lerch, F., manufacturer of electric light fittings, 61, boul. Richard Lenoir, Paris. (Teleph. No. 932-68.)
Lerco, Vincent & Co., electrical supplies & installations, via Estramurale Modugno, Bari, Italy.
Lericque, L., maker of electric light fittings, 60, rue Saint Sabin, Paris. (Teleph. No. 945-38.)
Lerolle Frères, bronze fittings, complete installations, 1, rue du Foin, & rue de Béarn 3, Paris.
Leroux, J., & L. Gatinois, tubular boilers, 19-25, rue de la Voûte, Paris. (Telegs.: "Lerogate, Paris." Teleph. No. 912-30.)
Le Roy, Georges Max, lamp-posts with oscillating arm for electric lighting, 3bis, place de la Republique, Levallois-Perret (Seine), France.
Leroy, Gregoire, electric light contractor, 69, boul. du Hainaut, Brussels.
Leroy, J. L., representative of Sautter, Harlé et Cie., 103, rue de Metz, Nancy (Meurthe-et-Moselle), France.
Leroy & Cie., resistance apparatus for heating by electricity, 30, rue Berthollet, Paris. (Telephone No. 805-66.)
Lesage, Robert, & Cie., electricians, 113, ave. de Villiers, Paris. (Telephone No. 502-27.)
Lesbaudy, —, electrician, 100, ave. Kléber, Paris XVI^e. (Teleph. No. 679-79.)
Les Ateliers de Construction du Nord de la France & Nicaise & Delcuve, La Louvière, Belgium.
Leser, Artur, & Co., electrical installers, Schaafenstr. 69, Cologne. (Teleph. No. 838.)
Lesjöfors Aktiebolags Upplag, manufacturers of telegraph & telephone wires, Kl. S. Kyrkog 5, Stockholm, Sweden. (Telegrams: "Lesjöfors, Stockholm.")
Leskovic, Lionello, A.I.E.E., Brescia, Italy.
Le Soudier, H. C., electrical publisher & bookseller, 174 & 176, boul. St. Germain, Paris. (Telegrams: "Librairie Lesoudier, Paris." Telephone No. 726-29.)
Le Soufaché, electrical engineer, Maison P. Grimault, Le Soufaché et Félix, 50, rue Laborde, Paris VIII.
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Lessing, Dr. Alb., manufacturer of dry batteries, &c., Nürnberg, Bavaria. (Telegs.: "Dralessing, Nürnberg." Teleph. No. 105.) Sole agents for the United Kingdom & Colonies: Krupka & Jacoby, 11, Queen Victoria-st., London, E.C. (Telegs.: "Acromion, London." Teleph. Nos. 367 & 368, Bank.)
Lessner, B. B., electrical engineer, Electro-Magnetic Separation Works, Carril, Spain.
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Lethimonier & Cie., electrical installations, 32, rue Felicien David, Paris.
Letombes, motors, 59, rue d'Amsterdam, Paris.
Leuner, Oscar, Mechanisches Institut, maker of influence machines, Kinematic models, Bismarkplatz 18, Dresden, Germany. (Telephone No. 8218.)
Leur, H. W. L., director of the Central Telegraph Office, Amsterdam. (Telephone No. 3144.)
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Levi, Carlo, electrical apparatus, via Annunciata 4, Milan, Italy.
Levin, P., electrical engineer & agent, Ertelew pereoulok 7, St. Petersburg. (Teleph. No. 22781.)
Levitas, accumulators, 128, rue des Bois, Levallois-Perret (Seine), France.
Levitsky, M., engineer, Nevsky 119, St. Petersburg, Russia. (Teleph. No. 8248.)
Levreaud, F., electrical instruments, rua Cedofeita 105, Oporto, Portugal.
Levy, Dr. Max, manufacturer of electrical apparatus, Mullerstr. 30, Berlin, N. 65. (Telegrams: "Röntgenstrahlen, Berlin." Teleph. No. 900, Amt. II.)
Levy, G., electrical engineer, 1, Rothenburgerstr., Nürnberg, Germany.
Lévy, H., antimagnetic watch manufacturer, 139, boul. Sebastopol, Paris. (Telegrams: "Torval, Paris." Telephone No. 152-77.)
Lévy, Jacques, electric apparatus, 4, Impasse Dudouy (48, rue St. Maur), Paris.
Levy Frères, wires & cables, 10, rue Thimonier, Paris. (Telegs.: "Freryvel, Paris.")
Levysohn Gebr., dynamos & motors, Markgrafenstr. 89-90, Berlin, S.W. 68. (Teleph. No. 875, Amt. IV.)
Ley, Rud., dynamo & electric motor manufacturer, Arnstadt, Germany.

Leytens, Em., electric bells & accessories, 64, avenue Plantin, Antwerp.
Lezy, Gustave, electrical instrument maker, 17, rue Maurice Mayer, Paris XIII.
Lherminier Fils, metallic wires for electricity, Laigle (Orne), France.
Lheyraud, J., & Cie., electrical contractors, ave. de la Motte Picquet 57 bis, Paris.
L'Hoest, Felix, telephone engineer, Compagnie Liégeoise du Téléphone Bell, rue des Augustins, 55. Office: Place de l'Université 60, Liége, Belgium.
L'Hoir-Delaunois, Ag., telephones & speaking tubes, La Louvière, Belgium.
Liagre, Charles, engineer, Société de l'Accumulateur Fulmen, 82, rue du Château, Asnières (Seine), France.
Liais & Cie., dry cells, 14 & 14 bis, rue d'Argenteuil, Paris. (Teleph. No. 219-51.)
Liander, R. (works manager of cable works, A. G. Vereinigte, Kabelwerke), 8 linia, 41, Wasily ostr., St. Petersburg, Russia.
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Licht & Kraftwerke G. m b. H., Grunaerstr. 15, Dresden (Teleph. No. 153); & Friedrich Karl Ufer 2 & 4, Berlin.
Licht-und Wasserwerke Langnau, Berne, Switzerland.
Licht-und Wasserwerke Thun, Thun, Switzerland.
Lichtwerke Gesellschaft (m. b. H.), incandescent lamp makers, Köpenickerstr. 71, Berlin, S.O. 16. (Teleph. No. Amt. IV. 667.)
Lie, J. B., inspector & superintendent Norwegian Telegraphs, Christiania, Norway.
Liebau & Co., modern office furniture, Altenweddingen H., bei Magdeburg, Germany.
Liebmann, Gunther, electrical engineer, Burgstr. 5, Merseburg, Germany.
Liebold, Hermann, electric installations, Gr. Kirchgasse 3/5, Dresden, Germany. (Tel. Nos. 3337 & 3377.)
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Liégaux, F., & Cie., electricians, rue Henri IV. 17, Bordeaux (Gironde), France.
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Lievens, electric lifts, rue du Telephone 53, Brussels. (Teleph. No. 7756.)
Ligier, Veuve, electric light fittings & apparatus maker, 15, rue Albouy, Paris. (Telephone No. 263-37.)
Lillehammer Elektricitetsvark (manager, M. A. Lien), Lillehammer, Norway.
Lilljequist, R., managing director Electrochemical Co., Bengtsfors, Sweden.
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Liman & Oberlaender, mfrs. of dry cells, No. 12, Wohlertstr., Berlin, N.W. (Teleph. No. 2595, Amt. III.)
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Limpke, Robt., accumulator maker, 17, Hollmannstr., Berlin, S.W. (Teleph. No. 9427, Amt. IV.)
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Lindeck, Prof. Dr. St., publisher of "Zeitschrift für Instrumentenkunde, Organ f. wissensch. Technik," Bismarckstr. 61, Charlottenburg, Berlin.
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Lindner & Co., manufacturers of china electrical fittings, Jecha-Sondershausen, Germany. (Telegrams: "Lindner, Jecha.")
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Liniger & Perrin, electricians, 13, rue St. Jacques, Grenoble (Isère), France.
Linn, F., electric light apparatus maker, 52, rue de la Chaussée d'Antin, Paris.
Linsenbarth, C., electric bells & optical goods, Eisenach, Thur, Germany. (Telephone No. 480.)
Lion & Hesse, electric lighting apparatus, 12, rue Martel, Paris.
Lion-Levy, S., agent for Messrs. Richard Frères, Fröbelstr. 8, Hamburg, Germany. (Teleph. No. 4445.)
Liotard, Frères, mafrs. of electric lighting fittings, 22, rue de Lorraine, Paris. (Teleph. No. 414-61.)
Lipetz & Co., electrical engineers, Nicolaevski-st., Kiew, Russia.
Lippmann, H., dynamo brush maker, Hohenlimburg, Germany. (Telephone No. 316.)
Lippmann, Otto, serpentine-stone insulator maker, Ansprung-Zöblitz, Sächsische Erzgebirge, Germany.

Lippmann, Prof. G., electrician, 10, rue de l'Éperon, Paris.
Lisambert, —, electric bell fitters, 33, rue Ernestale, Arras, Pas de Calais, France.
Lisbon Electric Tramways, Ltd., Lisbon. William Clark, general manager & chief engineer.
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Lœvenbruck, —, dynamo & motor maker, Maromme (Seine-Inférieure), France.
Locvsky, W., electrical agent, Nicolskaya, h. Tchijoff, Moscow.
Loewe, C. A., maker of leather driving-belts, Invalidenstr. 12, Berlin, N. (Teleph. No. 1218, Amt. III.)
Loewe, Ludw., & Co., Actiengesellschaft, engineers' tool makers, 17-19, Huttenstr., Berlin, N.W. 87. (Telegs.: "Laboritas, Berlin." Teleph. Nos. 2926, 2773 & 2135, Amt. II.)
Lohr, H., director Municipal Electricity & Tramway Works, Nymegen, Holland.
Lombardi, Angiolo, maker of electric bells, annunciators, &c., via Faenza 3, Florence, Italy.
Lombardi, Luigi, Professor at the Elettrotecnica e Fisica nella R. Scuola Sup. Politecnica, Santa Lucia 9, Naples, Italy.
Long, Edouard, & Cie., copper wire, 2, rue du Rhône, Geneva, Switzerland. (Telegs.: "Londay, Geneva." Teleph. No. 2861.)
Longfils, —, medical electrician, Ransart, Belgium.
Longoni, G. & C., representatives & importers of electric materials, 7, P. Cavour, Milan, Italy.
Longuemare, Vve. L., lighters for motors, 12, rue du Buisson St. Louis, Paris.
Longueval, E., manufacturer of electric light fittings. Show-rooms, works & offices: rue de Théatre 8, Brussels.
Looienga & Co., battery, cable & arc lamp manufacturers, Nieuwe Molstraat 23, The Hague, Holland. (Telegs.: "Looienga, Haag." Teleph. No. 899.)
Lootze, Otto, & Co., electrical goods, Brandenburgstr. 57, Berlin, S. (Teleph. No. 3655, Amt. IV.)
Lopez Cepero, Francisco, electrical engineer, Jerez de la Frontera, Cadiz, Spain.
Loppé, F., electrical engineer, 240, rue de Vaugirard, Paris.
Lorain, —, telegraph engineer, 18, rue de Stael, Paris.
Lorch, Schmidt & Co., tool makers & engineers, Frankfurt-a.-M. (Telegrams: "Lorch, Schmidt, Frankfurtmain." Telephone No. 5560.)
Loreau, A., electrical engineer, Aux Roches, par Briare, Loiret, France.
Lorentz, Dr. H. A., professor of mathematical physics, University, Leiden, Holland.
Lorenz, C., Act. Ges., telephone & telegraph works, 5 & 6, Elisabethufer, Berlin, S.O. 26. (Telegs.: "Signalwerk, Berlin." Teleph. Amt. IV. Nos. 544, 134, 1453.)
Loret, G., general enterprise of electric installations, 33, rue Berzelius, Paris. (Teleph. No. 586-19.)
Lori, Ferdinando, engineer professor at the R. Scuola d'Applicazione per gli Ingegneri, via Garibaldi, Padua, Italy.
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Lorotte, H., supplies for electricity, 112 bis & 118, rue de Paris, Vincennes (Seine), Paris. (Teleph. No. 948-06.)
Lorry & Co., manufacturers of electrical apparatus, 13, rue de Béarn, Paris. (Teleph. No. 252-99.)
Löthner, Ax., electrical engineer, Luleå, Sweden.
Löti, Isidor (Electrische Glühlampenfabrik, "Watt"), I. Grillparzerstr. 7, Vienna. (Teleph. No. 16044.)
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Louis & Jacquet, electric lifts, 47, ave. Victor Hugo, Paris.
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Louyot, E., manufacturer of nickel wires, 16, rue de la Folie Mericourt, Paris. Works: Paris; & Bornel, Oise, France. (Teleph. Nos.: 901-17, Paris; & 5, Bornel.)
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Lüben & Buhse, terminals, &c., Köpnickerstr. 153, Berlin, S.O. (Teleph. No. 2758, Amt. IV.)

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Luc & Cie., reflectors, rue Theophile Legrand 53, Fourmies (Nord), France.
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Lucas, R. P., electrician, Professeur à Collège de la Paix, Namur, Belgium.
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Luchaire, Henri, reflector & shade manufacturer, 27, rue Erard, Paris. (Telephone No. 908-95.)
Lucini, G., & Figli, electric light contractors, via St. Brigida 72, Naples, Italy. (Telegs.: "Lucini, Naples.")
Luck, Robert, electrical goods, Egellstr. 18, Tegel, nr. Berlin. (Teleph. No. 95.)
Lüdenscheider Metallwerke Akt. Ges., vorm. Jul. Fischer & Basse, manufacturers of electrical apparatus, Lüdenscheid, Germany. (Telegrams: "Electric, Lüdenscheid.")
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Lüdhauser, asbestos driving bands, via Principe Amedio 16, Turin, Italy.
Ludt, Ch., motors for lighting, 78, rue de Crimée, Paris.
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Ludwig, H., maker of wooden articles for electrical machines & apparatus, Fruchtstr. 62, Berlin, O. 17.
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Lumière Electrique, La (weekly; price 1 fr. 50; ann. sub., 50 fr.), 142, rue de Rennes, Paris. (Tel. 243.28.)
"Lumina" Elektrische Unternehmungen (Inh. Dr. Graffenberger), Belzigerstr. 27, Schöneberg, Berlin. (Teleph. Amt. 6 No. 7231.)
Luminais fils et Pageot, dynamo & motor makers, 9, rue Dubreil, Nantes (Loire-Inférieure), France. (Telegs.: "Energie, Nantes." Teleph. No. 389.)
Luna, Cárlos, electric light contractor & electric tanning, Salamanca, Spain.
Lund, C. P., manager of Ny Vestergades Electric Light Station, Copenhagen B.
Luppens, H., & Co., electric light fixtures, boul. du Nord 151; & rue Neuve 144, 146, 148. Works: rue Danemark, Brussels.
Luraschi, Arnaldo, electrical engineer & electrical material importer, Viale Monforte 11, Milan, Italy.
Lussmann, J. H., Söhne, electric light apparatus, 39, Langestr., Frankfort-on-the-Main. (Tel. 2468.)
Lutèce Electrique, La, manufacturing electricians, 9, rue Buffault, Paris. (Telegrams: "Lutrique, Paris." Telephone No. 226-10.)
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Luther, Martin, père et fils, electrical apparatus, place Pury, Neuchâtel, Switzerland.
Lüthi & Näther, electric alarms, Leipzig-Anger.
Lutz, Edward, & Co., electric light fittings makers, 41, Hausergeane, Vienna X. (Teleph. No. 8647.)
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Lynen & Co., makers of electric wires & cables, Eschweiler b. Aachen, Germany.
Lyngby Aug., electrical instruments & bells, Möntergade 12, Copenhagen K.
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McBryde, Anthony H., A.M.I.E.E., Mina de S. Domingos, Mertola, Portugal. (Telegs.: "McBryde, Mason, Pomaron.")
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MacDowall, John, & Barbour, mechanical & electrical engineers, Vulcan Engine Works, Piræus, Greece. (Telegs.: "Vulcan Piræus.")

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Machek, Franz, & Co., motors & dynamos, Radchgasse 3, Vienna IX.
Machol & Marter, electrical & scientific apparatus makers, Kommandantenstr. 18, Berlin, S.W. 19. (Teleph. No. 3649, Amt. I.)
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Madsen & T. Baagöe, electro-platers, 30, Tordenskjoldsgade, Copenhagen.
Maede, F. A., small motors, telegraphs, &c., Weinböhla i. Sa., Germany. (Telegs.: "Maede, Weinböhla.")
Machler & Kaege, manufacturers of waterproof electric light & power installation material, specially of porcelain, Meder Ingelheim a. Rh., Germany. (Teleph. No. 255.)
Maerklin Gebr. & Co., manufacturers of toy electrical railroads, motors, &c., Goeppingen, Germany.
Maes & Damon, electric light fittings, 17, rue Saint-Gilles, Paris.
Maffei-Schwartzkopff Werke G. m. b. H., manufacturers of steam turbines & dynamos, Chausseestr. 23, Berlin, N. (Telegs.: "Turbomotor, Berlin." Teleph. III. No. 122.)
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Maillochon Frères, insulators, impasse du Moulin Joly, Paris XI.
Mainz, Gasapparat- und Gusswerk, makers of chandeliers for electric light & gas, 3, Neuthorstr., Mayence, Germany. (Telegrams: "Broncewerk, Mainz." Telephone No. 132.)
Maione, Raffaele, practical electrician, Largo Montecalvetto 9, Naples, Italy.
Maire, L., electrician, arc lamp carbons, 3, ave. Gambetta, Paris.
Maison Beer (Société Anonyme), electric light & power contractors, Jemeppe-lez-Liége, Belgium.
Maison Breguet, mfg. electrical engineers, 19, rue Didot, Paris. (Telegs.: "Maison Breguet, Paris.")
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Malapert, L., "Pile Norus," primary batteries, 10, cité Trévise, Paris.
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Malkiell, —, maker of wires & cables, 23, Torgovaja, St. Petersburg, Russia.
Mallard, P., electric cranes, 33, quai le France, Rouen (Seine-Inférieure), France.
Mallet, Achille, electrical contractor, 46, rue Gambetta, Thumesnie (Nord), France.
Mallié & Cie., manufacturers of porous cells, porcelain & magnets, 155, faub. Poissonnière, Paris. (Telegs.: "Acrifiltre, Paris." Teleph. Nos. 164-37 & 165-37.)
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Mannheimer Gummi-, Guttapercha- und Asbest-Fabrik, Mannheim, Baden.
Mannheimer Privat Telefon Gesellschaft G. m. b. H., Mannheim, Germany. (Telegs.: "Privattelefon, Mannheim." Teleph. No. 1552.)
Mansard, G., & Cie., electricians, electric light fittings, rue Charlot 71, Paris. (Teleph. No. 1014-43.)
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Mantegazza & Regazzoli, electrical works, via Larga 18, Milan, Italy.
Manterola & Co., electrical material, Avenida 12, San Sebastian, Spain.
Mantovani, Celso, electrical engineer, Merceria del Capitello, Venice.
Manufactur Urania, battery makers, Hauptstr. 17, Schöneberg-Berlin. (Telegs.: "Urania, Schöneberg." Teleph. Amt. VI. No. 17269.)
Manufacture de l'Alfénide, german silver manufacturers, 66, rue des Marais, Paris.
Manufacture de Porcelaines de Saint Foy, insulators for telegraphic lines, L'Argentière (Rhône), France.
Manufacture Générale de Caoutchouc L. Edeline (Pneumatiques Francais Gallus), indiarubber manufacturers, 43, quai National, Puteaux (Seine), France. (Teleph. No. 502-80.)
Manufacture Métallurgique de la Jonchère, flexible tubes, La Jonchère, par Rueil (Seine et Oise); & 15, rue Saussier-Leroy, Paris. (Telegrams: "Metoflextub, Paris.")
Manufacture Parisienne d'Appareillage Électrique, insulators, 14, rue Commines, Paris.
Maquaire, F. V., consulting engineer, mechanical & electrical appliances, 101, rue de Vaugirard, Paris, VI^e.
Maquaire, J. A., electrician, 31, boul. de Montmorency, Paris XVI. (Telephone No. 689-91.)
Maquinaria Anglo-Americana, machine tools worked by electricity, Cortes 559, Barcelona. (Telegs.: "Daulignac, Barcelona." Teleph. No. 1476.)
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Marenco, Prof. Emilio, electrical engineer, via Po 8, Turin, Italy. (Teleph. No. 28-01.)
Margaillan, reflectors, 56, quai Jemmapes, Paris.
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Marietti, Ing , & Co., installation contractors, via San Quintino 19, Turin.
Marillier & Robelet, patents, 42, boul. Bonne-Nouvelle, Paris.
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Marinoni, F., & Co., sulphuric acid manufacturers, Este (Prov. di Padova), Italy.
Mariotti, Montanari & Co., representatives for the Maschinenfabrik of Augsburg, via Montebello 36, Milan.
Märkische Drahtwerke G. m. b. H., wire manufacturers, Oberrahmede, i. W., Germany.

Märkische Installations-Gesellschaft, Ltd., electrical installations, Adalbertstr. 6, Berlin, S.O.

Märkische Metalldrahtumspinnerei Fried. Heermann, manufacturers of covered electrical wires of all kinds, Hohenlimburg, Westphalia, Germany. (Telegs.: "Umspinnerei, Heermann." Teleph. No. 55.)

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Marschel & Pannicke, electric light contractors, Chausseestr. 54, Berlin. (Teleph. Amt. III. 1356.)

Martel, Catala & Cie., makers of dynamo brushes, Schlestadt, Alsace, Germany.

Martel, Ch. & L. Thomas, insulator makers, Esternay (Marne), France; & 14, rue de Commines, Paris.

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Masaveu & Co., electrical apparatus, Cimadevilla, Oviedo, Spain.

Mascard, Léon, director of Etablissements Henry Lepaute, 5, rue Marguerite, Paris XVII.

Maschinen-und Armaturenfabrik, vorm. H. Breuer & Co., electric light pole manufacturers, Höchst-a.-M. (Telegrams: "Breuer, Höchstmain." Telephone No. 3.)

Maschinenbau Actiengesellschaft, vormals Breitfeld, Daněk & Co., steam engines & boilers, Carolinenthal, Prague, & Blansko, Mähren, Austria.

Maschinenbau-Actiengesellschaft vorm. Ph. Swiderski, steam engine builders, Leipzig-Plagwitz. (Telegrams: "Swiderski, Leipzig-Plagwitz." Telephone No. 5514.)

Maschinenbau Anstalt und Eisengiesserei, A. Borsig, Tegel, nr. Berlin. (Teleph. No. 250-259.)

Maschinenbau-Anstalt Humboldt, Engineering Works, Kalk, nr. Cologne. (Telegs.: "Humboldt.")

Maschinenbauanstalt für Kabelfabrikation, Conrad Felsing, jun., cable machinery manufacturer, Kaulsdorferstr. 4, Coepenick, nr. Berlin. (Telegs.: "Felsing, Coepenick." Teleph. No. 71.) *See advt., page 14.*

Maschinenbau-Gesellschaft Basle, makers of steam engines, turbines, &c., Basle, Switzerland. (Telegrams: "Watt, Basle.")

Maschinenfabrik Augsburg Nürnberg A. G., engineers, Nürnberg 24, Germany. (Telegs.: "Klett, Nürnberg.")

Maschinenfabrik Bruchsal Akt.-Ges., vorm. Schnabel & Henning, electrical & mechanical engineers, Bruchsal, Germany. (Telegrams: "Maschinenfabrik Bruchsal." Telephone No. 43.)

Maschinenfabrik Buckau, Ltd., makers of steam engines for electric lighting, Magdeburg-Buckau, Germany. (Telegs.: "Maschinenbau, Magdeburg." Teleph. Nos. 366 & 1600.)

Maschinenfabrik, E. Franke, Waldestr. 23 & 24, Berlin, N.W. (Teleph. Amt. II. No. 1837.)

Maschinenfabrik Esslingen, Abtheilung für Elektrotechnik, makers of dynamos, electric motors, electric locomotives, electrically driven cranes, spills, hoists, turn tables, &c., Cannstatt. (Telegrams: "Electron, Canstatt." Teleph. Nos. 148 & 418.) Head office: Esslingen.

Maschinenfabrik Esslingen, Platzl. 4, Munich. (Telephone No. 3334.)

Maschinenfabrik Gans & Co. (G. m. b. H.), engineers & electric pump makers, 25-29, Hauptstr., Berlin-Reinickendorf. (Teleph. No. 107.)

Maschinenfabrik Geislingen, turbines & water wheels, Geislingen, Württemberg. (Telegrams: "Maschinenfabrik, Geislingensteig." Telephone No. 17.)

Maschinenfabrik Oerlikon, makers of electrical machinery of all kinds & steam turbines. Works: Oerlikon, nr. Zürich, Switzerland. London office: Oswaldestre House, Norfolk-st., Strand, W.C.

Maschinenfabrik Prometheus, G. m. b. H., Hauptstr. 25-29, Reinickendorf, Berlin. (Teleph. No. 116.)

Maschinen Fabriks Actien Gesellschaft, vorm. Tanner, Lactsch & Co., turbine wheel & machine makers, Linzerstr. 150/156, Vienna 13/2. (Telegs.: "Tanner 89, Vienna." Teleph. No. Ottokring, 34 & 70.)

Maschmann, Rockenbach & Co., electric light fittings makers, Mainz, Germany. (Teleph. No. 691.)

Maserati, Giovanni, telephone maker & contractor, via St. Antonio, Piacenza, Italy.

Maslennikoff, M., engineer, Armiansky p. 2, h. Mikini, Moscow, Russia.

Massadro, Guiseppi, installation contractor, via Borgo Dora 12, Turin.

Massarotti & Bianco, electrical engineers, 21, via C. Alberto, Turin, Italy.

Massin, R., bronze fittings, 70, rue des Tournelles, Paris. (Teleph. No. 1021-09.)

Massiot, X-ray apparatus mfrs., 44, rue du Château d'Eau, & 15, boul. des Filles du Calvaire, Paris.

Masson, G., electric apparatus manufacturer, 11, rue Marcellin-Berthelot, Montreuil et Seine, France. (Teleph. No. 184.)

Masson, L. N., engineer, 22, rue Alphonse-de-Neuville, Paris XVII^{e}. (Teleph. No. 570-99.)

Masson & Cie., publishers of scientific books, 120, boul. Saint-Germain, Paris VI^{e}.

Masson, Marcel, & Cie., manufacturing electricians, 25, rue de Senlis, Asnières, France. (Teleph. No. 111.)

Massy, Eugène, electrical manufacturer, 158, rue Cardinet, Paris.

Mastrostefano, Domenico, electrical engineer, via Sanita 141, Naples, Italy.

Matecki & Obrembowicz, heating & ventilating engineers, 39, Siennastr., Warsaw. (Telegrams: "Ventilator, Warsaw." Telephone No. 192.)

Mathelot, electrical installations, 3, rue Meissonier, Paris. (Teleph. No. 549-48.)

Mathiba, Hermann, electrical installations, Ohlauerstr. 43, Breslau, Germany. (Teleph. No. 3007.)

Mathieu, Emile Leopold, electrician, rue d'Ypres, Menin, Belgium.

Mathieu, Ferdinando, electrician, via Monte Napoleon 18, Milan, Italy.

Mathieu, Louis, engineer, director Maison Bardon, 110, boul. National, Clichy (Seine), France.

Mathieu & Bertand, electricians, 110, rue des Dames, Paris.

Mathot, R., M.I.M.E., consulting engineer, 14 rue de la Braie, Brussels.

Matthaey, Max, manufacturing electrician, Cuvrystr. 16, Berlin, S.O. 33.

Matthes, G. (engineering instructor), electricity schemes projected, contractor for installations, patents, &c., Koniggrätzerstr. 90, Berlin, S.W. 11. (Teleph. Amt. VI. No. 13583.)

Matthes, E., & Weber Act. Ges., manufacturing chemists, Duisburg, Germany.

Matthes, H., & Co., electrical engineers, Bergstr. 33, Berlin, N. 4. (Teleph. No. 3608, Amt. III.)

Matucci, A., practical electrician, via Brunelleschi 2, mezzanino, Florence, Italy.

Maucœur, J., & Cie., electrical contractors, 122, rue Nationale, Lille (Nord), France.

Mauny, A., electrician, 4, rue des Jacobins, Le Mans (Sarthe), France. (Teleph. No. 2.80.)

Mauraisin Frères, electric toys, 159, rue de Vauves, Paris XIV.

Maurel & Fils, indiarubber, 140, rue de Rivoli, Paris.

Maurer, H., manager Usines Hydro-Electriques de Montbovon, Romont, Switzerland.

Maury, P., electric clock bells, 21, rue du Chateau d'Eau, Paris (X^{e} Arrondt.). (Teleph. No. 438-47.)

Mauvais, Albert, portable accumulators, 15-17, rue Niepce, Paris XIV. (Teleph. No. 705.92.)

Max Sieverts Fabriks Aktiebolag, manufacturers of silk-covered copper wire & the well-known Sieverts soldering lamps & butts, Smålandsg. 30, Stockholm, Sweden.

Maxant, L., dynamo & electric machine manufacturer, 38 & 40, rue Belgrand, Paris, France.

Maxwell, H. H., officer-in-charge, Eastern Telegraph Co., Villa Real Santonio, Algarve, Portugal.

May, Dr. Oscar, pole finding paper, Hermannstr. 30, Frankfort-on-Main, Germany.

Mayer & Moller, cable wax manufacturers, Schwarzspanierstr. 6, Vienna IX. (Telegs.: "Maymoller, Vienna." Teleph. No. 16429.)

Mayer & Wolf, electro-medical apparatus mfrs., 12, Waisenhausgasse IX., Vienna. (Tel. No. 14200.)

Mayerhofer, Peter, electric bell manufacturer, Ovoda u. 40, Budapest, VII.

Mayweg, Fr. Wilh., binding screws, Mühlenrahmede, Westf. 3, Germany.

Mazières, J., electrical engineer, installations, rue du Loup 65, Bordeaux (Gironde), France.

Mazo, E., arc lamps for projectors, 8, boul. Magenta, Paris.

Mazzola, Francesco, electrical engineer, via dei Mille 52, Turin, Italy.

Mécanique Électricité, Sté. Ane., 11, rue Ferrand, Valenciennes, Nord, France. (Teleph. No. 208.)

Mechaniker, Der (5th & 20th of each month; quarterly sub., M. 1.50), Nikolassee bei Berlin. (Telegs.: "Mechaniker, Berlin-Nikolassee." Teleph. Amt. Wannsee No. 184.)

Medel Prieto, Gouzalo F., electrical apparatus, S. Juan de los Reyes 12 y 14, Málaga, Spain.
Meert, D. J., electric fixtures, 27, rue Rempart des Moines, Brussels.
Meese, Wilhelm, Söhne, iron & steel wire for electrical purposes, Altena, Westphalia.
Megardi, Ing. G., electrical engineer, Soc. Elettric. Alta Italia, via Arsenale 21, Turin, Italy.
Megerle, Franz, speciality: Lacquer for insulating purposes, Friedberg, bei Frankfurt-am-Main, Germany; & Vienna, Austria.
Mégevand, F., & Co., screw & small detached accessories manufacturers, rue Richemont 20, Geneva, Switzerland. (Telegs.: "Megevis, Geneva." Teleph. No. 482.)
Mehmed Emin bin Ali, electrical engineer, superintendent of the Bureau Technique à l'Administration des Postes et Télégraphes, Constantinople.
Mehne, I. G., electric bells & indicators, Schwenningen (Württemb., Schwarzwald), Germany. (Telegs.: "Elektriker Mehne, Schwenningen." Teleph. No. 58.)
Meidinger, crystals & glassware for electrical purposes, 21, rue de l'Hirondelle (6, place St. Michel), Paris. (Telegs.: "Aduchange, Paris." Teleph. No. 819-21.)
Meier, F. C., installation contractor, Dortmund.
Meincke, E. C. H., electrician, Great Northern Telegraph Co., Ltd., Nystad, Finland.
Meinich, P., electrical engineer, director for N. A. Siemens-Schuckert, Kirkeg 20, Christiania, Norway.
Meininghaus, H., installation contractor, Dortmund, Germany.
Meirowsky & Co., mica manufacturers, Ehrenfeld-Cologne, Germany.
Meiser & Mertig, scientific & electrical apparatus makers, 27, Kurfürstenstr., Dresden, N. (Tel. No. 5470.)
Meissner, A. M., electrical engineer, Sweelinckstraat 2, The Hague, Holland.
Meissner, Carl, metal & bronze ware manufacturer, Feldschlœsschenstr. 10, Dresden A., Saxony. (Teleph. No. 1275.)
Mejo & Springer, speciality: clichés & catalogues prepared, Greuzstr., Leipzig, R., Germany.
Melder, K., electrical apparatus dealer, Nevsky 40-42, St. Petersburg. (Teleph. No. 2601.)
Melgaard, A., electrical apparatus, Nykjöbing, Falster, Denmark.
Melhuish, T. W. W., consulting & inspecting electrical engineer, 14, Brandenburgischestr., Südende, bei Berlin. (Telegrams: "Melhuish, Südende." Telephone No. 235, Amt. Tempelhof.)
Mellwigg, Th., electrical engineer, Zürich, Switzerland.
Melms, Gustavus J., electrical engineer, Melms & Pfenninger, Ltd., Munich, Germany. (Telegs.: "Rotation, Munich." Teleph. No. 2930.)
Meloncini, Sante, electrical & sanitary engineering steam works, St. Canciano Campo Birri 5394, Venice, Italy. (Telegrams: "Meloncini, Venice." Telephone No. 54.)
Melzer & Neuhardt, fittings makers, Stolzenthalergasse 6, VIII., Vienna. (Telephone No. 18089.)
Melzow, Otto, driving band & oil manufacturer, Andreasstr. 32, Berlin, O. (Teleph. No. 1605, Amt. VII.)
Mende, Wilhelm, electrical engineer, Waldenburg-i.-Schl., Germany. (Telephone No. 75.)
Meng, V., & Lesieur, electric light wires & cables, 80, rue Bolivar, Paris. (Teleph. No. 401-88.)
Meng, Walter, chief engineer of the City Electric Works, Strehlenerstr. 72, Dresden, Saxony. (Tel. 7166.)
Mengarini, Prof. Dr. Comm. G., Engineering School & R. University, Piazza Quirinale 14, Rome.
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Ménier, Gaston, membre fondateur de la Société des Electriciens, 56, rue de Châteaudun, Paris.
Menier, Henri, M.I.E.E., manufacturing electrician, 8, rue Alfred de Vigny, Paris. (Teleph. No. 508-21.)
Menjou, H., & Cie., electrical contractors, 7, rue Montpensier, Pau, France.
Mennig, Edouard, electrician, avenue Van Volxem 274-276, Brussels.
Mentasti & Chiesa, electrical engineers, 16, via Broletto, Milan, Italy.
Meran Frères, manufacturers of porous cells, 155, faub. Poissonnière, Paris.
Mercadier, E., M.I.E.E., Director, Études de l'École Polytechnique, 21, rue Descartes, Paris.
Mercadier-Regnier, Lagrelle, automatic switch, Le Phenix Reidacrem, Louvres (Seine-et-Oise), France.
Mercanton, Paul L., electrical engineer, professor at the University, 1, Borromées, Lausanne, Switzerland.
Mercey, H. de, & Cie., electric light engineers, 2, rue des Templiers, Lyons, France.
Merizzi, Giacomo, electrical engineer, director Tecnomasio Italiano Brown Boveri, via Castiglia 21, Milan. (Telegs.: "Brownboveri, Milan." Telephone Nos. 1405, 3702 & 9746.)
Merkel, E., electrical engineer, Mittl. Lech A. 531, Augsburg, Bavaria. (Telegs.: "Eginhard Merkel.")
Merlin, —, general application of electricity, 87, ave. Malakoff, Paris.
Mermet, Achille, electrician, 60, rue de Paris, Joinville le Pont, France.
Mermod Frères, "La Polaire" arc lamp, Ste. Croix, Switzerland.
Merola, Vincenzo & Co., electric light contractors, Cassino, Caserta, Italy.
Merten Gebr., hard rubber goods, Gummersbach, Rheinland, Germany.
Mertens, constructing electrician, rue Maigre, Gentbrugge, Belgium.
Mertens, H., electrician, rue St. Laurent 102, Antwerp, Belgium.
Merzagora, Luigi, electrical engineer, 9, via San Dalmazio, Milan, Italy.
Messager, Ernest, electrical engineer, 24, boul. des Ecoles, Lille (Nord), France.
Messerli, E., electrical installation contractor, Berne, Switzerland.
Messmang, Heinr., galvanic carbons, Sticling Heising bei Kempten, Bavaria.
Messmer, Alexandre, dealer in dynamos & motors, 15, boul. Davout, Paris. (Teleph. No. 947-47.)

Messter, Ed., maker of electrical goods, Schiffbauerdamm 18, Berlin, N.W. (Teleph. No. 2433, Amt. III.)
Mestern & Co. (Nachf.), ventilating engineers, 6, Oranienstr., Berlin, S.O. 26.
Mestral, G. de, & Harlé, patent agents & consulting engineers, 21, rue La Rochefoucauld, Paris.
Městská elektrárna ve Vsetině, Mähren, Austria.
Městská elektrárna Wildenschwert, Bohemia.
Metall & Armaturenwerke A. G. vormals Hans Schwarz & Co., machine tools, Konradstr. 62, Zürich, Switzerland. (Telegs.: "Metallarmatur, Zurich." Teleph. No. 3564.)
Metallurgie, La (weekly; ann. sub., P.U. 18*s.* 6*d.*), 20, rue Turgot, Paris IX^e^.
Metallurgique, La (Soc. Anon.), manufacturers of tramway plant, &c., 30, rue Montagne aux Herbes Potagères, Brussels. (Telegs.: "Metal, Brussels.")
Metallwerke Bruno Schramm, G. m. b. H., arc lamp makers, Erfurt-Ilversgehofen, Germany. (Telegrams: "Metallwerke, Erfurt-Ilversgehofen." Telephone No. 208.)
Metivier & Co., insulating materials, 92, rue de la Victoire, Paris. (Teleph. No. 307-96.)
Metzeler & Co., Act. Ges., indiarubber & asbestos manufacturers, Westendstr. 131 & 133, Munich, Germany. (Teleph. No. 12050-52.)
Meunier, Gustave, electrical engineer, chief of electrical department of La Société des Forces Hydro Electriques du Cher, Montluçon (Allier), France.
Meunier, H., electrical apparatus manufacturer, wires & cables, 19, route de Flandre, La Courneuve (Seine), France. (Teleph. No. 424-46.)
Meurer, Gebr., oil manufacturers, Städelstr. 57, Frankfurt-am-Main; warehouses in Antwerp, Hamburg, Stettin, Dusseldorf, Köln, Mainz, Riesa a. d. E., Chemnitz, Breslau, Beuthen O.S., & Bodenbach a. d. Elbe, Germany. (Teleph. No. 204.)
Meusser, Herrmann, publisher of electrical books, 58, Steglitzerstr., Berlin, W. 35. (Tel. No. 147, Amt. VI.)
Meyer, Dr. Paul., Actiengesellschaft, engineers; specialty: electro-technical instruments & apparatus, Lynarstr. 5-6, Berlin, N. 39. (Telegs.: "Spezialfabrik, Berlin." Teleph. No. 2602, Amt. II.)
Meyer, Ferd., engineer of bridges & roads, director of the Cie. Edison, 28, rue de Châteaudun, Paris.
Meyer, Guglielmo, practical electrician, via St. Spirito 41, Naples, Italy.
Meyer, Hans S., M.I.E.E., managing director Norddeutsche Automobil & Motoren A. G., Bremen.
Meyer, Hugo Hermann, machines & electrical agent, Riga, Russia. (Telegs.: "Hugomeyer, Riga.")
Meyer, J. F., electrical instrument maker, 37, Clausiusstr., Zürich IV.
Meyer, Marcel, chief engineer, Cie. générale de travaux d'éclairage et de force, 40, rue Blanche, Paris.
Meyer, N. R., director of the Danish Government telegraphs & telephones, Copenhagen. (Tel. No. 4752.)
Meyer, R., engineer & assistant, Technische Hochschule, Electrotechnisches Institut, Danzig, Germany.
Meyer, Th., electrical contractor, Meinkenstr. 6, Bremen, Germany. (Telephone No. 2821.)
Meyer, Roth & Pastor, machine manufacturers, Köln a. Rh., Raderberg, Germany.
Meyer-Frey, H., battery salt mfr., Friedberger Landstr. 32, Frankfurt-am-Main. (Teleph. No. 3710.)
Meyer-May, Albert, director Société industrielle des téléphones, 18, ave. Niel, Paris.
Mica Insulating Works, Ltd, insulating material manufacturers, Breitenbach, nr. Basle, Switzerland. A. Borer, director.
Michaelis & Eggerding, manufacturers of electrical apparatus, 8 & 9, Andreastrasse, Hanover.
Michaelis & Wendtlandt, metal screws, Luckenwalde, Germany.
Michalke, Dr. C., electrical engineer, 10, Scharrenstr., Charlottenburg, Berlin.
Michalon, Maurice, engineer, Etablissements Français Aubert-Grenier, 3, rue du Hâvre, Paris.
Michaud, A., electrical installations & supplies, 7, rue Paul Bert, St. Etienne (Loire), France.
Michaux, Camille, electrical engineer, Sté de l'Accumulateur Tudor, 81, rue St. Lazare, Paris.
Michel, E., electrical contractor, 1, rue Alboni, Paris XVI.
Michel, Georges, electrician & electrical engineer, rue Sainte 40, Marseilles, France.
Michel, Léon, primary batteries & telephony, 65, boul. de Strasbourg, Paris.
Michel & Cie., electric fans, 82, rue de la Folie Mérieourt, Paris.
Michel & Trubert, electrical supplies, 105, ave. Parmentier, Paris.
Michelet, J., publisher of electrical & scientific books, 25, quai des Grands Augustins, Paris.
Michelin, A., manufacturer of electric light fittings, 115, rue de Bagnolet, Paris. (Telephone No. 904-66.)
Michelin & Cie., driving bands for dynamos, Clermont-Ferrand; & 105, boul. Pereire, Paris. (Telephone No. 502-08.)
Midoz, C., manufacturing electrician, 8, rue Gambetta, Besançon (Doubs), France.
Mielentz & Dalchow, engineers, Köthenerstr. 17, Berlin, W. (Teleph. Amt. 6, No. 7816.)
Mierisch, Frédérie, engineer, manager of "Compagnie des Compteurs Aron," 12, rue Barbès, Levallois-Perret (Seine), France.
Miesler, Dr. Julius, electrical engineer, Geologengasse 9, Vienna III.
Migeon, Raoul et Fils, manufacturing electricians, 10, rue de l'Arsenal, Angoulême, Charente, France.
Mignot, Albert, engineer, rue de la Blanchisserie 18, Brussels.
Miguel & Carreño, electrical apparatus, Campillo de San Andrés 4, Valladolid, Spain.
Mijnssen & Co., electrical engineers, Keizersgracht 205, Amsterdam. (Telephone No. 1685.)
Mijois & Cie., electrical apparatus manufacturers, 10, ave. de l'Alma, Paris. (Telephone No. 545-12.)
Milani, Chev. Paolo, engineer, S. Pietro Incarriano 3, Verona, Italy.

Milano, Miguel, electrical engineer, Nunez, do Balboa 7, Madrid.
Milardi, V. Edmondo, electrical engineer, via S. Marco 25, Rome, Italy.
Milardi & Co., patent agents, 25, S. Marco, Rome.
Mildé, Ch., Fils et Cie., manufacturing electricians, electrical engineers & contractors, 56, 58 & 60, rue Desrenaudes, Paris.
Mille, P., wires & cables, 3, rue Caste, Paris.
MILLER, H., LTD., dry cells, measuring instruments, Hazebrouck (Nord), France. *See advt., page* 17.
Miller, Oscar von, electrical engineer, 3, Ferdinand Millerplatz, Munich, Germany. (Telegrams: "Oscar Miller, Munich." Telephone No. 8094.)
Millet, F. T., manufacturer of batteries & induction coils, Persan (Seine-et-Oise), France.
Milsan, Ludovic, dynamo maker, 3, rue Centrale, Ile Lacroix, Rouen (Seine-Inférieure), France.
Mina, Carlo, engineer & professor, via Moscova 18, Milan, Italy.
Minaux, M., director, Station Centrale d'Électricité d'Étroeungt (Nord), France.
Minghetti, Silvio, electric light contractor, Bologna, Italy.
Miniotti, Ing. Marcello, electrical engineer, via Madama Cristina 20, Turin, Italy.
Minne, —, electro-medical apparatus, 9, rue Pierre-Levée, Paris.
Minner, Wilhelm, manganese merchant, Arnstadt, Thüringen, Germany. (Telegs.: "Wilhelm Minner, Arnstadt." Teleph. No. 151.)
MINNER, OTTO, & CO., G. m. b. H., manganese miners & mills, Arnstadt-Thuringen, Germany. (Telegs.: "Minneroto." Teleph. No. 50.)
Minssart, —, manufacturing electrician, 115, rue d'Aboukir, Paris.
Minué, Joaquin, electrician, Don Jaime I. 27, Zaragoza, Spain.
Minuth, Herm., electrical apparatus manufacturer, 90, Ritterstr., Berlin, S.
Minuti, Florenzio, electrical installations contractor, via Vecchietti 4, Florence, Italy.
Miolati, Prof. Dott. Arturo, professor of electro-chemistry, Royal Ecole Polytechnique, Turin, Italy.
Miramon, C., electrician, 48, Praça de D. Pedro, Lisbon.
Mironkoff, J. G., electrician, chief of the Electric Lighting Station of Gatschina Palace, Gatschina, gouvern. Petersburg, Russia.
Misch Gebr., telephones, &c., 26, Chausseestr., Berlin, N. 4. (Teleph. No. 6241, Amt. III.)
Misgajski, Vinzenz, engineer & general supplier of electrical requisites, Bez Kaiserstr. 115, Vienna 7.
Mitelschtedt, F. M., electrotechnical bureau, 29, Troizkaya, St. Petersburg. (Telegs.: "Omitelschtedt." Teleph. No. 25120.)
Mittag Gebr., electrical engineers, Annenstr. 1A, Berlin, S. 14. (Teleph. No. 5573, Amt. IV.)
Mitteldeutsche Electricitätswerke, G. m. b. H., Saalfeld-a-Saale; Berlin; & Hamburg, Germany.
Mittelrheinische Elektrizitätswerke G. m. b. H., 40, Oranienstr., Wiesbaden, Germany.
Mittelstrass Gebr., electric dealers, Breiteweg 38, Magdeburg. (Teleph. No. 765.)
Mittmann & Co., engineers, Cöpenickerstr. 98A, Berlin, S.O. 16. (Teleph. No. 3149, Amt. IV.)
Mizery, J., dynamo brush maker, 27–31 bis, rue Amelot, Paris. (Teleph. No. 933.31.)
Mix, Edgar W., M.I.E.E., chief engineer, Ateliers Thomson-Houston, 12, boul. des Invalides, Paris.
Mix & Genest, telegraph & telephone apparatus makers, Berlin-Schöneberg, W. (Teleph. Nos. 8140–8145, Amt. VI.); & 28 & 30, Kaiser Wilhelmstr., Breslau XIII. (Teleph. No. 3870.)
Mjölby Electric Power Station (Aktb. Kuntsbro Kraftstation). Director, W. Edlund, Mjölby, Sweden.
Moda, A., & Co., electric light works, Giaveno, Turin, Italy.
Moderow, G., lampholder maker, 8, Kottbuserstr., Berlin, S.O. 26. (Teleph. No. Amt. IV. 703.)
Modzelewsky, J. de, condenser maker, Fribourg, Switzerland.
Moegling, L., telephone maker, Gitschinerstr. 82, Berlin, S. 42. (Teleph. No. 7119, Amt. IV.)
Moeller, George, electrical engineer, 12, Langestr., Stettin, Germany.
Moessen, Robert, electrical & scientific apparatus maker, IV. Alleegasse 38, Vienna. (Tel. No. 1981.)
Möhring, E., telegraph & telephone contractor, Leipzigerstr., Weissenfels a. d. S., Germany.
Möhrle, Josef, jun., engineer, Nussbaumstr. 30/I., Munich, Bavaria. (Teleph. No. 9648.)
Moineau, H., fils, electricians, 22, boul. des Filles du Calvaire, Paris.
Moiroux, J. B., & Cie., general supplies for electricity, 2, rue Armény, Marseille (Bouches-du-Rhône), France.
MOIS SCIENTIFIQUE ET INDUSTRIEL, LE, 8, rue Nouvelle, Paris 9e; & 7, passage Lemonnier, Liége, Belgium. (Telegs.: "MSI, Paris." Tel. No. 316–20.) (Ann. sub., 25 frs.) *See advt., page* 9.
Mois Scientifique, et Industriel, Institut du, patent agents, technical & industrial information of every kind, 8, rue Nouvelle, Paris 9. (Telegs.: "Msi, Paris." Teleph. No. 316-20.)
Moleschott, Ing. Carlo, electrician, via Volturno 58, Rome. (Telegrams: "Ingegnere Moleschott, Rome." Telephone No. 2161.)
Molfino, Pietro, engineer, manager of the Società Gen. It. dei Telefoni, Florence, Italy.
Molin, G., engineer for Kolding Elektricitetswerk, Kolding, Denmark.
Molina, D. Luis Malode, electrical engineer, Cartagena, Spain.
Molina Alarcon, Luis, electrical engineer & contractor, Paz 5, Valencia, Spain.
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Möller, Emil, electrician, Horsens, Denmark.
Möller, Ernst H., superintendent Royal Swedish Telegraphs, Vexjö, Sweden.
Moller, Friedr., screws, Offenbach am Main, Germany.
Möller, O., electrical engineer, Henao, letras P. y A., Bilbao, Spain.
Mollet-Fontaine & Co., electrical & mechanical engineers, rue Gustave Testelin, Lille (Nord), France.
Moltini, Pietro, manufacturing electrical engineer, Salita S. Maria di Castello 1, Genoa.
Molvo, G. G., electrical engineer & contractor, Fonarny per. 3, St. Petersburg, Russia.
Monasch, Berthold, electrical engineer, Prinzregentenstr. 9, Augsburg.
Monath, Victor, engineer & patent solicitor, I. Maximilianstr. 7, Vienna. (Telegs.: "Privileg., Wien." Teleph. No. 2852.)
Monborne, A., ainé et fils, electrical engineers, 20, rue de la Folie Méricourt, Paris. (Tel. No. 915-95.)
Monduit, Philippe, Fils, electric light fittings, 31, rue Poncelet, Paris. (Teleph. No. 506-01.)
Moneta, Giuseppe, enamelled reflectors for electric lighting, via S. Vincenzo 20, Milan, Italy.
Mongin, A., dynamo & motor manufacturer, 35, rue de la Darse, Marseille, France. (Telegs.: "Watt-materiel, Marseille." Teleph. No. 803.)
Mongin, Ed., engineers' tool manufacturer, 40, ave. Philippe Auguste, Paris. (Telephone No. 910-78.)
Mongin, E. P., electrical engineer, 3, rue César Franck, Paris.
Mongin, Pierre, dynamos, 5 & 7, rue Beranger, & 11, rue St. Jean, Marseille (Bouches-du-Rhône), France.
Mongin, J., Fils, electric light engineers & contractors, 25 & 27, rue de Grignan, Marseille, France.
Mongini, Luigi, electric bell fitter, via Tritone, 63 & 64, Rome.
Monhardt, W., electrical engineer, 20, Fortunagasse, Zürich; & Schaffhausen, Switzerland.
Moniteur Industriel (weekly; ann. sub., 32*s.*), 16, rue de Berlin, Paris; & 18, rue Antoine Dansaert, Brussels.
Monitore Tecnico (published the 10th, 20th & 30th of every month; ann. sub., 17 frs.), via Conservatorio 26, Milan. (Telegs.: "Monitore Tecnico, Milan." Teleph. No. 77.79.)
Mönkemöller, Fr., & Co., electrical & mechanical engineers, Bonn, Germany.
Monnet & Caramelli, installation contractors, via XX Settembre 11, Turin.
Monnet & Moyne, electric fans, 11, rue Torricelli, Paris.
Monnier, Démétrius, M.I.E.E., professor of commercial electricity, Ecole Centrale, 3, Impasse Cothenet, 22, rue de la Faisanderie, Paris.
Monnot, Ed., electrician, 13, rue Cobaudière, Blois (Loir-et-Cher), France.
Monrad-Krohn, G., electrical engineer & importer of electrical appliances, Dronn. gd. 24, Christiania, Norway. (Telegs.: "Duborgh, Christiania." Teleph. No. 695.)
Mons, Ed., chief engineer, Fribourg-Morat-Anet Electric Railway, Fribourg, Switzerland.
Montecatino Fratelli, practical electricians, via Lungo Celso 76, Naples, Italy.
Monteiro & Magriço, electrical instruments, rua de Santa Catharina 39, Oporto, Portugal.
Monteverde, A., electrical engineer, Catania, Italy.
Monti, C., electrical engineer, 36, corso Porta Nuova, Milan, Italy.
Monti & Martini, representatives & importers of electrical materials, via Tasso 5, Milan, Italy.
Montilla, Hermanos, manufacturer of lightning conductors, 38, Victoria, Malaga, Spain. (Telegs.: "Montilla Electricidad, Malaga.")
Montmasson & Giguet, wooden poles for telegraphy, St. Sigismond (Savoie), France.
Montmollin, Andre de, electrical engineer & manager of Service de l'Electricité, Lausanne, Switzerland.
MONTPELLIER, J. A., electrical engineer, director of *l'Electricien, Revue Internationale de l'Électricité et de ses applications*, 130, rue Lecourbe, Paris.
Montpellier, Léon, electric general supplies, 32, rue Dutot, Paris.
Montù, Chev. uff. Carlo, consulting engineer & professor, corso re Umberto 7, Naples, Italy.
Moog, Jos., Institut für Elektrotechnik, Königin Augusta Halle 40-44, Cologne. (Teleph. No. 2417.)
Moorthamers, B., electric bells & fittings, Rempart St. Catherine 16, Antwerp.
Moosbrunner Glasfabriks A. G., silvered glass reflectors, Kaserneng. 6, Vienna 6/1, Austria. (Telegs.: "Marienhütte Vienna." Teleph. No. 6368.)
Mora, Antonio de la, M.I.E.E., Compañia de Luz Electrica, Valladolid, Spain.
Mora y Carretero, Francisco, Spanish Telegraph Technical Department, Alcalá 113, Madrid, Spain.
Morales, A., apparatus, Gondomar 7, Córdoba, Spain.
Moralli, Gio., & Co., electrical apparatus manufacturers, 24, via L. Palazzi, Milan.
Morand, A., electrical sundries, 4, rue du Marché, La Chaux-de-Fonds, Neuchatel, Switzerland. (Telegrams: "Morand, Chaux-de-Fonds.")
Morand, Ph., electrical contractor, 32, boul. Haussmann, Paris. (Teleph. No. 147-57.)
Morando, Giuseppe, electric light fitter, via A. Doria 4, San Pier d'Arena, Italy.
Morane Jeune & Cie., manufacturing engineers, 23, rue Jenner, Paris.
Moreau, L., fils, electrical & civil engineer, 34, rue de Mérode, Brussels.
Moreau-Hubert, Ed., white glass jars for accumulators, Fresnes-sur-Escaut (Nord), France.
Morel, E., insulators, 58, rue Greneta, Paris.
Morel, G., electrical manufacturer, 15, rue de Surène, Paris.

Morellet les Fils d'Aug., indiarubber & gutta-percha merchants, 44, rue Sevigné, Paris. (Telegrams: "Fimorellet, Paris." Telephone No. 248–99.)

Morelli, Ettore, electrical engineer, corso Vinzaglio 12, Turin, Italy. (Teleph. No. 1324.)

Moreno, O., engineer, director Società Officine Savigliano, 71, corso Vittorio Emanuelle, Turin, Italy.

Morfino, Fortunato, general dealer in electrical instruments, via Maqueda 164, Palermo, Italy.

Morgan & Elliot, engineers & contractors, Apartado 111, Madrid (Telegs.: "Morgan, Madrid." Teleph. No. 448); Barcelona; & Gijon, Spain.

Morgenstern, A., electric light engineer, 65, Gosslerstr., Hamburg.

Mörikofer, E., vorm. Brunnschweiler & Co., telegraph instrument ink makers, St. Gall, Switzerland.

Morisseau, E., electrical engineer, 14, rue Château-Landon, Paris. (Telephone No. 410.61.)

Morra, Paolo, electrical engineer, via Romani 28, Turin, Italy.

Mors, E., managing director of Societé d'Electricité et d'Automobiles "Mors," 48, rue du Théatre, Paris XV.

Mors, L., electric bell manufacturer, 8, rue des Marronniers, Paris.

Morseelektrische Werke, Ltd., manufacturers of telegraph supplies, Prinzenstr. 43, Berlin, S. 19.

Mortier & Bultingaire, dynamo brushes, 81, boul. Richard Lenoir, Paris. (Teleph. No. 920–76.)

Mosenthal, Charles de, English & American patent office, 3 *bis*, rue Labruyère, Paris. (Telegrams: "Mosenthal, Labruyère, Paris.")

Moser, Ludwig, & Sons, manufacturers of electric light fittings, shades, &c., Karlsbad Glass Works, Karlsbad, Bohemia, Austria.

Moses, L., electric light contractor, 51, Auguststr., Berlin, C. 54. (Teleph. No. 519, Amt. III.)

Moskalew, L., electrical engineer, Nicolaïevskaïa 70, St. Petersburg.

"Motor," Aktien Gesellschaft für angewandte Elektrizität, electrical engineers & contractors, Baden, Switzerland. (Telegs.: "Motor, Baden-Schweiz.")

Motorenfabrik "Protos," G. m. b. H., Wilkestr., Berlin-Reinickendorf. (Telegs.: "Protos, Reinickendorf, Berlin." Teleph. No. 71.)

Motorwagen, Der, Automobil & Flugtechnische Zeitschrift (three times a month; ann. sub., 16 M.), Kurfürstenstr. 11, Berlin, W. 57. (M. Krayn, publisher.)

Motorwerke Schwarz & Co., Ltd., electro-motor & dynamo store, Ritterstr. 26, Berlin, S. 42.

Motta, Ing. G., electrical engineer, R. Istituto Techn. sup. via S. Primo 2, Milan, Italy.

Motta, J. Maria, electrical instruments, rua das Amoreiras 140, 1° Lisbon, Portugal.

Mottay, A., & Pisart, oil refiners, 267, rue de Cologne, Brussels. (Telephone No. 2252.)

Mottura, Attilio, electrical engineer, Piazza Statuto 14, Turin, Italy.

Mougé, A., electric toys, 1, impasse St. Claude, Paris.

Mougin, les Fils d'Adolphe, manufacturers of detached accessories, Héricourt, Haute-Saône, France.

Moureaux, Th., directeur de l'Observatoire Magnétique du Parc St. Maur, Seine, France.

Mouren, A., electrical manufacturer, 30, rue de l'Arsenal, Marseilles, France. (Teleph. No. 1481.)

Mourraille, Léon, hydro electric installations, 15, rue Emile Zola, Lyon (Rhône), France.

Moury, S., electric heating apparatus, 67, quai Claud-Bernard, Lyons (Rhône), France.

Mouterde, Chavant & George, dynamo & accumulator makers, 47, rue de Seze, Lyons, France.

Mouton Fils & Grandjean, dealers in electrical supplies, 15, cours du Chapitre, Marseille, France. (Telegs.: "Mouton, Electricien, Marseilles." Teleph. No. 747.)

Moye, Otto, electrical apparatus, Pirnaischestr. 16, Dresden, A. (Teleph. No. 5074.)

Moynet, Les Gendres de A., engineers' tool makers, 4 & 6, rue des Haudriettes, Paris. (Telegs.: "Moynet Horlogerie, Paris." Teleph. No. 114–54.)

Mozzanini, P., electrician, 10, rue Vavin, Paris. (Teleph. No. 720–16.)

Muck, Alwin, electro-motor manufacturer, Naunynstr. 56, Berlin, S.O. 26.

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Mulder, S., telegraph engineer, Nassau-Dillenburgstr. 37, The Hague, Holland. (Teleph. No. 1052.)

Mülhauser Elektrizitätswerke, Mulhouse, Alsace, Germany. (Teleph. No. 240.)

Mulholland, J. P., A.I.E.E., El Cablé, Vigo, Spain.

Müllendorff, Dr. E., civil engineer, legal expert for electrical engineers, Savignyplatz 3, Charlottenburg 2. (Teleph. No. 15124.)

Müllensiefen Gebrüder, makers of accumulator glass boxes, Crengeldanz, Westphalia, Germany.

Müller, Adolf, director Accumulatoren Fabrik A.-G., Luisenstr. 45, Berlin, N.W. 6.

Müller, Carl, electrical engineer, Hansaring 35, Cologne.

Müller, Emil, electrical engineer at the Austrian Telegraph Technical Department, II. Heinrichsgasse 876, Prague, Bohemia.

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Müller Nachfolger, Louis, mechanical & electrical engineer, Mainz, Germany. (Teleph. No. 1261.)

Muller, Louis, manufacturer of electrical apparatus, Löber Ring 5, Erfurt, Germany. (Teleph. No. 1261.)

Müller, Ludw., electrical engineer & manager of the Stadt. Elektricitätswerk & Strassenbahn, Hildesheim, Germany.

Müller, Max, manager of the Westinghouse Electricitäts A.G., Parallelstr. 11, Gr. Lichterfeld-Ost., Berlin, Germany.

Müller, Th., dynamo & electric motor manufacturer, Zerbst-i.-Anh, Germany.

Muller, X., electrician, Angoulême, Charente, France.

Müller & Brandes, electrical apparatus makers, Echternstr. 34, Ecke Sonnestr., Brunswick, Germany.

Müller, C., Patent und Hartgummiwaren Fabrik, 89, Neue Königstr., Berlin, N.O. 43. (Teleph. No. 2698, Amt. VII.)

Müller, C., & Schlizweg, sail-cloth shoes for workmen & installers, Rungestr. 18, Berlin, S.O.

Muller, Émile & Co., conduits for electricity, 6, rue Nationale, Ivry-Port, près Paris.

Müller & Preussger, telegraph & telephone apparatus maker, 1, Bergstr., Zittau, Saxony, Germany.

Muller et Roger, phosphor bronze & aluminium bronze manufacturers, 108, ave. Philippe Auguste, Paris.

Müller & Syrbe, dealers in electrical supplies, 17, Emilienstr., Leipzig, Saxony.

Müller-Uri, R., electrical & physical instrument maker, Brunswick, Germany.

"Multiplex" Int. Gaszünder G. m. b. H., electrical apparatus for lighting gas, Potsdamerstr. 22A, Berlin, W. 9. (Teleph. No. 8575, Amt. VI.)

Münchener Elektrizitäts Gesellschaft Schmelzle, Lehmann & Co., electrical engineers, Holzstr. 17, Munich, Bavaria. (Teleph. No. 3859.)

Mundt, Nic., electric light fixture manufacturer, 31, Starhemberggasse, IV., Vienna. (Telephone No. 4740.)

Munz, Karl, electrical engineer & installer, Weberstr. 8, Kaiserslautern.

Munzing, K., small porcelain fittings, Jena, Germany.

Murer & Duroni, scientific instrument makers, piazza S. Carlo, Milan, Italy.

Murialdo, Luigi, electric wire manufacturer & piro-ropes for firing mines, Pra (Prov. di Genova), Italy.

Mütz, J., & Co., manufacturers of electric light fittings, 12, Riemergasse, Vienna I. (Telegrams: "Mütz, Riemergasse, Vienna." Telephone No. 9234.)

Naamlooze Vennootschap Electrotechnische Industrie voorheen Willem Smit & Co., manufacturers of dynamos, motors, &c., Slikkerveer, Holland. (Telegs.: "Electro, Slikkerveer." Teleph. No. 2786.)

Nabholz, E., electrician, quai Perdonnet, Vevey, Vaud, Switzerland.

Naccari, Dr. Cav. Andrea, professor in physical sciences, Director of the Physical Cabinet in the University, Turin.

"Nadir" Fabrik Elektrischer Mess Instrumente, Nogatstr. 25, Kadelbach & Randhagen, Rixdorf, Berlin.

Naef, Carlo, dealer in electrical apparatus, 31, via A. Manzoni, Milan, Italy.

Naeser, H., maker of terminals, screws, &c., Schönweiderstr. 11, Rixdorf, Berlin. (Teleph. No. 107.)

Naeyer, de, et Cie., steam engine & boiler makers, Willebroeck, Belgium.

Nagelmackers, Alfred, electrical engineer, 55, rue du Pot d'Or, Liége, Belgium.

Naglo, Emil, M.I.E.E., telegraph engineer, 2, Eichenstr., Berlin, S.O. 33.

Nagorsky, W., electrical engineer, Kovenski pereylok 21-27, St. Petersburg, Russia. (Teleph. No. 2201.)

Nagtglas Versteeg, C. D., consulting engineer, 78, N.Z. Voorburgwal, Amsterdam. (Telegrams: "Inspassur, Amsterdam." Telephone No. 4394.)

Nähler, H., & Fr. Seemann, patent office, Gitschinerstr. 3, Berlin, S.W., Germany. (Teleph. Amt. IV. No. 4480.)

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Nairz, Otto, engineer, Neue Kantstr. 16, Charlottenburg, Berlin.

Nalinne & Cie., electric apparatus of all kinds, rue de la Chaussée 80, Mons, Belgium. (Telegs.: "Nalinne, Mons." Teleph. No. 165.)

Narath, Fr., Wms. Sohn, electric light contractors, Barmen, Germany. (Teleph. No. 328.)

Naruhn & Petsch G. m. b. H., electrical engineers, 26, Alexandrinenstr., Berlin, S.W. 68. (Teleph. Nos. 9083 & 9248, Amt. IV.)

Natalis, Hugo, director, Siemens-Schuckertwerke G. m. b. H., Kaiserdamm 118, Charlottenburg-Berlin.

Nathan Frères, agents for the Mannheim indiarubber, gutta-percha & asbestos works, 67, rue d'Hauteville, Paris.

Natividad Hermanos, mechanical electricians, Argensola 22, Madrid.

Naturaleza, La (3 times a month; ann. sub., P.U., 30 francs = £1 4s.), Pasage de la Alhambra 1, Madrid.

Nature, La (weekly; ann. sub., 26 frs.), published by G. Masson, 120, boul. Saint Germain, Paris.

Naud, A., maker of lamps, brackets & chandeliers for electric lighting, 14, rue du Faub.-St. Denis, Paris. (Teleph. No. 442-6.)

Naumann, Ernst, search lights, &c., Grosse Frankfurterstr. 3, Berlin, O. 17. (Teleph. No. 3432, Amt. VII.)

Naumann & Günther, makers of electrical supplies, Insterburgerstr. 6, Berlin, O.
Naumann, W. & A., electric wire makers, 11, Luisen Ufer, Berlin, S. 42. (Teleph. Amt. IV. No. 885.)
Nava, Luigi, electroplater, via St. Stefano del Cacco 2, Rome.
Navarro, José, electrician, Atocha 29, Madrid.
Nay, E., & Cie., electricians, 11, ave. de Tourville, Paris.
Nazeyrollas, André, electrical engineer, Villa Juanita, Biarritz.
Nazzari, Giovanni, optical & electrical instrument dealer, corso Vitt. Emanuele, 86, Pavia, Italy.
Nédélec, Georges, electrical supplies, wooden, ebonite articles, 110, rue d'Angoulême, Paris. (Teleph. No. 938–36.)
Nederlandsche Bell Telephoon Co., Damstraat, Amsterdam, Holland. (Teleph. No. 474.)
Neergaard, Th. A., & Co., lighthouse & signalling apparatus, St. Kongensgade 63, Copenhagen K.
Negreano, D., professor of physics, 13, boul. Ferdinand, Bucharest, Roumania.
Negretti, Ing., electric light engineer, piazza S. Carlo 5, Turin, Italy.
Negro, Ing. Luigi, manufacturing electrician, via Valpergi Caluso 8, Turin, Italy.
Neher Söhne, manufacturer of electrical clocks, Barerstr. 34, Munich, Bavaria. (Teleph. No. 4796.)
Nelson-Uhry, Emmanuel, engineer of La Société Anonyme Westinghouse, 10 bis, ave. de la Grande Armée, Paris.
Néo Metallurgie, La (Soc. Anon.), electro-metallurgists, 10, rue de Louvois, Paris.
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Neue Automobil-Gesellschaft m. b. H., electromobile makers, Luisenstr. 31, Berlin, N.W. 6.
Neue Berliner Elektrizitäts G. m. b. H., Hannoverschestr. 30, Berlin, N.W. (Teleph. 1998, Amt. III.)
Neue Berliner Messingwerke, brass sheets, brass & copper tubes, &c., 30, Kochstr., Berlin, S.W. 68.
Neue Element-werke Gebr. Hass & Co., G. m. b. H., galvanic elements of all kinds, Friedrichstr. 105A, Berlin, N. 24. (Telegs.: "Enewehass, Berlin." Teleph. No. 2192, Amt. 3.)
Neue Oberlansitzer Glashütten-Werke Schweig & Co. Akt.-Ges., 27, Skalitzestr., Berlin, S.O. 26. Works: Waissevasser, O.-L. (Teleph. Nos. Amt. IV. 1562 & 10097.)
Neufeldt & Kuhnke, electrical engineers, Kiel, Germany. (Telegs.: "Kuhnke, Kiel." Tel. No. 899.)
Neuhaus, Guglielmo, electrical accessories manufacturer, via Peschiera 5, Milan. (Telegs.: "Neuhaus, Milan." Teleph. No. 8007.)
Neuhaus, L., & Cie., cylindrical screws in all metals, 1, rue Gerbier, Paris. (Teleph. No. 947–08.)
Neuman, Henryk, scientific instrument maker, Wloclawsk, Poland, Russia.
Neumann, Hans, & Co., electrical accessories, Ritterstr. 82, Berlin, S.W. 68. (Telegs.: "Fulmina, Berlin." Teleph. No. 863, Amt. IV.)
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Neureiter, Ferdinand, electrical engineer, manager Österreichische Siemens-Schuckert Werke, XVIII. Hochschulstr. 4, Vienna.
Neustadt, Leopold, engineer & manager of Messrs. Ganz & Co., V. Hold-uteza 25, Budapest.
Neuweck, J., agent for electric novelties, Ritterstr. 87, Berlin, S. 42.
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Neville, E. G., & Co., steam engine makers, Venice, Italy. (Telegrams: "Neville, Venice.")
"Nevsky Electrotechnical Bureau," 59, Nicolaerskaja, St. Petersburg. (Teleph. No. 2532.)
New York Hamburger Gummi Waaren Compagnie, manufacturers of indiarubber, Ferdinandstr. 29 & 33, Hamburg, Germany. (Teleph. No. 1369, Amt. I.)
Ney, O., electrical agent, 16, Bärwaldstr., Berlin, S. 53. (Teleph. No. 1753, Amt. IV.)
Neyer & Lorenz, electrical apparatus, Neue Mainzerst. 18, Frankfort-on-M.
Neyroud, L., & Dolabela, telephones & bells, 26, rue Colbert, Marseilles, France. (Teleph. No. 731.)
Neys, G., & Cie., electrical contractors, 3, rue Lormand, Bayonne (Basses-Pyrénées); 1, ave. de la Liberté, Biarritz; & place de la Cathèdrale, Dax, France.
Neyt, Jules, electrician, rue de Belle Vue 11, Ghent.
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NICLAUSSE, J. & A. (SOCIETÉ DES GÉNÉRATEURS INEXPLOSIBLES, "Brevets Niclausse"), makers of inexplosible boilers, for electrical installations & all industries, 1,000,000 H.P. in the various navies, Hors concours, Membres des Jurys Internationaux Expositions Universelles: Paris, 1900; St. Louis, 1904; Milan, 1906; Franco-British, 1908; Grands prix: St. Louis, 1904; Liége, 1905; Spanish-French, 1908; Franco-British, 1908; 24, rue des Ardennes, Paris (XIX. Arrt.). (Telegs.: "Générateur, Paris.")
Nicolaeeff's, T. K., Electrolytic Works Cie., Ltd., Moscow, Russia. (Telegs.: "Electrolyte, Moscow.")

Nicolai, Otto, aluminium solder, Boppard a. Rh., Germany.
Nicolson, J., A.M.I.E.E., Taubert Str. 1, Grunewald, Berlin.
Niederschlesische Elektricitäts und Kleinbahn Aktien Gesellschaft, electric light & traction engineers, Waldenburg, Schl., Germany.
Niedlich, A., & Co., manufacturers of steam pumps & fans, Siebenhufenerstr. 67, Breslau V.
Nielsen, —, manager Frederikshavn's Elektricitetswork, Frederikshavn, Denmark.
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Niemann, C., & Co., electrical apparatus manufacturers, 16, Kommandantenstr., Berlin, S.W. 19. (Teleph. No. 6228, Amt. I.)
Nierth & Förster, installation contractors, Bautzen, Saxony. (Teleph. No. 357.)
Nilson, Jonn, electrical engineer, Tannefors, Sweden.
Nissen, G., elec. engineer, 47, ave. du Roi, Brussels. (Telegs.: "Nissen, Ingenieur." Tel. No. 8419.)
Nissl, Franz, electrical engineer, Vereinigte Telephon und Telegr. fabriks Aktien Gesellschaft Czeija, Nissl & Co., XX/2 Dresdnerstr. 75, Vienna. (Teleph. Nos. 16456, 22514 & 22515.)
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Noblet, Henri, electrician, 195 bis, ave. Daumesnil, Paris.
Nodon, Dr., electrical apparatus to give warning of earthquakes, 12, rue de Moulis, Bordeaux (Gironde), France.
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Noerrenberg & Co., electrical contractors, piazza Colonna 370, Palazzo Chigi, Rome, Italy. (Telegrams: "Noerrenberg, Rome." Telephone No. 2210.)
Noizette, Louis, Ainé, primary batteries, 194, rue de Vanves, Paris.
Nolet, Paul, M.I.E.E., 25, boul. Militaire, Ixelles, Brussels.
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Nolte, J. G., electrical agent, 13, Westerdokstraat, Amsterdam. (Telephone No. 5815.)
Nolzen, F., electrical engineer & optician, Cologne. (Telegs.: "Nolzen-Passage, Cologne." Tel. 693.)
Nonhoff, Maison, electric light fixtures & fitters, rue Anneessens 3, Brussels.
Noodt, Val Allut, electrical agents & dealers in electrical supplies, Dovenhof 93, Hamburg. (Teleph. Amt. I. No. 8935.)
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Norberg Electric Power Co. (elektr. Kraftaktb.), Norberg, Sweden. Manager, E. Svensson.
Norberg-Schulz, Ths., M.I.E E., electrician & manager of the Christiania Elektricitetsverk, Tordenskjgd 7, Christiania. (Telegrams: "Dynamo, Christiania." Telephone No. 2777.)
Norddeutsche Affinerie Actiengesellschaft, refinery for metals by electricity, Hamburg, Germany.
Norddeutsche Maschinen- und Armaturenfabrik (G. m. b. H.), electrical & mechanical engineers, Bremen. Hans S. Meyer, engineer & manager of Electrical Department. (Telegs.: "Stephelektro, Bremen." Teleph. No. 725.)
NORDDEUTSHE SEEKABELWERKE, AKTIENGESELLSCHAFT, manufacturers of submarine telegraph cables, layers & repairers of cables by own cable steamers, Nordenham o/Weser. (Telegs.: "Kabelwerke, Nordenham." Teleph. No. 11.)
Nordhäuser Maschinenfabrik u. Eisengiesserei, Schmidt, Kranz & Co., engine makers, Ulrichstr. 1/2, Nordhausen, Germany.
Nordisk Elektrisk Ledningstraad & Kabelfabrik, P. Prior, proprietor, manufacturers of electric wires & cables, Ryesgade, No. 105, Copenhagen, O.
Normal Zeit Gesellschaft m. b. H., electric clock makers, &c., Charlottenstr. 6, Berlin, S.W. 68. (Teleph. Nos. 11708 & 11710, Amt. IV.)
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Norsk Elektrisk Lyscompagni, electric light engineers & contractors, 23, Övre Slotsgade, Christiania.
Norsk Elementfabrik, Ltd., manufacturers of wet & dry primary cells, Tordenskjoldsgade 6B, Christiania. (Telegrams: "Elementen, Christiania." Telephone No. 3639.)
Norwegian Electro-chemical Industrial Co., Ltd., Raadh. gd. 20, Christiania, Norway.
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Nürnberger Herkules-Werke, A.G., insulator & insulating material, Fürtherstr. 191/193, Nürnberg, Germany.
Nya Förenade Elektriska Aktb., manufacturers of electric machinery & apparatus. Head office: Norrlandsgatan 15, Stockholm, Sweden. (Telegs.: "Dynamo, Stockholm.") Works: Arbrå & Ludvika.
Nyrop, Camillus, electro-medical instruments & appliances, Kjöbmagergade 43, Copenhagen.
Nyssens, Em., engineer, 19, rue Vandermaelen, Brussels, Belgium.
Nyssens, Henri, formerly Nyssens Frères; E. Isbecque & Cie., succrs., importer of American tools, electric tools & machinery, pumps, &c., rue des Peignes 33, Antwerp, Belgium. (Telegs.: "Nyssens, Antwerp." A.B.C., 4th edit., & Lieber's Codes. Teleph. No. 1242.)

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Oberdhan & Beck, electric light fittings makers, Bauhofstr. 2, Mainz, Germany. (Telegs.: "Oberdhan, Mainz." Teleph. No. 290.)
Oberschlesische Eisen-Industrie Act.-Ges., mining & metal works, Gleiwitz. (Telegs.: "Drahtwerke.")
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Ochs, J. J., winches for arc lamps, Lenaustr. 61, Frankfort-on-M. (Teleph. No. 6660.)
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Oederlin, E., & Co., manufacturers of electrical accessories, Baden, Switzerland.
Oeffinger, Karl, electrical & mechanical workshop, Tubingen 3, Germany.
Oehmicke & Schröder, electrical apparatus makers, Waldemarstr. 51, Berlin, S.O. (Teleph. No. 4809, Amt. IV.)
Oeking & Co, dynamo steel, Humboldstr. 53, Düsseldorf, Germany. (Teleph. No. 668.)
Oertel & Prümm, electrical engineers & contractors, Peterss-tr. 43, Cologne. (Teleph. No. 2288.)
Oesterr. Alpine Montan-Gesellschaft, speciality: railway construction, engines & boilers, Kärntnerstr. 55, Vienna I. (Teleph. Nos. 322 & 323.)
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Oesterreichische Maschinenbau Akt. Ges. Körting, makers of condensers, Dresdnerstr. 70, Vienna XX. (Telegs.: "Korting, Vienna." Teleph. Nos. 14603, 20380 & 22703.)
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Officina Elettrica, telephone & telegraph engineers & contractors, via Vittoria Colonna 9, Milan, Italy. (Telephone No. 550.) Emilio Gerosa, manager.
Officina Elettrica per Illuminazione Pubblica, via Cortevecchia, Ferrara, Italy.
Officina Elettrica Volta, electrical apparatus makers, Divisi 88-90, Palermo, Italy.
Officina Elettromecanica, electrical apparatus & fittings, Romeno, Trentino, Austria.
Officina Elettro-Meccanica Veronese di G. G. Frassoni & Co., Verona, Italy.
Officina idro-elettrica di Paderno d'Adda, Italy.
Officina Luce Elettrica, Osimo (Ancona), Italy.
Officine Elettriche dei Bacini di Carenaggio, Genoa, Italy.
Officine Elettroferroviarie, S. Cristoforo, Milan, Italy.
Officine Galileo, general instrument & electric lighting machinery makers, via le Regina Vittoria 46, Florence, Italy.
Officine Manfredi, Mondovi, Italy.
Officine Meccaniche (già Miani e Silvestri, Grondona & Comi & Co.), carriage, locomotive & electric tram & railway works, Fuori P^{a} Vigentina, Milan, Italy.
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Ohl, G. E., incandescent lamps & electric light apparatus, fittings, &c., Hamburg, Germany. (Telegs.: "Gohlus, Hamburg." Teleph. No. I. 8047.)
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Osman Ramiz Bey, Le Colonel, directeur des Ateliers d'Electricité de Pamirante Imperiale Ottomane, Constantinople.
Osnabrücker Kupfer- und Drahtwerk, telegraph & electrical wire manufacturers, Osnabrück, Germany. (Telegrams: "Drahtwerk, Osnabrück." Telephone No. 11.)
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Österreichische ungar. Jandus Elektr. Gesellschaft, manufacturers of galvanic elements & electric pocket lamps, Liechtensteinstr. 19, Vienna IX. (Teleph. No. 21231.)
Osteuropäische Telegraphengesellschaft, Friesenplatz 16, Cologne, Germany. (Telegs.: "Eurosta, Cologne." Teleph. No. 2542.) Directors: H. Pfitzner & C. W. Guilleaume.
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Otto, W. Gg., phosphor bronze, white metal, &c., Darmstadt, Untere Fallshorschnisse, Giesserei, Germany. (Telegs.: "Otto, Giesserei." Teleph. No. 99.)
Otto, gas & petroleum motors, 155, rue Croix Nivert, & 15, ave. de l'Opéra, Paris.
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Ouvrard, G., electric light fixtures, Parvis St. Gudule, Brussels.
Ouvrard, C., reflectors & shades, 24, rue de la Douane, & 74, rue Championnet, Paris.
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Paege, B., & Co., makers of insulating varnishes & enamel porcelain acid-resisting paints, 80-82, Quitzowstr., Berlin, N.W. 5. (Telegs.: "Isolirpaege, Berlin." Teleph. No. 2993, Amt. II.)
Paetsch & Co., electricians, Warthestr. 46-49, Rixdorf, Berlin. (Teleph. No. 789.)
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Palm, F., glow lamps for illuminations, Nürnberg, Germany.
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Palmcrantz & Co., manufacturers of dynamo machines, Timmermansg. 32, Stockholm, Sweden.
Palme, E., electroliers, 15, Alte Jacobstr., Berlin, S.W. (Teleph. No. 1906, Amt. IV.)
Palme, Christoph, & Co., glass chandeliers & lamps for electric light, &c., Parchen-Schelten, Bohemia.
Palme, Reinhold, Söhne, glass chandeliers, Haida, Bohemia.
Paltzer, Ernst, electrical supplies & agent, Elbestr. 52, Frankfurt-a.-M. (Teleph. No. 6195.)
Pampana, Vitaliano, electric light contractor, via S. Paolo 17, Pisa, Italy.
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Panofsky, Siegm., electrical supplies dealer, 53, Kaiser Wilhelmstr., Hamburg. (Teleph. No. I. 6189.)
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Pape, M., maker of lampholders for incandescent lamps, Palisadenstr. 49, Berlin, N.O. (Teleph. No. 4440, Amt. VII.)
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PATZ, LOUIS, manufacturer of dynamo brushes & electrical specialities, 9, Frankenstr., Dresden, A. 19 (Telegs.: "Patzlotelefon, Dresden." Teleph. No. 908); Kirchengasse 43, Vienna VII./2 (Telegs.: "Patzlotelefon, Vienna." Teleph. No. 8298); & Perczel Mor-Utcza 4, Budapest V.
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Pavoux, Eug., manufacturer of indiarubber & gutta-percha, 23, rue du Taciturne, Brussels. (Telegs.: "Pavoux Caoutchouc, Brussels." Teleph. No. 264.)
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Paz, E., & Silva, tantalum lamps, 55, rue Ste. Anne, Paris. (Teleph. No. 273–11.)

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Perrin, E., & Ziegler, electrical contractors, 95, ave. Kléber, Paris.
Perrolaz Ainé, reflector maker, 384, rue Saint Martin, Paris.
Persicaner & Co., electrical agents & dealers in electrical supplies, Liebenberggasse 7, Vienna I. (Telegrams: "Persicaneo, Vienna." Telephone No. 704); Kemnitzergasse 7, Budapest VI. (Telephone No. 2389); & 57, Bülowstr., Berlin, W.
Persico, Vittorio, electrical instrument maker, corso Garibaldi 16, Cremona, Italy.
Pertus, Charles, insulators, covered wire, &c., 10, rue St. Antoine, Paris.
Pervazian, A., electrical importer, 283, Zindan Capou, Constantinople.
Pescatore, T., M.I.E.E., 93, rue Hayeneux, Herstal, Liége, Belgium.
Peschmann, Carl, electrical supplies, Ackerstr. 68A, Berlin, N. (Teleph. No. 3611, Amt. III.)
Pescione, Ing. Amerigo, Officine Elettrotierische Napolitane, San Giovanni a Teduccio, nr. Naples.
Pesnell, V., et Cie., electric lighting apparatus, 61, boul. Magenta, Paris.

Pester, Otto, electric light fittings, Poststr. 34, Chemnitz, Saxony.
Peter, Albert, apparatus for electric lighting of ships, Kötzschenbroda, Saxony. (Telegrams: "Albert Peter, Kötzschenbroda." Telephone No. 2032.)
Peters, A., electrician, rue Montens 56, Borgerhout, Antwerp.
Peters, Prof. Dr. Franz, consulting engineer, editor of the *Centralblatt für Accumulatoren u. Galvano Technik*, 26, Verl. Wilhelmstr., Gross Lichterfelde, Berlin. (Teleph. No. 3423.)
Petersen, Albert, M.I.E.E., telegraph engineer, Norwegian Government Telegraphs, Arendal, Norway.
Petersen, E. B., M.I.E.E., member of committee, Copenhagen Telephone Co., Kastrup, Amager, Denmark.
Petersen, J. A. P., superintendent, Great Northern Telegraph Co., Ltd., Gothenburg, Sweden.
Peterson, E. L., agent & machine stores, 125, Ligowskaja, St. Petersburg. (Teleph. No. 1598.)
Peterson, Jan. W., works manager, Elektriskabelysnings Aktiebolag, Gothenburg, Sweden.
Peticheff, A , maker of wires & cables, Baltisky pereoul 51, St. Petersburg. (Teleph. No. 21065.)
Petiot, A., & Cie., electricians, 63, rue de la République, Lyons, France.
Petit, Alex, agent for Gottfried Hagen Accumulators of Kalk, nr. Cologne, 93, rue de Laeken, Brussels. (Telegrams: "Accumuhagen, Brussels." Telephone No. 4695.)
Petit, Jean L., electric bell contractor, rue Anselmo 78, Antwerp.
Petit, José, electrical machinery constructor, Puerta Sta. Madrona 10, Barcelona, Spain.
Petit, Joseph, engineer, director of Omnium Lyonnais des chemins de fer et tramways, 41, rue Saint Pétersbourg 41, Paris VIII.
Petit, Paul, engineer of arts & manufactures, Schneider et Cie., 42, rue d'Anjou, Paris.
Petrella Fratelli, installation contractors, via Cibrario 4, Turin.
Petri & Dalheim, electrical apparatus manufacturers, Wilhelmstr. 44, Berlin, W. (Teleph. No. 8784, Amt. I.)
Petrilli, Augusto, electrician, via Brunelleschi 2, Florence, Italy.
Petrini Fratelli, electric light contractors, Bastia (Prov. di Perugia), Italy.
Petrucci, Luigi, & Co., electric light contractors, Forli, Italy.
Petsche, Albert, electrical engineer & director of Société Lyonnaise des Eaux et de l'Éclairage, 73, boul. Haussmann, Paris.
Petsh, B., electric stores, Smolnaya 5, Warsaw, Russia.
Petzold, Ernst, jun., dynamo brush maker, Chemnitz 42.
Peugeot Frères, Les Fils de, magnetic steel & telegraph & telephone spring manufacturers, Valentigney, Doubs, France. (Telegs.: "Peugeot Frères, Valentigney.")
Peukert, Dr. Prof. W., electrician & director of the Electrical Laboratory of the Herzogliche Technische Hochschule, Brunswick, Germany.
Peuning, Alfons, maker of electro-medical apparatus, &c., Rheinwerft 24, Bonn a. Rhein, Germany. (Teleph. No. 714.)
Peyer, Favarger et Cie. *See* Fabrique de Telegraphes et Appareils Électriques.
Peyré, G., electric fittings, 204, rue Saint Maur, Paris. (Teleph. No. 421–59.)
Peyron, C., Père et Fils, electricians, 9, rue des Gris, St. Etienne (Loire), France.
Peyrusson, Edmond, professor of chemistry, 17, chemin du Petit Tour, Limoges, France.
Pfaff, H., telegraph contractor & engineer, Lavesstr. 61, Hanover. (Teleph. No. 967.)
Pfaffenberger, Carl, carbon manufacturer, 105, Mariahilferstr., Vienna VI/2.
Pfanhauser, Wilh., nickel & electro-platers supplies, XIII./4 Gusenleithnerstr. 14, Vienna; & S.W. 13, Alte Jakobstr. 5, Berlin. (Teleph. Nos. 2554, 9789 & 2554, Amt. IV.)
Pfankuch, Carl, managing director of the Helios Electrical Engineering Co., Ltd., Cologne-Ehrenfeld, Germany.
Pfankuch & Reinhardt, lightning conductor erectors, 12, Rubensstr., Cologne, Germany. (Teleph. No. 2355.)
Pfeil, R., director of Siemens & Halske A.-G., Beymestr. 28/30, Grunewald, Germany.
Pfister & Streit, electrical instrument makers, Seilerstr., Berne, Switzerland.
Pfretzschner & Co., Maschinenfab., Munich, Germany. (Teleph. No. 22713.)
Phasmann, Auguste, electrician, St. Mihiel, Meuse, France.
Philip & Co., electrical engineers, Bismarckstr. 39, Charlottenburg-Berlin.
Philippart, Charles, electrical engineer, 24, rue d'Aumale, Paris. (Telegs.: "Parfili, Paris." Teleph. No. 278.89.)
Philippe, Viallar & Cie., wood for electrical purposes, 21, rue Etienne Marcel, Paris. (Teleph. No. 129.92.)
Philips & Co., incandescent lamp makers, Emmasingel, Eindhoven, Holland. (Telegs.: "Philips, Eindhoven." Teleph. No. 16.)
Philipsen, H. P., installations, &c., Slagelse, Denmark.
Phillips, E. G., A.M.I.M.E., consulting electrical engineer, Conde de Aranda 1 (Esq. Calle Serrano), Madrid.
Physikalisch-Chemisches Zentralblatt, Grossbeerenstr. 9, Berlin.
Physik. Institut d. Universität, Halle a/S., Germany.
Physikalisch-Technische Reichsanstalt, Abteilung II zu Charlottenburg, bei Berlin, Germany. (Telephone No. 93.)

Physikalischer Verein, Kettenhofweg 136 (Councillor Prof. E. Hartman, director; Prof. Schwab, secretary), Frankfort-on-the-Main. (Teleph. Nos. 701 & 13701.) *See also* Elektrotechnische Lehr- und Untersuchungs-Anstalt.

Physikalisches Institut der Königlich-Technischen Hochschule, Dresden, Germany. (Prof. Dr. Hallwachs, professor of physics.) (Telephone No. 1260.)

Piazzoli, Comm. Emilio, engineer, via Galileo Ferraris, Palermo, Italy.

Picard, H., & frère, electrical agents, 131, boul. Sabastopol, Paris.

Piccard, Pictet & Co., turbine makers, 109, route de Lyon, Geneva, Switzerland. (Telegs.: "Picpic, Geneva." Teleph. No. 1490.)

Picchi, Ing. Alberto, professor of electrical engineering, Scuola Professionale Leonardo da Vinci, via Pandolfini 26, Florence, Italy.

Pichelmayer, Carl, electrical engineer, professor of the Elektrotechnische Institut, Vienna.

Pickhardt, G., manufacturer of technical wire specialities, dynamo brushes, &c., Kölner-Chaussée 149, Bonn-on-the-Rhine, Germany.

Picou, R. V., M.I.E.E., electrical engineer, 41, rue St. Ferdinand, Paris.

Pieper, Carl, civil engineer & patent agent, 3, Hindersinstrasse, Berlin, N.W. (Telegrams: "Patents, Berlin." Telephone Amt. II. No. 1301.)

Pieper, Henry, managing director of the Cie. Internationale d'Electricité, Liége, Belgium.

Pierard, Emile, electrical & telegraph engineer, professor at the University, rue le Corrége 77, Brussels, Belgium.

Piérard-Verhelst, J., electric light contractor, Perwez, Brabant, Belgium.

Pierret et Quellier, electric bell founders, 37, rue Meslay, Paris.

Pierson, J. & O. G., makers of gas plants (suction & pressure). Show-room: 47, rue Lafayette, Paris; offices: 54, faubourg Montmartre, Paris. (Telegrams: "Luns, Paris." Telephone No. 117–41.) Works: 12, rue d'Alsace, Levallois, nr. Paris.

Pierucci, Luigi, electrical instrument maker, via S. Frediano 22, Pisa, Italy.

Piette-Rivage, Prosper von, electrical engineer and manufacturer, Freiheit, Bohemia.

Pifre, Abel, lifts of all systems, 174–176, rue de Courcelles, Paris. (Telephone Nos. 509–38 & 509–40.) Works at Albert (Somme).

Pigard & Molitor, dynamos & electric motors, 2 bis, rue Gonnet, Paris.

Pignolet, A., & Cie., bronze fittings for electric light, 106, rue Vieille du Temple, Paris. (Teleph. No. 1001–59.)

Pilate, J. A., manufacturer of electric light fittings, 29, rue du Marché, Brussels. (Teleph. No. 348.)

Pillet, F. J., engineer & draughtsman, special installations of electric light for panoramas, &c., & special production of optical & electric illusions, boul. Garibaldi 38, Paris.

Pillet, Vuida de, electrical apparatus, San Fernando 26, Alicante, Spain.

Pilleux, Ludovic, electrician, 5, Villa d'Alesia, 11ter, rue d'Alesia, Paris XIV.

Pillier, Léon, engineer of La Maison Chauvin et Arnoux, 186, rue Championnet, Paris XVIII.

Pillivuyt & Co., porcelain & insulators, Mehun-sur-Yèvre, Cher, France; & 44, rue de Paradis, Paris.

Pillot, E., electric light fittings maker, 38, rue de Turenne, & 16, rue des Minimes, Paris.

Pilter, Maison Th., Soc. Anon., steam engine & boiler makers for electrical purposes, 24, rue Alibert, Paris. (Telegs.: "Pilter, Paris." Teleph. Nos. 422.09 & 422.00.)

Piltschikoff, Nicolas, professor of physics, Technological Institute, Kharkov, Russia.

Pilz, Richard, electrical engineer, director der Neckarwerke, Deffuerstr. 7B, Esslingen, Germany.

Pinedo, —, bronze fittings, 137, rue Vieille, Paris. (Teleph. No. 319–13.)

Pingeoz, Edouard, directeur de la Station Centrale d'Electricité, Kowno, Russia.

Pinheiro, A. C. Mendes, dealer in electrical supplies, 35/38, Pelourinho, Lisbon.

Pinna, Raffaele, electrical engineer, via Bogino 9, Turin, Italy.

Pinochi, Pino, electric light contractor, via N. Pisano 8, Pisa, Italy.

Pintér, József, manager United Electrical Co., Ltd., VII. Huszar útcza 7, Uj-Pest, nr. Budapest.

Pintsch, Julius, Akt.-Ges., incandescent lamp manufacturers, 48, Wilhelmstr., Berlin, W. 66. (Telegs.: "Siriuslampe, Berlin." Teleph. No. Amt. I. 4242); & Furstenwalde-a.-Spree.

Piontkowsky, G. de, electric wires & cables, 10, rue St. Gilles, Paris. (Teleph. No. 257–29.)

Piperno, Augusto, electrical engineer, 102, via Nazionale, Rome.

Pirani, Dr. Emilio, electrical engineer & chief electrician to the Société Alsacienne de Constructions Mécaniques, 4, rue de Vienne, Paris.

Pirelli & Co., manufacturers of electric cables, gutta-percha, & indiarubber, 21, via Ponte Seveso, Milan, Italy (Telegs.: "Gomma, Milan." Teleph. No. 817); & Villanueva y Geltrú (Barcelona), Spain.

Pirlet, F., dealer in electrical sundries, rue de la Province (Nord), 40/12, Antwerp.

Piroul, P., electric bell installations, rue de la Caserne, Brussels.

Pisani, A., representative & importer of electrical materials, 4 B. Cavalieri, Milan, Italy.

Pistoye, Henri de, engineer of La Société l'Eclairage Électrique, 9, rue de Sontay, Paris XVI.

Piumatti, Enrico, manager for Ercole Marelli & Co. of Milan, via S. Quintino 11, Turin.

Piva, A. C., electrical engineer & electrical material importer, piazza Castello 9, Milan, Italy.

Piva, Ing. Mario, electrical engineer, via Pontaccio 19, Milan, Italy.

Plachet, A., galvanized iron wire manufacturer, 17 bis, rue Pavée, Paris. (Telegs.: "Verschafils, Paris." Teleph. No. 144-53.)
Planas y Escubós, Juan, electrical engineer, Argensola 20, Madrid.
Planche, V., electrician, 33, rue de Rivoli, Paris.
Plancher, Rochat & Cie., mfrs. of electric automobiles, 39, ave. Marceau, Courbevoie (Seine), France.
Planchon, F. J., electrical engineer, 111, rue Caulincourt, Paris XVIII.
Planiawerke Aktiengesellschaft für Kohlenfabrikation, Königsgrätzerstr. 6, Berlin, W. 9. (Telegs.: "Planiawerke, Berlin." Teleph. No. 16916, VI.)
Platek Brüder, pitsaws & electrical work, Turnau, Bohemia.
Plau et Cie., electric fans, 24, rue des Petites Ecuries, Paris.
Plaut, S., chief engineer, Allgemeine Elektrizitäts Gesellschaft München, Lessingstr. 9, Munich.
Plesoeanu, V., engineer, E. C. P. representative of l'Union de Berlin (Thomson-Houston), 22, Strada Sârindar, Bucharest, Roumania. (Teleph. No. 15/78.)
Plessner, H., installation contractor, 9 & 11, äussere Schneebergerstr., Zwickau, Saxony.
Ploëg, S. de, electric insulators, specialities for electric heating, 5, rue Helène, Paris XVII.
Plücken, Gottfried, electric light engineer & contractor, 19, Luth. Kirchstr., Crefeld, Germany. (Telephone No. 1472.)
Plum, P. J., electrical apparatus, Passage Lemonnier 33, Liége, Belgium.
Podesta, Eredi fu Ferdinando, electric light contractors, Casalbuttano (Prov. di Cremona), Italy.
Podobedoff, M., & Co., dealers in wires & cables, Fontanka 65, St. Petersburg, Russia. (Telegs.: "Parodynamo, St. Petersburg." Teleph. No. 344.)
Poesio, Joseph, electrical apparatus, corso Principe Oddone 19, Turin, Italy. (Telephone No. 86.)
Pogliaghi, R., electrical apparatus manufacturer, 29, via S. Sofia, Milan, Italy.
Pogorelko, A., professor of physics, Technological Institute, Charkow, Russia.
Pohl, L., insulators, Tellnitz, Bohemia.
Pohle, Otto, electrical engineer, Kaitzerstr. 82, Plauen, bei Dresden A., Saxony. (Teleph. No. 8497.)
Pohlig, J., patented aerial railways, rue de Turquie 94, Brussels; Cologne; Vienna; & Budapest.
Poincaré, Lucien, electrical engineer, 130, rue de Rennes, Paris VI.
Pokorny & Wittekind, makers of steam & gas engines for electric lighting, Bockenheim, Frankfort-on-the-Main, Germany. (Telegrams: "Pokorny, Bockenheim." Telephone No. 20.)
Politis, C., assistant electrician, Eastern Telegraph Co., Syra, Greece.
Poll, P. A. van der, electrical engineer, P. C. Hooftstr. 83, Amsterdam.
Pollack & Klemm, electrical engineers, Bambergerstr. 17, Berlin, W. 30.
Pollak, Antoine, technical director of La Société Générale de Télégraphie rapide (Pollak et Virag), 7, ave. du Coq, Paris IX^{e}.
Pollak, Carl, elec. engineer & director, A.E.G. Thomson-Houston Co., 22, via venti Settembre, Milan, Italy.
Polte Armaturen- und Patronen-Fabrik, mechanical engineer, Magdeburg-Sudenburg, Germany. (Telegrams: "Poltewerk, Magdeburg." Telephone No. 230.)
Polyphos Electricitäts Gesellschaft, makers of Roentgen apparatus, Schillerstr. 16, Munich. (Telegrams: "Polyphos, Munich." Telephone No. 7055.)
Pommier, L., electrical apparatus, La Tour du Pin (Isère), France.
Poncet & Lacroix, electric bell manufacturers & contractors, 5, rue de Comté, Lyons, France. (Teleph. No. 7.81.)
Ponsolle, Léon, electrician, 30, boul. de Saumur, Angers (Maine-et-Loire), France.
Ponthière, H., electrician, professor of applied electricity, The University, Louvain, Belgium.
Ponzio, G., electrician, via Montecuccoli, Turin, Italy.
Poock & Hermann, electrical supplies, 121, rue de Flandre, Brussels. (Telegs.: "Poockherrmann, Brussels." Teleph. Nos. 6149; Works: 96.)
Popoff, Nicolas, electrician & engineer to the Cabinet of His Majesty the Emperor, Spalernaja 34, St. Petersburg.
Popp, V., electric light & mechanical engineer, chairman Cie. des Radiogrammes et d'applications Electriques, 21, place de la Madeleine, Paris. (Teleph. No. 525-58.)
Popp, Dr., & Dr. Becker, analytical & electro-chemical laboratory, Niedenau 40, Frankfort-on-the-Main. (Telegs.: "Poppbecker, Frankfort Main." Teleph. No. 222.)
Popular Gijonesa de Alumbrado, electric lighting, Gijon, Spain.
Porcherot, L., electrician, 3, rue Claude-Pouillet, Paris.
Pornon, Jean, electrician, rue de Grammont 28, Paris II.
Porsgrund Elektricitetsvark (manager, Harald Alfsen), Porsgrund, Norway.
Porta, Vedova, e Figlio, aerial ladder manufacturers for telephone, telegraph & electric light lines erection & maintenance, 13, Aug Anfossi, Milan.
Porta & Co., electric light contractors, Vicolo Ballerino, Brescia. Works: Corso Genova 9, Milan. (Telegrams: "Porta, Brescia.")
Porte, L., electrician, 9, rue Ancelle, Neuilly-sur-Seine, France.
Portella, Julio Pinto da Costa, chief engineer, rua da Alegria 488, Oporto, Portugal.
Porto, V., & figli, electric bell fitters, corso Umberto 2172, Vicenza, Italy.

Porzellan- und Tonwarenfabrik G. m. b. H., Coburg, Germany.
Porzellanfabrik Heutschel & Müller, Meuselwitz (S.-A.), Germany; & Kreuzbergstr. 74, Berlin, S.W. 47. (Teleph. No. 14847, Amt. VI.)
Porzellanfabrik Hermsdorf, makers of insulators, Hermsdorf, Sachsen Altenburg, Germany. (Telegrams: "Porzellanfabrik Hermsdorf S.A.")
Porzellanfabrik Kloster Veilsdorf, Akt. Ges., makers of lamp sockets & insulators, Kloster Veilsdorf, Sachs-Meiningen, Germany. (Telegs.: "Porzellanfabrik, Veilsdorf." Tel. No. 13, Hildburghausen.)
Porzellanfabrik, Ph. Rosenthal & Co., A.-G., insulator makers, Selb, Bavaria.
Porzelt, P. Ludwig, maker of marble slabs for switchboards, &c., Adalbertstr. 63, Bockenheim, Frankfurt-a.-M. (Teleph. No. 5565.)
Pöschmann & Co., electric installations, Pillnitzerstr. 50, Dresden, A.I. Saxony. (Teleph. No. 1518.)
Posselburg, Alexander, wire cables, all kinds of insulating tapes, Alexander brand, 9, Oberstr., Hamburg, Germany. (Telegs.: Posselburg, Hamburg." A.B.C. Code.)
Postel-Vinay, A., electrical engineer, 10, place St. François Xavier, Paris.
Pot, Adr., managing director Electrotechnische Industrie, Slikkerveer, Holland.
Pot, W. F., electrical engineer, Hoogeweg 57, Watergraafsmeer, Holland.
Potron, E., electric light apparatus maker, 40, ave. de la Republique, Paris. (Teleph. No. 925-37.)
Potzelt, C., electrical engineer, 4, Barfüsserstrasse, Halle a. d. S., Germany.
Pouchain, P., electrician, La Chapelle d'Armentières (Nord), France.
Poulain, A., et Fils, makers of accumulators of electricity, Charleville (Ardennes), France.
Poulet & Cie., bronze fittings, 38, ave. de la Republique, Paris.
Pouzol, —, electrician, 19, place du Marché, Nîmes, France.
Pouzol, J., electrician, 15, Grande Rue, Montpellier (Hérault), France.
Poyet, A., batteries, bells, &c., rue de Vaugirard 313, Paris.
Pozzi, Fr., engineer, Società Napoletana per Imprese Elettriche, Naples.
Pozzo, Ditta Attilio, & Co., electrical supplies & machinery, piazza Fossatello 8, Genoa, Italy. (Telegs.: "Apozzo, Genoa." Teleph. No. 1615.) Branch house: piazza Castello 1-3, Milan.
Pradera Hermanos y Ca., electric cable manufacturers, Bilbao, Spain.
Praticien Industriel (monthly; ann. sub., P.U., 7 frs.), 15, rue des Halles, Paris. (Telegs.: "Casalonga, Halles, Paris I°." Teleph. No. 281-92.)
Präzisions Werkstätten Mittweida, dynamo & motor makers, Mittweida, Saxony. (Teleph. No. 29.)
Pressspan- u. Pappenfabrik Zwönitz, Oskar Koch, pressspahn for elec. purposes, Zwönitz-i.-S., Germany.
Pressspanfabrik Untersachsenfeld Actienges. vorm. M. Hellinger, insulating materials, Post Neuwelt, Saxony. (Telegs.: "Pressspanfabrik, Neuweltsachsen.")
Pretzel, Franz, & Co., makers of belting & leather, Gr. Hamburgerstr. 32, Berlin, N. (Telegrams: "Pretzel Comp, Berlin." Telephone No. 625, Amt. III.)
Preuss, Ferd., electrical apparatus manufacturer, 7, Wassergasse, Vienna, III./1.
Preuss & Wittich, celluloid plates, Stallschreiberstr. 21, Berlin, S. (Teleph. No. 3666, Amt. IV.)
Prévot, Winand, electric fuse boards, Magnusstr. 14, Cologne, Germany.
Prez-Crassier, L. de, agent for dynamos, motors & electrical plant, 29, rue d'Angoulême, Paris.
Priano, Tomaso, electric light contractor, Ovada (Prov. di Alessandria), Italy.
Prince, F., electrical measuring instrument maker, 7, rue Réaumur, Paris.
Prior, H. P., A.M.I.E.E., electrician, general manager Aktieselskabet Nordiske Kabel-og Traadfabriker Fabrikvej, Copenhagen, F.
Privat Telephon Gesellschaft, Rosenthalerstr. 40, Berlin, C. (Teleph. Nos. 1125 & 1130, Amt. III.)
Privé & Varet, electricians, 6, rue Gresset, Amiens, France. (Teleph. No. 1.74.)
"Progress" Motoren- und Apparatenbau, Ltd., electric machine manufacturers, Wilmersdorferstr. 39. Charlottenburg, Berlin.
Prokchine, Paul, electrician, Maître du Gymnase, Kostroma, Russia.
Prokop, Wwe. Jos., dynamo machine maker, Palackystr. 204, Pardubitz, Bohemia.
Promayet, G., magnetic steel manufacturer, 59, rue de Provence, Paris.
"Prometheus" Gesellschaft m. b. H., electric heating & cooking apparatus manufacturers, Bockenheim, Frankfort-on-Main (Telegs.: "Prometheus, Frankfurtmain-Bockenheim." Teleph. No. 5510); & at Vienna, Birmingham, &c.
"Prometeus" Wièrss & Co., electrical heating & cooking apparatus makers, Liestal, près Basle, Switzerland.
Promper, Franz, & Rudolf Ferner, electrical & mechanical engineers, Y/2, Margarethenstr. 144, Vienna. (Telephone No. 7269.)
Prudence, Maurice, electrical apparatus, switchboards, 26-28, rue Bréguet, Paris XI. (Teleph. No. 935-14.)
Prudhomme, A., general installations of electric light, 82, ave. de Breteuil, Paris. (Teleph. No. 730-96.)
Prud'homme, H., electric sets, accumulators, switchboards, 17, rue Richer, Paris.
Prud'homme, electrician, rue Bayards 60, Liége.
Prvo Hrvatsko Varazoinsko Dionicarsko Druztvo za Elektricnu Razsvietu, Varazolin, Hungary.
Prytz y Campos, S., electricians, Alicante, Spain.

Puccinelli, Salvadore Figli, electric light contractors, Pisa, Italy. (Telegs.: "Puccinelli, Pisa.")
Puech, F., & Guin, electricians, 28, rue d'Aumale, Paris.
Puente Campano, Indalegio de la, electrical apparatus manufacturer, Bembibre (Léon), Spain.
Puig, Eusebio, electrician, Hernani 25, San Sebastian, Spain.
Puig, Juan, electrician, Pasaje Domingo 7, Barcelona.
Pulsford, Emile, electrical engineer, manager Ste. Centrale d'Electricité, 10, rue Taitbout, Paris. (Telegs.: "Sterling, Paris." Teleph. No. 139-06.)
Puluj, Dr. I., professor of electricity at the German Technical High School, Prague, Bohemia.
Pulvolit, G. m. b. H., electric insulators, Schloss-str., Frankfurt-on-Main.
Pundsack, J. R., manufacturing electrician, Ansgariitorstr. 11, Bremen, Germany. (Teleph. No. 987.)
Purfürst, Bruno, wholesale electrical supplies, Aegidiendamm 4, Hanover.
Puvilland, A., electrician, 20, boul. du Nord, Lyon (Rhône), France.

Quack & Gilles, engineers, Pfälzerstr. 46, Cologne. (Teleph. No. 6151.)
Quaedvlieg, C. F., electrician, rue des Grands Halles 11, Courtrai, Belgium. (Telegs.: "Quaedvlieg, Courtrai." Teleph. No. 211.)
Quaglia, Giovanni, & Co., dealers in electrical fittings, Vicenza, Italy.
Quanonne, F., Co., electric light installations, rue Belliard 161, Brussels.
Quarck, Ernst, electrical engineer, Müllerstr. 44, Munich, Bavaria. (Teleph. No. 2899.)
Quarena, G., electrical engineer, Gavardo, Brescia, Italy.
Quarzlampen-Gesellschaft m. b. H., quartz lamp manufacturers, Spandauerstr. 40, Pankow-Berlin.
Queirolo, Federico, electrical supplies dealer, via Cavour 10, Parma, Italy.
Quennessen de Belmont Legendre & Co., platinum manufacturers, 56, rue Montmartre, Paris. (Telegs.: "Platinum, Paris." Teleph. No. 115-51.)
Quentin, Paul, brushes for dynamos "Le Phénix," 24, boul. des Batignolles, Paris XVII. (Teleph. No. 532-19.)
Quétard & Cie. (Soc. Anon.), electrical engineers, Neuville-sur-Orne, par Revigny (Meuse), France.
Quillon, Marcel, electrician, 21, ave. de la République, Aurillac (Cantal), France. (Telegs.: "Quillon, Electricite, Aurillac." Teleph. No. 59.)
Quincke, Emil Aug., metal pushes, Warschauerstr. 61, Berlin, O. (Telegrams: "Druckcontact, Berlin." Telephone No. VII. 4881.)

R. Museo Industriale Italiano, via Ospedale 32, Turin.
Raab, G. F., electrical engineer, Elvirastr. 2, Munich, Bavaria. (Teleph. No. 12486.)
Raacke, Gebr., electrical engineers, 12, Adalbertsteinweg, Aachen. (Telegrams: "Raacke, Aachen." Telephone No. 744.)
Rabu, —, electrician, 50, rue Alsace-Lorraine, Toulouse, France.
Racapé, A. L., electrical engineer, Technical Department du Credit Mobilier Francais, 28, rue de Miromesnil, Paris VIII.
Rach, Aug., electrical agent, 26, Ostendstr., Frankfort-on-Main.
Raclot & Cie., consulting engineers & patent agents, 35, rue de la Regence, Brussels. (Telegs.: "Raclot, Brussels." Teleph. No. 3341.)
Radaelli, R., electric light brackets & electrolier manufacturer, via Vittoria Colonna 2, Milan. (Telegs.: "Duplex, Milan." Teleph. Nos. 590 & 387.)
Rademacher, Carl, & Co., chemical manufacturers, Carolinenthal, bei Prague, Austria. (Telegrams: "Rademacher, Prag-Carolinenthal." Telephone No. 1379.)
Radi, L., electric bell & telephone manufacturer & contractor, 84, boul. St. Michel, Paris. (Tel. No. 811-69.)
Radiguet, Léon, insulation "La Radionite," 61, rue Orfila, Paris.
Radium Elektrizitäts G. m. b. H. incandescent lamps, Wipperfürth, Germany. (Telegs.: "Radium, Wipperfurth." Teleph. No. 40.)
Radium, Le (monthly; ann. sub., frs. 15), 91, rue Denfert Rochereau, Paris. J. Danne, editor.
Radomer Electric Co., electricity supply contractors, Radom, Poland. W. Idzkowsky, chief engineer.
Raduan, Francisco A., dealer in electrical supplies, Alcoy (Alicante), Spain.
Rae Fratelli, manganese mine owners, via Polastrini 3, Leghorn, Italy.
Raekelboom, J., electric bells & telephones, 19, terrasse Sainte Catherine, Lille (Nord), France.
Raetsch & Co. (Hohlglas-Hüttenwerk), accumulator cell & globe manufacturers, Muskau, Germany. (Telegrams: "Raetsch Compagnie, Muskau." Telephone No. 5.)
Raffai, Gaetano, optical & electrical instrument maker, via Magistrato 32, Mantua, Italy.
Ragoen, M., electrician, rue Marie-Henriette 30, Brussels.
Rahm, Carl O., electrical engineer, secretary Svenska Elektricitetswerks Föreningen, Stockholm.
Raingo Frères, makers of electric light fittings, 102, rue Vieille-du-Temple, Paris.
Rakenius, Carl, & Co., electric lamp manufacturers, 98, Zimmerstr., Berlin, S.W. (Telegs.: "Rakenius, Berlin." Teleph. No. I. 2167.)

Ramel, Geo. F., mechanical consulting engineer & furnisher of hydraulic & electric lifts, 37, Nordstr., Unterstrass, Zurich, Switzerland. (Telegrams: "Rameleo, Zurich." Telephone No. 4254.)
Ramos & Silva, electrical instruments, rua Garrett 63 & 65, Lisbon.
Raoulx, Ducellier & Plaute, electrical engineers, 6, rue de l'Hôtel-de-Ville, La Rochelle (Charente-Inférieure), France.
Ramperti & Rastelli, makers of condensers, mirrors & reflectors, via Cerva 36, Milan.
Ramponi, R., & Co., agents, electrical supplies & arc lamps, via Saragozza 102, Bologna, Italy.
Ranieri, Giuseppe, optical & electrical instrument dealer, corso Vittorio Emmanuele 56, Bari, Italy.
Ransy, A., consulting engineer, 11, cour des Minimes, Liége, Belgium.
Raoux, Léon, electrical engineer, Lausanne, Switzerland.
Rapaz, Jules, electrician, rue du Pont 13, Lausanne, Switzerland.
Rapaz & Décosterd, electricians, Evian-les-Bains (Haute-Savoie), France.
"Rapid" Accumulatoren und Motoren Werke, G. m. b. H., Hauptstr. 159, Schöneberg-Berlin. (Telegs.: "Rapid, Schoneberg Berlin." Teleph. No. 9341, Amt. VI.)
"Rapid" Elektro-Gasfernzünderwerke, Ltd., electric gas lighters, Friedrichstr. 243, Berlin, S.W. 48.
Raps, Prof. Dr., director Siemens & Halske A.-G., Ulmersallée 14, Westend, Berlin. (Teleph. No. 1794, Amt. Charl.)
Rasche & Co., installation contractors, 2B, Prinzenstr., Chemnitz, Saxony. (Teleph. No. 793.)
Rasmussen, A. C. M., superintendent, Great Northern Telegraph Co., Ltd., Nystadt, Finland.
Rasmussen, Conrad, telegraph superintendent, Rönne, Bornholm.
Rasmussen, Einar, M.I.E.E., superintendent State Railway Telegraph, Christiania, Norway.
Rassart, C., electrical apparatus, rue Marcinelle 12, Charleroi, Belgium.
Rassmus, Fr., electrical apparatus maker, Wallstr. 2B, Magdeburg, Germany. (Teleph. No. 131.)
Rasson, Léon, electrical engineer, ave. Van Volxem 242, Brussels.
Rast, K., electrical engineer, 28, Geiststr., Halle, Germany.
Rastelli, A., & Co., electrical engineers, via Belvedere 4, & via dei Mille 23, Turin, Italy. (Telegrams: "Ingegnere Rastelli, Turin." Telephone No. 255.)
Rastoul, —, electric bell manufacturer & contractor, 50, rue Alsace Lorraine, Toulouse, France.
Rathenau, Emil, general manager, Allgemeine Elek.-Ges., Friedrich Karl Ufer 2-4, Berlin, N.W.
Rather Maschinenfabrik, Cl. Bonnenberg, Dusseldorf-Rath, Germany. (Teleph. No. 413.)
Rattner, —, managing director St. Petersburger Society of Electrical Constructions, Spasskaja 7, St. Petersburg. (Teleph. No. 2411.)
Rau, Edouard, M.I.E.E., electrical engineer, 7, Square Frère-Orban, Brussels, Belgium. (Teleph. No. 545.)
Rau, Louis, electrical engineer, Compagnie Continentale Edison, 7, rue Montchanin, Paris.
Rauche & Beth, telegraph & telephone contractors, Hauptstr. 70c, Zwickau-Schedewitz, Saxony.
Rauschenbach, Fritz, electrical installations, Waisenhausstr. 24, Dresden A. (Teleph. No. 7496.)
Rauschert, Paul, Porcelain Works, Huettengrund-Huettensteinach, Thur, Germany. (Telegs.: "Rauscherts Huettengrund-Huettensteinach." A.B.C. Code. Teleph. Nos. 55 (8 lines) & 210, Sonneberg.) China insulators of every description. *See advts.* INSULATORS & PORCELAIN & CHINA FITTINGS, BRITISH SECTION.
Ravené, Wilh., induction coils, Berchtesgadenerstr. 4, Berlin, W. 30. (Teleph. Amt. VI. No. 9268.)
Ravené, Jacob, Söhne & Co., iron, metal & steel merchants, 5-8, Wall-str., Berlin, C. (Telegs.: "Eisenravené, Berlin." Teleph. Nos. 8501 & 8508, Amt. I.)
Ravet, —, manufacturing electrician, 83, rue Nationale, Lille, France (Telegs.: "Ravet, Electrician, Lille." Teleph. No. 240); & 13, Coutour St. Martin, Roubaix, France. (Teleph. No. 409.)
Rawicz, A., & Co., electrical agents, 12, Erywanska-st., Warsaw.
Raymond, G., M.V.O., superintendent, Eastern Telegraph Co., Corfu, Greece; & H.B.M.'s Consul.
Raymond, Léonard, M.I.E.E., commander of the Légion d'Honneur, honorary administrator of posts & telegraphs of France, 56, rue Washington, Paris.
Razet, —, chemist engineer, Usine du Radium, 46, boul. de Champigny, Nogent-sur-Marne (Seine), France.
Rebicek, Gust., maker of thermo-electric batteries, 333, Krocingasse, Prague I., Austria.
Recarte, Hijo, electrical instrument maker, 8, Echegaray, & 15, Carrera de San Jerónimo, Madrid.
Rechnieznwski, C., electrical engineer, Cie. Française Thomson-Houston, 1, ave. de l'Alma, Paris.
Rechou, Gaston, engineer, 7, rue Clodion, Paris. (Teleph. No. 716-07.)
Red Telefonica interurbana de Nordeste de España, Cervantes 5, Barcelona.
Reddoway, F., & Co., agents for the Jandus arc lamp, Moscow, Russia.
Reding, Dr. A., chief, Tech. Section Administration Suisse des Télégraphes, Berne, Switzerland.
Redouté, Emile, electrical engineer, 80, ave. de la Muette, Paris.
"Reeben" Joint Stock Company Cable Works, Malaja Ochta Marienskaja-rd. 1, St. Petersburg, Russia. (Teleph. No. 33.11.)
Reefik Bey, electrical engineer, professor Ecole des Ingenieurs, Civils-Haskeny, Constantinople.
Regina Bogenlampen Fabrik G. m. b. H., Köln-Suelz, Germany. (Telegs.: "Regina, Cologne." A.B.C. Code. Teleph. No. 1081.)
Regoort & Co., electrical installations, Nieuwe Uitleg 14, The Hague, Holland. (Teleph. No. 2627.)
Reibaldi, Giulio, electrical engineer, via Viminale 31, Rome.

Reich, Alwin, electrical engineer, Maassenstr. 37, Berlin, W. 62. (Teleph. No. 2359, Amt. VI.)
Reich, Dr., electrician, laboratory for wireless telegraphy, Göttingen, Germany.
Reich, Emil, managing director Kabelfabriks A. G., Gumpendorferstr. 9, Vienna VI/1; & Pressburg.
Reich, S., & Co., makers of glass globes, &c., for electric lighting, Czerningasse 3, Vienna II. (Telegs.: "Glasreich, Vienna." Teleph. No. 14469.)
Reichard & Co., patent & trade marks registration agents, III. Marxergasse 28c, Vienna.
Reichel, Dr. W., prof. of electrical engineering, Technical College, Beethovenstr. 14, Lankwitz bei Berlin.
Reimbold, Gebr., manufacturers of compressed steel shafting, Kalk Cologne, Germany.
Reimer & Seidel, electricity meters, Rieglergasse 4, Vienna XVIII. (Teleph. No. 19712.)
Reinach. Ernesto, oils & lubricants, via Lario 71c, Milan, Italy.
Reinacher, Ing. Gustavo, electric light contractor, Arezzo, Italy.
Reiner, F., electric bell manufacturer & contractor, Jahnstr., 38, Munich, Germany. (Telephone No. 60.)
Reinhold, G., electrical engineer, Kronprinzenstr. 14, Magdeburg, Germany.
Reinhold Muller & Co., manufacturers of reflectors, 11, Moritzburgerstr. 21, Dresden, N.
Reiniger, Gebbert & Schall, Joint-Stock Company Berlin-Erlangen, makers of electro-medical apparatus, & manufacturers of dynamos & motors, Erlangen, Bavaria (Telegs.: "Elektromedizin, Erlangen." Teleph. No. 27); Ziegelstr. 30, Berlin, N.; Colonnaden 92, Hamburg; 12, Universitätstr., Vienna IX.; Rakoczy ut. 19, Budapest; 16, rue du Lombard, Brussels; Kamekestr. 19, Cologne; Johannisgasse 4, Leipzig; 13, Sonnenstr., Munich; Konjuschennaja 14, St. Petersburg; Giesshausgasse, Strassburg; Neue Taschenstr. 16, Breslau; Hornergasse 12, Zurich; St. Kongensgada 122, Copenhagen; & Guthentstr. 4-6, Frankfort-on-Main.
Reininghaus, Fr., & Sohn, electrical apparatus makers, Hagen-i.-W., Germany.
Reiss & Klemm, small motors & ventilators, Michaelkirchstr. 15, Berlin, S. A. 16. (Teleph. Amt. IV. 127.)
Reisser, Wilhelm, electric light engineer & contractor, contractor by appointment to his Majesty the King of Wurtemberg, 13a, Wilhelmsplatz, Stuttgart, Germany. (Telegs.: "Electron, Stuttgart." Teleph. Nos. 116 & 6316.)
Reithoffer, Dr. Max, professor of electricity, Technische Hochschule, Vienna.
Reithoffer's, Josef, Söhne, cable makers, 1, Rahlgasse, Vienna VI/1. (Teleph. No. 5270.)
Reitz, P. D., chief engineer, Münchener Trambahn Aktien. Ges., Schäftlarnerstr. 32, Munich, Bavaria.
Rejchman, Bron., electrical & general engineer, manufacturer of dry cells, Tamka 14, Warsaw. (Telegs.: "Electro, Warsaw." Teleph. No. 1064.)
Rellstab, Dr. Ludwig, chief engineer, A. G. Mix & Genest, Bahnstr. 8a, Südende-Berlin.
Rémon, Olivier, engineer of arts & manufactures, c/o Sté. Franco Suisse pour l'Industrie Électrique, 73, boul. Haussmann, Paris.
Rémon-Casas, L., engineer & general agent in Spain of the Société l'Éclairage Électrique of Paris, General Castaños 9, Madrid.
Remper, H. F., electrical engineer, Kyrkogatan 3, Gothenburg, Sweden.
Remy, Heinrich, magnet & magnetic steel manufacturer, Hagen i/W., Germany. (Telephone No. 89.)
Remy, Ing. Roland, agent for electrical supplies of all kinds, corso Oporto 21, Turin. (Telegs.: "Remy." Teleph. No. 45.)
Remy-Dennis, —, dynamos, accumulators & electrical installations, Marly-lez-Valenciennes, Nord, France.
Renard, Aug., electrician, quai Université 17, Liége.
Renard, Lucien, electrical installations, 41, rue de Bellefond, Paris.
Renaud, Levêque & Co., arc lamp "Excella," 37 & 39, rue Jean Jacques Rousseau, Paris. (Teleph. No. 290-05.)
Renaud, Texier & Co., insulating paper makers, 5, rue Nicolas-Flamel, Paris.
Renault, E., electric bells, 18, rue Gambetta, Nevers (Nièvre), France.
Renault, L., electric sets with petroleum motors, Billancourt (Seine), France.
Renaux, Levis, agent of Cie. Française de Charbons pour l'Electricité, 95, rue de Lille, Roubaix (Nord), France.
Rendahl, Ragnar, wireless telegraph expert, Gesellschaft für Drahtlose Telegraphie (m. b. H.), Plan Ufer 32, Berlin, S.W. 68.
René, F., electrical installations, 3, rue Auguste Comte, Lyon (Rhône), France.
Rene, L., & Co. (R. Collin, agent), insulators, volt & ampere meters, &c., 49, rue de Miromesnil, Paris. (Telegs.: "Micollin, Paris." Teleph. No. 513.97.)
Renoir, L., wires & electric lighting, 3, rue de Monceau, Paris.
Renoitre, F., electric apparatus, rue Charles II., 8, Charleroi, Belgium.
Renon, Vve., & fils, bronze & electric light fittings, 13, rue Payenne, Paris.
Renouard, Emile, electrician, 59, rue Roland, Lille (Nord), France.
Renouf, —, manufacturer of electric clocks, alarms, bells, &c., 30, rue Noël Ballay, Chartres (Eure et Loir), France. (Telegrams: "Renouf, Chartres." Telephone.)
Renous, Jean, electrical engineer, 1, Cours du Chapeau Rouge, Bordeaux (Gironde), France.
Renoux, —, accumulators, 35, rue Chevalier, Levallois-Perret (Seine), France.
Réparation, La, Electrique, repairs of electric machinery, 5, rue Bobillot, Paris XIII.
Respen, L., electric bell contractor, place de Malines 15, Antwerp.

Respinger, E., electrical engineer, Aeschengraben 10, Basle, Switzerland.
Ressing, A. W., director Municipal Electricity Works, Amsterdam. (Teleph. No. 3609.)
Reth, Joh. von, electrician, Minoritenstr. 8, Aachen, Germany.
Reus, J. A., electrical engineer, Spaarne 80, Haarlem, Holland.
Reuters Telegram Co., 8, place des Martyrs, Brussels.
Reutlinger, B. C., maker of electro-plating dynamos, 197, Röderbergweg, Frankfort-on-the-Main.
Revista Electro-Industrial (sub., 6 months, 3 pesetas), Canuda 37, Barcelona, Spain.
Revista Tecnica d'Elettricita (weekly; P.U., 25 frs. per ann.; in Italy, 15 Lire), corso Magenta 31, Milan. Founded, 1882.
Revista Minera, Metalúrgica y de Ingenieria (weekly; annual subscription £1), 3, Villalar, Madrid, Spain.
Revue de Chimie Industrielle (monthly; price 1s.), 53 bis, quai des Grands-Augustins, Paris. (Tel. 275–00.)
Revue de l'Ingénieur et Index Technique, a systematic review of current technical literature (monthly; 10*s.* 6*d.* per ann., card-indexing edition, 16*s.*), 15, rue de l'Aurore, Brussels.
Revue des Éclairages (twice a month; ann. sub. 8 frs.), 104, boul. de Clichy, Paris.
Revue Électrique, La (twice a month; 1.50 fr. each; ann. sub., Paris, 25 frs.; France, 27.50 frs.; P.U., 30 frs.) Editor, M. J. Blondin, 171, faub. Poissonnière, Paris (9e); publishers, Gauthier-Villars, 55, quai des Grands-Augustins, Paris (6e).
Revue Gaz et Électricité (bi-monthly), 42, rue Maubeuge, Paris.
Revue Générale des Sciences pures et appliquées (twice a month; annual sub., Postal Union, 30 frs. = £1 4*s.*). Director, L. Olivier, D.SC., 18, rue Chauveau-Lagarde, Paris; Armand Colin & Cie., publishers, 5, rue de Mezières, Paris.
Revue Industrielle (weekly: ann. sub., 25 frs.; abroad, 30 frs.), 17, boul. de la Madeleine, Paris, 1e.
Revue Internationale d'Électrothérapie et de Radiothérapie (ann. sub., 6 frs.), rue Beaujon 9, Paris.
Revue Minéralogique (monthly; ann. sub., 6 frs.; abroad, 8 frs.), 31, rue de la Victoire, Paris IXe. (Teleph. No. 319-04.)
Revue Pratique de l'Électricité (semi-monthly; ann. sub., P.U., 15 frs. = 12*s.*), 9, faub. Poissonnière, Paris. (Teleph. No. 155.77.)
Revue Scientifique, 41, rue de Châteaudun, Paris.
Revue Universelle des Mines, &c. (ann. sub., 40 frs.), 18, rue Bonne-Femme, Liége, Belgium.
Rey, A., electrician, 132, rue Daurémont, Paris.
Rey, J. A., civil, electrical & mining engineer (Harlé & Cie.), 26, ave. de Suffren, Paris.
Rey, L., electrical engineer, 97, boul. Exelmans, Paris-Auteuil XVIe.
Rey, Ch., et Cie., manufacturers of electric light fittings, Canal d'Hanswyck 28–29, Malines, Belgium. (Telegrams: "Rey Éclairage, Malines." Telephone No. 75.)
Rey Frères, electricians, 56–60, rue Veeweyde, Brussels.
Rey-Millet, Passerat & Genoud, electrical sundries, Zaninges (Haute-Savoie), France.
Reybel, —, electrical installations, 48, rue de le Charité, Lyon (Rhône), France.
Reye, G. W., & Söhne, infusorial earth for covering boilers, &c., 28, Frankenstr., Hamburg. (Telegs.: "Reyes, Hamburg." Teleph. V. No. 132.)
Reymond, Paul, electric watch manufacturer, Brassus, Vaud, Switzerland.
Reynell, R. C., electrician, Eastern Telegraph Co., Marseilles, France.
Reynier, A., electrical engineer, 81, rue Caulaincourt, Paris.
Rhadoonit-Werke G. m. b. H., Weesenstein, nr. Dresden, Germany.
Rheinische Bronzewarenfabrik, Schüz & Beringor, Heidelbergerfassg. 13, Mainz, Germany. (Tel. 1056.)
Rheinische Schuckert Gesellschaft für Elektrische Industrie A.-G., Mannheim, Germany. (Telegrams: "Schuckert, Mannheim.")
Rheinische Siemens-Schuckert-Werke, Hagenauerstr. 2, Strasburg, Germany. (Teleph. No. 888.)
Rheinische Siemens-Schuckertwerke G. m. b. H., Mannheim.
Rheinische Westfälisches Elektrizitätswerke A.-G., Essen, Germany.
Rhenus Elemente Fabrik Gesellschaft m. b. H., Köln Braunsfeld, Germany. (Teleph. No. 2899.)
Ribeiro, J. A., & Co., importers of electrical apparatus, 222, rua Aurea, Lisbon, Portugal. (Telegs.: "Optica, Lisbon.")
Ribière, Charles, director of the Service des Phares, 43, ave. du Trocadero, Paris.
Ricard, —, electrician, 17, Grande Rue, Parthenay (Deux-Sèvres), France.
Riccardi, Giuseppe, installation contractor, via Alfieri 5 bis, Turin.
Ricci, Augusto, electrical & scientific instrument maker & dealer, Ravenna, Italy.
Riccomanni & Socini, electric light contractors, Siena, Italy.
Richald-Legros, F., electrician, rue du Fer, 55, Namur, Belgium. (Telegs.: "Richald-Legros." Tel. 53.)
Richard, V., electric bell manufacturer, 48, rue de l'Université, Paris.
Richard, F., consulting electrician & electro-chemist, 4, rue du Musée, Brussels.
Richard, Gustave, electrical engineer & general agent of the Société d'Encouragement pour l'Industrie Nationale, 44, rue Rennes, Paris.
Richard, H., electrical installations, 9, rue des Trois-Bornes, Paris. (Teleph. No. 948-94.)
Richard-Heller, manufacturing electrician, 18 & 20, cité Trévise, Paris IX. (Telegs.: "Richelier, Paris." Teleph. No. 160–58.)

Richard, J., electrical manufacturing engineer, 25, rue Mélingue, Paris. (Teleph. No. 419-63.)
Richard, Radisson, & Cie., electricians, gold & silver refiners, 36, rue Cuvier, Lyons, France.
Richemond, Pierre, manager of La Société des Etablissements Weyher et Richemond, 52, route d'Aubervilliers, Paulin (Seine), France.
Richer & Cie., manufacturing electricians, rue Toulons 69, Brussels.
Richiardone, —, electric light contractor, via de Mille 44, Turin, Italy.
Richoux, P., electrical engineer, Chaussee de Lille 65, Tournai, Belgium.
Richter, Carl H., installation contractor, Uhlandstr. 97, Wilmersdorf, Berlin. (Teleph. No. 1508.)
Richter, Gustav, maker of porcelain insulators for telegraph purposes, Tegeler Wegstr. 63, Charlottenburg, bei Berlin. (Telegs.: "Isolatorrichter, Charlottenburg." Teleph. No. 115.)
Richter, M. B., telephone manufacturer, metal manufacturer & founder, Nörrebrogade 32, Copenhagen. (Telegs.: "Automatic, Copenhagen." Teleph. Nos. 5188 & 5189.)
Richter, Adolf, & Co., electricians, II., Obere Donaustr. 63, Vienna. (Teleph. No. 14020.)
Ricker, —, publisher of electrical & scientific books, Newsky prosp. 14, St. Petersburg. (Tel. No. 776.)
Rickler, Enrico, iron gauze manufacturer, corso Palestro 8, Turin, Italy.
Rickmann, Dr. R., electrical engineer & manufacturer, Thürnichenswall 78, Cologne, Germany. (Teleph. No. 4668.)
Rickmann, Dr., & Rappe, chemical manufacturers, Kalk, bei Cologne, Germany. (Telegrams: "Rickmann, Kalk." Telephone No. 61.)
Riebe, E., & Co., electrical engineers, Behrenstr. 57, Berlin, W. (Teleph. No. 2477, Amt. I.)
Riebe, Söhne, Wilh., electrical sundries, 185 & 186, Breiteweg, Magdeburg, Germany.
Riecke, Prof. Eduard, electrician, The University, Göttingen, Germany.
Ried Electricitätswerk, Ried, Austria.
Riedel, Jos., lamp shades for electric light, Polaun, Bohemia.
Riedinger, L. A., electro-bronzers, Augsburg, Bavaria, Germany. (Telegrams: "Riedingerfabrik, Augsburg." Telephone Nos. 25, 739 & 740.)
Riégel, Louis, manager of Manufacture Parisienne d'Appareillage Électrique, 14, rue de Commine, Paris.
Riep, Dr., & Friedländer G. m. b. H., battery makers, Reichenbergerstr. 3/4, Berlin, S.O. 26. (Teleph. No. 4920, Amt. IV.)
Rieter, Joh. Jacob (Société Anonyme ci-devant), water turbines, corso Venezia 62, Milan, Italy. (Telegs.: "Rieter, Milan." Teleph. No. 22-97.)
Rieul, —, electrician, 104, rue de Paris, Le Havre (Seine-Inférieure), France.
Riffelmacher & Engelhardt, insulated wire & cable manufacturers, Roth bei Nürnberg, Germany.
Riga Electric Tramways Act. Ges., 31, Alexanderstr., Riga, Russia. (Telegs.: "Tramway." Tel. 1338.)
Rigault, Aîné, glass globe maker, 17, rue du Pont-aux-Choux, Paris.
Rigaux, Ch., constructing electrician, rue Destouvelles 34, Brussels.
Riggaz, —, light & power, 12, rue de Sèze, Lyon (Rhône), France.
Righi, Prof. Augusto, consulting electrician, University, Bologna, Italy.
Righini & Finetti, electrical apparatus manufacturers, via Ospedale 14, Milan, Italy.
Rignon, Adolfo, insulating materials for electrical purposes, via Avigliana ang. via G. Collegno, Turin, Italy.
Rignon, J. A., electrician, director Sté. Sywa Electricité, rue Perronet 130, Neuilly-sur-Seine, Paris. (Telegs.: "Rignon, Neuilly." Teleph. No. 165-39.)
Rignon-Lampe G. m. b. H., lighting plants, Unter den Linden 48/49, Berlin, N.W. 7.
Rigonnaux, P., gas & electricity, 35, rue de la Bourse, Lyons (Rhône), France.
Rigual, P., artistic bronze fittings for electric light, 13, rue des Arquebusiers, Paris.
Riha, Rud., arc lamp maker, 18, Elisabethufer, Berlin, S.O. 26. (Teleph. Amt. IV. No. 5225.)
Rijn, Willem van, agency for electric apparatus & fittings, cables & wires, 181, Keizersgracht, Amsterdam. (Telegs.: "Wilvanryn, Amsterdam." Teleph. No. 2621.)
Rikli-Kehlstadt, H., electrical engineer, Seebach, Switzerland.
Rinaldi, Marco, dealer in electrical supplies, Spezia, Italy.
Rindskopf's, Josef, Söhne, glass & crystal goods for electric lighting, Teplitz, Bohemia. (Telegs.: "Josephus, Teplitz." Teleph. No. 337.)
Ringsdorff, P., manufacturer of dynamo brushes. Specialities: brushes of metal, carbon & bronze, Essen a. d. R., Germany. (Telegs.: "Ringsdorff, Essenruhr." W.U. Code. Teleph. No. 258.)
Riollé, Marius, electrical engineer, Romans, Drôme, France.
Ripoche, —, electric light bronze fittings, 113, boul. Beaumarchais, Paris.
Ripperda, V. L. C. v., controller, Great Northern Telegraph Co., Ltd., 103, rue de Grenelle, Paris.
Risacher & Hebert, electrical apparatus, 58, boul. Pasteur, Paris. (Teleph. No. 708-25.)
Risse & Schöneberg, electric wire makers, Iserlohn, Germany.
Risso, D., electric light fitter, 51R, via S. Sebastiano, Genoa, Italy.
Ritchie, R. O., M.I.E.E., electrical engineer, 38, rue des Fontaines, Dieppe, France.
Ritscher, Paul, electrical supplies dealer, Hohestr. 26, Leipzig; & Waisenhausstr. 22, Dresden, Germany.
Ritter, Franz, telephones & telegraph maker, Sebastianstr. 4, Berlin, S. (Teleph. No. 5832, Amt. IV.)
Ritter & Uhlmann, electric light, Clarastr., Basle, Switzerland.

Rittershaus & Blecher, wire & cable machinery mfrs., Barmen, Germany. (Teleph. Nos. 59 & 514.)
Ritz, A., electrical supplies, 34, rue Godefroy Cavaignac, Paris. (Teleph. No. 944-19.)
Rivista Scientifico-Industriale (twice a month; ann. sub., 9s. 6d.), Lungarno Zecca 2, Florence, Italy.
Rivlin, A., electrician, Nicolaerskaja 1, Kiew, Russia.
Rjevsky, W., electrician, Caretnaya-Sadovaya, House Egorowoi, Moscow.
Robard, R., engineer & administrateur délegué, Cie. Trefileries du Havre, 51, rue de Rome, Paris.
Robatel, T., Buffaud & Cie., electric motors, 59, chemin de Baraban, Lyon (Rhône), France.
Robert, —, electrical installations, 19, rue des Capucines, Commercy (Meuse), France.
Robert, A. C., electrical engineer, 11, rue Andrieux, Paris VIII^e. (Teleph. No. 566.34.)
Robert, G., electrical installations, 89, rue Voltaire, Levallois-Perret (Seine), France.
Robert, M., telephone engineer, maker of electric apparatus, 8, via del Giglio, Florence, Italy.
Robert, P., electrical engineer, 34 bis, rue Motte, Tourcoing (Nord), France. (Teleph. No. 1460.)
Robert Frères, electrical installations, 12, rue Porte Robert, Cambrai (Nord), France. (Teleph. No. 225.)
Robin, F., manufacturing electrical engineer, 6, rue Haxo, Paris.
Robinson & Co., dynamo & motor manufacturers, 27, rue d'Egmont, Antwerp. Works: 55, rue du Ruisseau, Hoboken, nr. Antwerp.
Rocard Louis, electrician, 27, rue Champeaux, Troyes (Aube), France.
Rocca, Ing. Alfredo, electrical engineer, corso Valentino 40, Turin, Italy.
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Rousseau, Emile, electricians' tools, 64, ave. Gambetta, Paris.
Rousseau, E., fils, electric light fittings, 6, ave. Parmentier, Paris.
Roussel & Rebufat, electric light apparatus, 7, rue d'Italie, Marseille (Bouches-du-Rhône), France.
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Roux, Combaluzier et Cie., makers of electric & hydraulic lifts, 22, rue de Passy, Paris.
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Royer & Joly, dynamos & turbines, Epinal, Vosges, France.
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Ruelle & Ladoire, electrical sundries, 66, rue Chevallier, Levallois-Perret (Seine). (Telegs.: "Stock-Decolletage, Levallois." Teleph. No. 513-88.) Works: Longchamp, près Clairvaux (Aube), France.
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Sächsische Dynamobürsten-Fabrik, Franz Kostorz, Dresden A, Germany. (Teleph. No. 464.)
Sächsische Glaswerke A. G., Deuben-Dresden, 43. (Telegs.: "Sachsenhütte, Deubenbzdresden." Teleph. No. 45.)
Sächsische Holzwarenfabrik Max Böhme & Co. Aktiengesellschaft, electric light fittings makers, Dippoldiswalde, Germany.
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Schäfer, Gg., & Cie., manufacturers of insulating tubes, Schweinfurt, Germany. (Telegs.: "Isolirrohrwerke, Schweinfurt." Teleph. No. 56.)
Schaffhauser Strassenbahn, Schaffhausen, Switzerland. H. Geiser, director.
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Schanzenbach, G., & Co. (Kom. Ges.), electrical apparatus, Bockenheim, Frankfort-on-Main.
Schappel, Jacob, glass globe manufacturers, Schillerstr. 28, Frankfort a/M., Germany. (Telegs.: "Jacob, Schappel, Frankfürtmain." Teleph. No. 7973.)
Scharf & Co., electricians, 131D, Friedrichstr., Berlin, N. 24. (Teleph. Amt. III. No. 4063.)
Scharrer & Gross, steam engine & boiler makers, Nürnberg, Bavaria.
Schassman & Cie., electrical apparatus makers, Zürich IV., Switzerland.
Schauer, Emil, electric clocks, Bernardgasse 26, Vienna VII. (Teleph. No. 3158.)
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Scheibe, R., & Söhne, electrical supplies, 15, Hohestr., Leipzig (Teleph. Nos. 3183 & 13329); & 41, Bahnhofstr., Erfurt, Germany. (Teleph. No. 554.)
Scheiber & Kwaysser, electrical apparatus manufacturers, XII./2, Korberg. 10, Vienna. (Tel. No. 7674.)
Scheier, Heinrich, contractors, Oranienburgerstr. 59, Berlin, N. 24.
Scheinig & Hoffmann, electric railway apparatus manufacturers, Museumstr. 4, Linz-a.-D., Austria.
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Schiemann, Max, & Co. *See* Ges. für Gleislose Bahnen.
Schierbeck, Emil. Guill°, electrical engineer & installation contractor, 287, Aragon, Barcelona. (Telegrams: "Schierbeck, Barcelona." Telephone No. 1405.)
Schierloh & Knüppel, electrical apparatus, 75, Rödingsmarkt, Hamburg. (Teleph. V. No. 1131.)
Schiersteiner Metallwerk (G. m. b. H.), electric apparatus makers, Schwerinstr. 3, Berlin, W. 30. (Teleph. Amt. 6 No. 8501.)
Schiff & Co., carbon manufacturers, carbon plates, Schwechat, nr. Vienna. (Telegs.: "Shipcarbon, Vienna." Teleph. Simmering 38-171.) Branch offices: London, Berlin, Hamburg, Prag, Budapest (Telegs.: "Carbon, Budapest." Teleph. No. 7973); Vienna & Zagreb. (Telegs.: "Carbon, Zagreb.")
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Schimmang, E., lamp shades, Alexandrinenstr. 50, Berlin, S. (Teleph. No. 1571, Amt. IV.)
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Schimpf, C., transfers, Nürnberg, Germany.
Schimpfermann, H., & Co., electric light engineers, Gerichtsweg 16, Leipzig, Saxony.
Schindler & Co., electric lifts & elevators, electrical supplies, Lucerne, Switzerland. (Telegs.: "Lift, Lucerne." Teleph. No. 873.)
Schindler & Co., electric lift makers, Ringbahnstr. 53, Tempelhof bei Berlin. (Teleph. No. 367.)
Schlaepfer, Ed., & Co., electric light installers, Zurich II.

Schlag & Berend, telegraph & lightning conductors, 34, Alexanderstr., Berlin, C. (Tel. No. 2545, VII.)
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Schlesinger, Maurice, & Cie., electric bells & indicator boards, 189, rue du Temple, Paris.
Schlesische Accumulatoren-Werke, A.G., Sawag accumulators, Canth Krs. Neumarkt, Germany. (Telegs.: "Sawag, Canth Krs. Neumarkt." Teleph. No. 52.)
Schlesische Celluloidwaren-Fabrik, celluloid vases for accumulators, Hermsdorfstädt bei Liebau, Germany.
Schlesische Elektricitäts und Gas Actien Gesellschaft, Schweidnitzerstr. 1, Breslau, Germany; & Glogau.
Schlettstadt i. Els., electric light works of the town, Schlettstadt i. Els, Germany.
Schliemann, E., manufacturer of electric drilling machines, New-Isenburg, nr. Frankfort-on-Main.
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Schloesser, Clemens, electrical engineer & installer, 18, Rinkenpfuhl, Cologne. (Teleph. No. 1985.)
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Schmidmer, Dr., & Co., manufacturers of patent wire couplings, Nürnberg, Bavaria. (Telegrams: "Drahtbund, Nürnberg.")
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Schmidt, Fritz, agent for electric cables, &c., Stockholm. (Telegrams: "Copper, Stockholm.")
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Schmidt, Anton, & Sohn, insulating materials, Worringerstr. 106, Düsseldorf, Germany.
Schmidt, Franz, & Haensch, electrical scientific instrument makers, 16, Prinzessinenstr., Berlin, S. 42. (Teleph. No. 315, Amt. IV.)
Schmidt, J. H., Söhne, makers of electric light apparatus & fittings, Iserlohn, Germany.
Schmidt, Kranz & Co., makers of electric lifts, Nordhausen, Prussia.
Schmidtgen, Emil, wire & cable maker, Winckelmannstr. 11, Dresden, Saxony. (Teleph. No. 1575.)
Schmitz, J., & Co., contact plates, Höchst-a-M., Germany.
Schmitz-Jérôme & Co., manufacturers of insulating tubes & dynamo belting, Hanover. (Telegrams: "Jerome, Hanover." Telephone No. 753.)
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Schneider, Arthur, electric light fittings maker, 23a, Ferd. Foststr., Leipzig-Stötteritz, Germany. (Telegs.: "Hausbeleuchtung, Leipzig-Stötteritz." Teleph. No. 9388.)
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Schneider & Co., manufacturing engineers, dynamos, 42, rue d'Anjou, Paris. (Teleph. No. 157.19.) Works: Le Creusot (Saône-et-Loire); & Champagne (Seine-et-Marne), France.
Schnicke, H. F., spiral springs & tool manufacturer, Chemnitz, Germany. (Teleph. Nos. 174 & 1306.)
Schniewindt, C., manufacturer of resistances, wire, & electrical apparatus, Neuenrade i. Westph., Germany. (Telegs.: "Schniewindt, Neuenrade.")
Schnyder, Gebr., electric light fittings makers, Lucerne, Switzerland.
Schöchli, Rud., station manager of the Elektrische Strassenbahn, Zürich, Switzerland.
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Schomburg, H., & Söhne Act. Ges., manufacturers of insulators (porcelain) & battery jars, Alt-Moabit 95–96, Berlin, N.W., Germany. (Teleph. No. 1036, Amt. II.)
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Schortmann, G., & Son, electric door-openers, Leipzig-Plagwitz, Germany.
Schott, Geo. V., electrical door-openers, Wurzburg, Germany. (Teleph. No. 193.)
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Schröder, Smidt & Co., electrical engineers & agents, Bremen, Germany.
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Schubbert, Paul, consulting engineer, Textorstr. 108, Frankfurt-a.-M. (Telegs.: "Schubbert." Teleph. No. 4851.)
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Schuch, Julius, telegraph apparatus maker, Köpenickerstr. 141, Berlin, S.O. 16. (Teleph. No. 6547, Amt. IV.)
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Schuchhardt, F., manufacturer of telegraph instruments, 9, Rungestrasse, Berlin, S.O. (Teleph. Nos. 3228 & 3227, Amt. IV.)
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Schuleit, G., supplies for telephones, Luisenufer 11, Berlin, S. 42. (Teleph. No. 5945, Amt. IV.)
Schüler, W., & Co., fans, converters, Waldemarstr. 27, Berlin, S.O. 26. (Teleph. Amt. 4 No. 5039.)
Schulmeister, Louis, electro-medical apparatus manufacturer, 5, Spitalgasse IX./2, Vienna. (Telephone No. 16085.)
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Schultz, Ernesto E., consulting electrical engineer, 108, calle Lauria, Barcelona, Spain. (Telegs.: "Schultz, Barcelona."
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Schultze, J. M., screws, Melchiorstr. 6, Berlin, S.O. (Teleph. No. IV. 4063.)
Schultze, Wilhelm, Nachfl., maker of mica goods for electrical purposes, Admiralstr. 7, Berlin, S.O. (Teleph. No. IV. 415.)
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Schulze, F. F. A., signal lamps & lighting accessories for tramcars, 47 & 48, Fehrbellinerstr., Berlin, N. (Telegs.: "Beleuchtung, Berlin." Teleph. Amt. III. No. 1265.)
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Schwabe & Co., manufacturing electricians, 55, Wallstr., Berlin, S. (Teleph. IV. No. 10070.)
Schwabe, Franz, & Co., pushes, wood cases for bells, indicators, &c., Langewiesen i/Thür., Germany.
Schwade, Otto, & Co., electric pump makers, Erfurt, Germany. (Telegrams: "Automat, Erfurt. Telephone No. 289.)
Schwarberg, E. G., electrical engineer & director, Compagnie Électro-Mécanique, Le Bourget (Seine), France.
Schwark, Max, & Co., electric fan makers, 101, Ritterstr., Berlin, S. 42. (Teleph. Amt. IV. No. 9310.)
Schwartzkopff, A., G. m. b. H. screws, Hauptstr. 25-29, Berlin-Reinickendorf. (Teleph. No. 84.)
Schwarz, August, arc lamp manufacturer, Ziegelhüttenweg 39, Frankfort-on-the-Main. (Telegrams: "Bogenlampe, Frankfortmain." Telephone No. 3586.)
Schwarz, J. von, insulator manufacturer, Nürnberg-Ostbahnhof, Germany.
Schwarz, R., dynamo & motor manufacturer, 41, Reisnerstr., Vienna III. (Teleph. No. 2044.)
Schwarz, A., & Co., electric light fittings makers, 72, Mörfelderlandstr., Frankfort-on-Main.
Schwarzenberger Papierfabrik (vorm. Keller & Gottschaldt), Pressspahn in all forms, Wildenau b. Schwarzenberg i. Sa., Germany.
Schwarzwälder, Carl, batteries, Chausseestr. 306, Mariendorf-Berlin.
Schwarzwälder Holzwaren Fabrik (Kamitz & Stratz), Furtwangen, Bad. Schwarzwald, Germany.
Schwechater Kabel-und Gummi-Werke Heinrich Eger & Co., Nibelungengasse, Vienna I. (Telegs.: "Eger, Nibelungengasse, Vienna.")
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Schweiz Glühlampenfabrik A. G., makers of electric incandescent lamps, Zug, Switzerland. (Telegrams: "Gluhlampen, Zug.")
Schweizerische Bindfadenfabrik Schaffhausen, electric transmission of power, Flurlingen, Schaffhausen. (Telegs.: "Bindfadenfabrik, Schaffhausen.")
Schweizerische Elektrotechnische Zeitschrift (monthly; ann. sub., 12 frs.), 34, Englischviertelstr., Zurich V. S. Herzog, editor.
Schweizerische Gesellschaft für Elektrische Industrie, 96, Freiestr., Basel, Switzerland.
Schweizerische Gesellschaft für Elektochemische Industrie, Berne, Switzerland.
Schweiz. Isola-Werke Act. Ges. Breitenbach, manufacturers of micanite & moulded pieces, Breitenbach b. Basel, Switzerland.
Schweizerischer Elektrotechnischer Verein, technical inspectors, Zurich III., Switzerland. (Telegrams: "Starkstrom, Zurich.") (Chief engineers, P. Nissen & F. Gerwer.)
Schwelmer Elektrizitäts Gesellschaft Schlichting & Co., m. b. H., Schwelm, Westphalia.
Schwieger, Dr. Heinrich, director Siemens-Schuckert-Werke G. m. b. H. & Siemens & Halske A.-G., Askanischer Platz 4, Berlin.
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Schwintzer & Gräff, makers of electroliers, 18, Sebastianstr., Berlin, S. 14. (Telegs.: "Winzergraf, Berlin." Teleph. Nos. 735 & 8987, Amt. IV.)
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Service d'Électricité de la Commune de Boudry, Canton de Neuchatel, Switzerland. Director, E. E. Girard.
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Service d'Électricité de la Commune de St. Blaise, Canton de Neuchatel, Switzerland.
Service Électrique de la Commune de St. Imier, Jura Bernois, Switzerland. (Telegrams: "Electricité, St. Imier (Suisse).")
Services de l'Électricité de la Ville de Lausanne (A. de Montmollin, chief engineer), Lausanne. (Telegs.: "Service Électricité, Lausanne." Teleph. No. 794.)
Services Industriels, light & power, Chaux-de-Fonds, Switzerland. Director, H. Mathys; chief electrician, Ch. Amez-Droz.
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Seypel & Cie., glassware for electric light fixtures, &c., rue Gaucheret 84, Brussels.
Shephard, T. F., electrical engineer, Ekaterinodar Krasnid, Dom Nasaroffa, South Russia.

Ship Carbons, Ltd., manufacturers of arc lamp carbons, carbon blocks for carbide of calcium & electrolytical processes, also carbon brushes, Schwechat, nr.Vienna (Telegs.: "Shipcarbon,Vienna"); & 67, Aldersgate-st., London, E.C. (Telegs.: "Gloriole, London." Teleph. Central 12367.)

Sidot, A., manufacturing electrician, 12 & 14, rue Bridaine, Paris. (Teleph. No. 505-02.)

Siebert, G., refiner, smelter & manufacturer of platinum, Hanau-on-the-Main, Germany. (Telegrams: "Platina, Hanau." Telephone No. 48.)

Siecke & Schultz, steel for magnets, Oranienstr. 120, Berlin, S.W. (Teleph. Nos. 3004 & 3006, Amt. IV.)

Siedentopf, Wilh., scientific instruments, Würzburg, Germany. (Teleph. No. 1338.)

Siedle, S., & Söhne, telegraph & telephone manufacturers, Furtwangen, Bad.-Schwarzwald, Germany.

Siedle Söhne, dealers & manufacturers of electrical supplies, Hamburg, Germany. (Telephone Amt. I. No. 7196.)

Sieg, Dr. E., consulting electrician, manager, Kölner Akkumulatorenwerke, Gottfried Hagen, Kalk bei Köln, Germany.

Siegel, Feodor (engineer), maker of steam engines & boilers, Schönebeck a Elbe, Germany.

Siegismund, Berth., paper, Beuthstr. 4, Berlin, S.W.; & Stephanstr. 16, Leipzig.

Siemens, Arnold von, M.I.E.E., Askanischer Platz 3, Berlin, S.W. 11. Local hon. secretary & treasurer of the Institution of Electrical Engineers.

Siemens, Friedrich, maker of glass globes, &c., for electric lighting, IX. Alserstr. 28, Vienna. (Teleph. No. 16104.)

Siemens, Wilhelm von, M.I.E.E., electrical engineer, Askanischer Platz 3, Berlin, S.W.

Siemens Elektrische Betriebe Aktiengesellschaft, Askanischer Platz 3, Berlin. (Telegrams: "Fiatlux, Berlin." Telephone No. 4885, Amt. VI.)

Siemens, Gebrüder & Co., manufacturers of carbon rods, plates, &c., Herzbergstr. 128-137, Lichtenberg bei Berlin. (Teleph. Nos. 741-743.)

Siemens & Halske Aktien Gesellschaft, electrical engineers, &c., Askanischer Platz 3, Berlin, S.W. (Telegrams: "Werneriat, Berlin." Telephone No. 4402, Amt. VI.); III. Apostelgasse 12 & 14, Vienna (Telegrams: "Wernerwerk, Vienna." Telephone No. 1793); Niddastr. 76, Frankfurt-a.-M.; via Rizzoli, Bologna, Italy; äuss. Klosterstr. 27, Chemnitz, Saxony; Karlsruhe, Baden; & Reitbahn 4, Danzig. (Teleph. Nos. 289 & 554.)

Siemens & Halske Teknisk Byra, electrical engineers, 5, Mikaelsgatan, Helsingfors, Finland.

Siemens-Schuckert, Cia. Anon. Española de Electricidad, Barquillo 28, Madrid.

Siemens-Schuckert Dansk Aktieselskab, Palegade 6, Copenhagen K.

Siemens-Schuckert Norsk Aktieselskab, electrical engineers & importers of electrical appliances, Kirkegd. 20, Christiania, Norway. (Telegs.: "Siemenschuckert, Christiania." Teleph. Nos. 7698 & 2954.)

Siemens-Schuckert Werke, G. m. b. H., electrical engineers, &c., Technisches Bureau, Waisenhausstr. 10/I., Dresden, Saxony (Telegs.: "Bureaudyn, Dresden." Teleph. Nos. 3274 & 1657); Askanischer Platz 3, Berlin (Telegs.: "Wernerdyn, Berlin." Teleph. Amt. VI. No. 4885); Nürnberg (Telegs.: "Dynamowerk, Nürnberg"); Bingerstr. 2, Mainz; Technisches Bureau, Prannerstr. 15A, Munich (Teleph. Nos. 1271, 1272 & 1273); St. Annastr. D. 215, Augsburg (Telegs.: "Bureaudin, Augsburg." Teleph. No. 237); Gartenstr. 51, Breslau V., Germany (Teleph. No. 1085); Bismarckstr. 4, Posen, Germany (Teleph. No. 142); Niddastr. 86, Frankfurt-a.-M.; Reitbahn 4, Danzig (Teleph. Nos. 289 & 554); äuss. Klosterstr. 27, Chemnitz; & Würzburg. (Teleph. No. 26.)

Siempelkamp, G., & Co., electrical engineers, 115, Louisenstr., Crefeld, Germany. (Telegrams: "Siempelkamp, Crefeld." Telephone No. 831.)

Siemsen, Rudolf, lightning arresters, Alexanderstr. 7, Hanover. (Teleph. No. 110.)

Sierra Hijos de I., telephone engineers & contractors, calle Mayor 20, Madrid.

Siertsema, Dr. L. H., professor at the Technical University, Delft, Holland.

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Silayeff, A., electrical agent, Miasnitzkaya, h. Obidine, Moscow.

Silberman, S. & H., electrical engineers & agents, Nowogrodzka 36, Warsaw.

Silicia, Pile, primary batteries, 8, rue Château London, Paris. (Teleph. No. 413-43.)

Silva, Ing. Angelo, electrical engineer, piazza Garibaldi, Parma, Italy.

Silvano, Ing. Emilio, electrical engineer, Circonvallazione oltre Po 93, Turin, Italy.

Simon, B., electrical contacts for bells, Ritterstr. 76, Berlin, S.W. (Teleph. Amt. IV. No. 500.)

Simon, Paul, consulting engineer, 1, quai de l'Est, Lyon (Rhône), France.

Simonet, Jules, director of La Société La Française Electrique, 101, rue de Crimée, Paris XIX.

Simonet Frères, bronze for electrical purposes, 60, rue des Archives, Paris III. (Teleph. No. 234-07.)

Simonis & Co., electrical & mechanical agents, Milan, Italy. (Telegs.: "Simonis, Milan." Teleph. No. 30-34.)

Simundt, F., G. m. b. H., electric light & power contractors, 96, Lützowstr., Berlin, W. (Teleph. Nos. 8944-8946, Amt. VI.)

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Singels, N. J., director Municipal Electrical Service, Waldeek Pyrmontkade 139, The Hague. (Teleph. No. 2614.)

Singer, Felix, engineer & general contractor for electric tracks, 26, Regensburgerstr., Berlin, W. (Telegs.: "Refugium, Berlin." Teleph. No. 6576, Wilm.)
Sinigaglia, S., & Cia., electrical apparatus, via Andrea Doria, N. 8, p. 1°, Turin, Italy.
Sippel, H., telegraph contractor & lightning conductor erector, Schmalestr. 5, Merseburg, Germany.
Sirazac, J. O., electrician, 45, rue Sainte Catherine, Bordeaux (Gironde), France.
Sire de Vilar, Henri, electrical engineer, 170, rue Michel Bizot, Paris XII.
Sirius Werke, carbon makers, Baden, nr. Vienna.
Sironi, Giovanni, electric light & power contractor, Treviso, Italy. (Telegrams: "Sironi, Treviso." Telephone No. 71.)
Sirtaine, Emile, supplier of electrical sundries, rue de la Limite 23, Brussels, Belgium.
Siry, Etienne, manager, Compagnie Française pour l'Exploitation des Procédés Thomson-Houston, 31, rue Claude-Vellefaux, Paris.
Siry Lizars & Cie., di Siry Chamon & Cie., electrical measuring instruments, Viale Porta Lodovica 21–23, Milan, Italy. (Telegs.: "Sirychamon, Milan." Teleph. No. 4–35.)
Sismondo, Oscar, electrical engineer, Società Anglo Romano per l'Illuminazione di Roma, 6, via Montebello, Rome.
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"Siva-Lampe" G. m. b. H., arc lamp factory, Berlinerstr. 169, Gr. Lichterfelde-Ost, Berlin.
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Skiens Telephone Co. (Telefonselskab), Skien, Norway. Eugen Abrahamsen, manager.
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Sloan & Cie., American turbines of all systems, rue du Louvre 17, Paris. (Teleph. No. 264–06.)
Slücki, M., & Co., electrical engineers & contractors, Belgrade, Servia.
Sluski, M., agent for Ganz & Co., Budapest, Miasnitzkaya, dome Sitova, Moscow, Russia.
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Smolensk Electric Co., electric lighting contractors, Smolensk, Russia. (Telegs.: "Tramway, Smolensk." Teleph. Nos.: 125; Works: 98.)
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Sociedad Anglo-Española de Motores Gasogenos y Maquinaria General (antes Julius G. Neville), engineers & electric light contractors, Salon del Prado 14, Madrid; & 11, Plaza de Palacio, Barcelona. (Telegs.: "Anglomotor," Madrid & Barcelona.)
Sociedad Anonima "Alambres del Cadagua," Bilbao.
Sociedad Anonima "Electra Aragon," Tafalla, Navarra, Spain.
Sociedad Anonima Electra de Pamplona, electrical engineers & importers of electrical appliances, Pamplona, Navarra, Spain.
Sociedad Anonima Electra Pasiega, Santander, Spain. (Telegs.: "Belectra, Santander.")
Sociedad Anonima Electra-Recajo, Logroño, Spain.
Sociedad Anonima "Electrica de Vedia," Vedia, Vizcaya, Spain.
Sociedad Anonima Electromotriz Valcarlos, makers of electro-motors, Pamplona, Spain.
Sociedad Anonima Española del Contador de Energia Electrica "Vatimetro B. y B.," calle Bravo Murillo 26, Madrid, Spain. (Telegrams: "Vatimetro, Madrid." Telephone No. 2356.)
Sociedad Anon. Fabrica la Amistad, mechanical & electrical engineers, Oviedo, Spain.
Sociedad Anonima Hidro Electra, Najera (Logroño), Spain. Engineer, Juan Oñate.
Sociedad Anonima Instaladora de Alumbrado, Cartagena, Spain.
Sociedad Anonima Instaladora General, electrical engineers, 24, Gran Via, Bilbao, Spain.
Sociedad Anonima La Electrica de la Vega de Armijo, de Luz Electrica, Montoro, Cordoba, Spain.
Sociedad Anonima "La Rosa" Tarancon (Cuenca), Spain.
Sociedad de Cables Electricos de Algorta, Algorta, Bilbao, Spain.
Sociedad Electrica Gallega (Laforet y Co.), Vigo, Spain.

Sociedad Electrica, Lerida, Spain. Emilio de la Cuadra, manager.
Sociedad Electrica Moderna de Jerez de la Frontera, Spain.
Sociedad Electrica Vitoriana, Vitoria, Spain. (Telegrams: "Electrica, Vitoria." Telephone No. 61.)
Sociedad Electro Quimica de Flix, electro-chemical factory, Flix, Prov. de Tarragona, & calle Valencia 266, Barcelona. (Telegs.: "Eleetroquimica, Bareelona.")
Sociedad Espanola de Construcciones Metalicas, engineers & turbine makers, Zorroza, Bilbao (F. Gachin, manager); & at Madrid, Linares, Beasain & Gijon, Spain.
Sociedad Española de Electricidad "Alioth," Galdo 2, Madrid. (Telegs.: "Alioth, Madrid." Tel. 961.)
Sociedad Española del Acumulador "Tudor," 7 & 9, Carrera de San Jerónimo, Madrid. (Telegrams: "Tudor, Madrid.")
Sociedad Franco-Espanola de Trefileria, Cableria Aereos, steel, wire & cable manufaeturers, Bilbao, Spain. (Telegrams: "Cables Desierto Erandio, Bilbao." Telephone No. 3122.)
Sociedad Gallega de Electricidad, Argensola 19, Madrid.
Sociedad General de Centrales Eléctricas, Ibañez de Bilbao 16, Bilbao, Spain.
Sociedad General Gallega de Eleetricidad, Ferrol, Spain. Engineer, A. Aulet.
Sociedad Hidro-Eléctrica, plaza de Villarrasa 2, Valencia, Spain.
Sociedad Hidro-Eléctrica del Chorro, electricity company, Doña Trinidad Grund 16, Malaga, Spain.
Sociedad Metalúrgica Duro-Felguera, electric tramway plant manufacturers, Claudio Coello 44, Madrid.
Sociedad Palentina de Eleetricidad, Palencia, Spain.
Sociedad Popular Ovetense, electricity company, Oviedo, Spain.
Sociedad Técnica, electrical apparatus, Cortes 547, Barcelona, Spain.
Società Acquedotto de Ferrari, electric power supply company, 4, piazza Campetto, Genoa, Italy.
Società Alzanese di Elettricità, electrical engineers & contractors, Alzano-Maggiore, Italy.
Società Anglo-Romana per l'Illuminazione di Roma, elcetric light contractors, 14, via Poli, Rome.
Società Anonima Agostini Francesco, agents for electrical apparatus, via Roma 28, Turin. (Telegs.: "Agostini Fraueesco, Turin." Teleph. No. 207.)
Società Anonima Bergamasca per distribuzione di Energia Elettrica, Bergamo, Italy.
Società Anonima Besozzi, electrical apparatus manufacturers, 14, via Pietro Verri, Milan.
Società Anonima Bolognese di Elettricità, via Independenza 69, Bologna, Italy.
Società Anonima Coltivazione eave manganese, manganese miners, Bonassola (Prov. di Genoa), Italy.
Società Anonima Co-operativa Abbadiese per l'Illuminazione Elettrica, Abbadia Alpina (Torino), Italy.
Società Anonima Co-operativa Lecchese di Elettricità, Lecco, Italy.
Società Anonima Co-operativa per la Illuminazione Elettriea, Perrero, Turin, Italy.
Società Anonima Co-operativa per l'Illuminazione Elettrica, Perosa Argentina, Turin, Italy.
Società Anonima Co-operativa "Unione Elettriea Gardone-Inzino," Gardone Valtrompia, Brescia, Italy.
Società Anonima de Rossi & Ca., Imprese Elettriche ed Idrauliche, corso Umberto 1°, 23, Naples.
Società Anonima dei Telefoni, telephone contraetors, Pordenone (Prov. di Udine), Italy.
Società Anonima dei Tramways di Torino & Società Torinese di Tramways e Ferrovie Economiche, eleetric tramways & light railways, corso Regina Margherita 114, Turin, Italy. (Telegrams: "Lauchard, Turin." Telephone No. 1069.)
Società Anonima d'Elettricità del Ticino, Vigevano, Italy.
Società Anonima delle Tramvie Sorrentine, via Guglielmo Sanfelice 33, Naples, Italy.
Società Anonima di Costruzioni Elettriche e Meccaniche gia Turrinelli & Cia., manufaeturers of eleetric carriages, Milan. (Telegs.: "Turrinelli, Milan." Teleph. No. 2289.)
Società Anonima di Elettricista Fulgor, incandescent lamp makers, Genoa, Italy.
Società Anonima Dinamite Nobel, chemical manufacturers, Avigliana, nr. Turin, Italy.
Società Anonima Elettrica, Murano, Venice, Italy.
Società Anonima Elettricità Alessandrina, Alessandria, Italy. Director, Add. A. Cagnoli; Administrator, Cav. Ing. E. B. de Visser. (Telegrams: "Elettricità, Alessandria.")
Società Anonima Elettricità Alta Italia, electric light & power contractors, via Arsenale 21, Turin. (Telegrams: "Elettritalia, Turin." Telephone No. 1162.)
Società Anonima Elettricità Umbra, Perugia. Administrator, Ing. Cav. Uff. E. B. de Visser; director, Ing. E. Grampp. (Telegs.: "Elettrumbra, Perugia.")
Società Anonima Elettrometallurgica Bergamasca, Bergamo, Italy.
Società Anonima Esplodenti & Prodotti Chimici, chemical manufacturers, 3, Piazzi Bodoni, Turin. (Telephone No. 285.) Works: Villafranca, Lunigiana.
Società Anonima per le Forze Idrauliche di Trezzo sull' Adda "Benigno Crespi," 1, Victor Hugo, Milan.
Società Anonima Forniture Elettriche, general suppliers of electrical requisites for electric lighting, via Castelfidardo 7, Milan, Italy.
Società Anonima Frera, motor cars & accessories, via Carlo Alberto 33, Milan. (Telegs.: "Frera, Milan." Teleph. No. 372.)
Società Anonima Funicolari e Tramvie Bergamasche, Bergamo, Italy.
Società Anonima gia Fratelli Diatto, manufacturers of railway material, via Moncalieri 10, Turin, Italy. (Telephone No. 451.)
Società Anonima Illuminazione, Idraulica ed Affini, via Petrarca 20, Milan, Italy.

Società Anonima Italiana dell'Elettro-carbonium, Rome.
Società Anonima Italiania Gio Ansaldo Armstrong & Co., dynamo & motor builders, Genoa, Italy.
Società Anonima "La Brianza," electric light & power contractors, Merate, Milan, Italy.
Società Anonima "La Prealpina" per Imprese Elettriche, via Vellone 3, Varese, Italy.
Società Anonima "Les Tramways de Bologne," Bologna, Italy.
Società Anonima Livornese d'Elettricità, Leghorn, Italy.
Società Anonima "Luce Elettrica," Chiuro, Sondrio, Italy.
Società Anonima Materiale Elettrico, electrical apparatus manufacturers, 29-31, via Solferino, Milan.
Società Anonima Officina di Produzione e Distribuzione di Energia Elettrica, electric light & power contractors, Cagli (Pesaro), Italy.
Società Anonima Padov. per il Telef. e Applicazioni dell' Elettricità (director Aug. Basevi, engineer), via XX. Settembre 1, Padua, Italy.
Società Anonima Parmense di Elettricita, electric light contractors, via Cairoli, Parma, Italy.
Società Anonima per Azioni, Montichiari, Brescia, Italy.
Società Anonima per Azioni "Elettricità Toscana," Pisa, Italy. (Telegs.: "Elettricità, Pisa.") Ing. G. Baduel, manager; Cav. Ing. E. B. de Visser, administrator.
Società Anonima per Imprese Elettriche Conti Impianto di Monza, Monza, Italy.
Società Anonima per Imprese Pubbliche, Pordenone, Italy.
Società Anonima per Industrie Elettriche "L'Agognetta" (consulting engineer, Ing. G. Arigo), Sannazzaro di Burgondi, Prov. di Pavia, Italy; & via Depretis 9, Voghera, Italy.
Società Anonima per la Fabbricazione Lampade a Incandescenza, The "Fulgor," electric lamp makers, Genoa, Italy.
Società Anonima per la Ferrovia Funicolare Superga, 114, corso Regina Margherita, Turin. (Telegrams: "Lauchard, Turin." Telephone No. 1069.)
Società Anonima per la Luce ed Energia Elettrica, Canelli, Alessandria, Italy.
Società Anonima per la Produzione e Distribuzione di Energia Elettrica, Gazzaniga, Bergamo, Italy.
Società Anonima per l'Illuminazione Elettrica, electric light contractors, Campodolcino, Sondrio, Italy.
Società Anonima per l'Illuminazione Elettrica ed Esercizio di Molino e Trebbia, San Daniele del Friuli, Udine, Italy.
Società Anonima per l'Industria del Gas ed Illuminazione Elettrica, Ancona, Italy.
Società Anonima per Prodotti Elettrici, Genoa, Italy.
Società Anonima Piacentina per l'Illuminazione Elettrica (represented by Fratelli Magrini), Piacenza.
Società Anonima Piemontese di Elettricità, via Bogino 9, Turin, Italy.
Società Anonima Prealpina per Imprese Elettriche, via Staurenghi 3, Varese, Como, Italy.
Società Anonima Rancati, electrical apparatus for electrolysis, via Tortona 20, Milan.
Società Anonima Telefonica Bresciana, Brescia, Italy.
Società Anonima Telefonica Trevigliese, Treviglio, Bergamo, Italy.
Società Anonima Truffet, makers of dynamos, alternating current machines, transformers, electro-motors, &c., viale P. Romana 55, Milan, Italy.
Società Anonima Westinghouse, electrical engineers, 54, Vicolo Sciarra, Rome. (Telegs.: "Sodelec, Rome.")
Società Apparecchiatori Elettricisti, 24, via Bigli, Milan, Italy.
Società Aretina per le industrie elettriche, Arezzo, Italy.
Società Bagni Lido, electric light installations, Venice.
Società Benacense di Elettricità (Daina Giulio, engineer & technical director), Salò, Brescia, Italy.
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Società Bolognese di Elettricità, Bologna, Italy.
SOCIETÀ CERAMICA RICHARD-GINORI MILAN (limited company, paid-up capital: Lire 10,000,000). Works at Milan, Italy (Telegs.: "Ceramica, Milan"); Doccia, nr. Florence; Pisa; Mondovi; & Vado Ligure. Manufacturers of all sorts of porcelains for electric appliances, battery jars, &c. Speciality: High Tension Insulators. Apply for illustrated catalogues & price lists to the Company's Head Office in Milan.
Società Chiavarese per la Cost. e l'Esercizeo di Tramvie e Ferrovie Econ. Comp. Chiavari, Italy.
Società Comense per l'Industria del Gas, Ing. Rossetti & Co., Como, Italy.
Società Co-operativa di Consumo per la Distribuzione Luce Elettrica e Forze Motrice, electric light contractors, Ivrea, Italy.
Società Cooperativa di Elettricità, Breno (Prov. di Brescia), Italy.
Società Co-operativa di Produzione e Consumo di Luce Elettrica, Aosta, Italy.
Società Co-operativa Fenestrellese per l'Illuminazione Elettrica, Fenestrelle, Turin, Italy.
Società Cooperativa Telefonica, Rovigo, Italy.
Società Co-operativa Telefonica, Treviso, Italy.
Società Co-operativa Luce Elettrica (F. Marca, manager), electric light contractors, Chiavenna, Italy.
Società Costruzione Macchine-utensili Michele Ansaldi & Co., machinery makers, via XX. Settembre 12, Turin. (Telephone No. 158.)
Società Costruzioni Meccaniche, Treviso, Italy.

Società degli Alti Forni, Fonderie ed Acciaierie di Terni, steel manufacturers, Terni, Perugia, Italy. (Telegrams: "Acciaierie, Terni.")
Società d'Elettricità, Sondrio, Italy.
Società degli Acquedotti De Ferrari-Galliera, via Balbi 2, Genoa, Italy.
Società del Gas, contractors electric light, Varese, Lombardy.
Società dell Illuminazione, Cesena, Italy.
Società della Luce Elettrica, Delebio (Prov. di Sondrio), Italy.
Società delle Forze Idrauliche dell' Alto Po, corso Duca di Genova 3, Turin, Italy. (Teleph. No. 1508.)
Società di Applicazione Elettriche, via Arcivescovado 10, Turin.
Società di Illuminazione Elettrica di Venezia (director, Cav. Ing. Filippo Danioni), S. Luca, Corte Morosina 4422, Venice. (Telegrams: "Elettrica, Venezia." Telephone No. 142.)
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Società Elettrica Anonima Co-operativa, Morbegno, Sondrio, Italy.
Società Elettrica Comense A. Volta, Como, Italy. (Telegrams: "Voltiana, Como." Telephone No. 171.)
Società Elettrica della Sicilia Orientale, 21, Foro Bonaparte, Milan. (Telegs.: "Sicania, Milan.")
Società Elettrica di Benevento, Milan, Italy. (Director, A. Molitor.)
Società Elettrica di Collio Valtrompia, Collio, Brescia, Italy.
Società Elettrica di Sarezzo, Sarezzo, Brescia, Italy.
Società Elettrica di Vestone, Vestone, Brescia, Italy.
Società Elettrica Milanese, incandescent lamp makers, 8, via Tivoli, Milan.
Società Elettrica Ossolana, Intra, Lago Maggiore, Italy.
Società Elettrica Ossolana, Novara, Italy.
Società Elettricità Toscana, Pisa, Italy. Administrator & manager, Cav. Ing. E. B. de Visser. (Telegrams: "Elettricità, Pisa.")
Società Elettrodinamica, representative of Elektricitäts Gesellschaft Alioth in Italy, & importers of electrical materials, Principe Umberto 28, Milan, Italy.
Società Elettro-Meccanica Veronese, 3-21, Muro Padri, Verona, Italy.
Società Emiliana di Esercizi Elettrichi, Strada Farini 84, Parma, Italy.
Società Eridano, Fornovo di Taro (Provincia di Parma), Italy.
Società Esercizio Bacini, Ltd., dynamo & motor manufacturers, 18, piazza Annunziata, Genoa, Italy.
Società Ferrovie e Tramvie Elettriche Varesine, Varese, Italy.
Società Forni Elettrici Stassano, Turin, Italy.
Società Generale Casalese di Elettricita, Casale Monferrato, Italy.
Società Gen. El. dell' Adamello, power distribution, via Armorari 8, Milan.
Società Generale Italiana dei Telefoni e Applicazioni Elettriche Agenzia di Venezia, Venice, Italy.
Società Generale Italiana di Telefoni ed Applicazioni Elettriche, via de Pecori 6, Florence, Italy.
Società Generale Italiana di Telefoni ed Applicazioni Elettriche, Vicolo Paterni 1, Palermo, Italy.
Società Generale Italiana Edison di Elettricità, electric light & power distribution & tramway operations in Milan, 2, via Tommaso Grossi, Milan, Italy. (Telegrams: "Edison, Milan.")
Società Generale Italiana e Telefoni ed Applicazioni Elettriche, Piazza delle Borsa, Naples, Italy.
Società Generale per la Illuminazione, via Marina, Naples. (Telegs.: "Illuminazione." Teleph. 216.)
Società Generale per la Illuminazione Sedente in Napoli, Syracuse, Italy. (Telegrams: "Elettricità, Syracuse, Italy.")
Società Genovese di Elettricita, via Garibaldi 13, San Pier d'Arena, Italy.
Società Idroelettrica Ligure, Mouchio (Provincia di Parma), Italy.
Società Impianti idro-elettrico, Valle Imagna, Clenezzo, Bergamo, Italy.
Società Imprese Elettriche Bagni di Lucca, Italy.
Società Imprese Elettriche Conti, electric light & power distribution, piazza S. Pietro e Lino 1, Milan, Italy.
Società Industriale della Valnerina, electric light contractors, Terni, Prov. di Perugia, Italy.
Società Industriale di Elettricità, Rieti, Umbria, Italy. (Telegrams: "Elettricita, Rieti.")
Società Industriale d'Illuminazione Elettrica, electric light contractors, Battaglia, Padua, Italy.
Società Industriale Elettrochimica, calcium carbide manufacturers, Pont S. Martin, Milan, Italy.
Società Industriale Italiana "Dora," storage battery makers, Alpignano, Turin, Italy.
Società Industriali Riunite, G. Trevisan e Cie., electrical materials, Largo Cairoli 2, Milan, Italy.
Société Industrielle de l'Accu-Mixte l'Energie (Brevets Commelin Viau), 45, rue de Livis, Paris. (Telegs.: "Energique, Paris." Teleph. No. 582-93.)
Société Industrielle de Creil, flexible wires, 47, rue de Chateaudun, Paris. (Teleph. No. 215-47.)
Società Ingegneri, piazza di Celestini, Bologna, Italy.
Società Italiana dei Telefoni ed Applicazioni Elettriche, Vico Tintori 1, Genoa, Italy.
Società Italiana di Applicazioni Elettriche, via Arcivescovado 10, Turin, Italy. (Telephone No. 468.)
Società Italiana di Elettricità (manager, Alfredo Frilli de Lamorte), electric light & power contractors, Florence, Italy.
Società Italiana di Elettricità Ganz, manufacturing electrical engineers & electric light & power, tramway & railway contractors, via Solferino 15, Milan, Italy.

Società Italiana di Elettricità Siemens-Schuckert, via Victor Hugo 2, Milan; & corso Umberto 1, 337, Rome.
Società Italiana di Industrie Elettriche, Spezia, Italy.
Società Italiana Electrocarbonium (Paoloni Arturo, director), Narni, Scalo, Italy.
Società Italiana Fabbriche Lampade Phœbus, Bologna, Italy.
Società Italiana gia Siry, Lizars, & C. di Siry, Chamon & C., makers of electroliers, &c., Viale Porta Ludovica 21–23, Milan, Italy. (Telegs.: "Sirychamon, Milan." Teleph. No. 35.)
Società Italiana Lahmeyer di Elettricità, via Meravigli 2, Milan, Italy.
Società Italiana Lampade ad Arco e Impianti Elettrici, Accomandita Semplice, Ing. R. Colombo & Co., arc lamp manufacturers, corso Umberto 255, Rome.
Società Italiana, Langen & Wolf, gas motors, Milan, Italy.
Società Italiana Oerlikon, via Principe Umberto 17, Milan. (Telegs.: "Oerlik, Milan." Teleph. No. 1390.) Director, Ing. S. Merrone.
Società Italiana per Conduttori Elettrici Isolati e Prodotti Affini, via Giovanette 2, Leghorn, Tuscany, Italy. (Telegs.: "Sice, Leghorn.")
Società Italiana per il Carburo di Calcio, Rome.
Società Italiana per la Trazione Elettrica, Ing. Meriggi & C., importers of traction material, via Vignola 6, Milan, Italy.
Società Italiana per le Strade Ferrate Meridionali, Florence, Italy.
Società Italiana per l'Utilizzazione delle Forze Idrauliche del Veneto, electrical water-power transmissions, Venice, Italy. (Telegs.: "Cellina, Venice." Teleph. No. 630.)
Società Italiana per l'Utilizzazione delle Forze Idrauliche del Veneto, Montereale Cellina, Udine, Italy.
Società Italiana per lo zinco e bianco-zinco, chemical manufacturers, via Superga 31, Turin. (Teleph. No. 208.)
Società Italiana Siemens, electrical apparatus, via Pietro Micca 8, Turin, Italy. (Teleph. No. 805.)
Società Italo Svizzera per la Illuminazione Elettrica, Sta. Maria, Capua Vetere, Italy.
Società Ligure di Elettricità, piazza S. Luca 7, Genoa, Italy.
Società Lombarda per Distribuzione di Energia Elettrica (A. Scotti, managing engineer), rue Principe Umberto 17, Milan.
Società Loverese di Elettricità, Lovere, Bergamo, Italy.
Società Luganese Tramvie Elettriche, Lugano, Ticino, Switzerland. R. Schatzmann, manager.
Società Martesana, electric light & power distribution, Trezzo d'Adda, Italy.
Società Metallurgica Anonima Italiana, manufacturers of copper, brass, bronze, &c., Leghorn, Italy.
Società Mineraria ed Elettrica del Valdarno, S. Giovanni, Arezzo, Italy.
Società Monregalese di Elettricità di Ing. Trona Vittorio & Co., Mondovi-Breo, Italy. (Teleph. No. 50.)
Società Monzese di Elettricità, Monza, Milan, Italy.
Società Napoletana per Imprese Elettriche, 11, Piazza Municipio, Naples, Italy. (Telegs.: "Sien, Naples." Teleph. Nos. 764 & 1264.)
Società Nazionale delle Officine di Savigliano, electrical engineers & contractors, Savigliano; & via XX Settembre 40, Turin, Italy.
Società Ottonieri Uniti, lead & tin, sheet & tube manufacturers, piazza Ponte, Genoa, Italy.
Società Pavese di Elettricità A. Volta, via Marzini 4, Pavia, Italy.
Società pel Carburo di Calcio, Terni, Italy.
Società per l'Illuminazione Elettrica, Arona (Prov. di Como), Italy.
Società per l'Illuminazione Elettrica, Laveno (Prov. di Como), Italy.
Società per l'Illuminazione Elettrica, Castello di Godego, Treviso, Italy.
Società per l'Illuminazione Elettrica, Gavardo, Brescia, Italy.
Società per l'Illuminazione Elettrica, Gavi, Italy.
Società per l'Illuminazione Elettrica di Mendrisio, Mendrisio, Canton Ticino, Switzerland.
Società per l'Illuminazione Elettrica Salò-Gardone, Salò, Brescia, Italy.
Società per l'Impianto dell'Energia Elettrica, Bertalia 60, Bologna, Italy.
Società per la Produzione e Distribuziene di Energia Elettrica, electric light contractors to the town, Pordenone (Prov. di Udine), Italy. (Telegrams: "Elettrica, Pordenone.")
Società per le Forze Idrauliche del Moncenisio, Turin, Italy.
Società per le Forze Idrauliche, Tivoli, Rome, Italy.
Società per le Tramvie Elettriche di Terni, Rome.
Società per l'Utilizzazione delle Forze Idrauliche (Sede a Milano), electric light contractors, Domodossola, Italy.
Società per lo Sviluppo delle Imprese Elettriche in Italia, via Victor Hugo 1, Milan, Italy. (Telegrams: "Sviluppo, Milan." Telephone No. 2057.)
Società Picena di Elettricità, Fermo, Ascoli Piceno, Italy. (Telegrams: "Picena, Fermo.")
Società Piemontese per la Fabbricazione del Carburo di Calcio Prodotti Affini, Turin, Italy.
Società Piemontese per Illuminazione Elettrica, R. Pavio, Turin. (Telephone No. 1170.)
Società Romana Tramways-Omnibus, Rome.

Società Sicula Imprese Elettriche, electric light & tramway contractors, via Alessandro Volta, Palermo, Italy. Comm^re E. Piazzoli, director.

Società Sviluppo Imprese Elettriche (Giov. Barberis, engineer & manager), via Vincenzo Monti 14, Milan, Italy.

Società Telefoni, telephone contractors, via Rigattieri, Pisa, Italy.

Società Telefoni Italia Centrale, via de Pescioni 5, P° 3°, Florence, Italy. (Telegrams: "Stic, Florence.")

Società Telefonica Comense, Como, Italy.

Società Telefonica di Zurigo, piazza Garibaldi 2, Parma, Italy.

Società Telefonica di Zurigo, telephone contractors, via 42 Septembre 19, Verona, Italy.

Società Telefonica di Zurigo, telephone station, via Tone 22, Modena, Italy.

Società Telefonica di Zurigo, via Prefettura, central telephone station, Ancona, Italy.

Società Telefonica pel servizio publico & privato, 4, via Nicolò Lionello, Udine, Italy.

Società Telefonica, telephone engineers & contractors, represented by Silvio Mach de Palmestein, Biella, Italy.

Società Termotecnica Meccanica, già Lod. Tarizzo & C., via Circonvallazione 50, Turin. (Telegrams: "Termotecnica, Turin." Telephone No. 12-35.)

Società Tipografico-Editrice Nazionale, technical publishers, via Nizza 149, Turin, Italy. (Telegs.: "Sten, Turin." Teleph. No. 17-32.)

Società Torni Elettrici Stassano, electric ovens, via Circovallazione a Nord 108, Barriera Maddalene, Turin, Italy.

Società Toscana per Imprese Elettriche, via dell' Agnolo 2, Florence, Italy.

Società Tramway Elettrici, Florence, Italy.

Società Vicese di Elettricita, Vicoforte, Mondovi, Italy.

Societatea Română de Electricitate Siemens-Schuckert, Soc. An., Bucharest, Roumania. (Telegs.: "Siemenschuckert, Bucharest.") Electrical office representatives of Siemens-Schuckertwerke, G. m. b. H., Berlin.

Société Aixoise d'Électricité, 24, rue du 4 Septembre, Aix (Bouches-du-Rhône), France. (Teleph. No. 0.02.)

Société Alsacienne de Constructions Mécaniques, manufacturing electrical engineers & contractors, cable manufacturers, 4, rue de Vienne, Paris. (Telegrams: "Mecalsac, Paris." Telephone No. 564-68.)

Société Anonyme "Accumulateurs Tudor," 79, rue Joseph II., Brussels. (Telegs.: "Tudor, Brussels." Teleph. Nos. 1410 & 11530.) Works: Florival, Belgium. (Telegs.: "Tudor, Florival." Teleph. No. W. 20.)

Société Anonyme Accumulatorenfabrik Maarssen (directeur, C. E. Wolff), accumulator manufacturers, Maarssen, Holland. (Teleph. No. 7.)

Société Anonyme Aster, electric sets, 74, rue de la Victoire, Paris. (Teleph. No. 284-19.)

Société Anonyme "Ateliers de Constructions Électriques de Charleroi," Charleroi, Belgium. (Telegrams: "Électricité, Charleroi." Telephone Nos. 76 & 573.)

Société Anonyme Belge d'Électricité, A. E. G.-l'Union Electrique, 156, rue Royale, Brussels (Telegs.: "Tension, Brussels." Teleph. No. 4511); 44, rue des Escrimeurs, Antwerp; 41, rue Charles Quint, Ghent; & 26, rue de Sclessin, Liége.

Société Anonyme Belge pour l'Éclairage Public par l'Électricité (Système Tudor), 26, Montagne-aux-Herbes-Potagères, Brussels.

Société Anonyme de Cocq sur Mer, electric lighting station, Clemskerke, Belgium.

Société Anonyme de Construction d'Appareils Industriels, material for electrical installations (Edgard Tiberghien, representative), rue de Belle Vue, Gand, Belgium.

Société Anonyme de Construction les Ateliers Métallurgiques, railway & tramway engines, &c., 30, rue Montagne aux Herbes Potagères, Brussels, Belgium. (Telegs.: "Metal, Brussels." Teleph. No. 940.)

Société Anonyme de Construction (Les Ateliers Franco-Russes), railway & tramway material makers, Ekaterinoslau, Russia.

Société Anonyme de Constructions d'Appareils Électriques, electrical apparatus makers, St. Chamond (Loire), France.

Société Anonyme d'Éclairage & de Force par l'Électricité à Paris, electric power engineers, 11, rue d'Alexandrée, Paris.

Société Anonyme d'Éclairage et d'Applications Électriques, portable electric lamps, Arras (Pas-de-Calais), France. (Telegs.: "Electrique, Arras.") B. Girard de Vasson, manager.

Société Anonyme d'Eclairage Electrique, electric lighting, Wevelghem, Belgium.

Société Anonyme d'Éclairage Électrique du Secteur de la Place Clichy, electric light engineers & contractors, 53, rue des Dames, Paris.

Société Anonyme d'Eclairage et de Transport de Force, l'Électrique Peruwelzienne, Peruwelz, Belgium. (Telegs.: "Electrique, Peruwelz." Teleph. No. 29.)

Société Anonyme d'Électricité, Azay-le-Rideau (Indre-et-Loire), France.

Société Anonyme d'Électricité, Central Station (director, T. de Gryse), Ninove, Belgium.

Société Anonyme d'Électricité, rue Coutard, Bourg St. Andéol (Ardèche), France.
Société Anonyme d'Électricité du Borinage, electric light & power supply, Pâturages, Belgium.
Société Anonyme d'Électricité Lahmeyer, contractors, rue de la Chancellerie 8, Brussels.
Société Anonyme d'Energie Électrique de Grenoble et Voiron, 164, cours Berriat, Grenoble; & Lyons. M. Dussaugay, engineer & manager.
Société Anonyme d'Entreprise Générale de Travaux, railway & tramway makers & contractors, boul. de la Sauvenière 64, Liége, Belgium. (Telegrams: "Engetra, Liége." Telephone No. 986.)
Société Anonyme de la Foret du Flamand, wood casings & cleats for wires, rue Boudet 21, Bordeaux, France. (Telegs.: "Flamand, Boudet, Bordeaux." Teleph. No. 28.37.)
Société Anonyme de la Manufacture de Porcelaine, insulators, Saint Foy l'Argentière (Rhône), France.
Société Anonyme de l'Industrielle d'Accumulateurs, makers of stationary accumulators, 58, rue Heyvaert, Brussels.
Société Anonyme de Locomotion Électrique, 20, rue Vignon, Paris. (Teleph. No. 211.33.) Works: Colombes (Seine), France. (Teleph. No. 34.)
Société Anonyme de Produits Chimiques Établissements Malétra, chemical manufacturers, 11, rue la Boétie, Paris. (Teleph. No. 106-33.)
Société Anonyme de Produits Electro-techniques, insulators, accumulator jars, ebonite, asbestos, 10-12, rue Lécluse (place Clichy), Paris. (Teleph. No. 501-18.)
Société Anonyme de St. Petersbourg pour la Transmission Électrique de la Force Motrice des Chutes d'Eau, 67, chaussée de Peterhof, St. Petersburg.
Société Anonyme de Téléphonie Privée, boul. de la Senne, 115, Brussels; rue des Clarisses 8, Liége; rue des Capucines 3, Antwerp; & rue des Grand Central 24, Charleroi, Belgium.
Société Anonyme des Accumulateurs Chelin, ave. Guillaume Macau 11, Brussels.
Société Anonyme des Accumulateurs Tudor, Florival, Belgium. (Telegs.: "Tudor, Florival." Teleph. No. W. 20, Brussels.)
Société Anonyme des Acieries et Forges de Firminy, steel wires, Firminy (Loire), France.
Société Anonyme des Alliages Cothias, accumulator makers, 9, rue Victor Hugo, Ivry-Port (Seine), France. (Telegrams: "Cothias, Ivry-Port." Telephone No. 801-73.)
Société Anon. des Allumeurs-Extincteurs Automatiques, switch & cut-out makers, 162, Mühlebachstr., Zürich V., Switzerland. (Telegs.: "Zundapparat, Zürich.")
Société Anonyme des Anciens Ateliers de Construction Van den Kerchove, steam engines & turbines, 189, Coupure, Ghent, Belgium.
Société Anonyme des Anciens Établissements J. B. Torrilhon, insulating material (indiarubber) manufacturers, 10, rue du faub. Poissonnière, Paris. (Telegrams: "Torrilhon, Paris." Telephone No. 161-01.) Works: Clermont Ferrand (Puy de Dôme).
Société Anonyme des Anciens Etablissements Jaeggé, electric apparatus, 97, ave. de Choisy, Paris.
Société Anonyme des Anciens Établissements Parvillée Frères & Cie., makers of insulators, &c., 56, rue de la Victoire, Paris. (Telegs.: "Céramique, Paris." Teleph. No. 510-72.)
Société Anonyme des Ateliers Carels Frères, constructing engineers, steam & Diesel oil engine makers, 53, Dock, Gand, Belgium. (Telegs.: "Ateliers Carels, Gand." Teleph. No. 232.)
Société Anonyme des Ateliers de Constructions Mécaniques d'Escher, Wyss & Co. *See* Escher, Wyss & Co.
Société Anonyme des Ateliers de Mecanique de Précision, Territet, Vaud, Switzerland.
Société Anonyme des Ateliers du Canal, mechanical & electrical engineers, rues du Canal & Ledeganck, Borgerhout, Antwerp, Belgium.
Société Anonyme des Ateliers Grèzes et Piques, motors & turbines, 47, Canal de Brienne, Toulouse (Haute-Garonne), France.
Société Anonyme des Brevets et Procédés Claret et Vuilleumier, tramways & railway plant, joints, bounds, 75, boul, Haussmann, Paris. Works: 111, ave. Michelot, Saint Ouen (Seine), France.
Société Anonyme des Cristalleries du Val St. Lambert, manufacturers of glass-ware for electric light fixtures, &c., Val St. Lambert, Belgium.
Société Anonyme des Établissements Adt, insulators, 45, rue Turbigo, Paris. (Teleph. No. 152-40.) Works: Pont à Mousson (Meurthe-et-Moselle), France.
Société Anonyme des Etablissements Carel ainé, Fouché & Cie., telegraph poles, 61, rue Chanzy, Le Mans (Sarthe), France.
Société Anonyme des Etablissements Fallonnel-Perodeaud, indiarubber & gutta percha, Choisy le Roi (Seine), France.
Société Anonyme des Établissements S. Grauer & Cie., dynamo makers, 74 & 76, boul. Richard Lenoir, Paris.
Société Anonyme des Établissements Delaunay Belleville, engineers & boiler makers, Ateliers de l'Ermitage à Saint Denis (Seine), France. (Teleph. No. 407-04.)
Société Anonyme des Établissements Gratry, 15, rue de Pas, Lille (Nord), France.
Société Anonyme des Etablissements Weyher & Richemond, electrical engineers, 50, Route d'Aubervilliers, Pantin (Seine), France; & 11, ave. Trudaine, Paris.
Société Anonyme des Faienceries de Creil et de Montereau, porous cells for electric batteries, 11, rue Bleue, Paris.

Société Anonyme des Forges et Chantiers de la Mediterranée, general engineers & contractors, 1, rue Vignon, Paris. (Telegrams: "Vasco, Paris." Telephone No. 245–43.)

Société Anonyme des Hauts-Fourneaux de Maubeuge, electric welding apparatus, 10, rue Blanche, Paris.

Société Anonyme des Liéges Appliqués à l'Industrie, 13, rue du Delta, Paris.

Société Anonyme des Manufactures de Câbles, Accumulateurs et Appareils Électriques, Seneffe, Belgium.

Société Anon. des Manufactures de Glaces de St.-Gobain, Chauny & Cirey, makers of glass accumulator boxes, insulators, &c., 3, place des Saussaies, Paris. (Telegs.: "Glagobain, Paris.") London Agency: 165, Queen Victoria-st., E.C. (Telegs.: "Claritude, London.")

Société Anonyme des Mecaniques Verdol, accumulators, 16, rue Dumont D'Urville, Lyon (Rhône), France.

Société Anonyme des Mines et Fonderies de zinc de la Vieille Montagne, 19, rue Richer, Paris. (Telegrams: "Sincay, Paris." Telephone Nos. 148.20 & 316.12.)

Société Anonyme des Moteurs, general engineers, Sclessin, Liége, Belgium. (Telegrams: "Motor, Sclessin-lez-Liége." Telephone No. 348.)

Société Anonyme des Papeteries de Vidalon (Causon & Montgolfier), roll paper for telegraphs, 39, rue de Palestro, Paris.

Société Anonyme des Poteaux Télégraphiques, telegraph poles, &c., Sclessin-les-Liége, Belgium.

Société Anonyme des Produits Forestiers de Landes du Sud-Ouest, wooden mouldings for electic conduits, Villandrant (Gironde), France.

Société Anonyme des Tramways Bruxellois (Electric Tramway), 6, Impasse du Parc, Brussels.

Société Anonyme des Tramways de Livourne, Leghorn, Italy.

Société Anonyme des Tramways Est-Ouest de Liége & Extensions, rue Frederic Nyst 30, Liége, Belgium. (Telegs.: "Traméo, Liége." Teleph. No. 410.)

Société Anonyme des Usines à Cuivre et Zinc de Liége, rue Froidmont, Liége, Belgium. (Telegs.: "Usincuivre, Liége." Teleph. No. 235.)

Société Anonyme des Usines Electriques Bergmann, 6, rue Boudreau, Paris. (Telegs.: "Electube, Paris." Teleph. No. 243.47.) Works: Colombes (Seine), France.

Société Anonyme des Usines Electro-chimiques de Crampagna (Ariége), rue d'Alsace Lorraine 27, Toulouse (Haute-Garonne), France.

Société Anonyme des Usines Pintsch, metallic filament lamp Sirius Kolloïd, 46, rue d'Anjou, Paris. Works: 91, rue Molière, Ivry-et-Seine (Seine).

Société Anonyme du Nord Lumière, 189, quai d'Asnières, Asnières (Seine), France.

Société Anonyme du Phœnix pour la Fabrication des Machines et Mécaniques, makers of dynamos, motors, steam engines, &c., Ghent, Belgium. (Telegs.: "Phenix, Gand.")

Société Anonyme Egyptienne d'Électricité, electrical engineers, 43, rue du Rocher, Paris.

Société Anonyme "Electrarecajo," electricity supply contractors, Logrono, Spain. E. G. Salazar, chief engineer.

Société Anonyme "Ever," arc lamps, 34, rue Kleber, Levallois-Perret (Seine), France.

Société Anonyme, Force et Éclairage Central Station (C. Lambert, manager), Anseremme, Belgium.

Société Anonyme française pour la fabrication d'appareils téléphoniques & éléctriques, 80, rue Taitbout, Paris. (Telegrams: "Phonowerke, Paris." Telephone No. 241–44.) G. Omnes, director.

Société Anonyme Franco-Belge pour les Applications de l'Électricité, rue du Marais 102, Brussels. (Teleph. No. 4369.)

Société Anonyme Impériale Ottomane de Tramways & d'Eclairage Electriques de Damas, 54, rue de Namur, Brussels.

Société Anonyme John Cockerill, mechanical & electrical engineers, Seraing, Belgium.

Société Anonyme La Electro-Mecanica, electrical apparatus makers, rue Valverde 5, Madrid.

Société Anonyme "Le Carbone," carbons for electricity, cells, batteries, 12–33, rue de Lorraine, Levallois-Perret (Seine), France. Works: Notre Dame de Briançon (Savoie). (Telephone No. 511–98.)

Société Anonyme "l'Orb Electrique," Bédarieux (Hérault), France.

Société Anonyme "Le Triphasé," 53, rue des Dames, Paris.

Société Anonyme La Westendaise, electric lighting supply & installation, Westende, Belgium.

Société Anonyme L'Eclairage Electrique, Materiel E. Labour, 2, rue Faidherbe, Lille (Nord), France.

Société Anonyme "Le Ferro-Nickel," manufacturers of pure nickel & wire, 17, rue du Pont-aux-Choux, Paris; office, 10, rue de Louvois. (Telegs.: "Ferronickel-Paris.") Works at Lizy-sur-Ourcq (S. et M.).

Société Anonyme le Nickel, nickel refiners & manufacturers, 26, rue Lafitte, Paris. (Teleph. No. 108–25.)

Société anon. les Ateliers du Roeulx, electric railway & tramway plant manufacturers, Le Roeulx, Belgium.

Société Anonyme Liegeoise d'electricité, 42, rue Lambert de Bègue, Liége, Belgium.

Société (Anon.) Luxembourgeoise d'Electricité, electrical engineers & agents, Luxembourg.

Société Anonyme "Magneta," electric clocks, 42, boul. Bonne Nouvelle, Paris.

Société Anonyme pour la Fabrication d'Appareils d'Éclairage, electric light fittings makers, 468, rue St. Léonard, Liége, Belgium. (Telegs.: "Société Eclairage, Liége." Teleph. No. 1065.)

Société Anonyme pour la Fabrication des Charbons à Lumière, arc light carbon makers, Mainbottel, nr. Mercy-le-Bas (Meurthe-et-Moselle), France. (Telegrams: "Charbon, Mainbottel.")

Société Anonyme pour la Fabrication des Toiles Métalliques et Tréfileries, fine wires, Saint Dié (Vosges), France.

Société Anonyme pour la production d'Électricité, Dinant, nr. Namur.

Société Anonyme pour le Travail Electrique des Metaux, accumulators, 26, rue Laffitte, Paris. (Teleph. No. 25.)

Société Anonyme Russo-Belge d'Entreprises Electriques, rue Fossé-aux-Loups 37, Brussels.

Société Anonyme Westinghouse, 2, boul. Sadi Carnot, Le Havre (Telegs.: "Sodelec, Havre." Teleph. Nos. 767 & 892); 45, rue de l'Arcade, Paris (Telegs.: "Sodelec, Paris." Teleph. Nos. 273-12 & 273-25); Freinville, Sevran, Seine-et-Oise, France.

Société Belge d'Électriciens (Paul Giron, secretary), Hotel Ravenstein, Brussels.

Société Belge des Ingénieurs et des Industriels, Hotel Ravenstein, rue Ravenstein 11, Brussels.

Société Belge pour la Fabrication des Cables et Fils Électriques, Société Anonyme, rue Stephenson, Brussels. (Telegs.: "Fabricable, Brussels." Teleph. No. 5793.)

Société Bruxelloise d'Électricité, Central Stations, 22, rue d'Assaut & Haren, Brussels. Offices: rue Presse, Brussels.

Société Centrale de Construction de Machines, engine makers, 30, route d'Aubervilliers, Pantin, Paris.

Société Centrale d'Électricité et de Lampes à incandescence (Usines Pulsford), 10, rue Taitbout, Paris. (Telegrams: "Sterling, Paris." Telephone No. 139-06.) Works: 10-12, rue de Normandie, Asnières, Seine, France.

Société Centrale de Produits Chimiques (Ancienne Maison Rousseau), chemical manufacturers, 44 & 42, rue des Ecoles, Paris. (Teleph. No. 807-81.)

Société Continentale de Traction & d'Éclairage par l'Électricité, 60, rue Caumartin, Paris. (Teleph. No. 278-85.)

Société Corrèzienne d'Électricité, electrical apparatus manufacturers, 16, rue Carnot, Brives (Corrèze), France. (Telegs.: "Electricité, Brive." Teleph. No. 61.)

Société d'Applications Industrielles (Materiel Électrique Alioth), electrical engineers, 7 & 8, rue Pillet-Will, Paris. (Teleph. Nos. 122-82 & 297-47.)

Société de Construction d'Appareils Industriels, Accumulateurs Somzée, Petite rue de Bellevue, Ghent, Belgium.

Société de Construction Electrique, 67, rue Molière, Lyons, France. (Teleph. No. 10-63.)

Société de Constructions Electriques et Mécaniques, electrical apparatus, cut-outs, circuit breakers, 19, quai de la Marne, Joinville-le-Pont (Seine), France.

Société de Constructions Electro-mecaniques, electrical engineers & contractors, Lapouchinskaya 8, St. Petersburg, Russia. (Telegs.: "Duflon, Petersbourg Lapouchinskaia 8." Teleph. No. 20626.)

Société d'Eclairage de la Ville d'Alais, 1, boul. Louis Blanc, Alais (Gard), France. M. Pepin, manager.

Société d'Eclairage Électrique de 1886, electric light contractors, 14, rue Gogol, St. Petersburg; & Rauschskaja Naberejnaja, Moscow. (Telegs.: "Elektritschestwo, St. Petersburg;" & "Drehstrom, Moscow.")

Société d'Éclairage Électrique de Bordeaux et du Midi, 2, rue Poquelin Molière, & 26 & 28, rue du Temple, Bordeaux.

Société d'Eclairage Electrique de Cannes, 12, rue de la Republique, Lyon.

Société d'Eclairage Electrique de la Vallée du Greisvaudan, Lancey (Isère), France. M. Bergès, manager.

Société d'Éclairage Électrique du Secteur de la Place Clichy, 53, rue des Dames, Paris. (A. Soubeyran, chief engineer.)

Société d'Éclairage "Genappe-Électrique," electric light fittings, Genappe, Belgium.

Société d'Electricité de Bourg, rue Voltaire, Bourg (Ain), France. M. Hedde, manager.

Société d'Électricité de l'Escaut, distribution of electricity, 8, quai Cockerill, Antwerp. Works: Merxem lez Antwerp. (Teleph. Nos. 1605 & 4375.)

Société d'Électricité de la Mediterrannée, F. Vennevirs & Cie., repairs of electric machinery, 31, ave. du Prado, Marseille (Bouches-du-Rhone), France.

Société d'Électricité de Paris, 25, boul. Malesherbes, Paris. (Teleph. No. 306-94.)

Société d'Électricité des Galeries Saint Hubert (J. Van Drunen, manager), rue des Bouchers 56, Brussels.

Société d'Électricité Mors, 7, rue Duranti, Paris. (Teleph. No. 710-43.)

Société d'Electricité Nilmelior, Anciens Etablissements Bassée & Michel, manufacturers of electrical apparatus, 47, 49 & 51, rue Lacordaire, Paris. (Telegs.: "Nilmelior, Paris." Teleph. No. 722-22.)

Société d'Électricité Souchier & Cie., rue de Belgique, Nice (Alpes-Maritimes), France.

Société d'Électricité "Union." *See* Union Elektricitäts Ges.

Société d'Électro-chimie, 2, rue Blanche, Paris (Telegs.: "Trochim, Paris." Teleph. No. 141-18); & at St. Michel de Maurienne & Vallorbe, Switzerland.

Société d'Électro-Metallurgie de Dives (M. Bethmont, general manager), 11 bis, rue Roquépine, Paris. Works: Dives (Calvados). (Telegs.: "Tansècre, Paris." Teleph. No. 269-26-34.)

Société d'Encouragement pour l'Industrie Nationale (MM. Collignon & Aimé Gérard, secretaries), 44, rue de Rennes, Paris.

Société d'Exploitation des Acieries Électriques, Forges et Fonderies de Bèze et de Rome, 26, rue Brunel, Paris.

Société d'Exploitation des Brevets Dolter, electrical engineers, electrometallurgists, &c., 50, rue St. Ferdinand, Paris, XVII^e. Arr. (Telegrams: "Bredolter, Paris." Telephone No. 534-23.)

Société d'Exploitation des Câbles Électriques Système Berthoud, Borel & Cie., Cortaillod, Switzerland. (Telegrams: "Cables, Cortaillod.")

Société de l'Accumulateur Bainville, 11, boul. de la Madeleine, Paris.

Société de l'Energie Électrique du Littoral Mediterranéen, Toulon (Var), France; & 90, rue de la Victoire, Paris.

Société de l'Usine Électrique des Clées, electric light & power contractors, Yverdon, Switzerland.

Société de Matériel Téléphonique (G. Aboilard & Cie.), 46, ave. de Breuteuil, Paris. (Telegrams: "Microphone, Paris." Telephone No. 707-14.)

Société des Anciens Etablissements A. Hache & Cie., insulators, porcelain & china for electricity, Vierzon-la-Ville (Cher), France.

Société des Anciens Établissements Luc Court & Cie., dynamos, electric motors, 88, rue Robert, Lyons, France.

Société des Applications Industrielles, electrical engineers, 8, rue Pillet-Will, Paris.

Société des Etablissements Elwell, manufacturing electricians, 149, ave. de Paris, Plaine St. Denis (Seine), France. (Teleph. No. 409-69.)

Société des Etablissements Gaumont, electrical engineers, 57, rue St. Roch, Paris. (Telegs.: "Objectif, Paris." Teleph. No. 230-87.)

Société des Etablissements Henry-Lepaute, electrical instrument makers, 132, ave. de Wagram, Paris. (Telephone No. 709-28.)

Société des Etablissements Keller-Leleux, electric metallurgy, 3, rue Vignon, Paris. Works: Livet (Isère), France.

Société des Etablissements Métallurgiques A. Durenne, electric light fittings makers, 26, faub. Poissonnière, Paris. (Telegrams: "Adurenne, Paris." Telephone No. 117-73.)

Société des Etablissements Singrun, turbines, Epinal (Vosges), France. (Telegs.: "Singrun, Epinal.")

Société des Forces Électriques de la Goule, electric light & power contractors, St. Imier, Switzerland. (Telegrams: "Goule, St. Imier.")

Société des Forces Motrices de l'Avançon, electric light & power contractors, Bex, Switzerland.

Société des Forces Motrices d'Auvergne, 8, rue Pillet-Will, Paris.

Société des Forces Motrices de la Grande Eau, electric light & power engineers & contractors, Aigle, Switzerland.

Société des Forces Motrices et Usines de l'Arve, aluminium, 103, rue de la Boëtie, Paris. (Telegs.: "Binclor, Paris." Teleph. No. 255-70-75.) Works: Chedde (Haute-Sovoie), France.

Société des Forges & Visseries de Franche-Comté, makers of telegraph wire, St. Hippolyte (Doubs), France.

Société des Grandes Marques d'Allumage, B. C. F. et Dary, accumulator makers, 35, rue Chevallier, Levallois-Perret (Seine), France. (Teleph. No. 551-78.)

Société des Ingénieurs Civils de France, 19, rue Blanche, Paris. (Telegrams: "Ingécivils, Paris." Telephone No. 133-82.)

Société des Lampes à arc "Volta," 182, boul. de la Villette, Paris. (Telegs.: "Cibiark, Paris." Teleph. No. 432-42.)

Société des Magnetos Bosch, 17, rue Théophile Gautier, Paris. (Telegs.: "Magneto, Paris." Teleph. Nos. 668-19 & 687-60.)

Société des Moteurs "Gnôme," petroleum motors, 14, quai du Petit Gennevilliers, Gennevilliers (Seine), France.

Société des Procedés Gin pour la Métallurgie Electrique, 149, rue de Rome, Paris. (Teleph. No. 550-79.)

Société des Produits Electro-Chimiques et Métallurgiques des Pyrénées, aluminium, 103, rue de la Boëtie, Paris. (Telegs.: "Pyral, Paris." Teleph. No. 255-70-75.) Works: Auzat (Ariége), France.

Société des Sciences, Christiania, Norway.

Société des Télégraphes Multiplex (System Mercadier), 60, rue Caumartin, Paris.

Société des Téléphones de Zürich, Société anonyme pour les applications électriques, telephone engineers, Zürich, Switzerland. (Telegrams: "Electrotechnik, Zurich." Telephone No. 2241.)

Société des Téléphones, Système Picard-Lebat, "Le Simplex," 45, rue Richet, Paris. (Teleph. No. 303-10.)

Société des Téléphones et des Télégraphes de Lyons, Syst. Mix et Genest, 154, route d'Heyrien, Lyon (Rhône), France. (Teleph. No. 34-73.) Depôt: 78, rue Jean Jacques Rousseau, Paris. (Teleph. No. 219-43.)

Société des Tramways de Sebastopol, electric light & power contractors, Sebastopol, Russia. (Telegrams: "Tralec, Sebastopol.")

Société des Tramways Lausannois, Lausanne, Switzerland.
Société des Usines de l'Orbe, electrical engineers & contractors, Orbe, Vaud, Switzerland.
Société des Usines Hydroélectriques de Montbovon, Romont (Fribourg), Switzerland.
Société Dijonnaise d'Electricité, 14, rue Vauban-Dijon (Côte-d'Or), France. M. Salanson, manager.
Société du Familistère de Guise (Colin & Cie.), agents for Messrs. Crompton & Co.'s cooking & heating apparatus, Guise (Aisne), France. (Telegrams: "Fonderies, Guise.")
Société du Gaz et de l'Electricité de Colombier, Canton de Neuchâtel, Switzerland.
Société du Tramway Électrique, Aigle-Ollon-Monthey, Aigle, Vaud, Switzerland.
Société du Verre Étiré, glass cells & troughs for accumulators, 10, rue Thimonnier, Paris. (Teleph. No. 259-07.)
Société Électricité, Gaz & Eau à Moissac (Tarn-et-Garonne), France.
Société Électrique d'Aubonne et Chemin de Fer Electrique Allaman-Aubonne, electrical engineers & contractors, Aubonne, Switzerland. (Telegs.: "Électricité, Aubonne.")
Société Électrique de Bulle, Bulle, Canton de Fribourg, Switzerland.
Société Électrique de Chamonix, Chamonix (Haute-Savoie), France. M. Bœbler, manager.
Société Électrique de Divonne les Bains, Divonne les Bains (Ain), France. M. Richard, manager.
Société Électrique d'Eclairage et de Force, "Robust" accumulators, Presles (Seine-et-Oise), France.
Société Électrique de Gryon, distributors of electricity, Gryon (Vaud), Switzerland.
Société Électrique de la Côte, Gland (Vaud), Switzerland.
Société Électrique de l'Ouest, electric light contractors, rue Dugommier 6, Nantes, France. (Telephone No. 277.)
Société Électrique de Vanault les Dames (Soc. Anon.), 109, boul. de la Republique, Reims (Marne), France.
Société Électrique du Chatelard, Vallorbe, Vaud, Switzerland.
Société Électrique des Pyrénées, 8, rue des Cordeliers, Pau, France.
Société Électrique Genoud Frères, Châtel St. Denis, Fribourg, Switzerland.
Société Électrique Hydra, battery makers, 40, rue Condorcet, Paris. (Telegs.: "Lampydra, Paris." Teleph. No. 269-28.)
Société Électrique Vevey-Montreux, electric light, power & tramway contractors, Montreux, Switzerland. (Telegs.: "Electrique, Montreux.")
Société Électro-Chimie, chlorates of potash & of soda, 2, rue Blanche, Paris. (Telegrams: "Trochim, Paris." Telephone No. 141-18.) Works: Vallorbes (Vaud), Switzerland; & St. Michel di Maurienne (Savoy).
Société Électro-Chimique du Giffre St. Jeoire (Haute-Savoie), France. (Telegrams: "Société Giffre, St. Jeoire-Faucigny.")
Société Electro-Dynamique, 64, rue Tiquetonne, Paris.
Société Electro-Métallurgique de St. Beron (G. Preher, director), calcium carbide, St. Béron (Savoie), France.
Société Électro-Métallurgique Française, aluminium metal manufacturers, &c., Froges (Isère), France; & (agent, J. Dreyfus) 30, rue du Rocher, Paris. (Telegs.: "Aluminium, Paris." Teleph. No. 524-84.) Works: Froges & Champ (Isère); La Praz & St. Michel (Savoie); & Gardanne (Bouches-du-Rhône).
Société Électrotechnique de St. Pétersbourg, St. Petersburg.
Société Française d'Appareillage et Lustrerie pour le Gaz et l'Electricité, electric light apparatus, 30, rue des Vinaigrias, boul. Magenta, Paris. (Teleph. No. 444-80.) Works: 305, rue Paul Bert, Lyon (Rhône); & rue Jacquart, Vienne (Isère).
Société Française d'Automobiles Électriques (Licence Krieger), 114-116, rue Gravel, Levallois (Seine), France.
Société Française de Distributions et de Constructions Électriques, 15, rue du Louvre, Paris (Telegs.: "Cégéhess, Paris"); & 46, allees de Tourny, Boudreaux (Gironde), France.
Société Française d'Éclairage et d'Électricité, dry cells & lighters for motors, 14, rue d'Argenteuil, Paris. (Teleph. No. 219-51.)
Société Française d'Électricité A. E. G., Soc. Anon., 42, rue de Paradis, Paris (Telegs.: "Tension, Paris." Teleph. No. 281-19); Marseille; Lille; Lyon; & Nancy.
Société Française d'Electricité (Etablissements Marcel Durignieux & Cie.), installation contractors, 56-58, rue St. Aubin, Angers (Maine-et-Loire), France. (Teleph. No. 1.18.)
Société Française d'Électricité et Maison Vacheron (Etablissement Marcel Durignieux), electric apparatus, installations, 3, rue de la Gare, Tours (Indre-et-Loire), France. (Teleph. No. 4.35.)
Société Française d'Entreprises Électriques, 16, 18, 20 & 22, rue Richard, Paris. (Telegs.: "Voltmètre, Paris." Teleph. No. 219-39.)
Société Française de l'Accumulateur Tudor, 81, rue St. Lazare, Paris; 11, rue Alsace-Lorraine, Rouen; & 106, rue de l'Hôtel-de-Ville, Lyons. Works: 39 & 41, route d'Arras, Lille (Nord).
Société Française de l'Autorupteur, electric signs, 23, faub. St. Denis, Paris.
Société Française de Matériel Agricole, electrical engineers & contractors, Vierzon (Cher); & 191, faub, St. Denis, Paris.
Société Française de Physique (M. H. Abraham, secretary), 44, rue de Rennes, Paris VI^e.

Société Française de Téléphonie privée, telephone apparatus manufacturers, 12, rue du Mont Thabor, Paris (Telephone No. 256-78.)
Société Française de Telephonie Sans Fil, 4, rue de Calais, Paris.
Société Française des Accumulateurs Heinz, 27, rue Cavé, Levallois (Seine), France.
Société Française des Accumulateurs Tribelhorn, 175, rue Paradis, Marseilles, France.
Société Française des Cables Électriques (system Berthoud, Borel & Co.), 11, Chemin du Pré Gaudry, Lyons, France; & 26, rue Godet de Mauroi, Paris.
Société Française des Forces Hydrauliques du Rhône, 73, boul. Haussmann, Paris.
Société Française des Noirs de Fumée, special lampblack for carbon rods, Nancy, France. (Telegs.: "Croctaine père, Nancy." Teleph. No. 142.)
Société Française des Pompes Worthington, 44, rue Lafayette, Paris. (Telegs.: "Quadruple, Paris." Teleph. No. 265-16.)
Société Française des Téléphones, Système Berliner, 29, boul. des Italiens, Paris. (Telegrams: "Induction, Paris." Telephone No. 217-08.)
Société Française Oerlikon, 9, rue Pillet-Will, Paris. (Teleph. No. 220-54.)
Société Française pour la Fabrication des Tubes, steel poles for transmission lines, Louvroil (Nord), France. Office: 6, rue de Chateaudun, Paris. Agent: M. L. Joubert.
Société Franco-Suisse d'Électrochimie, carbide of calcium manufacturers, Vernier, près Geneva, Switzerland. (Telegs.: "Carbure, Vernier." Teleph. No. 3905.)
Société Franco-Suisse pour l'Industrie Électrique, 6, rue de Hollande, Geneva. (A. Boissonnas, manager.) (Telegs.: "Francelec, Geneva." Teleph. No. 20-47.)
Société Franco-Suisse pour l'Industrie Électrique, 73, boul. Haussmann, Paris.
Société Générale Belge d'Entreprises Électriques (Jules Urban, president), 1, impasse du Parc, Brussels.
Société Générale d'Automobiles Mecaniques, electric vehicle makers, 1, quai National Puteaux, Paris.
Société Générale de Distribution l'Energie Electrique, 10, rue de Mogador, Paris IX.
Société Générale d'Eclairage et de Chauffage (Thibal, Cahen, Doyer & Cie.), electric light fittings, 22, boul. Richard Lenoir, Paris. (Teleph. No. 921-94.)
Société Générale d'Électricité, Escaliers du Grand-Pont 5, Lausanne, Switzerland. (Telegs.: "Electron, Lausanne." Teleph. No. 1444.)
Société Générale d'Enterprises, electric light engineers & contractors, Athens, Greece.
Société Générale de Tramways et d'Applications d'Électricité (Soc. Anon.), boul. de la Sauvenière 64, Liége, Belgium. (Telegrams: "Tralec, Liége." Telephone No. 986.)
Société Générale de Telegraphie Rapide, Système Pollak-Virag, 142, rue Montmartre, Paris.
Société Générale des Condensateurs Electriques, arresters. Agent: C. Conti, 5, rue d'Assas, Paris.
Société Générale des Etablissements Bergougnan & Cie., indiarubber & insulators, Clermont-Ferrand (Puy-de-Dôme), France.
Société Générale Électrique et Industrielle, 4, cité d'Antin, Paris.
Société Générale pour la Fabrication des Matières Plastiques (Soc. anon.), celluloid for accumulators, 13, rue Caumartin, Paris.
Société Genevoise d'Electricité, 6, cours de Rive, Geneva, Switzerland. (Telegs.: "Société Genevoise Electricité, Geneva." Teleph. No. 1130.)
Société Genevoise pour la Construction d'Instruments de Physique et de Mécanique, electricity meters & scientific apparatus, Chemin Gourgas 5-7, Geneva. (Teleph. No. 733.)
Société Gramme (E. Javaux, managing director), 20, rue d'Hautpoul, Paris. (Telegs.: "Gramme, Paris." Teleph. No. 402-01.)
Société Grenobloise de Force et Lumière, Grenoble (Isère), France. (Telegs.: "Dracelec, Grenoble." Teleph. No. 2.74.)
Société Havraise d'Energie Électrique, 11 bis, boul. Haussmann, Paris.
Société Hellenique des Tramways d'Athènes, Athens, Greece.
Société Hydro-Electrique de Fure et Morges et de Vizille, 34 bis, boul. Gambetta, Grenoble (Isère), France. (Telegs.: "Furmorge, Grenoble." Teleph. No. 2-13.) M. Lepine, manager.
Société Hydro-Électrique Roussillonnaise, Perpignan, France (Telegs.: "Electricité, Perpignan." Teleph. No. 4-36); & 7, rue Lafayette, Paris.
Société Impériale Polytechnique de Russie, 2, rue Panteleimonskaja, St. Petersburg. (Teleph. No. 485.)
Société Indo-Chinoise d'Electricité, 58, rue de Londres, Paris.
Société Industrielle d'Articles d'Eclairage, 15, boul. Richard Lenoir, Paris. (Teleph. No. 934-58.) Works: Esquennoy et Breteuil (Oise).
Société Industrielle d'Energie Électrique, 60, rue Caumartin, Paris.
Société Industrielle de l'Accu-Mixte "l'Energique," 45, rue de Lévis, Paris.
Société Industrielle de l'Ozone, 11, rue de Rome, Paris.
Société Industrielle de Parquets de Chêne et d'Energie Électrique, moulding makers, Chauvigny (Vienne), France. (Telegs.: "Parquets, Chauvigny." Teleph. No. 8.)

Société Industrielle des Téléphones, cable, telephone & light apparatus makers, 25, rue du 4 Septembre, Paris. (Telegrams: "Telephones, Paris." Telephone No. 246-82.)

Société Intercommunale Belge d'Electricité, 156, rue Royale, Brussels.

SOCIÉTÉ INTERNATIONALE DES ELECTRICIENS, 12 & 14, rue de Staël, Paris. (Telephone No. 708-68.) Administrative Committee—Honorary presidents: MM. Georges Berger, ex-directeur de l'exploitation de l'Exposition universelle de 1889, Député, 8, rue Legendre, Paris; E. Mascart (décédé en 1908). Past presidents: Georges Berger, ex-directeur de l'exploitation de l'Exposition universelle de 1889, Député, 8, rue Legendre, Paris; Maurice Lœwy (décédé en 1907); E. Mascart (décédé en 1908); Paul Lemonnier (décédé en 1894); Général H. Sebert, membre de l'Institut, administrateur de la Société des Forges et Chantiers de la Méditerranée, 14, rue Brémontier, Paris; Hippolyte Fontaine, ingénieur électricien, 58, rue Notre Dame des Champs, Paris; J. Joubert, inspecteur-général de l'instruction publique en retraite, 67, rue Violet, Paris; J. Carpentier, ancien ingénieur des manufactures de l'État, successeur de Ruhmkorff, 34, rue du Luxembourg, Paris; L. Raymond, administrateur des Postes et des Télégraphes en retraite, 36, rue Washington, Paris; A. Postel-Vinay, 10, place Saint François Xavier, Paris; A. Potier (décédé en 1905); Gaston Sciama, directeur de la Maison Breguet, 19, rue Didot, Paris; Dr. A. d'Arsonval, membre de l'Institut, professeur au Collége de France, 12, rue Claude Bernard, Paris; J. Violle, membre de l'Institut, Maître de Conférences à l'École Normale, 89, boul. Saint-Michel, Paris; R. V. Picou, ingenieur des Arts et Manufactures, 41, rue St. Ferdinand, Paris; A. Hillairet, ingenieur constructeur, 22, rue Vicq d'Azir, Paris; E. Hospitaliér (décédé en 1907); M. Pollard, directeur du Genie Maritime, rue de Berri, Paris; E. Bouty, professeur à la Faculté des Sciences de Paris, 5, rue du Faubourg St. Jacques, Paris; Maurice Leblanc, le Val-sur-Seine, à Croissy (Seine-et-Oise), Paris, 16e; H. Becquerel (décédé en 1908); — Boucherot, ingénieur conseil, 127, ave. de Paris, à Rueil (Seine-et-Oise). Président: H. Pellat, professeur à la Faculté des Sciences de Paris. Président pour l'exercice, 1910-1911: A. Bochet, ingénieur en chef de la Maison Harlé & Cie., 2, rue Schaffer, Paris. Vice-presidents: H. Armagnat, ingenieur conseil, 67, rue des Ranelagh, Paris, 16e (1909-1912); E. Brunswick, ingénieur en chef de la Maison Bréguet, 1, rue Alphonse Daudet, Paris (1909-1912); R. Arnoux, ingenieur constructeur, 45, rue du Ranelagh, Paris (1907-1910); A. Larnaude, ingenieur des arts et manufacture, 31, rue Camille-Desmoulins, à Issy (Seine) (1907-1910); Devaux-Charbonnel, ingénieur des telegraphs, 286, boul. Raspail, Paris (1908-1911); Mazen, ingénieur des Services Electrique des chemins de fer de l'Ouest, 35, rue Magenta, Asniers (1908-1911). General secretary: R. de Valbreuze, ingénieur electricien, 8, rue de Lévis, Paris (1909-1911). Treasurer: Léon Violet, ingénieur, 6, rue de l'Abbaye, Paris. Secretary of the Committee: A. Sabourain, directeur honoraire des Postes et des Telegraphes, 30, rue Bonaparte, Paris. Agent administratif: Ch. Tessier, 14, rue de Staël, Paris. British Committee: Sir William Henry Preece, C.B., F.R.S., M.INST.C.E., Gothic Lodge, Wimbledon, Surrey.

Société Lacarrière, electrical apparatus manufacturers, 53, rue de Chateaudun, Paris; & at Lyons & Naples.

Société Lausannoise d'Électricité ci-devant Société Anonyme Olivet, manufacturing electricians, Grand-Chêne 10, Lausanne, Switzerland. (Teleph. No. 1742.)

Société "L'Éclairage Électrique," electric light engineers & dynamo manufacturers (Jablochoff's candles, Labour's alternators & transformers, single-phase & three-phase motors, centrifugal pumps, fans, & motors for travelling cranes. Office & Works: 364, rue Lecourbe, Paris. (Telegs.: "Léclique, Paris." Teleph. Nos. 709-19 & 729-41.) Grand prix, Paris, 1900; St. Louis, 1904.

Société le Sud Electrique d'Avignon, electrical engineers, Avignon, France.

Société "Le Triphasé," electric light & power contractors, Asnières (Seine), France.

Société l'Orfèvrerie d'Ercuis, electro-platers & gilders, Ercuis; et 64, rue de Bondy, Paris. (Telegrams: "Couvercuis, Paris." Telephone No. 443-03.)

Société "Lumina," electric signs, 12, rue de Moscou, Paris. (Teleph. No. 292-92.)

Société Lyonnaise de Caoutchouc, indiarubber, wires & cables, 55, rue du Quatre-Août, Lyon, Villeurbanne (Rhône), France.

Société Lyonnaise d'Installations, 57, quai St. Vincent, Lyons, France. (Teleph. No. 31.00.) Works: 60, ave. de Noailles, Lyons. (Teleph. No. 30.20.)

Société Lyonnaise de Mécanique et d'Électricité, 43, rue de la Fédération, Paris. (Telegrams: "Mecaliones, Paris." Telephone No. 711-51.)

Société Lyonnaise des Forces Motrices du Rhône, electric light & power engineers & contractors, 37, rue de la République, Lyons, France.

Société Meridionale de Transport de Force, Carcassonne. (Telegrams: "Meridielectro, Carcassonne.") Usine Hydroélectrique: St. Georges, près Axat (Aude).

Société Montalbanaise d'Electricité, 52, boul. Haussmann, Paris. (Telegs.: "Bolis, Paris." Teleph. No. 313-48.)

Société Nantaise d'Éclairage et de Force par l'Électricite, electric light & power contractors, 16, rue Lamoricière, Nantes (Telegs.: "Electricité, Nantes." Teleph. No. 7); & 5, rue Boudreaux, Paris.

Société Nimoise d'Éclairage et de Force Motrice par l'Electricité, 11, rue de l'Horloge, Nîmes (Gard), France.
Société Normande d'Électricité, 26, rue Aux Ours, Rouen (Seine-Inférieure), France. (Telegrams: "Electricité, Rouen." Telephone No. 613.)
Société Nouvelle de l'Accumulateur Fulmen. Works & offices: 18, quai de Clichy, Clichy (Seine). (Telegs.: "Fulmen, Clichy." Teleph. No. 511-86.)
Société Nouvelle des Accumulateurs B.G.S., 34, rue Pierret, Neuilly-sur-Seine, France.
Société Nouvelle des Etablissements Decauville aîné, dynamos, motors, electric traction, 13, boul. Malesherbes, Paris; & Petit-Bourg, Seine-et-Oise.
Société Officine Elettriche Genovesi, electric light & power contractors, viâ del Campo 12, Genoa, Italy.
Société Parisienne d'Électricité, primary batteries, bells, 16, rue Cail, Paris. (Teleph. No. 419-31.)
Société Parisienne pour l'Industrie des Chemins de Fer et des Tramways Électriques, 75, boul. Haussmann, Paris. (Telegs.: "Parelecop, Paris." Teleph. No. 234-10.)
Société pour la Fabrication des Compteurs, electrical apparatus manufacturers, 4, place Masséna, Nice.
Société pour l'industrie chimique à Bâle, Usine de Monthey, electro-chemists, Monthey (Valais), Switzerland. (Telegs.: "Color, Monthey.")
Société pour le Travail Électrique des Métaux, electric accumulators, 26, rue Laffitte, Paris. (Telegs.: "Fortrans, Paris." Teleph. No. 116-28.)
Société Régionale d'Electricité, 51, rue Victor Hugo, Vienne (Isère), France. M. Godinet, manager.
Société Régionale d'Energie Electrique de Loire et Rhône, 40, cours du Midi, Lyon (Rhône), France.
Société Romande d'Électricité, Territet, Vaud, Switzerland.
Société Russe "A.E.G.," Karavannaia 9, St. Petersburg. Branches: Moscow, Riga, Kiew, Kharkoff, Ekaterinoslaw, Rostow s. D., Odessa, Varsovie, Ekaterinbourg, Lodz, Sosnovice, Wladivostok. (Telegs: "Algem.")
Société Suisse pour la Construction d'Accumulateurs Électriques, Chemin Vinet 29, Lausanne, Switzerland.
Société Toulousaine d'Électricité, 10, quai Saint Pierre, Toulouse (Haute Garonne), France (Telegs.: "S. T. E. Toulouse." Teleph. No. 24); & 59, rue de Chateau, Paris. (Telegs.: "Pyrènèenne, Paris." Teleph. No. 104.60.)
Société Versaillaise de Tramways Électriques et de Distribution de l'Energie, 22 bis, avenue de St. Cloud, Versailles. (Telephone No. 180.)
Society "Electric," Nevsky 74, St. Petersburg, Russia. (Teleph. No. 3329.)
Society "Electrical Energy," 5, Serpouchowskaja, St. Petersburg, Russia. (Teleph. No. 23987.)
Society of Electrical Engineers, Pessotschnaja 5, St. Petersburg, Russia.
Society of Electrical Work, ci-devant "Helios," 28, Liteiny, St. Petersburg. (Teleph. No. 2368-5517.)
Society of Tramways & Electrical Applications, 23, Fontanka, St. Petersburg. (Teleph. No. 2828.)
Socolsky, N. M., elec. engineer, Malaja Ochta Mariinskaya 19, St. Petersburg, Russia. (Teleph. No. 4364.)
Söderhams Electric Bureau (P. A. Johansson), Söderham, Sweden.
Sohier, G., et Cie., galvanized wire makers, 121, rue Lafayette, Paris.
Sokolow, P., director of telegraphs, Privislinsky Railways, Praga, Warsaw, Russia.
Solar-Zähler-Werke m. b. H., electricity meters, system Hookham, Königstr. 11/13, Hamburg. (Teleph. Amt. I. Nos. 3875 & 2293.)
Soleau, Eugène, bronze manufacturer, 127, rue de Turenne, Paris. (Teleph. No. 1015-02.)
Soler & Balcells, electricians, Campo Sagrado 22, Barcelona.
Soleri, Ing. Cav. Elvio, electrician, via Maria Vittoria 52, Turin, Italy.
Solvay & Co., chemical manufacturers, Dombasle-sur-Meurthe, Meurthe-et-Moselle, France.
Solvay & Cie., soda & ammonia manufacturers, 33, rue du Prince Albert, Brussels.
Somerhauten, —, electrical engineer, rue Comédiens 17, Brussels.
Sommer & Runge, scientific apparatus manufacturers, Bennigsenstr. 23 & 24, Friedenau-Berlin, S.W. (Teleph. No. 464.)
Sommet, T., electrolier manufacturer, 4, cité de Phalsbourg, Paris. (Teleph. No. 903-50.)
Sonderburg, F., pear switches, screws, &c., Geneva, Switzerland.
Sonnenberg & Steinhardt, electrical engineers, Würzburg, Germany. (Teleph. No. 508.)
Sonnenthal, E., jun., engineer & tool maker, 6, Neue Promenade, Berlin, C. (Telegs.: "Fraisapparat, Berlin." Teleph. Nos. 8726 & 1584 III.)
Sönnichsen, Hans, dealer in electrical supplies, 3, Holstenplatz, Hamburg; & at Strassburg. (Teleph. Amt. V. No. 3746.)
Sonntag, A., maker of galvanized sheet iron & galvanizer, 58, rue Lourmel, Paris-Grenelle.
Sopkez, S., electrical engineer, 14, Sasutcza V., Budapest.
Sorel, M., electrical engineer, 32, ave. Jean Linden, Brussels.
Sörendsen, R., superintendent, Norwegian Government Telegraphs, Arendal, Norway.
Sörensen, Ferd. E., & Co., manufactory for electric bells, telephones, &c., Dronn. Tverg. 55, Copenhagen K.
Sorge & Schma, driving-band makers, 18, Schlesischestr., Berlin, S.O. (Teleph. No. 3255, Amt. IV.)
Sorgue, C., spring maker for pushes, 9, passage Corbeau, Paris.
Sosnowski, Kasimir, manager & director La Société de Laval, 13, rue Clement Marol, Paris VIII.

Souchier, F., & Cie., electrician, 8, rue de Belgique, Nice (Alpes Maritimes), France.
Souel, A., & Cie., electro-medical apparatus, 8, quai de l'Hopital, Lyon (Rhône), France.
Soufflet, J., contractor, 193, avenue de la Reine, Brussels.
Soulat, J., manufacturing electrician, electricity meters, rue Michel-le-Comte 25, Paris IIIe.
Soulé, D., vulcanized fibre, marble, slate, casing & cabinet work, Bagnères-de-Bigorre (Hautes Pyrenées), France; & 42, rue Fessart, Paris.
Soulé, L., electric lighting, 13, rue de Thorigny, Paris.
Soulier, Alfred, electrical engineer (secretary de *l'Industrie Électrique*), 7, rue de la Gare, Arcueil (Seine), France.
Soupart, Paul, wire & cable manufacturer, avenue du Moulin, Forest, nr. Brussels.
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Spangenberg, J. P., electrical engineer, Jarnbanegade 6, Copenhagen, B.
Spängler, Ludw., engineer, general manager, Municipal Tramways, 9, Favoritenstr., Vienna IV., 1.
Spano, Cav. Ing. Gaetano, mathematical & electrical instrument maker, Salita S. Sebastiano, Istituto Casanova, Naples, Italy.
Specialfabrik elektr. Maschinen vorm. Albert Ebert, G. m. b. H., 5, Heidestr., Dresden-Pieschen, Germany. (Teleph. No. 3918.)
Spezialfabrik für Elektromotoren und Elektrische Antriebe G. Meidinger & Cie., motors & ventiliators, Basle, Switzerland.
Spiecker, Dr. F. A., director Siemens & Halske A.G. & Siemens-Schuckert Werke G. m. b. H., 3, Askanischer Platz, Berlin.
Spielmann, Bernhard, electrical engineer, Lichtensteinerstr. 8, Vienna IX/1. (Teleph. No. 14042.)
Spindler, A., et Cie., magnet manufacturers, 11, rue du Château-d'Eau, Paris.
Spindler & Hoyer, electrical, optical, & physiological instruments, Göttingen, Germany.
Spitzin, A., Schuckert Electric Co., Teatralny Proiesde, h. Chloudoff, Moscow.
Spohr, H. C., telegraph engineer, Baumweg 10, Frankfurt-am-Main. (Teleph. No. 1442.)
Sponheimer & Bosshart, electrical requisites, Zurich I., Switzerland.
Spörhase, Leon, electrical engineer, Wasil. Ostr. 5th linia 16, St. Petersburg. (Teleph. No. 21315.)
Sprecher, C., electrical engineer, Sprecher & Schuh Soc. Anon., Aarau, Switzerland.
Sprecher & Schuh, electrical apparatus makers, Aarau, Switzerland. (Telegrams: "Fea, Aarau.")
Springael, —, electrician, 26, place de Coninck, Antwerp, Belgium.
Springer, Julius, publisher of technical works, 3, Monbijouplatz, Berlin, N. 24. (Telegs.: "Springer, Monbijou., Berlin." Teleph. Amt. III. Nos. 529, 4465 & 4466.)
Squindo, Giuseppe, electric light installer, Biella, Italy.
Stabernack, B., telephone maker, 102, Bülowstr., Berlin, W. (Teleph. No. 2273, Amt. VI.)
Stabernack, Paul, & Co., makers of electric fittings, Ringbahnstr. 53/54, Tempelhof, Berlin. (Teleph. No. 182.)
Stabenow, Rudolf, accumulator maker, Husstr. 70, Prag-Zižkow, Austria. (Telegrams: "Stabenow, Prag." Telephone No. 1330.)
Stabilini, Menotti, incandescent lamps & electrical fittings, Piazza Castello 11, Milan, Italy.
Stadelmann, J., & Co., "Steatite" insulator manufacturers, Nuremberg, Germany.
Städtische Electrizitätswerk, Prague, Bohemia.
Städtische Electricitätswerke, Hoher Steg. 4, Strasburg, Germany. (Teleph. Nos. 377 & 948.)
Städtische Gas & Electricitätswerke, Brünn, Austria.
Städtische Strassenbahnen, Cologne, Germany. (Director, John Wattmann.) (Teleph. Nos. 5381–5384.)
Städtisches Elektricitätswerk, Elberfeld, Germany. (Director, G. Lehmann.)
Städtisches Elektrizitäts Werk, installation contractors, Wilkestr. 41, Guben, Germany.
Städtisches Elektricitätswerk & Strassenbahn, Freiburg-i-Breisgau, Germany.
Staerke, C. F., maker of screws & terminals, &c., 77, Blumenstr., Berlin, O. (Teleph. No. 470, Amt. VII.)
Stahl, Wilhelm, electrical engineer, technical adviser to the Grossh. Staatseisenbahn, Karlsruhe, Baden.
Stahl und Eisen (weekly; ann. sub., 30 marks, post excl.), 3–5, Jacobistr., Düsseldorf, Germany. (Telegs.: "Stahleisen, Düsseldorf." Teleph. No. 449.)
Stamm, Gustavo, electric light contractor, 3, via Bocca di Leone, Rome. (Telegs.: "Stamm, Rome.")
Standard Varnish Works, insulating varnish, 41, rue de la Bienfaisance, Brussels. (Telegrams: "Elastica, Brussels." Telephone No. 4821.)
Stanthuysen, E., insulators, 19, rue de Blanchisserie, Brussels.
Stapfer, D., manufacturing electrical engineer, boul. de la Major, Marseille-Joliette, France.
Stark, Leopold, M.I.E.E., electrical engineer, Ganz Electric Co., Budapest. Editor of *Elektrotechnika*.
Starkmann, E., electrical engineer & agent, Münchenerstr. 14, Berlin, W. 30. (Telegs.: "Telemeter, Berlin." Teleph. No. 5771, Amt. VI.)
Stassart, Simon, electrical engineer, boul. Dolez, 4, Mons, Belgium.
Statham, N., A.M.I.E.E., electro-chemical engineer, Cia. General de Productos, Quimicos del Aboño, Gijon, Spain. (Telegrams: "Sosa, Gijon.")
Station Centrale d'Électricité, Antoing, Hainaut, Belgium. Director M. Raepraet.

Station Centrale d'Électricité, Electric Central Station of Fleurus, Fleurus.
"Stator" Motoren-Fabrik Eugen Allgaier, motor & dynamo makers, Jonasstr. 66, Rixdorf-Berlin.
Staub Sohn, G., electrical fittings makers, Zug, Switzerland.
Steckel, A., telegraph & telephone contractor, Kylischestr. 33, Sangerhausen, Germany. (Tel. No. 353.)
Steels, O., electrical engineer, Professor at the University, Ghent.
Steenlet, Pierre, electrical engineer, 38, rue van Eyck, Brussels.
Steens, E., electric tramway engineer, 182, rue de la Loi, Brussels.
Steflitschek, Franz, & Sohn, measuring instrument makers, 8, Millergasse, VI., Vienna. (Teleph. No. 7743.)
Stegmann, Ferd., electrical engineer, Schwanthalerstr. 40/I., Munich. (Teleph. Nos. 6000 & 6300.)
Steiger, Eugen, patent agent, Office des Brevets d'Invention, Zurich III.
Stein, G., cable machine manufacturer, Blumenstr. 24, Berlin, O. (Teleph. No. 2329, Amt. VII.)
Stein, Hermann, marble slabs for electrical engineers, Gerokstr. 3, Dresden, A., Germany. (Tel. No. 3583.)
Steinbach, A., salammoniac merchant, König Strasse 14, Halle an der Saale, Germany. (Tel. No. 429.)
Steinbach, Georg, electrical engineer, Göttingen, Germany.
Steinhausen, Peter, Electro-Reparatur-Anstalt Cöln, repairs of dynamos, &c., Aachenerstr. 68, Cologne. (Teleph. No. 5519.)
Steinweg & Hagemann Elektrotechnische Fabrik, electrical engineers, Dortmund, Germany.
Sterlich, R., & Sander, electric light & power contractors, VII., Kirchengasse 11, Vienna. (Teleph. No. 8587.)
Stern, Dr. G., managing director at the Electricity Dept. of the Union Bank, formerly Internationale Electricitäts Gesellschaft, XIX. Hasenauerstr. 45, Vienna. (Teleph. No. 13098.)
Stern, Gustav, Elektr. Ges. m. b. H., Essen-a.-d. Ruhr (Telegs.: "Sternschaltung, Essen-Ruhr." Teleph. No. 337); & Gelsenkirchen, Germany. (Teleph. No. 107.)
Sterpin, T., director-general of Posts, Telegraphs, & Telephones, Constantinople.
Stettiner Elektricitätswerke, manufacturing electrical engineers, Stettin, Germany.
Steuermann, Victor, electrical stores, Mochovaja 10, Moscow, Russia.
Stevens, P., electric light, telephone & bell installations, 6, rue Ransfort, Brussels.
Stevezzoli, Avv°. Ennio, & C., electric motor dealers, via Lamarmora, Parma, Italy.
Stieberitz, Heinr. (Otto Brunn Nachfolger), telegraph apparatus maker, Spenerstr. 6, Dresden, A. 19. (Telephone No. 6537.)
Stiebing, Georg, electrical balls and telephones, 52, Brestgasse, Frankfort-on-Main.
Stieltjes, Fred., & Co., agents for the Sturtevant Engineering Co., Keizersgracht 745, Amsterdam, Holland. (Telephone No. 237.)
Stiepel, Ernesto, galvanic battery manufacturer & importer of electrical appliances, Avemaria 52, Dupl^do, Madrid.
Stiepel, R., & Weimann, importers & manufacturers of electrical goods, via Savona 5 & Viale Magenta 70, Milan, Italy. (Telegrams: "Stiepel, Milan.")
Stigler, A., electrical & mechanical engineer, 45, via Galileo, Milan.
Stiller, Arthur, electrical engineer, Südstr. 68, Leipzig. (Teleph. No. 10384.)
Stirnimann & Gullino, apparatus makers, Piazza Solferino 16, Turin. (Telephone No. 1122.)
Stobwasser, C. H., & Co., Akt. Ges., electrical apparatus makers, Wilhelmstr. 42A, Berlin, S.W. (Teleph. I. No. 8780.)
Stöcker & Co., telephone & telegraph engineers & manufacturers, Wachsmuthstr. 10, Leipzig, Saxony. (Telegs.: "Stöckerwerke, Leipzig.")
Stockholmer Allgemeinen Telephone-Actiengesellschaft, contractors, Stockholm.
Stockholms Allmänna Telefonaktiebolag, telephone engineers & contractors, Stockholm, Sweden. (Telegrams: "Allmäntelefon, Stockholm.")
Stockholms Bell Telefon Aktiebolag, telephone engineers & contractors, Malmskilnadsgatan 30, Stockholm.
Stockholms Elektricitetsverk, Tulegatan 13, Stockholm. (Telegs.: "Gasverket, Stockholm.")
Stockholms Södra Sparvägaktiebolag, Electric Tramway Co., Ltd., Bränkyrkag. 82, Stockholm.
Stögermayr, A., electric light, telegraph & telephone engineer, 1, Opernring 7, Vienna. (Teleph. No. 1081.)
Stöhrer, P. R., electro-medical apparatus, Suphienstr. 5, Eisenach.
Stokvis, R. S., & Zonen, electrical engineers, Leuvehaven O. Z. 78, Rotterdam, Holland. (Teleph. No. 1585.)
Stölzles Söhne, C., glass makers, IV. Freihaus, Vienna. (Telephone Nos. 9977 & 3540.)
Storari & Lo Cascio, dealers in electrical supplies, via Marco Minghetti 36–41, Rome; & Naples.
Store Nordiske Telegraf Selskab. *See* Great Northern Telegraph Co.
Stork Bros. & Co., engineers & electricians, Hengelo, Holland. (Teleph. Nos. 4, 76 & 86.)
Storvik's Electric Light Co. (elektr. belysn. aktb.), manager, J. Johanson, Storvik, Sweden.
Stotz & Cie., Elektricitäts Gesellschaft m. b. H., Mannheim, Germany. (Telegrams: "Elektron, Mannheim." Telephone No. 662.)
Strache & Co., dry elements for batteries, Leipzig, O. 4.
Stralsunder Bogenlampenfa brik G. m. b. H., Stralsund, Germany. (Telegs.: "Bogenlampe, Stralsund.")
Stransky frères, electric pianos, 20, rue de Paradis, Paris.

Strassen-Eisenbahn-Gesellschaft, Hamburg.
Strasser & Rohde, electric bell fitters, Glashütte, Saxony, Germany.
Straus, A., electric bell fitter, rue de la Cathédrale 28, Liége, Belgium.
Strauss, René, & Cie., crystals for fittings, 63, boul. Sebastopol, Paris (Telegs.: "Renstra, Paris." Teleph. No. 106-62); & Neuer Markt, Gablonz a. N., Bohemia.
Strecker, A., electrician, Jasuninsky Manufacturing Co., Kochma, Gouvern. Wladimir, Russia.
Strecker, Prof. Dr. Karl, Imperial German Telegraphs, Burggrafenstr. 15, Berlin, W. 62.
Strehler, J. E., electrical engineer, maker of caps for incandescent lamps, Wohlen (Argovie), Switzerland.
Streit, Gebrüder von, Glaswerke G. m. b. H., glass makers, Alexandrinenstr. 22, Berlin, S.W. (Teleph. IV. No. 9262.)
Strelin, A., consulting electrical engineer, Zurich, Switzerland. (Telegs.: "Strelin, Zurich." Teleph. No. 6920.)
Strohfeldt, —, works manager, Städt. Elektricitätswerk, Würzburg, Germany. (Telephone No. 357.)
Stroink, J., municipal electrical engineer, Overtoom 200, Amsterdam.
Strömberg, Gottfr., Aktiebolaget, electrical engineers, Helsingfors, Finland, Russia. (Teleph. Nos. 724, 5180 & 273.)
Strömsted, K., superintendent & inspector Norwegian telegraphs, Lödingen, Norway.
Strube Actien-Gesellschaft, manufacturers of boiler fittings, tachometers & tachographs, Magdeburg-Buckau, Germany.
Strüver, Comm. Giovanni, professor of experimental physics, University, via del Seminario 87, Rome.
Stucchi & Co., makers of dynamos, motors & ventilators, via Tortona 11, Milan, Italy.
Stucky, Gian Carlo, engineer & contractor, La Giudecca, Venice, Italy.
Studio Elettrotecnico Industriale Monnet & Taramelli, electrical engineers, 11, via XX. Settembre, Turin. (Telegs.: "Cosenofi, Turin." Teleph. No. 4.)
Studio Elettrotecnico Industriale, Lugano, Switzerland (Teleph. No. 126); & 2, via Berchet, Milan, Italy.
Stuhl, Max, maker of the Neesen Vacuum pump, Friedrichstr. 130, Berlin, N. (Teleph. III. No. 5111.)
Sturm & Co., electrical engineers & manufacturers, 14, Dadlergasse, Vienna XIV. (Teleph. No. 6403.)
Sturtevant Ventilatoren Fabrik, electrical & mechanical engineers, 138, Friedrichstr., Berlin, N.W. 7. (Telegrams: "Exhaustor, Berlin." Telephone No. 4236, Amt. I.)
Successori alla Societa Telefonica Lombarda, electric apparatus dealers, via F. Ballarini, Como, Italy.
Successori Lhôte, Electrotechnical Office, electric apparatus suppliers, via Nazionale 19, Florence, Italy.
Süchting, Fr., engineer & director of City Electricity Works, Bremen, Germany.
Sud. Electrique, 89, rue Joseph Vernet, Avignon (Vaucluse), France. (Telegs.: "Sudelec, Avignon." Teleph. No. 1.73.)
Süddeutsche Eisenbahn Gesellschaft, electric tramway contractors, Neckarstr. 5, Darmstadt, Germany. (Teleph. No. 33.)
Süddeutsche Isolierrohr-Werke (G. m. b. H.), insulating tube mfrs., Lauf, bei Nürnberg, Germany.
Sudicatis, Ludw., & Co., electrical apparatus manufacturers, 12-14, Alt. Boxhagen, Rummelsburg bei Berlin. (Teleph. Nos. 4507-4508, Amt. VII.)
Suenson, Commodore E., M.I.E.E., chairman Great Northern Telegraph Co., Copenhagen, Denmark. (Telegs.: "Storenordiske, Copenhagen.")
Suhner & Co., manufacturer of electric wire & cable, Herisau, Switzerland (Telegrams: "Suhner, Herisau"); & Bale, Switzerland.
Sulzberger, Dr. K., electrical engineer, 46 & 47, Knesebeckstr., Berlin, W. 15.
Sulzberger, Gustav, engineer, Département des Chemins de Fer, Berne, Switzerland.
Sulzer Brothers, high speed engine makers, Winterthur, Switzerland; & Ludwigshafen, Germany.
Sumec, Prof. J., electrical engineer, Česká Technika, Brno, Austria.
Sumner, John M., & Co., electrical engineers, 44A, Foro Bonaparte, Milan.
Sundwiger Eisenhütte Maschinenbau-Act. Ges., steam engine makers, Sundwig i. Westf., Germany. (Telegrams: "Eisenhütte, Sundwig i. Westf." Telephone Amt. Iserlohn, No. 113.)
Sundwiger Messingwerke, copper & brass wires & cables, Sundwig, Westphalia.
Supli, A., & Co., electricians & contractors, rue de Brabant 113, Brussels.
Süring, Prof. Dr. R., electrical engineer, Nassauischestr. 16A, Wilmersdorf-Berlin.
Suringar, E. F., chief engineer, Zuid-Hollandsche Electrische Spoorweg Maatschappij, Broeksloot, Voorburg, The Hague, Holland. (Teleph. No. 5163.)
Susse Frères, electric light fittings, place de la Bourse, & 13, boul. de la Madeleine, Paris.
Suter, Charles S., switchboards & rheostats, 39, rue Popincourt (4, Impasse Marcès), Paris.
Suter, Karl, director of telegraphs, Berne, Switzerland.
Sutermeister, Carlo, & Co., electric power contractors, Intra, Italy.
Svendsen, C. E., general & electrical agent, 12, Stormgade, Copenhagen, Denmark. (Telegrams: "Pulpa, Copenhagen." Telephone No. 4507.)
Svendsen, Einar, electric installer, Allégade 17, Copenhagen F.
Svendsen, E. & M., electric apparatus, all kinds of electric work, Christianssand, Norway.
Svenska Aktiebolaget, Siemens & Halske, electrical engineers, V. Trådgårdsg. 7, Stockholm.
Svenska Dynamoborstfabriken, dynamo brush makers, Stockholm.

Svenska Motorvagns Aktiebolaget, Uplandsgatan, Stockholm.
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Syndicat des Electriciens de Marseille (M. H. Wilhelm, chairman), 12, rue Carmebière, Marseille (Bouches-du-Rhône), France.
Syndicat für Aluminiumspulen G. m. b. H., 26, Regensburgerstr., Berlin, W. 50. (Telegs.: "Refugium, Berlin." Teleph. Nos. 2576 & 6576, Wilm.)
Syndicat Professionnel des Industries Électriques, 11, rue St. Lazare, Paris. (Telephone No. 238–60.)
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Szubert, S., Commandit-Gesellschaft, makers of the Vogt Battery, Kronprinzenstr. 10, Nieder-Schönhausen, Germany.
Szuk, Géza, director Ganz Electric Co., Ltd., Lövoház-u. 39, Budapest II.
Szulc, K., & Ska, electrical engineers & agents, Krolewska 10, Warsaw, Poland.

Taaks, H., electrical & consulting engineer, Filderstr. 55, Stuttgart, Germany. (Telegs.: "Ingenieur Taaks, Stuttgart." Teleph. No. 1666.)
Taatz, Alw., engines & cranes, Halle, S., Germany.
Tacchi, Luigi, electric light contractor, Porta Nuova 18, Pisa, Italy.
Tacchi, P. A., Nachfolger, electrical apparatus, Zeil 44, Frankfort-a.-M.
Tachard, A. P., civil engineer, representative of the "S^{te} Alsacienne de Constructions Mécaniques," 4, rue de Vienne, Paris.
Tachometer G. m. b. H., speed-meter makers, Mohrenstr. 16, Berlin, W.
Tack, Robert, G. m. b. H., manufacturers of electro-medical apparatus, Ritterstr. 11, Berlin, S. 42. (Telegs.: "Robert Tack, Berlin, Ritterstrasse." Teleph. No. Amt. IV. 10137.)
Tacquet, Pierre, electrician, 12, rue Dafour, Amiens, France.
Taddei, Gerolamo, electrical engineer, via Bogino 35, Turin; & Piazza S. Pantaleo 3, Rome.
Tade, Otto, electric light fittings maker, 92, Adalbertsstr., Berlin, S.O. 26. (Teleph. No. 9452, Amt. IV.)
Tade (Otto Tr., jr.), G. m. b. H., electric light fittings makers, 49, Ritterstr., Berlin, S.W. 68. (Teleph. Amt. IV. No. 10180.)
Tager, N. M., engineer & dealer of electrical supplies, Zagorodnij prosp. 23, St. Petersburg. (Teleph. No. 23192.)
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Tagliaferri, Gaetano, electric bell fitter, corso Vitt. Emmanuele 3, Piacenza, Italy.
Taillefer, A., & Cie., manufacturing electricians, 74, rue de Boudry, Paris.
Tailleur, Charles, electrician, lightning conductors, rue Saint-Dominique 101, Paris.
Talbot, A. B., optician & electrical installer, via Chiaja 215, Naples, Italy.
Talbot, Romain, export & import of electrical supplies, Wassertorstr. 46, Berlin, S. 42.
Tamme, E., engineer, Elizavetgrad Municipality, Elizavetgrad, Russia.
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Tapia y Hermano, electrical apparatus, Salmeron 77, Linares (Jaen), Spain.
Tardy, A., primary batteries, 17, faub. St. Jacques, Valence (Drôme), France.
Tardy de Montravel, Felix Joachim, engineer, directeur de la Compagnie d'Électricité impasse du Jeu-de-Ballon, Montpellier (Hérault), France. (Telegs.: "Electricité, Montpellier.")
Tart, G., dealer in electrical supplies, 16, rue d'Amay, Liége, Belgium.
Tart, Paul, electrical engineer, Hémixen, nr. Antwerp.
Tartary, G., engineer of arts & manufactures, 13, rue Auber, Paris.
Taschek & Weiss, agents for the Pollak accumulator, Krakauergasse 18, Prague, Bohemia. (Tel. 2081.)
Tassart, Balas & Co., electrical contractors, 21, rue de Château-Landon, Paris. (Teleph. No. 410.84.)
Täuber, K. P., electrical engineer, Maschinenfabrik Oerlikon, Zurich, Switzerland.
Tausch, Franz, electrician, 9, Kesselstr., Berlin, N. (Teleph. No. 5168, Amt. III.)
Tavarez de Tolentino, Carlos, professor at the Ecole des Mines, State electrical & mining engineer, 23, Villanueva, Madrid.
Taverna, Ing. Cesare, electrical engineer, 54, Vicolo Sciarra, Rome, Italy. (Telegs.: "Sodelec, Rome." Teleph. No. 11–54.)
Tavernier-Gravet, maker of mathematical instruments, slide rules, &c., 19, rue Mayet, Paris.
Technikum Mittweida, for the education of electrical & mechanical engineers, Saxony, Germany. (Prof. Alfred Holzt, director.)

Technique Moderne, La (monthly review), editor, G. Bourrey, 49, quai des Grands Augustin, Paris. (Teleph. No. 819.38.)

Technische Akademie, electrical engineering, &c., Markgrafenstr. 100, Berlin, 41. (Teleph. Amt. IV. No. 4384.)

Technische Literatur (monthly; price 35 pf.; ann. sub., 3 m.), Osterstr. 89, Hanover, Germany.

Technische Revisions-Vereinigung Electrowacht, Ltd., Calvinstr. 14, Berlin, N.W. 52.

Technisches Bureau für Elektrische Licht u. Kraft Anlagen, Münchenerstr. 34, Berlin, W. (Teleph. Amt. VI. No. 17.700.)

Tedeschi, V., & Co., cables & covered wire manufacturers, via Monte Bianco, Turin, Italy. (Telegs.: "Cables, Turin." Teleph. Nos. 5–75 & 13–85.)

Teichmüller, J., Dr. Phil., electrical engineer & professor in the Technische Hochschule, Karlsruhe-i.-B., Germany. (Teleph. No. 1874.)

Teisset, Chapron & Brault Frères, makers of the Fontaine Girard & American turbines, 14, rue du Ranelagh, Paris (Teleph. No. 693–96); & at Chartres (Eure-et-Loir), France.

Teknisk Bureau, Ltd., Walkendaffsgade 12, Bergen, Norway. (Telegrams: "Electric, Bergen.")

Telefon Gesellschaft, Rosenthalerstr. 40, Berlin. (Teleph. No. 1125, Amt. III.)

Telefonselskab. Kristianssands (managing director, R. Storm), Christianssand, Norway.

Telegrafia e Telefonia (*Giornale dei Telegrafisti*), 2, Piazzale Venezia, Milan. (Monthly; ann. sub., 5*s.*)

Telegraph Construction & Maintenance Co., 37, rue Caumartin, Paris. (Telegs.: "Anglorient, Paris.")

Telegraphen Werkstätte von G. Hasler, telegraph fittings & supplies, Berne, Switzerland.

Telephon Apparat Fabrik E. Zwietusch & Co., telephone apparatus makers, Salzufer 7, Charlottenburg. (Telegrams: "Mikrophon, Charlottenburg." Telephone Nos. 58 & 64.)

Telephon & Telegraphenbau Anstatt G. m. b. H., Mainzer Landstr. 193, Frankfort-on-M., Germany.

Telephone de l'Etat, State Telephone, rue des Frères-Cellites, Antwerp, Belgium.

Telephone de l'Etat, State Telephone, Place de l'Université, Liége, Belgium.

Telephone Works, Ltd., late J. Berliner, manufacturers of telephones & microphones, Kniestr. 18, Hanover, Germany (Teleph. Nos. 168 & 251); Berlin, Hamburg, London, Paris, Vienna & Budapest.

Telephones Le Las, Soc. Ane. (capital: Frs. 100,000), 131, rue de Vaugirard, Paris. (Telegs.: "Telenautic, Paris." Teleph. No. 743–46.)

Telephonic Wucherpfennig, telephone installations, Louisenstr. 6, Hanover. (Teleph. No. 1914.)

Tellmann, W., electrical engineer, 47/50, Thränsberg, Magdeburg, Germany.

Tempesta, Paolo, representative of the Société de Poily de Brigode, insulators, 8, Bocchetto, Milan, Italy.

Tenas, J., electrician, Moros, Gijon (Ovido), Spain.

Tenner, Armin, manufacturer of electric & hydraulic lifts, &c., Zimmerstr. 34, Berlin, S.W. (Telegs.: "Tenner, Berlin, Zimmerstr." Teleph. Nos. I. 9150, 9151 & 9152.)

Tentelewsche Chemische Fabrik, platinum manufacturers & refiners, Wosnessenski 6, St. Petersburg. (Telegs.: "Tentelewsche, Petersburg.")

Teodoreanu, L., engineer, administrator delegatal Societatei Române de Electricitate Siemens Schuckert Soc. Anon., Bucharest, Roumania.

Teplitzer Electricitäts und Kleinbahn-Gesellschaft, Teplitz, Bohemia. (Telegs.: "Kleinbahn, Teplitz-Schönau." Teleph. No. 153.)

Ter-Joannesoff, A., electrical engineer, Ekaterinodare, Russia.

Termali, T., transfers for decorating electrical apparatus, Cromo-Typo-Lithographic Works, via Molino Armi 3, Milan, Italy.

Terpitz von Arthur & Co., electro-medical apparatus, Körnerstr. 25, Berlin, W. (Teleph. VI. No. 17408.)

Terrasse, Felix, & Cottave, wooden poles for telegraph lines, Le Muy (Var), France.

Tesma-Gesellschaft Edelmann & Schönfeld, electric lamp makers, 19, Friedrichstr., Berlin, S.W. 48; & at Leipzig.

Tessari, Domenico, professor in electrotechnics, via Vanchiglia 21, Turin, Italy.

Testuot, —, electric light fittings, 9, rue Mayran, Paris. (Teleph. No. 211.17.)

Thal, Carl L., electrical engineer, Wollzeile 25, Vienna I. (Teleph. No. 21968.)

Thal, Ludwig, electrical engineer, Dortmund, Germany.

Thalbitzar, Viggo A., electrical engineer, Vesterbrag. 180, Copenhagen, V.

Theofanides, E., chief clerk, Eastern Telegraph Co., Piræus, Greece.

Thermophor-Gesellschaft Alfons Pollak, heating of electric tram cars, Friedrichstr. 162, Berlin, W. 8.

Theunis, G., electrical engineer, rue du Congrès 7, Brussels.

Thévenard, A., electrical engineer, Compagnie Continentale Edison, Directeur de la Station Centrale du Palais Royal, 1, rue de Valois, Paris.

Thévenon, M., dealer in electrical, optical & photographic apparatus, 1, rue de la Préfecture, St. Étienne, Loire, France.

Thevet, Georges, director of La Société des Etablissements Adt., 45, rue Turbigo, Paris.

Theyner, Hans, electrical engineer, XVIII./1 Schindlergasse 51, Vienna.

Thibal, Cahen Doyer & Cie., battery mfrs., 22, boul. Richard Lenoir, Paris. (Teleph. No. 921–94.)

Thibault, Maurice, electric light fittings, 40 rue de Léviqué, Paris. (Teleph. No. 316–19.)

Thibier, Ing. E. C. P., electrician, 16, rue Mogador, Paris. (Teleph. No. 296–26.)

Thiel & Bertling, electric lighting accessories, Neuenburgerstr. 37, Berlin, S.W. 13. (Teleph. IV. No. 7.)
Thiele, F. A., instrument maker, 154, Gl. Kongevej, Copenhagen, Denmark.
Thiele, H., electrical engineer, 19D, Alte Poststr., Guben, Germany.
Thiele & Jehnke, electrical engineers, Stallschreiberstr. 15, Berlin, S. (Teleph. IV. No. 660.)
Thiercelin, Pierre, director of *Nouveau Journal du Gaz et de l'Electricité* & director of La Compagnie pour l'Eclairage des Villes et la Fabrication des Compteurs, 23, rue de Cléry, Paris.
Thiercelin Frères, electrical installations, 35, rue de la Tour d'Auvergne, Paris. (Teleph. No. 150.51.)
Thiergärtner und Voltz & Wittmer G. m. b. H., electrical engineers & contractors, Merkurstr., Baden-Baden, Germany.
Thierry, Ing. J. H., electrical engineer, Illuminazione Elettrica, Bra, Italy.
Thiérry, P., electric bells, 11 bis, rue Duret, Paris.
Thierry, Wierre & Co., makers of electric light apparatus fittings, &c., 9, rue des Mathurins, Paris. (Telephone No. 248–70.)
Thiis, E. E., electrical engineer, Store-Straudgd. 1, Christiania, Norway. (Telegs.: "Ingenior Thiis, Christiania." Teleph. No. 5066.)
Thirel, J. (Renard successeur), manufacturing electrician, 41, rue de Bellefond, Paris. (Tel. No. 266–18.)
Thiriot, A., electrician, 22–24, rue des Pastoureaux, Orléans, Loiret, France.
Thiry, François, battery maker, Pecq, Belgium.
Thode, Albert, & Co., street railway supplies, Souninstr. 17, Hamburg, Germany. (Telegs.: "Elektrothode, Hamburg." A.B.C. 4th ed., Lieber's, Standard & own Codes. Teleph. Amt. IV. No. 8795/6.)
Thoma, Chevalier Max, electrical engineer, Officine Elettriche Genovesi, Genoa, Italy.
Thomann, E., engineer, Railway Department, Brown, Boveri & Co., Ltd., Baden, Switzerland.
Thomas, A., electrical contractor, 57, boul. de Strasbourg, Le Hâvre (Seine-Inférieure), France.
Thomas, Félix, electrician, Gannat (Allier), France.
Thomass, W., works manager, Städt. Elektricitätswerk, Bamberg, Germany. (Teleph. No. 202.)
Thompson, D. J. Garcia, agent Western Union Telegraph Co., Llauder 4, Entº., Barcelona, Spain.
Thomson-Houston International Electric Co., 10, rue de Londres, Paris. (Telegrams: "Cutout, Paris." Telephone No. 158-23.)
Thormann, B., electricity meter & counter maker, 31, Wassmannstr., Berlin, N.O. 18. (Teleph. No. Amt. VII. 7134.)
Thorsen, C. F., electric bells, Gl. Kongevej 91A, Copenhagen, V.
Thovez, Hector, electrotechnical & industrial engineer, corso Siccardi 69, Turin, Italy.
Thrane, O. R. V., telegraph engineer, Danish Government Railways, Bernstorffvej 81, Hell., Copenhagen.
Thrige, T. B., dynamo & motor manufacturer, Odense, Denmark.
Thurnauer, —, manager of Cie. Française Thomson-Houston, 60, rue Pierre Charron, Paris.
Thurneyssen, J., electric thermometers & pyrometers, 58, rue Monsieur le Prince, Paris.
Thury, René, electrical engineer, route de Florissant, Geneva, Switzerland. (Teleph. No. 1311.)
Thury et Amey, precision instruments, 12, Chemin des Sources, Geneva, Switzerland.
Tiburtius, Ernst, & Co., electrical supplies, Reichenbergerstr. 29, Berlin, S.O. (Teleph. IV. No. 4476.)
Tichonoff, J., electrical apparatus, 71, rue Boursault, Paris. (Teleph. No. 566.09.)
Tietz & Co., manufacturers of electric light fittings, 21, Oranienstr., Berlin, S.O. (Teleph. IV. No. 189.)
Tigges & Co., magnet manufacturers, Haspe i. W., Germany.
Tignol, Bernard, electrical publisher, 53 *bis*, quai des Grands-Augustins, Paris. (Telephone No. 275–00.)
Tihanyi, Nandor, electric agent, VII. Thököly út 8, Budapest, Hungary. (Teleph. No. 60–68.)
Tischendoerfer, F., M.I.E.E., consulting electrical engineer, Berlinerstr. 167, Charlottenburg, Berlin. (Teleph No. 2260.)
Tison, Dr. Edouard, membre fondateur de la Société des Électriciens, 77, boul. Montparnasse, Paris VI.
Tissot, L., & Raibaud, L., electrical apparatus manufacturers, 25, rue de la République, Marseilles. (Telephone No. 850.)
Titan Co., Ltd., electrical engineers & contractors, Tagensvej 32, Copenhagen, L.
Tlach & Keil, makers of wire & electrical appliances, Nestroygasse 9, Ndlge, Vienna, II. (Teleph. No. 13386B.)
Tobisch, Gustav, manufacturer of insulated wires & cables, Neustiftgasse 135, Vienna VII/3. (Teleph. No. 6517.)
Tobler, Dr. Adolph, M.I.E.E., electrician, Federal Polytechnic School, Zürich, Switzerland.
Tobler, Gustav, engineer, Reinickendorferstr. 46, Berlin, N. 65. (Teleph. II. No. 1423.)
Tobler, G. L., & Co., electrical engineers, St. Gallen, Switzerland.
Toldi, Ludwig, electrical engineer, 11, Föutca 2, Budapest.
Tollet & Payart, bulbs for lamps, crystal tubes & jars for accumulators, 40, rue Condorcet, Paris. (Teleph. No. 292–97.)
Tolusso, Guido, sole agent for Italy for Locke Insulators, via Carducci 13, Milan, Italy.
Tolzmann & Co., electrical apparatus manufacturers, Am Weidendamm 1, Berlin, N.W. (Teleph. I. No. 5774.)
Tomassini & Albanesi, electric light contractors, Castelfidardo (Ancona), Italy.
Tonkin, A. B., electrician, Direct Spanish Telegraph Co., Bilbao, Spain.

Tonscheidt, A., electric light contractor, Skalitzerstr. 9, Berlin, S.O. (Teleph. IV. No. 1559.)
Töpffer & Schädel, telephone & telegraph apparatus makers, Bernburgerstr. 21, Berlin, S.W. (Teleph. VI. No. 710.)
Torda, Dr. T., electrician, 19, Csáky-Utca, Budapest.
Torjusen, E. H., superintendent Norwegian Telegraphs, Egersund, Norway.
Tornilleria del Nalón (Soc. Anon.), tramway plant makers, La Felguera (Asturias), Spain.
Torth, George, electrical installations, Schlettstadt (Alsatia), Germany.
Torti & Co., electrical apparatus makers, via Larga 11–13, Milan, Italy.
Tossens, Ch., electrician, 25, rue du Vanneau, Antwerp.
Tott, A., electrical engineer, 79, Pfeffersladt, Danzig, Germany. (Telegs.: "Tott, Danzig." Teleph. No. 1548.)
Totté, F., electrician (bronzing), 78, rue Marché St. Jacques, Antwerp.
Touanne, G. De la, M.I.E.E., inspecting engineer of State Telegraphs, 80, rue Bonaparte, Paris.
Toubas, J., electrical contractor, 2, boul. Victor Hugo, Nîmes (Gard), France.
Tournel, H., insulating material, 18, ave. d'Italie, Paris. (Teleph. No. 800–91.) Works: Villejuif (Seine), France.
Tournerie Ouvrière, La, ebonite, wood, bones, horn, ivory, &c., for electricity, Lavants les St. Claude (Jura), France.
Tournié, J., electric light installations, 138, faub. St. Honoré, Paris. (Teleph. No. 527–79.)
Tousset, Gaston, electrician, rue des Tanneurs, 35–6, Antwerp.
Touzet, Cl., electrical installations, 20, rue de la Bourse, St. Etienne (Loire), France. (Teleph. No. 367.)
Traction Tangentielle, Soc. Anon., electric traction engineers, Charleroi, Belgium.
Tramway, Le (weekly; ann. sub., 10 frs.), 37, boul. Jamar, Brussels.
Tramway & Electrizitäts-Gesellschaft, Linz-Urfahr, Austria.
Tramways Provinciali, electric tramways, Naples, Italy.
Tranoff & Hawkins, electrical agents, Schoniskoe podvorie, Moscow.
Trap-Holm, J. P., electrician & superintendent, Great Northern Telegraph Co., Ltd., Seydisfjord, Iceland.
Traun, Dr. Heinr., & Söhne, vorm. Harburger Gummi Kamm Co., ebonite & vulcanite manufacturers, Meyerstr. 59, Hamburg, Germany. (Telegs.: "Gummitraun, Hamburg." Teleph. Amt. I. Nos. 9308 & 9310.)
Travailleur, M., electrical engineer, ave. Louise 248, Brussels.
Traverse, G., electrical supplies, 119, rue St. Maur (6, passage de la Fonderie), Paris. (Teleph. No. 939-70.)
Tréfileries & Laminoirs du Hâvre (anciens Etablissements Lazare Weiller et Sté. Co-operative de Rugles réunis), telephonic & telegraphic engineers, 29, rue de Londres, Paris. (Telegs.: "Silicieux, Paris." Teleph. No. 144–81.) Works: Le Havre et Rugles.
Trémeau-Jambon, dynamos, &c., Châlon-sur-Saône, France. (Telegs.: "Tremeau-Jambon, Chalon.")
Tremolaterra, Giov., practical electrician, Sant' Anna dei Lombardi, Naples, Italy.
Trenck, R., electrical engineer & engine manufacturer, Roonstr. 14, Erfurt, Germany.
Treoumoff, A., Treoumoff Manufacturing Co., Kowrow, Gouvern. Wladimir, Russia.
Treuer, R., electric apparatus, 41, Mohrenstr., Berlin, W. (Teleph. I. No. 3303.)
Trévert, H., insulators & porcelain manufacturers, 75, rue Vieille-du-Temple, Paris. (Teleph. No. 1019-56.)
Tricoche, A., electrical engineer, lightning arresters (Système Buchin), 2, rue de Grassi, Bordeaux. (Telegrams: "Tricoche, Electricien, Bordeaux.")
Tripier, Dr. A., electrician, 8, rue Castellane, Paris VIII.
Tripier, H., electrical engineer, 17, rue Alphonse de Neuville, Paris.
Tritzschler, Herm., electric light contractor, Oranienburgerstr. 7, Berlin. (Teleph. III. No. 857.)
Troll, Georg, works engineer, Hartmann & Braun, Frankfurt-a-Main, Germany.
Troller, V., Electric Light Central Station, Lucerne, Switzerland.
Trollhättans Elektriska Kraftaktiebolag, Trollhättan, Sweden. (O. C. A. Falkman, manager.)
Trolliet Frères, electrical agents, square du Stand, Geneva. (Telegs.: "Trolliet, Électricité, Geneva." Teleph. No. 1812.)
Tronci, Ing. Vittorio, telephone contractor, Cagliari, Italy.
Trondhjems Electric Light & Tramway Co. (Elektr. Lyskomp.), Hospitalsgd. 20, Trondhjem. Manager, I. Garstad.
Trondhjems Elektriske Bureau, electrical engineers, Trondhjem, Norway. (Telegs.: "Hoeg, Trondhjem.")
Trost & Muninger, envelopes & casings for electrical pocket lamps, Landsbergerstr. 11, Berlin, N.O. 18.
Trüb, Fierz & Co., electric measuring instrument & electricity meter makers, Hombrechtikon-Zürich, Switzerland.
Trumpy, J., & Sons, electricians, Jægtevigen 1, Bergen, Norway.
Tschernoucha, S., electrical engineer, South-West Railways, Kiew, Russia.
Tuborg-Klampenborg Electric Tramway Co., Ltd. (managers, S. A. Faber & K. Norregaard), Copenhagen.
Tudor Henri, electrical engineer, Chateau de Rosport, Grand duché de Luxembourg. (Telegrams: "Tudor, Rosport." Telephone No. 4.)
Tulpinck, John, consulting electrician & inventor, Burgt-Antwerp, Belgium.

Tulpinck, L., electric bells & telephones, 89, rue St. Bernard, Brussels.
Tuma, Dr., professor of physics & electricity at the Technik, Prague (Böhmen), Austria.
Turbiaux, Paul, electrician, 29, allees de Tourny, Bordeaux (Gironde), France. (Telephone No. 25-48.)
Turbine, Die (twice a month; ann. sub., 12 M.), Kurfürstenstr. 11, Berlin.
"Turbinia," Deutsche Parsons-Marine A.-G., steam turbine makers, Leipzigerstr. 123A, Berlin. (Teleph. No. 982, Amt. I.)
Turké, O., electric cables, fans, 142, rue du faub. St. Denis, Paris. (Teleph. No. 438-83.)
Turrettini, Theodore, electrical engineer, 6, rue des Granges, Geneva, Switzerland. (Teleph. No. 550.)
Tuscan Co. for Light & Electric Energy, St. John (S. Giovanni Valdarno), Italy.
Tuxen & Hammerich, mechanical & electrical engineers & manufacturers, Nakskov, Denmark; & head office: Vester Falledvej, Copenhagen V., Denmark.
Tvermoes & Abrahamson, electrical fittings makers, Raadmandsgade 43, Copenhagen, L.
Tzschach, Edm., manufacturer of electric glass pear-shaped bulbs, Steinach (S.M.), Germany.

Uccelli, Icilio, electric light contractor, Leghorn, Italy.
Uddevalla Electric Light Station, Sweden. (Carl Sundling, manager.)
Udobro, Alfaro y Ca., electric light contractors, Tafalla, Navarra, Spain.
Uebé & Marco, general agents for France of accumulators "Gottfried Hagen," 26, rue Baudin, Paris.
Ufficio Elettrotecnico Industriale con Ufficio Brevetti, electrical & patent experts, 31, corso Magenta, Milan, Italy.
Uguccioni, D., & Co., electrical agents, Piazza della Signoria, Florence, Italy.
Uhrenfabrik l'fronten G. m. b. H., wheelwork, Munich, Bavaria.
Ulbricht, Prof. Dr. P. R., electrician, 43, Strehlenerstr., Dresden, Germany.
Ullmann, A., manufacturer of electrical apparatus, Bamberg, Germany.
Ullmann, Jacques, manufacturer of electric light apparatus, fittings, &c., 16, boul. St. Denis, Paris. (Telegrams: "Ullmann, Electricien, Paris." Telephone Nos. 437-71 & 437-72.)
Ulmann, Ed., electrical engineer, Obrodny 76, St. Petersburg.
Umbreit & Matthes, manufacturing electricians, cupron batteries, Ziegelstr. 24, Leipzig-Plagwitz, Germany. (Telegrams: "Umbreit Matthes, Leipzig." Telephone No. 8028.)
Ungarische Metallwaaren und Lampen Fabriks, Akt.-Ges., electriolier manufacturers, Erzsébettér 16, Budapest V.; & Gergely-utcza 29, Budapest X.; Erzébet körút 19, Budapest VII.; Ullöi-ut. 2, Budapest VIII. (Telegs.: "Lámpagyár, Budapest 10." Teleph. No. 74-85.)
Ungarische Siemens-Schuckert-Werke Elektricitäts-Akt.-Ges., Lipót-körút 5, Budapest V. (Telegs.: "Siemenschuckert, Budapest." Teleph. Nos. 211 & 212.)
Unger, Paul, manufacturer of electrical apparatus, Naumburgerstr. 38, Leipzig-Plagwitz, Germany.
Unger & Hoffmann, A.-G., makers of dry battery plates, 38, Striesenerstr., Dresden, A. 16. (Teleph. No. 3123.)
Union Accumulatoren Werke, G. m. b. H., Friedrichstr. 16, Berlin, S.W. 48. (Teleph. IV. No. 3947.)
Union Anversoise de Tramways et d'Entreprises Electriques, Antwerp.
Union Commerciale de l'Electricité, 10, rue St. Antoine, Paris. C. Pertus, secretary.
Union Électrique, L', Saint-Claude (Jura), France. (Teleph. No. 22.)
Union Gesellschaft für Elektr. Industrie, 36, Eberhardtstr., Tübingen, Germany. (Telegs.: "Union, Tübingen." Teleph. No. 419.)
Union Gesellschaft für Treibriemen-Fabrikation, Ltd., electromotor & dynamo belt makers, Ritterstr. 75, Berlin, S.W.
Union Metalúrgica, La (Soc. Anon.), electric tramway plant mfrs., calle Castillejos 113, Barcelona.
Union Ungarische Elektricitäts Akt. Ges., Terez Körut. 43, Budapest. (Telegs.: "Elektron, Budapest." Teleph. No. 12-96.)
Unione Elettrica Edolo-Mu, Edolo, Brescia, Italy.
Unione Elettrotecnica Italiana, manufacturers of dynamos, motors & transformers, via Principi d'Acaja 60, Turin, Italy. (Telegrams: "Elettrotecnica, Turin." Telephone No. 621.)
Unione Esercizi Elettrici, electric light & power contractors, Piazza S. Pietro e Lino 1, Milan, Italy.
Unione Italiana Gas Elettricità, electric light brackets manufacturers, via Padova, Milan.
Unione Italiana Tramways Elettrici, via L. Montaldo 2, Genoa, Italy. (Telegs.: "Elettrotram, Genoa." Teleph. No. 38.)
Unione Telefonica Lombarda, via S. Orsola 1, Milan, Italy.
Unitas Aktiengesellschaft für Zentralheizung und Elektrotechnik, electrical & heating engineers, Bismarkstr. 118, Aachen, Germany.
United Incandescent Lamps & Electrical Co., Ltd., incandescent lamps, telephones, telegraphs & accessories, Ujpest, nr. Budapest. (Telegs.: "Ampère, Ujpest." Teleph. No. 10-01.)
Universal Technical Review, Gaslerowsky, No. 11, St. Petersburg.
"Universelle," L', general enterprises of electricity, 60, boul. de Strasbourg, Paris. (Teleph. No. 429-14.)
University of Louvain, H. Ponthiere, professor of applied electricity, Louvain, Belgium.
Urban, Ing. Henry, electrical engineer, Hotel Continental, Milan, Italy.

Ureña, A., electrical apparatus dealer, calle Barquillo 14, Madrid.
Urtis, Cesare, & Co., electrical apparatus (wholesale), via XX. Settembre 32, Turin. (Telephone No. 1186.)
Usener, Dr. Hans, electrician, Neufeldt & Kuhnke, Kiel, Germany. (Telephone No. 899.)
Usine Frederic Nyst, insulators & iron work, rue Renory, Angleur lez Liége, Belgium.
Usines, Ateliers & Cablerie de Jeumout (Nord), 75, boul. Haussmann, Paris.
Usines du Pied Selle (Soc. Anon.), electric heating apparatus makers, Fumay (Ardennes), France.
Usines Électriques de la Lonza, carbide of calcium, &c., Geneva, Switzerland. (Telegs.: "Lonza, Geneva." Teleph. No. 4207.)
Usines Electrochimiques de Hafslund, electric power company, 30,000 h.p., & manufacturers of carbide of calcium, iron compounds, &c., Sarpsborg, Norway. (Telegs.: "Carbid, Sarpsborg." Staudt & Hundius & A.B.C., 5th edition, Codes used.) Offices: VI/1 Magdalenenstr. 8, Vienna.
Usines et Aciéries Léonard-Giot, extra soft steel for motors & dynamos, Marchienne-au-Pont, Belgium.
Usines Ragheno (Soc. anon.), electric tramway plant manufacturers, Malines, Belgium.
Ussing, F. E., A.M.I.E.E., Elektricitats Gesellschaft Alioth, Munchenstein-Basel, Switzerland.
Uytborck, E., electrical engineer, 39, rue Jacques Jordaens, Brussels. (Teleph. No. 5213.)
Uzel, Pierre, electrician, Maison Harlé et Cie., 39, rue Vital, Paris.

Vacuum Pressgut-Ges. (m. b. H.), insulating material manufacturers, 263, Schwedterstr., Berlin, N. (Teleph. No. Amt. III. 2189.)
Vadalà & Co., electric installations, via Cavour, Palermo, Italy.
Vagt, H. G., dealer in electric apparatus, 157, rue du Progrès, Brussels. (Teleph. No. 3958.)
Vakafdeeling voor Electrotechniek van het Kon. Instituut van Ingenieurs. Secretary, Prof. C. L. van der Bilt, Nassaulaan 11A, The Hague, Holland.
Val, Carl de, manager Lesjöfors Aktiebolags Upplag, Kyrkog. 5, Stockholm.
Val d'Osne, Société du, bronze fittings for electric light, 58, boul. Voltaire, Paris. (Telephone No. 932-22.)
Valabrega, Ing., Lichtenberger & Ori, engineers & agents, via Lagrange 29, Turin. (Telegrams: "Valabrega Electricité. Turin.")
Valatin, Béla, chief engineer, Electric Railway Department, Ganz Electric Co., Ltd., II. Lövöház u. 39, Budapest.
Valbreuze, Robert de, electrical engineer, 8, rue Levis, Paris XVII.
Valcke Frères, electric light fittings & contractors, rue de la Chapelle 84, Ostende, Belgium.
Valentin, L., electric light & gas fittings, Mainzerlandstr. 166, Frankfurt-am-Main. (Teleph. No. 1020.)
Valentini, Ernesto, electrician, via Donizzetti 28, Milan, Italy.
Vallance, Théophile, director of Posts & Telegraphs, rue du Palais Gallien, Bordeaux, Gironde, France. (Teleph. No. 2.)
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Vereinigte Electricitäts Actien-Ges., Ujpest. *See* United Incandescent Lamps & Electrical Co., Ltd.

Vereinigte Electricitäts Actien Gesellschaft, dynamos, motors, transformers & apparatus makers, X. Gudrunstr. 187–189, Vienna. (Telegs.: "Elektrik, Vienna." Teleph. Nos. 6374 & 5183.)

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Vereinigte Elektromotoren-Werke G. m. b. H., dynamo makers, electrical engineers, Mainzerstr. 23, Berlin, O. 112.

Vereinigte Fabriken-englischer Sicherheitszünder, Draht & Kabelwerke, manufacturers of electrical wires & cables, Meissen, Saxony. (Telegrams: "Vereinigte, Meissen." Telephone No. 33.)

Vereinigte Fabriken für Laboratoriumsbedarf G. m. b. H., laboratory supplies, Luisenstr. 52, Berlin N.W. 6. (Teleph. No. Amt. III. 2345.)

Vereinigte Glühlampenfabriken G. m. b. H., incandescent lamps, Leipzigerstr. 23, Berlin, W. 8. (Telegs.: "Vauvage.")

Vereinigte Gummiwaaren Fabriken Harburg-Wien, indiarubber goods. Factories in Wimpassing im Schwarzathale, Austria. (Telegs.: "Gummifabriken, Wimpassing im Schwarzathale." Teleph. No. 3, Neunkirchen.) Office: Mariahilferstr. 115, Vienna VI.

Vereinigte Isolatorenwerke Akt.-Ges., insulator makers, Wallankstr. 32, Berlin-Pankow. (Teleph. No. Amt. Pankow 97.)

Vereinigte Kabelwerke Aktiengesellschaft, St. Petersburg. (Telegs.: "Kabel, Petersburg." Teleph. Nos. 246–55 & 247–35.)

Vereinigte Kander & Hagnekwerke, A. G., Thurnstr. 7, Kirchenfeld, Berne, Switzerland.

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Verkehrstechnische Woche und Eisenbahntechnische Zeitschrift (fortnightly; ann. sub., £1 1s.), Zimmerstr. 9, Berlin, S.W. 68.

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Vernes, A., Guinet, Ligros & Cie., electric & hydraulic lifts, 22, rue de Passy, & 69, boul. Malesherbes, Paris.

Verrerie de Folembray, crystal insulators, 2, rue de Quatre Septembre, Paris. (Telegs.: "Verfol, Paris." Teleph. No. 212–83.)

Verrier & Lebrun, incandescent lamp makers, 9, rue Meslay, Paris. (Teleph. No. 264–81.)

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Viau, R., & Cie., accumulators, 45, rue de Lévis, Paris XVII. (Teleph. No. 582-93.)

Viault, ivory & wood accessories, 66, boul. Voltaire, Paris. (Teleph. No. 927-85.)

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Villeroy & Boch, porcelain for electrical purposes, Schramberg, Württemberg. (Teleph. No. 6.)

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Wesche & Co., manganese of the best quality, Magdeburg N. 27.

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Western Electric Co., manufacturers of telephone apparatus, Antwerp, Belgium.

Western Telegraph Co., 37, rue Caumartin, Paris. (Telegs.: "Anglorient, Paris." Teleph. No. 249-74.)

Westf. Kupfer-und-Messingwerke Act. Ges. vorm. Casp. Noell, copper & brass wire & plates manufacturers. Works: Lüdenscheid, Germany. (Telegs.: "Kupfermessing, Lüdenscheid." Teleph. Nos. 113, 119, 798 & 799.)

Westinghouse Co., Ltd., Gorokhovaja 61, St. Petersburg. (Telegs.: "Ruselec, St. Petersburg." Teleph. No. 2634.)

Westinghouse Electric Co., mercury vapor lamps "Cooper Hewitt," 4, rue Auber, Paris.

Westinghouse Electricitäts Aktiengesellschaft, Dorotheenstr. 51, Berlin, N.W. (Teleph. I. No. 1977.)

Westinghouse Machine Co. (R. Rogers & Co.), engineers, 1, rue St. Georges, Paris. (Telephone No. 124-28.)

Westinghouse Metallfaden Glühlampenfabrik G. m. b. H., Atzgersdorf bei Vienna, & Krüzerstr. 4, Vienna I. (Telegs: "Westinghouse, Vienna." Teleph. No. 130, Meidling.)

Weston Instrument Co., Ltd., The, Ritterstr. 88, Berlin, S. 42. (Telegs.: "Instrument, Berlin." Teleph. Amt. IV. No. 2125.)

Westphalian Steelworks, steel forgings, castings, girder rails, &c., Bochum, Westphalia. (Telegrams: "Westfalenwerke.")

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Wettler & Nassius, electrical engineers, Warsaw.

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Wiedemann's Annalen der Physik (15 parts, 45 M. per ann.; abroad, 51 M.), Dörrienstr. 16, Leipzig, Germany. Prof. W. Wien & Prof. M. Planck, editors; J. A. Barth, publisher.

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Wolf, R., manufacturer of portable & semi-portable engines from 4 to 800 h.p., Magdeburg-Buckau, Germany (Telegs.: "Locomobile, Magdeburg." Teleph. Nos. 256–2564); & Friedrichstr. 59/60, Berlin, W. 8.
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Woodhouse & Baillie Riviera Electricity Co., Ltd., owning electric tramway Ventimiglia, Bordighera; & suppliers of electrical energy, light & power, Ventimiglia & Bordighera, Italy. Head office: Bordighera. (Telegrams: "Woodbail, Bordighera.") Nominal capital: £50,000. Directors: C. H. C. Woodhouse, Esq. (managing); G. H. Baillie, Esq.; A. M. Hanbury, Esq.
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Wust, J., electrician, Fonds de Loup 15, Verviers, Belgium.

Wust, L., electric bell installer, 4, rue de Bousse, Mons, Belgium. (Telephone No. 362.)
Wüst, C., & Co., electrical & mechanical engineers, Seebach-Zürich, Switzerland. (Telegrams: "Industrie, Seebach." Telephone No. 5048.)
Wynants, T., electric light installations & lighting conductors, rue d'Artois 27, Brussels.
Wyssling, Prof. Dr. W., electrical engineer, professor at the Polytechnikum, director of the electric works of the Canton of Zurich, general secretary of the Schweizer Elektrotechn. Verein, Wädenswil, Zurich. (Telegs.: "Kantonswerke, Wädenswil.")

Yantz, Charles Emile, electrician, ave. d'Ouchy, Lausanne, Switzerland.
Yseux, E. C. J., electrician & professor at the University, 97, ave. du Midi, Brussels.
Yvon & Tournaire, glass & crystal shades for electric lighting, 19, rue Albouy, Paris. (Telephone No. 437-50.)
Yvonneau, Jacques, telephone maker, 3, rue Martignac, Bordeaux (Gironde), France.

Zacco & Co., Aktiebolaget, engineers & machinery merchants & agents, Stockholm, Sweden. (Telegs.: "Zeta, Stockholm.")
Zacharias, Johannes, consulting electrical engineer, "Elektrotechnische Mitteilungen," Schoss-str. 4, Charlottenburg, Germany.
Zahm, Clement, jun., electric cable & wire manufacturer, Weipert, Bohemia, Austria.
Zahn, Dr. G. H., consulting engineer, Rathenowerstr. 2, Berlin, N.W.
Zambelli, A. C., scientific apparatus for chemical laboratories, corso Raffaello 20, Turin, Italy. (Teleph. No. 699.)
Zamberletti, Ing. Vittorio, electrical engineer & light contractor, Grosseto, Italy.
Zandén, Iwan, makers of electrical instruments, 20, Vestmannagatan, Stockholm.
Zander, A., electrical apparatus maker, 21, Alte Mainzergasse, Frankfurt-am-Main, Germany. (Telephone No. 355.)
Zander & Ingeström, machinery & apparatus for power plants, electric stations, &c., Stockholm. (Telegs.: "Zi, Stockholm.")
Zanini, Pietro, electrician, Asiago (Prov. di Vicenza), Italy.
Zanni, Virgilio, electric light contractor, via G. Giusti 10, Pisa, Italy.
Zanoli, J., telephone maker, ave. de Saxe 169, Lyon (Rhône), France.
Zapf, Georg, director Felten & Guilleaume-Lahmeyerwerke A.-G., Mülheim a. Rhein, Germany.
Zaragoza, Ricardo, electrical engineer & agent, 223, Valencia, Barcelona.
Zateplinsky, A., electrical engineer, Transcaucase Railway, Tiflis, Russia.
Zay, E., electrician, 73, rue de Monceau, Paris. (Teleph. No. 535-22.)
Zeda, Fratelli, maker of electric bells, annunciators, &c., Vicolo Facchini 2, Milan, Italy. (Telegrams: "Zeda Fratelli, Milan." Telephone No. 1389.)
Zeeman, Prof. P., professor of physics, University, Amsterdam.
Zehme, E. C., editor *Elektrotechnische Zeitschrift*, 3, Monbijouplatz, Berlin, N. 24. (Teleph. III. No. 9151.)
Zeister Machinefabriek, engine makers for electrical purposes, Zeist, Holland. (Teleph. No. 39.)
Zeitschrift des Österreichischen Ingenieur- und Architekten Vereines (weekly; ann. sub., K. 26 & K. 34), Eschenbachgasse 9, Vienna, I.
Zeitschrift des Vereins deutscher Ingenieure (weekly; ann. sub., 40 marks), Monbijou Platz 3, Berlin.
Zeitschrift für Angewandte Chemie (weekly; ann. sub., 30s.), Leipzig. Publisher, Dr. B. Rassow.
Zeitschrift für Beleuchtungswesen, etc. (three times a month; ann. sub., 15 Marks), Bülowstr. 90/91, Berlin, W.
Zeitschrift für das Gesamte Turbinenwesen (3 times a month; ann. sub., M. 18; abroad, M. 20.40), Glückstr. 8, Munich. Published by R. Oldenbourg, Munich & Berlin; editor, Prof. Dr. E. Josse.
Zeitschrift für den Physikalischen und Chemischen Unterricht (bi-monthly; ann. sub., 12s), Monbijoupl. 3, Berlin. Editor, Dr. F. Poske; publisher, Julius Springer.
Zeitschrift für Elektrochemie u. Angewandte Physikalische Chemie. Publisher, Wilhelm Knapp, Halle-a.-S., Germany; editors, Prof. P. Askenasy, Karlsruhe i. B., & Prof. R. Abegg, Breslau.
Zeitschrift für Elektrotechnik und Maschinenbau (weekly; quarterly sub., M. 3; abroad, M. 5), Hohenzollernstr. 3, Potsdam, Germany. (Teleph. No. 255.)
Zeitschrift für Instrumentenkunde, Organ für wissensch. Technik (publisher, Prof. Dr. St. Lindeck), Bismarckstr. 61, Charlottenburg-Berlin.
Zeitschrift für Physikalische Chemie, Prof. Ostwald, Gross-Bothen, Saxony.
Zeitschrift für Schwachstromtechnik (twice a month; ann. sub., M. 10; abroad, M. 12), Jagerstr. 17, Munich.
Zelander, L., electrical engineer & agent, 286, Singel, Amsterdam, Holland. (Teleph. No. 4164.)

Zelewski, Alexander, chief engineer, Ganz Electric Co., Budapest, Hungary. (Telegs.: "Alterno, Budapest.")

Zeller, Ludwig H., electro-chemical & electro-analytical apparatus, Leipzig, Saxony.

Zellweger, A., & Co., electrical apparatus manufacturers, Uster, Switzerland.

Zentsch, Louis, & Co., dynamo brushes, light & power installation, Langestr. 36, Leipzig, Saxony, Germany.

Zetter, Charles, electrical engineer, manager of the Appareillage Électrique Grivolas, 16, rue Montgolfier, Paris.

Zettler, Alois, G. m. b. H., manufacturing electricians, Holzstr. 28/30, Munich, Germany. (Teleph. Nos. 21260/61.)

Ziane, Jules, electrician, 2, rue Hôtel des Monnaies, Brussels.

Zickermann, Dr. Professor, director of the Siemens-Schuckert Werke, G. m. b. H., Nuremberg, Bavaria.

Zickler, Carl, electrician & professor at the Technische Hochschule, Brünn, Austria.

Ziegenspeck, Oscar, bell dome & electrical apparatus manufacturer, 56, Kommandantenstr., Berlin, S. 14. (Telegrams: "Oscar Ziegenspeck, Berlin." Telephone No. 1658, Amt. IV.)

Ziegler, Jules, electrical engineer, electric light installations, Basel, Switzerland. (Telegs.: "Elektro-ziegler, Basel." Teleph. No. 4299, Basel.)

Ziegler, Paul, engineer, Maison Sulzer Frères, 16, ave. de la République, Paris XI.

Zielonka, —, Electro-technische Gesellschaft, Królewska 39, Warsaw.

Ziese, R. A., machine agent, Wassily Ostr. 12th linie, N. 27, St. Petersburg. (Teleph. No. 20645.)

Zieseniss, L., agent for Felten & Guilleaume, Krausenstr. 37, Berlin, S.W. (Teleph. Amt. I. No. 4844.)

Zillekens Ketele, F., père (V^ve^ L. Schleidt, succ^r^), bells, telephones, door bells, light & medical apparatus, rue des Alexiens 65, Brussels. (Teloph. No. 3679.)

Zillekens fils, B., manufacturers of electrical apparatus, rue des Eperonniers 33, Brussels.

Ziller, Ernst, director, Technische Akademie Berlin, Markgrafenstr. 100, Berlin. (Teleph. No. Amt. IV. 4384.)

Zillich, Prof. Ad., electrical engineer, 29, Mozartstr., Linz, Austria.

Zimmer, Ad., electric light & telephones, Weissenburgerstr. 20, Berlin, N. (Teleph. III. No. 5065.)

Zimmer Bröderne, electrical engineers & agents, Dronn. gd. 4, Christiania, Norway.

Zimmerli, Paul, works manager, Elektrizitätswerk Olten-Aarburg, Olten, Switzerland.

Zimmerli, Käser & Co., electric works at Kirchberg-Berne, Switzerland.

Zimmermann, Carl, electrical supplies, Alexanderstr. 25, Berlin, O. (Teleph. VII. No. 6229.)

Zimmermann, Christian, manufacturer of electroliers, Leibinzstr. 5, Frankfurt-on-Main, Germany. (Teleph. No. 3195.)

Zimmermann, Emil, electric bells, Eschersheimer Landstr. 22, Frankfort-on-M., Germany.

Zimmermann, H., electrical engineer, Moltkestr., Cannstatt, Germany.

Zimmermann, P., & Co., makers of wall & hanging connections, Deutsch Catharinenberg (Erzgebirge), Germany. (Telegrams: "Zimmermann, D. Catharinenberg.")

Zimnosek, Guillermo, deputy manager Siemens-Schuckert Cia. An. Española de Electricidad, Barquillo 28, Madrid.

Zinck, Potthoff & Co., electric light engineers, Immenhof 11, Hamburg. (Teleph. Amt. III. No. 2247.)

Zinnemann & Co., accumulator makers, 4, Stendalerstr., Berlin, N.W. (Teleph. Amt. II. No. 1300.)

Zipernowsky, C., M.I.E.E., professor at the Royal Hungarian Polytechnicum, II. Oszlop-uteza 9, Budapest. (Telephone No. 939.)

Zirkon-Glühlampenwerk, Dr. Hollefreund & Co., Müllerstr. 30, Berlin, N. 65. (Telegs.: "Zirkonwerk, Berlin." Teleph. II. No. 2570.)

Zirs & Glenicke, manufacturers of electrical requisites, Kottbuserstr. 26, Berlin, S. (Teleph. No. 4.9668.)

Zitzwitz & Sohn, telegraph apparatus makers & contractors, Schönhauser Allee 99/100, Berlin, N. (Teleph. Amt. III. No. 6019.)

Zoccheddu, Guido, electrical engineer, via Torino 2, Cagliari, Italy.

Zolla & Co., electric light installer, via S. Secondo 62, Turin, Italy. (Telephone No. 1311.)

Zolotouchine, S., editor of *Universal Technical Review*, 11, Gaslerowsky, St. Petersburg.

Zosi, A., electrical engineer, Montreux, Vaud, Switzerland.

Zsakula, Milan T., engineer, Royal Hungarian Technical University, I. Budafoki ut 8, Budapest. (Teleph. No. 75-30.)

Zschauer, F. H., electric light fittings, shades, &c., Neanderstr. 3, Berlin, S.O. (Teleph. IV. No. 2279.)

Zschocke, G., engineer & machine maker, proprietor of Zschocke's Engineering Co., Mainzerstr., Kaiserslautern, Germany. (Teleph. No. 27.)

Zuber, Rieder, et Cie., telegraph paper makers, 38, boul. Beaumarchais, Paris.

Zublena, Giovanni, electrician, corso Vittorio Em. II., 44, Turin, Italy.

Zulauf & Co., electric light apparatus makers, Höchst-am-Main, Germany. (Teleph. No. 166.)

Züllchow (Pommern), electric light station (proprietors, Gas und Elektr. Werk, Bredow a. O., Act. Ges., Bremen).

Zündel, Julius, electrical engineer, Engineer's Office, Brown, Boveri & Cie., Teplitz i/B. (Telegs.: "Zündel, Teplitz-Schönau." Teleph. No. 503.)

Zunini, Luigi, electrical engineer, Foro Bonaparte 49, Milan, Italy.

Zurcher Gluhlampen-Fabrik, incandescent lamp makers, Sihlhofstr. 3, Zürich. (Telegs.: "Gluhlampe, Zurich.")

Zürcher Telephongesellschaft, Actiengesellschaft für Elektrotechnik, Zürich, Switzerland. (Telegs.: "Electrotechnik, Zürich." Teleph. No. 2241.)

Zürich-Oerlikon-Seebach Elektrische Strassenbahn, Oerlikon, Zürich. (R. Fürst, engineer.)

Zweifel, Gaspard, electrical engineer, Société Alsacienne de Constructions Mécaniques, Belfort, France.

Zwickau Ingenieurschule (Engineering School), Zwickau, Germany. Director: L. Hummel.

Zwickau (Sachsen) electric light station (proprietors, Zwickau Elek. Werke und Strassenbahn Act. Ges.), Zwickau, Saxony.

Zwirner & Dorff, electrical engineers, Olvenstedterstr. 25, Magdeburg. (Teleph. No. 1818.)

CONTINENTAL CLASSIFIED SECTION.

Accessories—Manufacturers of.

F.—Accessoires pour l'electricité—Fab. d'.
G.—Zubehöre—elektr.—Fabr. von.

Bick, H. A., Beethovenstr. 22, Cologne.
Elektrizitäts Sicherungsges. m. b. H., Friedrichstr. 129, Berlin, N. 24.
Fest & Co., Wienerstr. 50, Berlin, S.O. 36.
Fuchs, C., & Müller, Britzerstr. 7, Berlin, S.O. 26.
Miller, H., Ltd., Hazebrouck, France. *See advt., page 17.*
Oederlin, E., & Co., Baden, Switzerland.
Picard, H., 131, boul. Sebastopol, Paris.
Rudowsky, G., Rostockerstr. 46, Berlin, N.W.
Salères, L., 315, rue des Pyrénées, Paris.
Sirtaine, Emile, rue de la Limite 23, Brussels.
Thiel & Bertling, Neuenburgerstr. 37, Berlin, S.W. 13.
Tolzmann & Co., Karlstr. 27, Berlin, N.W.
Wohlfeil, J., Hollmannstr. 32, Berlin, S.W.

Accumulators of Electricity—Makers of.

F.—Accumulateurs d'Electricité (Fab. de).
G.—Electrische Accumulatoren (Fab. von).

Accumulateur Aigle (Soc. Anon.), 14, rue Felicien David, Paris.
Accumulateurs Electriques Système Henri Fredet, Brignoud (Isère), France.
Accumulateurs Olten, 19, rue de Milan, Paris.
Accumulateurs T.E.M. & Sirius, 26, rue Laffitte, Paris.
Accumulateurs Verdol, 16, rue Dumont Durville, Lyon, France.
Accumulateurs Tudor, 81, rue St. Lazare, Paris.
"Accumulateurs Tudor" Soc. Anon., 79, rue Joseph II., Brussels.
Accumulator & Elektricitatswerke "Edison," Krautsstr. 4, Berlin.
Accumulator Ges. in Witten, Witten, Germany.
Accumulatorenfabrik Actiengesellschaft, 35, Luisenstr., Berlin, N.W.

Accumulators of Electricity—Makers of —*continued.*

Accumulatoren Fabrik Act. Ges., Elbestr. 10, Frankfurt-a.-Main.
Accumulatorenfabrik Aktiengesellschaft, Wipplingerstr. 23, Vienna I.; & Budapest.
Accumulatoren Fabrik A. G., Berlin, Amsterdam, Breslau & Hagen.
Accumulatorenfabrik G. m. b. H., Radesthalerstr. 151, Cologne.
Accumulatoren-Kleinbeleuchtung G. m. b. H., 45, Luisenstr., Berlin, N.W.
Accumulatoren und Electricitäts Werke Akt. Ges. vorm. W. A. Boese & Co., 154, Koepnickerstr., Berlin, S.O.
Accumulatoren und Elektricitäts-Werke Commanditgesellschaft A. Biel & Co., 34, Leebgasse, Vienna X/1.
Accumulatoren Werke "Progress" Singinger & Co. G. m. b. H., Luisenstr. 4, Berlin, N.
Accumulatoren-Werke System Pollak A.G., Mainzer Landstr. 259, Frankfurt-a.-M.
Accumulatorenwerke System Zinnemann & Co., Stendalerstr. 4, Berlin.
Accumulators "Azeden," 154, rue du faub. St. Martin, Paris.
Accumulators Fulmen, 18, quai de Clichy, Clichy (Seine), France.
Accumulators Tribelhorn, 48, place du Bois, Caudrai, France.
Akkumulatoren Fabrik Akt. Ges., Hohenzollernstr. 63 & 65, Breslau.
Allumage Electrique "Compound," 135, ave. de Villiers, Paris.
Basset & Meygret, 29, rue de Cormeilles, Levallois-Perret (Seine), France.
Berliner Akkumulatoren-werke (G. m. b. H.), 59, Chausseestr., Berlin, N. 39.
Boese & Co., Koepnickerstr. 154, Berlin, S.O.
Bru, C., rue des Usines, Vire (Calvados), France.
Butaud, J., 23, rue Charles Fourier, Paris.

Accumulators of Electricity—Makers of *—continued.*

Chagnaud, G., 8, passage Courtois, Paris.
Compagnie Française de l'Accumulateur Aigle, 14, rue Felicien David, Paris.
Compagnie Française des Accumulateurs Elec. Union (Soc. Anon.), 13, rue de Londres, Paris.
Compagnie Générale d'Accumulateurs et de Traction, 81, rue St. Lazare, Paris.
Compagnie Générale Electrique, rue Oberlin, Nancy.
Compagnie Générale Franco-Russe d'Accumulateurs, rue Fossé-aux Loups 37, Brussels.
Compagnie Générale Franco-Russe d'Accumulateurs, 1, Sq. Labruyère, Paris.
Compañia "La Cruz," Linares (Jaen), Spain.
Contal, Requillart & Chalas, 5, rue Voltaire, Levallois (Seine), France.
Corbeau, L., & G. Gust, 45, rue des Chanteurs, Brussels.
Debenedetti, Tedeschi & Co., Strada di Pianezza 19, Turin.
Deutsche Edison Akkumulatoren Cie., Drontheimerstr. 35, 38, Berlin, N.
Dinin, A., 2, quai National, Puteaux (Seine), France.
Drevdal, F., Binoche, & Co., 30, rue Amelot, Paris.
Electriciteits Maatschappij "Maarssen," Maarssen, nr. Utrecht, Holland.
"Elektra" Accumulatoren-Ladistation Erich Markert, Ross-str. 7, Berlin, C.
Elektricitäts Gesellschaft Triberg G. m. b. H., Triberg, Germany.
Elektrizitäts und Accumulatorenwerke Göritz & Co., Romintenerstr. 24/5, Berlin, O. 34.
Eupert, Besançon & Cie., 187, rue du Château des Rentiers, Paris.
Expert, Ch. Besançon & Cie., rue le Peletier 9, Paris.
Fabbrica Nazionale Accumulatori Elettrici Tudor, corso Ugo Bassi 26, Genoa, Italy.
Feilendorf, Robert, VII. Schottenfeldgasse 76, Vienna.
Fischbach, P., & Co., 17, Neuenburgerstr., Berlin, S.W.
Fulmen, 18, quai de Clichy, Clichy (Seine), France.
Gey & Rost, 52, rue Victor-Hugo, Levallois-Perret (Seine), France.
Greve, G., Hoogelanden 3, Utrecht.
Gulcher-Accumulatorenfabrik, 28, Spenerstr., Berlin, N.W.
Hamille & Cie., 5, rue Devès, Neuilly, France.
Hanaire, A., & Cie., route de la Résolte 50, Levallois (Seine), France.
Heinz, A., & Cie., 27, rue Cavé, Levallois (Seine), France.
Hensemberger, Gio., via Senato 14, Milan, Italy.
Herdtlé & Bruneau, 38 bis, rue de la Chine, Paris.
Heym, W. T., & Gläsig, Schiffbauerdamm, Berlin, N.W. 6.
Jacquet Frères, Vernon (Eure), France.
Janin, A., 17, rue Pauquet, Paris.

Accumulators of Electricity—Makers of *—continued.*

Kayser, C. Wilh., & Co., Hindersinstr. 1, Berlin, N.W. 40.
Körner, Gebrüder, & Mahla, Frankenthal, Germany.
L'Accumulateur Fulmen. Works & offices: 18, quai de Clichy, Clichy (Seine), France.
Ladiges, Greiner & Co., Weisswasser o/L., Germany.
Langstein & Klein, Teplitzerstr. Aussig, Bohemia, Austria.
Legay, L., 128, rue du Bois, Levallois-Perret, France.
Levitas, 128, rue du Bois, Levallois-Perret (Seine), France.
Limpke, R., 17, Hollmannstr., Berlin.
Margouliss, T., Poushkinskaja-st. 12, Odessa, Russia.
Mauvais, A., 15–17, rue Niepce, Paris XIV.
Nurnberger Akkumulatoren und Elektrizitätswerke Erhard Goller, Geuderstr. 12, Nürnberg.
Pattoni, —, 9, rue Marceau, Levallois-Perret, France.
Pautier Frères, 9, pl. du Parc, Angoulême, France.
Pflüger Accumulatorenwerk, 31A, Luisenstr., Berlin, N.W. 6.
Poulain, A., et Fils, 5 & 9, route Nationale, Charleville, Ardennes, France.
Prudhomme, H., 17, rue Richer, Paris.
"Rapid" Accumulatoren u. Motoren Werke G. m. b. H., Hauptstr. 9, Schöneberg-Berlin, Germany.
Renoux, F., 33 & 35, rue Chevallier, Levallois-Perret, France.
Rosenthal, Th. T., Pokrovskayastr. dome Schlihsterman, Moscow.
Russian Tudor Accumulator Co., Gorochowajci 5, St. Petersburg.
Schlesische Accumulatoren-Werke A. G., Canth Krs. Neumarkt, Germany.
Semmler & Ahnert, Regis bei Leipzig.
Sociedad Española del Acumulador "Tudor," 7 & 9, Carrera de San Jeronimo, Madrid.
Société Anonyme Accumulatorenfabrik Maarssen, Maarssen, Holland.
Société Anon. d'Eclairage et d'Applications Electriques, Arras (Pas-de-Calais), France.
Sté. Ane. de l'Industrielle d'Accumulateurs, 58, rue Heyvaert, Brussels.
Société Anon. des Accumulateurs Chelin, ave. Guillaume Macau 11, Brussels.
Société Anonyme des Accumulateurs Tudor, Florival, Belgium.
Société Anonyme des Alliages Cothias, 9, rue Victor Hugo, Ivry-Port (Seine), France.
Sté. Ane. des Manufactures de Câbles, Accumulateurs et Appareils Élec., Seneffe, Belgium.
Societe Anon. des Mecaniques Verdol, 16, rue Dumont d'Urville, Lyons, France.
Société Anon. pour le Travail Electrique des Metaux, 26, rue Laffitte, Paris.

Accumulators of Electricity—Makers of —*continued.*

Société de Construction d'Appareils Industriels Accumulateurs Somzée, petite rue de Bellevue, Ghent. Belgium.
Société de l'Accumulateur Bainville, 11, boul. de la Madeleine, Paris.
Société des Grandes Marques d'Allumage B. C. F. & Dary, 35, rue Chevallier, Levallois-Perret (Seine), France.
Société Electrique d'Eclairage et de Force, Preslet (Seine-et-Oise), France.
Société Française des Accumulateurs Heinz., 27, rue Cavé, Levallois (Seine), France.
Société Française de l'Accumulateur Tudor, 81, rue Saint Lazare, Paris.
Société Française des Accumulateurs Tribelhorn, 175, rue Paradis, Marseille.
Société Industrielle de l'Accumulateur - Mixte l'Energique, 45, rue de Lévis, Paris.
Société Nouvelle des Accumulateurs B.G.S., 34, rue Pierret, Neuilly-sur-Seine, France.
Société Suisse pour la Construction d'Accumulateurs Electriques, Chemin Vinet 29, Lausanne.
Stabenow, Rudolf, Prag-Zizkow, Bohemia.
Strube, A., Neue Inkobstrasse, Berlin.
Union Accumulatoren Werke, Friedrichstr. 16, Berlin, S.W.
"Varta" Accumulatoren Gesellschaft m. b. H., 21, Luisenstr., Berlin, N.W. 6.
Verdier, F., St. Gervais, près Blois (Loir et Cher), France.
Viau, R., & Cie., 45, rue de Lévis, Paris.
Vignier, L., 99, rue d'Angoulême, Paris.
Viguier, —, 222, rue Lafayette, Paris.
Wüste & Rupprecht, I. Kolowrating 9, Vienna.
Zeller, Ludwig H., Leipzig, Saxony.
Zinnemann & Co., 4, Stendalerstr., Berlin, N.W.

Accumulator Boxes & Trays—Makers of.

F.—Boites d'Accumulateurs.
G.—Accumulatoren kästen—Fab. von.

Compagnie Française du Celluloid, 11, rue Bailly, & 98, rue Beaubourg, Paris.
Defontaine (Aîne), 23, rue Dagorno, Paris XII.
Kamitz & Stratz, Furtwangen, Bad. Schwarzwald, Germany.
Müllensiefen Gebrüder, Crengeldanz, Westphalia, Germany.
Société Anon. des Manufactures des Glaces et Produits Chemiques de St. Gobain, Chauny & Cirey, 3, place des Sanssaies, Paris.
VEREINIGTE GUMMIWAAREN FABRIKEN HARBURG-WIEN, Wimpassing im Schwarzathale, Austria. Office: Cariahilferstr. 115, Vienna VI.
Von Poncet Glashütten Werke, A. G., Köpnickerstr. 54, Berlin, S.O. 16.

Accumulator Charging.

F.—Chargement d'Accumulateurs.
G.—Accumulator Laden.

Accumulator Switchboards.

F.—Socles pour accumulateurs—Fab. de.
G.—Schalttafeln für Accumulatoren—Fabr. von.

Acid Manufacturers.

F.—Acides—Fabricants d'.
G.—Säure-Fabrikanten.

Bidtel, Dr. Julius, Chemische Fabrik, Cölln Meissen, Germany.
De Bonnier et Cie., 14, rue de la Blanchisserie, Brussels.
Desmazures & Lambert, 8, rue du Parc Royal, Paris.
Girault, Davene & Baignères, 27, rue des Pyramides, Paris.
Kunheim & Co., 32, Dorotheenstr., Berlin, N.W.
Unione Italiana, Vicenza.

Agents—Electrical.

F.—Agents d'électricité.
G.—Agenten—Electrische.

Abatschin & Orloff, Miasnitzkaya, Moscow, Russia.
Agence Quiquet (telegraph), 27, rue Traversière, Brussels.
Alimonda, G., & Co., 16, via XX. Settembre, Genoa, Italy.
Arabia, A. A., via Bocca Leone 3, Rome.
Bardorf, E., & Co., passage Popoff, 32, Moscow, Russia.
Behles, E., Bucharest.
Berezowsky, M. O., Nikolajewskaja str. 9, St. Petersburg.
Berthier, D. Emilio, Cuesta de Ste. Domingo 18, Madrid.
Besombes, Ch., 193, faub. Poissonnière, Paris.
Bloch, K., 5, Schottenfeldg., Vienna VII.
Borowitsch, W., Miasnitskaya dome Michina, Moscow.
Boselli, Luigi, corso Porta Nuova 11, Milan, Italy.
Bosman, Jules, 13, rue des Bayards, Liége.
Bosshart, A., Zurich, Switzerland.
Brinchmann & Co., Toldbodgd. 19, Christiania, Norway.
Busche & Schmidt, Köpenickerstr. 124, Berlin, S.O., Germany.
Caillet, J., 17, rue Beaurepaire, Paris.
Carl & Co., Pfalzerstr. 32, Cologne.
Chemin & Kupper, 36, rue Rochechouart, Paris.
Chiodi, Gmür, Zaretti, 18, V. Unione, Milan.
Christiaen, Emile, Box No. 24, Malines Station, Belgium.
Cooke, H. A., 7, Malaia Dmitrovka, Moscow, Russia.
Dahl, C., & Co., Kronpsensg. 3, Copenhagen, Denmark.
Dalle, Molle, & Co., via due Macelli, 10-11, Rome, Italy.
Daloz, Georges, 69, boul. Voltaire, Paris.
Daneo, A., via Giacchi 56, Rome.
De Grelle, Ch., & Co., 69, rue de l'Association, Brussels.

Agents—Electrical—*continued.*

Delaitre, G., 61, quai Valmy, Paris.
De Loriol & Finet, 17, rue Faidherbe, Lille (Nord), France.
Deloustal, R., Cortes 581, Barcelona.
De Vries, Herman J., 127, Sarphatistraat, Amsterdam.
Ducati, Ing. A. C., 4, via Poeti (Piazza Calderini), Bologna, Italy.
Durban & Martin, Cologne, Germany.
Eckersberg, J. F., Christiania, Norway.
Engel, Carl, Nagy Janos-utca 3, Budapest VI.
Ericson, R., Miasnitskaja 20, Moscow; & 92, Nevsky, St. Petersburg.
Fato Lionetti, G., via Abate Gimma 251, Bari, Italy.
Feiser, F. K., Wassily Ostrow 9th linie N. 42, St. Petersburg.
Ferruccio Guidetti & Co., corso Vitt. Emmanuele 34, Turin.
Finzi, Ing. V., Monte Napoleone 7, Milan.
Fleischauer, G., 78, Osterstr., Hanover.
Focsaneanu, P. E., Strada Soarelui 1, Bucharest.
Fogliacco, Giov., via dei Mille 6, Turin.
Frühauf, R., Schützenstr. 21, Leipzig.
Gasguet, Mateo, Sierfes 47, Seville.
General Electric de France, Ltd., agents for General Electric Co., Ltd., of London, 10 12, rue Rodier, Paris.
Gerber, V., IX/1 Kolingasse 19, Vienna I.
Gernaert & Co., 3, rue d'Arlon, Brussels.
Gès Emmanuel, Paseo de Colón 17, Barcelona, Spain.
Giannini, C., Rieti, Umbria, Italy.
Girbasoff, M., Tomsk, Russia.
Grief, J. B., IV., Plösselg. I., Vienna, Austria.
Guidetti Ferruccio & Co., corso Vitt. Emmanuele 34, Turin.
Haas, Augusto, via Pietro Verri 7, Milan.
Hardtmuth, F., & Co., via Durini 26, Milan.
Harel, Franz, Schätzenstr. 18, Berlin.
Harker, John, avenida da Liberdade, 41–43, Lisbon, Portugal.
Haus & Co., 104, Guterstr., Basle, Switzerland.
Hoerder, Ad., 92, boul. Richard Lenoir, Paris.
Holilscher, Dr. Paul, & Co., Ltd., Louisengasse 33, Vienna IV./2, Austria.
Honigmann, Emil, Löblichgasse 4, Vienna IX.
Jacquot, J., 30, rue des Bourdonnais, Paris.
Jordan & Treier Elektrische Zähler und Armaturen Fabrik, Dreilaufergasse 2, Vienna VII.
Jüngermann, Heinrich, via Melchiorre Gioja 1, Milan.
Kerting Bros., Moïka 64, St. Petersburg.
Kinkmann, E., & Co., Gorohovaya 17, St. Petersburg.
Knappe, Carlos, Clavel 2, Madrid.
Kornblüh, L., I. Helferstorferstr. 3, Vienna.
Livschitz, N., Miasnitskaya, Georgievsky per 4, Moscow, Russia.
Loevsky, W., Nicolskaya, h. Tchijoff, Moscow, Russia.
Longoni, G. & C., 7, P. Cavour. Milan.
Lozey, H., 37 bis, rue des Plantes, Paris.

Agents—Electrical—*continued.*

Malavasi, C., via Solferino 3, Milan; & corso Milano 11, Monza.
Mas, F. de A., Cortes 625, Barcelona.
Meyer, Hugo Hermann, Riga, Russia.
Moleschott Bros. (agents to Siemens & Halske), 58, via Volturno, Rome, Italy.
Nathan Frères, 67, rue d'Hauteville, Paris.
Neuweck, J., Ritterstr. 87, Berlin, S.
Ney, O., 16, Bärwaldstr., Berlin, S. 53.
Niedlich, A., & Co., Breslau.
Noel, F. A., 5, rue Greffulhe, Paris.
Nolte, J. G., 13, Westerdokstraat, Amsterdam.
Norsk Elektrisk Lyscompagni, 23, Ovre Slotsgade, Christiania, Norway.
Olsen, Olaf R., Tordenskjoldsgade 6B, Christiania.
Ortiz de Lanzagorta, M., Los Madrazo 1 tripl., Madrid.
Oulie & Sorensen, 32, Dronn-gade, Christiania.
Paltzer, E., Elbestr. 52, Frankfort-on-Main.
Pareyn, C., rue Royale Ste. Marie 195, Brussels.
Persicaner & Co., Liebenberggasse 7, Vienna I., Budapest.
Peterson, E. L., 125, Ligowskaja, St. Petersburg.
Petit, Alex, 93, rue de Laeken, Brussels.
Picard, H., 131, boul. Sebastopol, Paris.
Pisani, A., 4, B. Cavalieri, Milan.
Plesocanu, —, 22, Strada Sarindar, Bucharest.
Prez-Crassier, L. de, 29, rue d'Angoulême, Paris.
Rach, Aug., 26, Ostendstr., Frankfort-on-Main, Germany.
Ramponi, R., & Co., Saragozza 102, Bologna.
Rawicz, A., & Co., 12, Erywanska-st., Warsaw, Russia.
Rémon-Casas, L., General Castaños 9, Madrid.
Remy, Ing. Roland, corso Oporto 21, Turin.
Renaux, L., 95, rue de Lille, Roubaix (Nord), France.
Rijn, Willem van, 181, Keizersgracht, Amsterdam.
Rodionoff, P. M., Charkow, Russia.
Rogers, R., & Co., 1, rue St. Georges, Paris.
Rose, K., Jerousalinskaya 72, Warsaw, Russia.
Ross & Kuhne, Herwarthstr. 5, Cologne, Germany.
Scaramuzzino, Tito, 17, Buenos Aires, Milan.
Schmaltz, M. F., Hüxter 9, Hamburg.
Schmidt, F., Schillerstr. 17, Munich.
Schmidt, Fritz, Stockholm.
Schmoulevitsch, K., Moscow.
Schön, R., Südstr. 49, Elberfeld, Germany.
Silayeff, A., Miasnitzkaya, h. Obidine, Moscow.
Simonis & Co., Milan, Italy.
Sinell, Emil, 26A, Kurfürstendamm, Berlin, W. 15.
Sluski, M., Miasnitzkaya dome Sitova, Moscow.
Società Anonima Agostini, Francesco, via Roma 28, Turin, Italy.
Société du Familistère de Guise, Guise (Aisne), France.
Société Française d'Électricité, 42, rue de Paradis, Paris.
Stieltjes, Fred., & Co., Keizersgracht 745, Amsterdam.
Tahle, —, 19, rue de Milan, Paris.
Taschek & Weiss, Krakauerg. 18, Prague, Austria.
Tempesta, Paulo, 8, Bocchetto, Milan.

Agents—Electrical—*continued.*

Tibanyi, Nandor, VII. Thököly ut 8, Budapest, Hungary.
Tolusso, Guido, via Carducci 13, Milan, Italy.
Tranoff & Hawkins, Schoniskoe podvorie, Moscow, Russia.
Uebé & Marco, 26, rue Baudin, Paris.
Uguccioni, D., & Co., via Condotta 3, Florence, Italy.
Valabrega, Ing., Lichtenberger & Ori, via Lagrange 29, Turin.
Veyrat & Figli, 68, via Bertola, Turin.
Viereckl, A., 10, Eggerthgasse, Vienna VI.
Vincent, G. J., & Co., Hoofdstr. 36, Schiedam, Holland.
Wachter, K., & Co., Morskaya 24, St. Petersburg, Russia.
Watson & Youell, Strada Academiei 14, Bucharest, Roumania.
Weil, Edoardo, via V. Monti 4, Milan.
Wenzel, Juan, y Cia., Carrera de San Jeronimo 28, Madrid.
White, Child & Beney, Ltd., via P. Umberto 27, Milan.
Wich, J., 9 bis, boul. des Filles du Calvaire, Paris.
Winand, C., 12, Bolsch. Koniüschenaja, St. Petersburg.
Winternitz, M. T., Bacou, Russia.
Winterthur, A., Schmidgasse, St. Gallen, Switzerland.
Wiwodzeff, M., Joukovsky street 31, St. Petersburg, Russia.
Würsten, G., Miasnitzkaya, h. Spiridonow, Moscow, Russia.
Zieseniss, L., Krausenstr. 37, Berlin, S.W.

Alarms (Electric)—Burglar, Fire, Safe, Ship, Train, &c.

F.—Avertisseurs électriques—voleurs, incendie, navires, trains, &c.
G.—Alarmapparate (Elektrische)—Diebstahl, Feuer, Schiff, Eisenbahn u. s. w.

Billaudot, L., 5, rue Léonie, Bellevue, Paris.
Demblon & Verset, 16, rue Gérard, Antwerp, Belgium.
Lüthi & Näther, Leipzig-Anger, Germany.
Raffard, N. J., 5, ave. d'Orléans, Paris.
Schæfer & Montanus, Frankfort, Germany.
Sendtner, Michel, Schillerstr., Munich, Bavaria, Germany.

Alternate Current Motors.

F.—Moteurs pour courant alternatif.
G.—Wechselstrom—Motoren.

Marelli, Ercole, & Co., Ltd., Milan, Italy. Works in Sesto S. Giovanni.

Aluminium Manufacturers & Merchants.

F.—Aluminium—Fab. et March d'.
G.—Aluminium—Fab. & Händler.

Société des Forces Motrices et Usines de l'Arve, 103, rue de la Boëtie, Paris.
Société des Produits Electro-Chemiques et Métallurgiques des Pyrénées, 103, rue de la Boëtie, Paris.
Syndicat für Aluminiumspulen G. m. b. H., 26, Regensburgerstr., Berlin, W. 50.

Ammeters—Makers of.

F.—Ampèremètres—Fab. d'.
G.—Ammeter—Fab. von.

Gross & Bohrer, Bamberg, Bavaria.
Miller, H., Ltd., Hazebrouck, France. *See advt., page* 17.
Wissenschaftl. Institut für Laboratoriums-Bedarf, Ludwig H. Zeller, Leipzig, Saxony.

Ammonia Manufacturers.

F.—Ammoniaque—Fab. d'.
G.—Ammonia—Fab. von.

Solvay & Cie., 33, rue du Prince Albert, Brussels.

Anhydrous Phosphoric Acid.

F.—Acide phosphorique anhydre.

Société pour l'industrie chimique à Bâle, Usine de Monthey, Monthey (Valais), Switzerland.

Annunciators (Electric)—Makers of.

F.—Tubles Indicateurs électriques (Fab. de).
G.—Anzeiger Electr. (Fab.).

Paccard, Jos., 15, rue des Trois-Bornes, Paris.
Serrin, Henri, 13, boul. du Temple, Paris.

Anti-Induction Cables—Makers of.

F.—Cables anti-inducteurs—Fab. de.
G.—Anti-Inductions Kabel—Fabr. von.

Deutsche Kabelwerke Akt. Ges., Berlin-Rummelsburg.

Apparatus for Lighting Gas—Electric.

F.—Appareils elec. pour allumer le gaz.
G.—Apparate zum Anzünden des Gases—elek.

Demblon & Verset, 16, rue Gérard, Antwerp, Belgium.
Gianoli, L., 26, boul. Magenta, Paris.
Kellermann, Jacques, Köpenickerstr. 114, Berlin, S.O. 16.
"Multiplex" Int. Gaszünder G. m. b. H., Potsdamerstr. 22A, Berlin, W. 9.
Rapid Elektro-Gasfernzunderwerke, Ltd., Friedrichstr. 243, Berlin, S.W. 48.
Vigniard, H., 85, rue Croix-Nivert, Paris.

Apparatus Makers—Electrical.

F.—Appareils électriques.—Fab. d'.
G.—Elektrische Apparate—Fabr. von.

Achilles, E., Regentenstr. 11A, Berlin.
Adaro & Marin, Moros 28, Gijon, Spain.
Ahlberndt, O., Heidelbergerstr. 76, Berlin, S.O.
Akar, A., 42, rue Mazarine, Paris.
Aktie-Bolag Electron, Gothenburg, Sweden.
Alcañiz, Aquilino, Acera de San Francisco 18, Valladolid, Spain.
Aldea, Feliciano, Condesa de Sobradiel 4, Barcelona.
Algemeene Telephoon-Maatschappi voorheen Ribbink, van Bork & Co., Keizersgracht 60, Amsterdam.
Allemano, A., via Riberi 6, Turin.
Allez Frères, 1, rue St. Martin, Paris.
Ammann, —, 35, Rorschacherstrasse, St. Gall, Switzerland.
"Appareillage Electrique Grivolas," 16, Montgolfier, Paris.
Aramburo, Viuda de (antigua casa de Aramburo Hermanos), Príncipe 12, Madrid.
Auban y Ca., Nave 37, Valencia.
Aufière, C., 95, rue de Flandre, Paris.
Auriol, Ch., 4, ave. des Chasseurs, Paris. Depôts: 23, rue Potagère, Brussels; & 152, St. John's Hill, Clapham, London, S.W.
Badel & Cie., 13, boul. James Fazy, Geneva, Switzerland.
Baguès et fils, 31, rue des Francs-Bourgeois, Paris, France.
Barguet, F., 9, rue Capron, Paris.
Barth, R., Potsdamerstr. 63, Berlin, W.
Barthel, E. F., Wolkensteinerstr. 65, Chemnitz, Saxony.
Baruch, Hugo, & Co., 133, Alte Jacobstr., Berlin, S.W.; & London.
Beau, H., & Cie., 46, rue la Boëtie, Paris.
Becker & Schöppe, Marienstr. 30, Dresden, Saxony.
Bellemère, A., 63, rue de Maubeuge, Paris.
Berdiel, A., bronze fittings for electric light, 20, rue Cavenne, Lyon.
Berg, Van den, & Co., 163, Prins Hendrikkade, Amsterdam.
Berger, Franz, An der Universitat 13, Halle a-d.-S., Germany.
Berlie, C., & Co., 2, rue Paul Chenavard, Lyon. Works: 173, Route de Genas, Villeurbanne, France.
Bernard, A., rue Montigny 120, Charleroi.
Beziel & Ribot, 16, passage Saint Pierre Amelot, Paris.
Biancalani & Co., via Forca 8, Florence.
Biernath, E., Leibnizstr. 35, Charlottenburg, Berlin.
Biez, F., 6, boul. Richard Lenoir, Paris.
Binter, Gustav, München, Germany.
Blanc, C., 42, boul. Richard Lenoir, Paris.
Blochius, Ed., Dusseldorf, Germany.
Blumer, R., Wiesbaden, Germany.
Bodmer, A., Schlüsselgasse 13, Zürich.

Apparatus Makers—Electrical—*continued.*

Böhlendorf & Völkel, 55, Köpnickerstr., Berlin, S.O.
Boin Moyersoen, 33, rue Zérézo, Brussels.
Boler, M., 237, rue St. Honoré, Paris.
Bollier, D., Horgen, Switzerland.
Bonino, Carlo, corso Vitt. Em. II., 24, Turin, Italy.
Bonnewyn-Leroy, —, rue des Capucins 54, Mons, Belgium.
Bonomo & Utili, Calata S. Marco 13, Naples.
Bontempelli, Cesare, Strada Cavour 7, Parma, Italy.
Borghini, Prof. Nazareno, via St. Vito 19, Arezzo, Italy.
Börlendorf & Völkel, 13, Luckanerstr., Berlin, S.
Bornet, A., & Co., 2, place de Hollande, Geneva, Switzerland.
Borrel, G., 7, rue Froissant, Paris.
Borrell, Pedro, Canuda 37, Barcelona, Spain.
Böttcher & Quarck, 9, Müllerstrasse, Munich, Bavaria.
Brand, J., jun., Moselstr. 10, Frankfort-on-Main.
Brändli, J., Freiestr. 59, Basle, Switzerland.
Braun & Bockmann G. m. b. H., Mannheim, Germany.
Breitenbach, Brunswick, Germany.
Brito, Alfredo de, rua de Santo Antonio dos Capachos 52-80, Lisbon.
Burniat Frères, 39, rue des Chartreux, Brussels.
Bury, G., 207, boul. Voltaire, Paris.
Buseck, M. & I., 30, corso Genova, Milan.
Busson, E., & Porte, 37, rue Sedaine, Paris.
Caignard, —, 119, rue Vieille du Temple, Paris.
Candrian & Weller, 78, Dresdenerstr., Berlin, S.
Carette, G., & Co., Nuremberg.
Casa Mañach, Barbará 9, Barcelona.
Castelli & Ragni, 25, corso Vitt. Emanuele, Milan.
Castilla, Gonzalez V., Baeza (Jaen), Spain.
Celi, A., Foro Bonaparte 16A, Milan.
Cerruti, E., via Acc. Albertina 38, Turin.
Champy, J., Vieux Marché aux Poisson, 9 & 11, Tournai.
Chauvin & Arnoux, 186, rue Championnet, Paris.
Chedville & Beer, St. Pierre-les-Elbeuf (Seine-Inférieure).
Clerici, M., via Mario Minghetti 18, Rome.
Clerici, Ing. Giampiero & Co., via Pergolese 11, Milan, Italy.
Cochet, G., 34, boul. Henri IV., Paris.
Colin & Cie., Guise (Aisne), France.
Colin, M., & Co., 17, rue des Tournelles, Paris.
Compagnie Générale d'Appareillage, 7, rue Jules Cesar XII^e, Paris.
Compagnie Générale pour la Fabrication des Appareils d'Eclairage, 99, ave. de la Republique, Paris XI^e.
Compañia Excelsior, San Martin 28, San Sebastian, Spain.
Compañia General Sevillana de Electricidad, San Pablo 30, Seville, Spain.
Cia. Iberica de Electricidad, Gran Via 32, Bilbao, Spain.

Apparatus Makers—Electrical—*continued.*

Corcho Higos, Santander.
Costa y Ponces, St° Domingo de Call 3 & 5, Barcelona.
Cottin, R., 26, rue Amelot; & 3 & 5, rue du Chemin-Vert, Paris.
Coulon, A., 16, rue de Turenne, Grenoble (Isère), France.
Couturier, L., 39, rue de la Paroisse, Versailles, France.
Cravero, Sebastiano, & Figlio, via Cavour, 17, Turin, Italy.
De Brabant, E., boul. du Hainaut, Brussels.
Dechesne, Ch., rue du Chêne 11, Verviers, Belgium.
Degageux Frères, 12, rue Michelet, Troyes (Aube), France.
Degen & Co., Zurich III., Switzerland.
Delne, Ferd., Gr. Steinstr. 15, Halle-a-S., Germany.
Delaunay, —, 47, rue Alexandre Legros, Fécamp (Seine-Inférieure), France.
Delfour, P., 50, rue des Remparts, Bordeaux, France.
Demblon & Verset, 16, rue Gérard, Antwerp, Belgium.
De Pauw, J., Chaussée d'Ixelles, Brussels.
Deschamps, A., 36, boul. Henri IV., Paris.
Deselle et Cie., 7, rue des Petites Ecuries, Paris.
Desprès, A., Frauenfeld (Thurgau), Switzerland.
Dette, W., & Co., 27, Grimmstr., Berlin, S.
Deutsch & Co., Schafergasse 9, Frankfort-on-Main.
Deutsche Ferranti-Zähler Ges. m. b. H., Wartenburgurstr. 26, Berlin, S.W.
De Vries, Mulder & Co., 40, Breedeweg, Amsterdam.
Ditmar, R., Erdbergstr. 21-27, Vienna III.
Dorer & Nickol, Brunswick, Germany.
Dörfel, C., Monumentenstrasse 28, Berlin, S.W. 47.
Dreefs, E., Unter-Rodach-i-Oberfr., Germany.
Dresdner Kunstgewerbe Bohme & Hennen, Görlitzerstr., Dresden, N.
Drittler & Erlanger, Merkelsgasse 19, Nürnberg, Germany.
Dubner, M., Nach., Beusselstr. 70, Berlin.
Ducet, 46, rue Amelot, Paris.
Ducrotoy, J. B., 52, rue des Vinaigriers, Paris.
Dudach, E., 10, rue Ste. Anastase, Paris.
Dumont, C., rue du Faubourg de Roubaix 140, Lille (Nord), France.
Dunand, J. E., Geneva-Versoix, Switzerland.
Durenne, A., 32, rue Félicien-David, Paris.
Ebeling & Croener, Bankstr. 11, Dresden, Saxony, Germany.
Egloff, W., & Co., Turgi-Limmatthal, Switzerland.
Eisenbahnsignal-Bauanstalt Max Jüdel & Co., A. G., Brunswick.
Eisengiesserei Rödinghausen Comm.-Ges., Menden, bei Iserlohn.
"Electron," Cortes 525, Barcelona.
Electrotechnischefabrik "Volta," 12, Klostergasse, Leipzig.

Apparatus Makers—Electrical—*continued.*

Elektricitäts Gesellschaft Richter, Dr. Weil & Co., Heiligkreuzgasse 26, Frankfort-on-the-Main.
Elektricitäts Gesellschaft Zschockelt (m. b. H.), Dresden, 18 A.
Elektrisches Vier Zellen-System G. m. b. H., Schellingstr. 9, Berlin, W. 9.
Elektrizitäts Anlagen Ges. Chemnitz-Zwickau (Ing. Karl Auerbach), Osterweihstr. 14, Zwickau.
Elektrotechnische-Anstalt G. m. b. H., Acherstr. 13A, Bonn-am-Rheim.
Elektrotechnische Fabrik Offenbach, Taunusstr. 56, Offenbach-a.-M.
Eliot, L., 11, Passage Charles Dallery, Paris.
Espinal y Calderón, 14, Serrano, Madrid.
Etablissements L. Liotard jeune, 22, rue de Lorraine, Paris.
Etle, Hugo, 4, Austr., Oberwesel, nr. Frankfort.
Evesque, —, 37, rue Beaunier, Paris.
Fabrique d'Ebauches de Sonceboz, Sonceboz (Bern), Switzerland.
Farkas, Armand, 13, rue Taitbout, Paris.
Favarger & Cie., Neuchâtel, Switzerland.
Favier, C., & Cie., 10, rue des Pietres, Lyons, France.
Favre, W. J., & Gavillet, rue de la Halle 3, Geneva, Switzerland.
Fernandez, V., Moros 17, Gijon (Oviedo), Spain.
Ferrero & Craveri, corso Massimo d'Azeglio 74, Turin.
Fevrier, E., Neuchatel.
Filliol, J. de, 31, rue de Constantinople, Paris.
Fischer, Gebr., Markgrafenstr. 3, Dresden, N. (Teleph. No. 7538.)
Fischer, Ing. Stefano, 36, via Solferino, Milan, Italy.
Fischer, J., 10, Ottenweg, Zurich.
Fleischner, Julio, Carretas 33, Madrid.
Frister, R., 23, Lindenstr., Berlin, S.W.
Frost, H., & Söhne, 6, Wilhelmstr., Berlin, S.W.
Furter, J., 7, rue Cendrier, Geneva.
Gallino, G., via San Francisco da Paolo 36, Turin.
Gardy Frères, La Plaine, Geneva.
Gason, A., 43, rue de Ribaucourt, Brussels.
Gebhardt Söhne, Paul (school), Neue Schönhauserstr. 6, Berlin, C.
Geisselbrecht, K., Nuremberg, Bavaria.
Geissler, Dr. H., successor Franz Muller, Bonn-am-Rhein, Germany.
Geissler, E., & Co., 51, Hohenstaufenstr., Berlin, W. 30.
General Austrian Electricity Co., 2, Wallnerstr., Vienna I.
Genti, Antonio & Co., via dei Fiori 18, Turin.
Gérard, M., 19, rue Beranger, Paris.
Gesellschaft für Elektrotechnische Industrie m. b. H., Belle-Allianeestr. 92, Berlin, S.W.
Gibert, F., Cuatro Santos, Cartagena.
Giovanetti, Pietro, Soc. Anon., via Po 2, Turin.
Girshausen, Adolph, Aragon 259, Barcelona.
Glaive, M., 4, rue du Parc-Royal, Paris.

Apparatus Makers—Electrical—*continued.*

Godinez, Moreno & Ca., Albuera 2, Seville, Spain.
Goebel, Maison, 5, rue de la Fenderie, Charleroi.
Goffart, B., rue Terre-Neuve 80, Brussels.
Gogarten & Schmidt, Dahl bei Hagen i. W., Germany.
Grandpierre, A., 42, rue Mazarine, Paris.
Grodwohl, A., 30, boul. Georges Favon, Geneva.
Gros, E., 91, rue Jacquemars-Gielić, Lille (Nord), France.
Grünewald, Albert, Erfurt, Germany.
Grünwald, Burger & Co., Heigerleinstr. 36, Vienna XVI.
Gruyelle, H., Loos-lez-Lille, France.
Guerin & Comas, Cortes 297–299, Barcelona.
Guinier, E., 36, 38 & 40, rue de Trévise, Paris.
Gulcher & Schwabe, Biala, bei Bielitz, Silesia.
Guthmann, D. W., 9, Senckenbergstr., Frankfort-on-Main.
Hager & Fils, 18, rue du Ruschli, Bienne (Berne), Switzerland.
Haldi & Jeanrenaud, 8, rue Rosius, Bienne (Berne), Switzerland.
Heckmann, E., & Co., 3, Seydelstr., Berlin, C.
Heerdh, Ad., 60, Niddastr., Frankfort-on-Main.
Heinrich, Georges, 24, rue du Terrage, Paris.
Hempel, Krischker & Co., Lützowstr. 14, Chemnitz-Kappel, Germany.
Hennemans, J., rue de Parc 32, Louvain.
Herraiz, Rugama y Cia., Rios Rosas 8, Madrid.
Heybroek & Co., Bornheimer Landstr. 46, Frankfort-a.-M.
Heyde, E. J. von der, Glogauerstr. 21, Berlin.
Heymann, E., 35, rue Clavel, Paris.
Hidalgo y Deu, Aragon 177, Barcelona.
Hielle & Wunsche, Schonlinde, Bohemia.
Hinkel & Sohn, Kaiserstr. 44, Frankfurt-a-M.
Hofmann, J. W., Kötzschenbroda-Dresden, Germany.
Holmsten, J., Tammersfors, Russia.
Holtmann, R., piazza S. Martino, Turin.
Hopfer, A., & Eisenstuck, Leipzig, Germany.
Hörning, E., Dammstr. 10, Weissenfels a. d. S., Germany.
Iglesias & Torralva, Desengaño 22 & 24, Madrid.
Internationale Ges. für Electrische Apparate und Installationsbedarf (m. b. H.), Berlin, N. 24.
Jacques, L., 24, place de la Cathédrale, Liége.
Jaeger Gebr., Schalksmühle i. W., Germany.
Jaegge, Ch., & fils, 97, ave. de Choisy, Paris.
Jaro, A., Krottenbachstrasse 48, Vienna XIX.
Jausseran, B., 9, rue de la Chapelle, Paris.
Jung, J. W., Bibergasse 9, Frankfort-a.-M.
Junghanns & Kolosde, Frommanstr. 6, Leipzig.
Jürgensen, Prof. C. P., Jernbanevej 17, Copenhagen.
Kahle, E., Gutlentstr. 1, Frankfurt-am-Main; Köln; & Munich.
Kändler, R., Dresden.
Karavelas & Jérémias, 4, Germanon Paleon, Patron, Athens.
Keeskemeti, Sándor, Temesvar, Hungary.
Kitz, Hch. Nachf., Ulmenstr. 35, Frankfort-a.-M.

Apparatus Makers—Electrical—*continued.*

Klein, C., 1/3, Mohrenstr., Nuremberg, Bavaria.
Klein, David, Temesvar, Zapolyag, Hungary.
Kleiner & Fleischmann, Modling, near Vienna.
Klentze, J. F., & Co., 1, Gr. Theaterstr., Hamburg.
Kluge, F. O., 35, Lothringerstr., Aachen.
Koch, E., & Co., Mainzer Landstr. 65, Frankfort-a.-M.
Koch & Sterzel, Zwiekauerstr. 42, Dresden, A.
Koelliker, Teodoro, via Andrea Appiani 1, Milan.
Kohl, Max, Akt. Ges, Chemnitz-i.-S.
Köhler, Otto, Grüner Weg 28, Berlin, O. 27.
Kolbe, Robt., Wosnessenski prosp. 36, St. Petersburg; & Moscow; Odessa, &c.
Körber, K. R., Wahringerstr. 37, Vienna IX.
Köttgen, H., & Co., Berg-Gladbach, & Severinstr., Cologne.
Kreuzer, A., Gerichtstr. 23, Berlin; & Czermaksg. 2/4, Leipzig.
Krieg & Zivy, 7, rue Barbés, Montrouge, France.
Krieger, Hugo, Neuenburgerstr. 7, Berlin, S.W.
Krügener, Dr. R., Frankfurt-a.-Main.
Krüger, R., 41, Michaelkirchstr., Berlin, S.O.
Kuffer & Fontana, Neuchâtel.
Kula, Ch., 84, boul. Haussmann, Paris.
Kummler & Matter, Aarau (Aargau), Switzerland.
La Luz, Seville, Spain.
Lachelli, P., Casale Monferrato, Italy.
Lacoste, 28, boul. de Strasbourg, Paris.
Lalande, M., 95, boul. Richard Wallace, Puteaux (Seine), France.
Lausch, C., Apostel Paulusstr. 26, Schöneberg bei Berlin.
Lavini & Rampone, corso Vittoria Emanuele 73, Turin.
Lebrun, T., 63, rue des Archives, Paris.
Le Carbone Akt. Ges., Gutlenstr. 144, Frankfort-a.-M.
Lefranc, J. B., 109, faub. du Temple, Paris.
Lehmann, L., Lausitzerstr. 24, Berlin, S.O.
Lehmann & Co., 18, Gumpendorferstr., Vienna VI.
Leidel, J., Duisberg, Germany.
Leppin & Masche, 17, Engelufer, Berlin, S.O. 16.
Lévy, Jacques, 4, Impasse Dudouy, Paris.
Lion & Hesse, 12, rue Martel, Paris.
Longueval, E., rue de Theatre, 8, Brussels.
Lorry & Cie., 13, rue de Béarn, Paris.
Lüdenscheider Metallwerke Akt. Ges. Jul. Fischer & Basse, Lüdenscheid, Germany.
Luppens, H., & Co., boul. du Nord 151; & rue Neuve 144, 146, 148. Works: rue Danemark, Brussels.
Lussmann, J. H. Sohne, 39, Langestrasse, Frankfort-on-the-Main.
Luther, Martin, Place Puy, Neuchâtel, Switzerland.
Magrini, L., Bergamo, Italy.
Malenchini, Ing. C. & C., via Cavour 42, Florence, Italy.
Maljournal & Bourron, 128, ave. Thiers, Lyon, France.
Manteau, A., rue Tête d'Argent 7, Tournai.
Manterola & Co., Avenida 12, San Sebastian, Spain.

Apparatus Makers—Electrical—*continued.*

Manufacture Parisienne d'Appareillage, 14, rue Commines, Paris.
Marcucci, D., Leghorn, Italy.
Masaven & Ca., Cimadevilla, Oviedo, Spain.
Massieu, F., Casteljaloux (Lot-et-Garonne), France.
Masson, G., 11, rue Marcellin-Berthelot, Montreuil, France.
Medel Prieto, G. F., S. Juan de los Reyes 12 & 14, Málaga, Spain.
Melgaard, A., Nykjöbing, Falster, Denmark.
Meunier, H., 19, route de Flandre, La Courneuve (Seine), France.
Meyer, Dr. Paul A. G., Lynarstr. 5–6, Berlin, N.
Meyer-Frey, H., Friedberger Landstr. 32, Frankfort-on-M.
Michaelis & Eggerding, 8–9, Andreaestr., Hanover, Germany.
Michelin, A., 115, rue de Bagnolet, Paris.
Miguel & Carreño, Campillo de San Andrés 4, Valladolid.
Mijois & Cie., 10, ave. de l'Alma, Paris.
Minuth, Herm., 90, Ritterstr., Berlin, S.
Moralli, G., & Co., 24, via L. Palazzi, Milan.
Mornat, Genteur et Cie., 77, rue Charlot, Paris.
Moye, Otto, Pirnaische Str. 16, Dresden, A.
Muller, Louis, Löber-Ring 3, Erfurt, Germany.
Muller, Th., Zerbst-i-Anh., Germany.
Müller & Brandes, Echternstr. 34, Ecke Sonnenstr., Brunswick, Germany.
Muller, F., & Co., Kurfürstenstr. 32, Berlin, W.
Nalinne & Cie., rue de la Chaussée 80, Mons, Belgium.
Neyer & Lorenz, Neue Mainzerstr. 18, Frankfort-a.-M.
Niemann, C., & Co., 16, Kommandantenstr., Berlin.
Nissl, F., VII. Kaiserstr. 89, Vienna.
Noll, O., Ritterstr. 2A, Berlin, S. 42.
Nostitz & Koch, Zwickauerstr. 58, Chemnitz, Saxony.
Nouzillet, E., rue de Rome 78, Paris.
Ochs, J., Lenaustr. 61, Frankfort-on-Main, Germany.
Ochse, Louis, Köln a/Rhein, Germany.
Oehlmann, Karl, G. m. b. H., Rixdorf, Berlin.
Officina Co-operative Manfredini, via Melzo 13, Milan.
Officina Elettrica Volta, Dirisi 88–90, Palermo.
Officina Elettromecanica, Romeno, Trentino, Austria.
Ohl, G. E., Hamburg, Germany.
Olaya, M., San Vicente 95, Valencia.
Olivier, C., & Cie., Ornans (Doubs); & at Besançon, France.
Ornstein, L., calle Mariana Pineda 5, Madrid.
Palm, F., Nurnburg, Germany.
Pekrun Maschinenfabrik, Gluhöfen, Coswig-Kötitu, Germany.
Perache, L., 6, rue du Temple, Auxerre (Yonne), France.
Pereira, João, rua D. Pedro V. 142, Lisbon.

Apparatus Makers—Electrical—*continued.*

Pernet, A., 16, rue des Minimès, Paris.
Pesnell, V., & Cie., 61, boul. Magenta, Paris.
Peter, Albert, Kotzschenbroda, Saxony.
Petri & Dalheim, Wilhelmstr. 44, Berlin, W.
Pilate, J. A., 29, rue du Marché, Brussels.
Pillet, Viuda de, San Fernando 26, Alicante, Spain.
Plum, P. J., passage Lemonnier 33, Liége, Belgium.
Poesio, J., corso Principe Oddone 19, Turin.
Pogliaghi, R., 29, via S. Sofia, Milan.
Polyphos Electricitäts Gesellschaft, Munich, Germany.
Pomnier, L., La Tour du Pin (Isère), France.
Potron, E., 40, ave. de la Republique, Paris.
Preuss, Ferd., 7, Wassergasse, Vienna III/1, Austria.
Prudence, M., 26 & 28, rue Bréguet, Paris XI.
Rassart, C., rue Marcinelle 12, Charleroi, Belgium.
Rassmus, Fr., Magdeburg, Germany.
Reininghaus, Fr. & Sohn, Hagen-i-W., Germany.
Renoitre, F., rue Charles II. 8, Charleroi.
Rey, Ch., & Cie., Canal d'Hauswyck 28–29, Malines.
Righini & Finetti, via Ospedale 14, Milan.
Risacher & Hebert, 58, boul. Pasteur, Paris.
Ritter & Ullmann, 4, Clarastrasse, Basle, Switzerland.
Robert, M., 8, via del Giglio, Florence, Italy.
Roger, H., 168, rue St. Maur, Paris.
Roger, M., 41 bis, boul. Voltaire, Paris.
Rohrbeck, Dr. Herm., Karlstr. 20A, Berlin.
Roussel & Rebufat, 7, rue d'Italie, Marseilles, France.
Roux, L., 83, rue du Temple, Paris.
Sacré, Ed., Chaussée de Wavre 56, Brussels.
Salviati & Co., Venice.
San Roman, A., Fontan, Oviedo, Spain.
Sanford, Herederos de, Fuencarral 147, Madrid, Spain.
Sansenschmidt, M., Blücherstr. 25, Frankfort-a.-M.
Scaglione, G. L., piazza Carlo Felice 1, Turin.
Schanzenbach, G., & Co. (Kom. Ges.), Bockenheim, Frankfort-on-Main.
Schassmann & Cie., Zurich IV.
Scheiber & Kwaysser, XII/2 Korberg. 10, Vienna.
Schierloh & Knüppel, 75, Rödingsmarkt, Hamburg.
Schlothauer, C. & F., G. m. b. H., Ruhla-i-Th., Germany.
Schmidt, J. H., Söhne, Iserlohn, Germany.
Schmidt, Th., Sebastianstr. 81, Berlin, S.
Schmidt & Wildt, 50, Kommandantenstrasse, Berlin.
Schniewindt, C., Neuenrade, Westphalia, Germany.
Schuch, Adolf, Worms a Rh., Germany.
Seifert, R., & Co., Behnstr., Hamburg.
Servole, Viuda, Corders 6, Barcelona.
Siemens-Schuckert Werke G. m. b. H., Bingerstr. 2, Mainz.
Sinigaglia, S., & Cia., via Andrea Doria, No. 8, p. 1°, Turin.

Apparatus Makers—Electrical—*continued.*

Sociedad Técnica, Cortes 547, Barcelona.
Società Anon. Besozzi, 14, via Pietro Verri, Milan, Italy.
Società Anon. Materiale Eletrico, 29–31, via Solferino, Milan.
Società Italiana Siemens, via Pietro Micca 8, Turin.
Società Piedigrotta, Girgenti.
Société Anonyme de Constructions d'Appareils Electriques, St. Chamond (Loire), France.
Société Anon. des Anciens Etablissements Jaeggé, 97, ave. de Choisy, Paris.
Sté. Ane. La Electro-Mecanica, ruc Valverde 5, Madrid.
Société Anonyme pour la Fabrication d'Appareils d'Éclairage, 468, rue St. Léonard, Liége, Belgium.
Société Correzienne d'Electricité, 16, ruc Carnot, Brive (Correze), France.
Société d'Appareillage Electrique et Industriel, ruc Brogniez 130, Brussels.
Société de Constructions Electriques et Mécaniques, 19, quai de la Marne, Joinville le Pont (Seine), France.
Société d'Electricité Nilmelior, 47, 49 & 51, rue Lacordaire, Paris.
Société des Etablissements Henry Lepaute, 132, avc. dc Wagram, Paris.
Société Générale d'Appareilage Electrique, 28, rue de Trévise, Paris.
Société Industrielle d'Articles d'Eclairage, 15, boul. Richard Lenoir, Paris.
Société Lacarrière, 53, rue de Chateaudun, Paris.
Société pour la Fabrication des Compteurs, 2, place Charles Albert, Nice.
Sprecher & Schuh, Aarau, Switzerland.
Stobwasser, C. H., & Co., Wilhelmstr. 42A, Berlin, S.W.
Sudicatis, Ludw., & Co., 12–14, Alt Boxhagen, Rummelsburg bei Berlin, O.
Svendsen, E. & M., Christianssand, Norway.
Tacchi, P. A., Nachfolger, Zeil 44, Frankfort-a.-M.
Tapia y Hermano, Salmeron 77, Linares (Jaen), Spain.
Technisk Bureau (Wisbech & Meinich), Christiania, Norway.
Thiercelin Frères, 35, rue de la Tour d'Auvergne, Paris.
Thierry, Wierre et Cie., 9, rue des Mathurins, Paris.
Tichonoff, J., 71, rue Boursault, Paris.
Tissot, L., & Raibaud, L., 25, rue de la République, Marseilles.
Tolzmann & Co., Am Weidendamm 1, Berlin.
Torti & Co., via Largo 11–13, Milan.
Treuer, R., 41, Mohrenstr., Berlin, W.
Trolliet Frères, Square du Stand, Geneva.
Trondhjems Electric Bureau, Trondhjem, Norway.
Ullmann, A., Bamberg, Bavaria.
Ungarische Metallwaaren und Lampen Fabriks, Akt. Ges., Erzsébettér 16, Budapest V.

Apparatus Makers—Electrical—*continued.*

Unger, Paul, Naumburgerstr. 38, Leipzig-Plagwitz.
Urtis, Cesare, & Co., via XX Settembre 22, Turin, Italy.
Vagt, H. G., 8, rue d'Autriche, Brussels.
Van den Abeele, F., 339, rue de Progrès, Brussels, Belgium.
Vangrinderbeek, J., rue de Namur 23, Louvain, Belgium.
Vanossi & C., via Francesco d'Assisi 8, Milan, Italy.
Varret, R., 39, rue Rivay, Levallois-Perret (Seine), France.
Vedovelli, Priestly & Cie., 160, rue St. Charles, Paris.
Vereinigte Electricitäts Actien Gesellschaft, Gudrunstr. 187–189, Vienna X.
Vereinigte Electricitätswerke Akt. Ges. vorm. Oscar Beyer, Dresden, A.
Verguet, V., 170, ave. des Batignolles, St. Ouen (Seine), France,
Verrier & Lebrun, 9, rue Meslay, Paris.
Vielhaben, Gebr., 23 & 27, Hasselbrookstr., Hamburg.
Visconti, J., Bailen 14, Alicante, Spain.
Voigt & Häffner, A. G., Bockenheim, Frankfürt-a.-M.
Vojave, L., place de Brouckère 39 & 45, Brussels, Belgium.
Von der Heyde, Glogauerstr. 21, Berlin, S.O. 36.
Von Terpitz & Wachsmuth, 58, Bülowstr., Berlin, W.
Wanner Frères, 27, Terrassière, Geneva, Switzerland.
Wauthier, J., rue Eugène Simonis 26, Liége, Belgium.
Way, Luigi, via Barolo, Turin.
Weiner, G., 200, Friedrichstrasse, Berlin, S.W., Germany.
Weinlich, C., Strada Berzei 9, Bucarest, Roumania.
Weiss, Eugen, innere Johannisstr. 16, Chemnitz, Germany.
Weiss & Schwarz, Petersplatz 7, Vienna I., Austria.
Welter Electricitäts & Hebezeugwerke, Köln-Zollstock.
Wetzchewald & Wilmes, Neheim a. d. Ruhr., Germany.
Wiegel, Fritz, 70, Tilsiterstr., Berlin, O.
Wingers Elektr. Vaerksted, 40, Möllergaden, & 9, Pilestraedet, Christiania.
Winter, C., Brunswick.
Wisbech, C., Christiania, Norway.
Wissenschaftl. Institut für Laboratoriums-Bedarf, Ludwig H. Zeller, Leipzig, Saxony.
Zander, A., 21, Alte Mainzergasse, Frankfurt-am-Main, Germany.
Zeller, Ludwig H., Leipzig, Saxony.
Zellweger, A., & Co., Uster, Switzerland.
Zulauf & Co., Hochst-am-Main, Germany.

Arbitrators—Electrical & Mechanical.

F.—Arbitres—d'Electricité et de Mécanique.
G.—Schiedsrichter—Elektr. & Mech.

Wilking, Franz, Potsdamerstrasse 130, Berlin, W. 9, Germany.

Arc Lamp Manufacturers—Electric.

F.—Lampes à Arc—Fab. de.
G.—Bogenlampen—Fab. von.

Aubert, C., 41–43, ave. Sainte Foy, Neuilly-sur-Seine, France.
Bardon, L., 61, boul. National, Clichy (Seine), France.
Becker, Hans, Neuerwall 40 I., Hamburg, Germany.
Bellardent & Cie., 8, boul. d'Asnières, Villeneuve la Garenne (Seine), France.
Bénard, L., 11, boul. Montmartre, Paris.
Berliner Bogenlampen-Werkstatten, A. Seefeldt & Co., Neue Schönhauserstrasse 5, Berlin, Germany.
Bisson, Bergès & Cie., 7 bis, rue Chevallier, Levallois-Perret, France.
Boulade, L. & A., Frères, 4–8, Chemin St. Gervais, Lyon-Monplaisir (Rhône), France.
Brianne, —, Maison Bisson, Bergès et Cie., 8, rue de Rocroy, Paris.
Brianne, Lucien, 10, rue Alibert, Paris.
Brillie Frères, 28–30, boul. de Villiers, Levallois-Perret (Seine), France.
Cance Fils & Cie., 5, rue St. Vincent-de-Paul, Paris.
Carbone-Licht Gesellschaft m. b. H., 80–85, Lehderstr., Berlin-Weissensée, Germany.
Chauvin & Arnoux, 186, rue Championnet, Paris.
Cibie, 182, boul. de Villette, Paris.
Compagnie des lampes à arc "Jandus," 35, rue de Bagnolet, Paris.
Compagnie des Lampes Hegner, 26, rue Cadet, Paris.
Compagnie des Petites Lampes à Arc Lumière, 13, rue Amedée Bonnet, Lyon (Rhône), France.
Cotis, A., 207, faub. Saint Martin, Paris.
Dansk Aktieselskab Siemens-Schuckert, Palegade 6, Copenhagen, K.
Deutsche Beck-Bogenlampen Gesellschaft, 30, Elbestrasse, Frankfort-on-Main, Germany.
Deutsche Bogenlampen Industrie Gesellschaft m. b. H., Belle Alliancestrasse 92, Berlin, S.W. 61.
Ducellier, G., 25, passage Dubail, Paris.
Elektricitäts Gesellschaft Sirius, G. m. b. H., Leipzig, Saxony, Germany.
Elektrische Bogenlampen & Apparate Fabrik, G. m. b. H., Nurnberg, Bavaria, Germany.
Etablissements Gallois, 104, rue de Maubeuge, Paris.

Arc Lamp Manufacturers—Electric—*continued.*

General Electric Light & Power Co. of Russia (système Swan), St. Petersburg.
Hegner, H., 15, rue Magenta, Asnières (Seine), France.
Hopfer, Aug., & Eisenstuck, Leipzig, Saxony, Germany.
Jandus, 35, rue de Bagnolet, Paris.
Knorr & Hempel, Plauenstr. 33, Dresden-Altst, Germany.
Lemerle, H., 59, rue de la Roquette, Paris.
Leperche & Cie., 26, rue de Navarin, Paris.
Locarno, E., & Co., 7, via Dante, Gallarate, Milan, Italy.
Mermod Frères, Ste. Croix, Switzerland.
Metallwerke Bruno Schramm, Gesellschaft m. b. H., Erfurt-Ilversgehofen, Germany.
Mondos, R., 56, rue Notre-Dame de Lorette, Paris.
Piette & Krizik, Pilsen, Bohemia.
Prinz, Dr. Aug., & Co., 35, Hauptstrasse, Baumgarten, bei Vienna, Austria.
Quarzlampen Gesellschaft m. b. H., Spandauerstrasse 40, Berlin-Pankow II., Germany.
Regina-Bogenlampenfabrik G. m. b. H., Cologne-Sülz, Germany. (Telegs.: "Regina, Cologne." Teleph. No. 1081. A.B.C. Code.)
Renaud, Levêque & Cie., 37 & 39, rue Jean Jacques Rousseau, Paris.
Riha, Rud., 18, Elisabeth-ufer, Berlin, S.O. 26, Germany.
Schwarz, August, Ziegelhüttenweg 39, Frankfort-on-the-Main.
Schwerd, L. E., Karlsruhe, Baden, Germany.
Siva Lampe G. m. b. H., Berlinerstr. 169, Gr. Lichterfelde-Ost-Berlin.
Società Italiana Lampade ad Arco e Impianti Elettrici, Accomandita Semplice, Ing. R. Colombo & Co., corso Umberto 255, Rome.
Société Anonyme des Lampes Electriques à Arc (Système Hegner), Place des Barricades 2, Brussels.
Société Anonyme "Ever," 34, rue Kleber, Levallois-Perret (Seine), France.
Société des Lampes à Arc Volta, 182, boul. de la Villette, Paris.
Société pour l'Exploitation de la Lampe à Arc "La Moderne," 123–125, rue St. Maur, Paris.
Taequet, P., 12, rue Dufour, Amiens, France.
Weinert, K., Muskauerstr. 24, Berlin, S.O. 33, Germany.

Arc Lamp Fittings.

F.—Accessoires pour lampes à arc.
G.—Bogenlampen Einrichtungen.

Berliner Armaturen und Beleuchtungs Industrie Gebrüder Israel, Ritterstrasse 11, Berlin, S. 42, Germany.

Arc Lamp Fittings—*continued.*

Berliner Kronleuchter Fab. Gebr. Jonas, Adalbertstr. 30, Berlin, S.O. 26.
Cordes & Co., Kopenickerstr. 55, Berlin, S.O.
Stralsunder Bogenlampenfabrik G. m. b. H., Stralsund, Germany.

Arc Lamp Globes.

F.—Globes en verre pour lampes à arc.
G.—Bogenlicht Glocken—Fabr. von.

Société du Verre Étiré, 10, rue Thimonnier, Paris.
Wolff, S. N., & Co., Beuel-Bonn, Rheinland, Germany. (Telegs.: "Wolff, Beuel-Bonn.")

Armoured Cables & Wires—Makers of.

F.—Cables et fil armés—Fab. de.
G.—Gepanzerte Draht & Kabel—Fab. von.

Deutsche Kabelwerke Akt.-Ges., Berlin-Rummelsburg.

Art Metal Workers & Artistic Fittings —Makers of.

F.—Artistes d'ouvrages metalliques et montures artistiques—Fab. de.
G.—Kunst Metall Arbeiter und Künstlerische Einrichtungen—Fab.

Armbrüster Gebrüder, Gutleutstr. 296, Frankfort-on-the-Main.
Calm & Bender, Gitschinerstr. 64, Berlin, S., Germany.
Schutte, J., Wipperfurth, Rheinland, Germany.

Asbestos Manufacturers & Merchants.

F.—Amiante—Fab. et Marchands d'.
G.—Asbest—Fab. und Händler.

Asbest & Gummiwerke Alfred Calmon, A. G., Hamburg.
Aymonino, A., via Roma 4, Turin.
Baravalle, E., via Venti Sett. 58, Turin.
Bender & Martiny Asbestos & India Rubber Works, Ltd., via Pietro Micca, Turin.
Bernouilli, E. C., 7, Piazza S. Martino, Turin, Italy.
Cape Asbestos Co., Ltd., Turin.
Compagnie Française de l'Amiante du Cap Asbestos, 11, rue de la Cerisaie, Paris.
Frankfurter Asbestwerke Akt. Ges. vormals Louis Wertheim, Frankfort-a.-M.
Frobeen, L., 15, Hedemannstr., Berlin, S.W.
Hamelle, 21, quai Valmy, Paris.
Wohanka & Co., IX. Währingerstr. 2, Vienna, Austria.

Assay Office & Laboratory Apparatus Makers.

F.—Bureau d'essai & fabricants d'appareils de laboratoire.
G.—Versuch's Bureau & Verfertiger von Werkstätten-Apparate.

Wissenschaftl. Institut für Laboratoriums-Bedarf, Ludwig H. Zeller, Leipzig, Saxony.
Zeller, Ludwig H., Leipzig, Saxony.

Assayers.

F.—Essayeurs.
G.—Anlasser—elektrische.

Zeller, Ludwig H., Leipzig, Saxony.

Automatic Cut-Outs.

F.—Coupe-courant-automatique.
G.—Automatische Ausschalter.

Firchow, Paul (Nachfolger), Belle Alliancestr. 3, Berlin, S.W. 61.

Automatic Electric Signalling Apparatus Makers.

F.—Appareils elec. de Signaux automatiques—Fab. d'.
G.—Automatische Electr. Signal Apparate—Fab. von.

Adler, W. H., & Co., Rothenhofgasse 34 & 36, Vienna X., Austria.
Dinter, O., Crimmitschau, Saxony.
Jungbauer, W., Prachatitz, Böhmerwald, Austria.
Mildé, Ch., Fils et Cie., 56, rue Desrenaudes, Paris.
Winckler & Fischinger, 17, Jordanstr., Dresden, Saxony.

Automatic Regulators—Makers of.

F.—Regulateurs autom.—Fab. de.
G.—Automatische Regulatoren—Fab. von.

Ateliers, H. Cuénod, S.A., Chatelaine, nr. Geneva, Switzerland.

Balance (Induction) Makers.

F.—Balances (Induction)—Fab.
G.—Waagen—Fab. (Induktion).

Wissenschaftl. Institut für Laboratoriums-Bedarf, Ludwig H. Zeller, Leipzig, Saxony.
Zeller, Ludwig H., Leipzig, Saxony.

Batteries—Dry.

F.—Piles—sèches.
G.—Batterien—Trockene.

Accumulateur Sec, L', Soc. Anon., rue Bonneels 13, Brussels.
Braune, G., Katzbachstr. 24, Berlin.
Doumass, G., Gross Lichterfeld I., Berlin.
Friese, A., Waldemarstr. 34, Berlin, S.O.
Galvanophoren - Werke (System Vogt), Erdmannstr. 12, Berlin-Schöneberg.

Batteries—Dry—*continued.*

Hellesens Enkc & V. Ludvigsen, 6, Aldersrogade-str., Copenhagen, Denmark.
Lax, Hermann, G. m. b. H., Köpenickerstr. 121A, Berlin, S.O.
Liman & Oberlaender, No. 12, Wohlertstr., Berlin, N.
Miller, H., Hazebrouck (Nord), France.
Schwarzwälder, Carl, Chausseestr. 306, Mariendorf-Berlin.
Société Electrique Hydra, 40, rue Condorcet, Paris.
Szubert, S., Commandit-Gesellschaft, Kronprinzenstr. 10, Nieder-Schönhausen, Germany.
Thiry, F., Pecq, Belgium.
Wormser, 29, rue Fessart, Paris.

Batteries—Galvanic.

F.—Piles galvaniques—Fab. de.
G.—Galvanische Batterien.

Aktiengesellschaft vorm. J. C. Spinn & Sohn, Wassertorstr. 9, Berlin, S.
Archat, P., 14, rue St. Victor, Paris.
Audoin, —, 12, rue St. Gilles, Paris.
Bazin, F., 34, rue Rébeval, Paris.
Chameroy, E. & A., 89, ave. Centrale, Le Vésinet, Seine-et-Oise, France.
Elektrotechnische Fabrik Schmidt & Co., 88, Chausseestr., Berlin, N. 39.
Estève, —, La Réole, France.
Fabrik Galvanischer Elemente Hermann Groenweld, Prinzenstr. 23, Berlin, S. 42.
Guérin, Ch., 74, boul. Malesherbes, Paris.
Heller, Fred., 12, Vordere Sterngasse, Nuremberg, Germany.
Kayser, L., 11, rue des Petites-Ecuries, Paris.
Leclanché et Cie., 114, boul. Malesherbes, Paris.
Lenoir & Forster, Waaggasse 5, Vienna IV., Austria.
Michel, Léon, 65, boul. de Strasbourg, Paris.
Poulain, A., & Fils, Route Nationale, 5 et 9, Charleville (Ardennes), France.
Poyet, A., rue de Vaugirard 313, Paris.
Rebicek, Gust., 333, Krocingasse, Prague I., Austria.
Société du Verre Étiré, 10, rue Thimonnier, Paris.
Stiepel, Ernesto, Avemaria 52 Dupldo, Madrid.
Stiepel, R., & Weimann, via Savona 5 & Viale Magenta 70, Milan, Italy.
Swierczynski & Kass, 119, Ritterstrasse, Berlin, S.
Tudor, Henri, Château de Rosport, Grand Duché de Luxembourg.
Warbrum, Quilitz & Co., Heidestr. 55–57, Berlin, N.W.

Batteries—Portable.

F.—Piles portatives.
G.—Batterien—Tragbare.

Société du Verre Étiré, 10, rue Thimonnier, Paris.

Batteries—Primary.

F.—Piles électriques primaires.
G.—Batterien—Primäre.

Bouin, E., 6, rue de Bellevue, Les Lilas (Seine), France.
Clarenc, E., fils, 81, rue Vincingetorix, Paris.
Columbus Elektrizitäts Gesellschaft, Ludwigshafen-a-Rh., Germany.
Delafon, P., 128, rue de la Convention, Paris XVe.
Demarty, ave. de Royat, Clermont-Ferrand (Puy-de-Dôme), France.
Durant, Vve., 45, rue Victor Hugo, Grand Montrouge (Seine), France.
Graff, P., 1, rue St. Anastase, Paris.
Haag, J., 42, rue du Château d'Eau, Paris.
Hydrawerk, Dr. Louis Röder, Zieglergasse 7, Vienna VII.
Malapert, L., 10, Cité Trevise, Paris.
Noizette, E., 16, ave. d'Orléans, Paris.
Perrin, A., & Cie., 9, rue des Flanes Bourgeois, Paris.
Picard, L., suc. P. Fayet, 62, rue Charlot, Paris.
Silicia Pile, 8, rue Château Laudon, Paris.
Société Parisienne d'Electricité, 19, rue Cail, Paris.
Tardy, A., 17, faub. St. Jacques, Valence (Drôme), France.

Batteries—Storage.

F.—Accumulateurs—Fab. de.
G.—Batterien-Accumulator—Fab. von.

Accumulatoren Fabrik Aktiengesellschaft Zweigniederlassung in Oerlikon, Oerlikon, bei Zürich, Switzerland.
Caillard, M., 7, rue de Courcelles, Levallois-Perret (Seine), France.
Engl, M., 13, Elisabethstr., Vienna I.
Hensemberger, G., Monza, Italy.
James, L., Thury-Harcourt (Calvados), France.
Millet, F. T., Persan (Seine-et-Oise), France.
Schlesische Accumulatoren-Werke A.G., Canth Krs. Neumarkt, Germany.
Schweizerische Akkumulatoren Aktiengesellschaft, Marly bei Freiburg, Switzerland.
Società Industriale Italiana Dora, Alpignano, Turin, Italy.

Battery Accessories—Makers of.

G.—Fournituren für Batteriefabrikation.

KLAAR & SCHULTZ, Waldemarstr. 14, Berlin, S.O. 26.

Battery Jar Manufacturers.

F.—Vases pour piles elec.—Fab. de.
G.—Trockenelement Gefass—Fabrikanten.

Brandenburger, C. A. O., Kaiserweg 1, Niederschönhausen, Germany.
Ceramiques Industrielles, 155, faub. Poissonnière, Paris.

Battery Jar Manufacturers—*continued.*

Moreau-Hubert, Ed., Fresnes-sur-Escaut, Nord, France.
Reiher & Co., Kohlfurt, Germany.
Rörstrands Aktiebolag, Korstrandsg., Stockholm, Sweden.
Schienau Gebruder, Hüttenbsteinach, Thuringia, Germany.

Battery Plates—Makers of.

F.—Plaques d'accumulateurs—Fab. de.
G.—Batterien-platten—Fab. von.

Bell Fitters & Contractors—Electric.

F.—Sonneries Élec.—Poseurs et Entrepreneurs de.
G.—Electrische Glocken—Einrichter u. Unternehmer.

Aldrovandi, C., & Co., via Romei, Ferrara, Italy.
Antonich, G., via Nazareth, Barletta, Italy.
Barborini, Cesare, Strada Carallotti 12, Parma, Italy.
Benevelli, Felice, via Farini, Modena, Italy.
Dellacasa, G. B., Vico Garibaldi 12R, Genoa, Italy.
Demblon & Verset, 16, rue Gérard, Antwerp, Belgium.
Dissera, G., & Figlio, corte Contarina 1563–1564, Venice.
Falcetti, B., Pavia, Italy.
Fornari, M., corso Carlo Alberto 93, Vercelli, Italy.
Lacoppe Frères, 2, quai Saint Léonard, Liége, Belgium.
Mallo & Panagini, via St. Gaudenzio, Novara, Italy.
Margeot, D., 2, passage de l'Industrie (faub. St. Martin), Paris.
Milani, Dante, strada Garibaldi 25, Parma, Italy.
Mongini, Luigi, via Tritone 63 & 64, Rome.
Piroul, P., 54, rue de la Caserne, Brussels.
Rolland, P., rue Championnet 240, Paris, 18e.
Seppilli, Icilio, Piazzi Garibaldi 9, Ancona, Italy.
Strasser & Rohde, Glashütte, Saxony, Germany.
Straus, A., 28, rue de la Cathédrale, Liége, Belgium.
Vallebella, G., Vico del Duca 35 rosso, Genoa, Italy.
Wust, L., 4, rue de Boussu, Mons, Belgium.

Bell Fittings Makers—Electric.

F.—Montage pour Sonneries Electriques—Fabricants de.
G.—Klingelteile elek.—Fabrikanten von.

Bouquiaux, A., rue de Flandre 40, Ghent.
Bourgeois, J., Galerie du Roi 14, Brussels.
Brand, G., Pont de Meir 2, Antwerp.
Ducarnory, Guche, Boulogne-sur-Mer, France.
Escrinier, J. J., 7, rue Wynants, Brussels.
Felten & Guilleaume Lahmeyerwerke Act. Ges., Carlswerk, Mulheim-am-Rhein, Germany.

Bell Fittings Makers—Electric—*continued.*

Kressman, C., Boppstr. 6, Berlin, S.
Lisambert, —, Arras, France.
Simon, B. B., Ritterstr. 76, Berlin, S.W.
Wolff, S. N., & Co., Beuel-Bonn, Rheinland, Germany. (Telegrams: "Wolff, Beuel-Bonn.")

Bell Fittings Makers (Electric)—China.

F.—Montage pour Sonneries Electr. Porcelaine—Fab. de.
G.—Klingelteile—elek. Porzellan—Fabr. von.

Fuisseau, F. de, Baudour, Belgium.

Bell Founders—Electric.

F.—Sonnettes électriques—Fondeurs de.
G.—Glockengiesser—Electr.

Pierret et Quellier, 37, rue Meslay, Paris.
Ziegenspeck, O., 56, Kommandantenstr., Berlin, S.

Bell Manufacturers—Electric.

F.—Sonneries Électriques—Fab. de.
G.—Electrische Glocken—Fab. von.

Allaire, P., rue St. Martin 227, Paris.
Ambrosius & Co., Oberweg. 20, Frankfort-a.-M.
Arioli, F., corso Vittorio Emmanuele, 78, Turin.
Axters-Tremmery, R., 30, rue Haute, Bruges.
Baron Frères, 49, rue Paulin, Bordeaux, France.
Battocchi, Cav. G. B., via Amanti 15, Verona, Italy.
Beafre & Figli, 4974, St. Zaccaria fond Ormarin, Venice.
Becker, Albert, Magdeburg, Germany.
Behrens, P., Berlin, W. 57.
Benzoni, J., 53, rue du Stand, Geneva, Switzerland.
Bertaud, P., 18, rue d'Aboukir, Paris.
Biedermann & Czarnikow, 7, Kreuzbergstr., Berlin, S.W.
Blosse Fils, 10 & 12, rue Michel-Ney, Nancy (Meurthe-et-Moselle), France.
Bolte, J. F., via C. Colombo 101, San Pier d'Arena, Italy.
Bos, N., & Cie., 6, rue Croix de Seguey, Bordeaux, France.
Bossmann, M., rue St. Gommaire 46, Antwerp.
Bozzetti, Pietro, Intra.
Cesare, Parenti, via del Can Bianco 10, Pistoja, Italy.
Charmoy, —, 72, rue Lauriston, Paris.
Charvin, Ch., 91 bis, rue Sainte Croix, Bordeaux.
Cipollina, N., via S. Giuseppe 29R, Genoa, Italy.
Cornette, H., 24, rue Michel Lecomte, Paris.
Daunesse, place Lonné, Dax (Landes), France.
Davin, —, 8, rue Moustier, Marseille, France.
De Bavay, V., rue Pachéco 35, Brussels.
Delforge, Ch., 6, rue Albouy, Paris.
Dellacasa, Giuseppe, Vico Carlone 3, Genoa, Italy.
Ducastel-Blandin, 61, rue Nationale, Lille.
Ducatel, —, Saint-Omer, France.

Bell Manufacturers—Electric—*continued.*

Dumartheray, E., 3, rue Pradier, Geneva, Switzerland.
Ego, H., rue de Brabant 28, boul. de l'Escaut, Ghent.
Eichapfel, B., Dresden.
Esnault, —, 20, rue des Ursulines, Le Mans (Sarthe), France.
Fernon, Tonnerre, France.
Fiocca, Alfonso, Catanzaro, Italy.
Font, Federico, rambla del Centro, 17, Barcelona, Spain.
Fontana, A., via ai Quattro Canti di S. Francesco 43, Genoa, Italy.
Frezoul, 11, rue de Thorigny, Paris.
Friant, —, 26, rue Jeanne-d'Arc, Nancy, France.
Friart, J., 8, rue Simonis, Brussels.
Ganelli, Ernesto, via Venezia 2, Cremona, Italy.
Garnier, P., 9, rue Beudant, Paris.
Gauthron-Petit, 3, rue de Remigny, Nevers, France.
Geisse, R. & T., Waldschmidtstr. 17, Frankfort-a.-M.
Geniets, A., rue de Brabant, 14, Ghent.
Gibert Fils, 17, rue du Soleil, Angoulême, France.
Gischler, Jean, 52–56, Gr. Bockenheimerstr., Frankfort-on-Main, Germany.
Grothe, A., & Söhne, Vondelstr. 35, Cologne, Germany.
Guérin, Ch., 74, boul. Malesherbes, Paris.
Halvich, C., Docelles (Vosges), France.
Hess, A. C., Holzgraben 3, Frankfort-on-Main, Germany.
Holsts, Filial, Malmö, Sweden.
Houard, L., & L. Brossier, ave. de Choisy 178, Paris.
Janssen & Fügner, Hanover.
Jessel, J., Langestr. 25, Frankfort-on-M.
Kehl, K., Schafergasse 17, Frankfort-on-M.
Laisné, L., 12, rue Tournefort, Paris.
Lang, Chas., & Co., 16, Bruckenstr. 13A, Berlin.
Legrand, M., Mortagne (Orne), France.
Lemoine, J. & A. Jacob, 1 & 5, boul. Carnot, Mézières, France.
Lindelöf, J. & C., Lund, Sweden.
Linsenbarth, C., Eisenach, Thür.
Mayerhoffer, Peter, Ovada u. 40, Budapest VII.
Maraval, A., 7, cours Lieutaud, Marseille, France.
Martin, J., 26, rue Pepin, Brussels.
Maschinenbau Actiengesellschaft, vormals Breitfeld, Danek & Co., Carolinenthal, Prague, Austria.
Maudemain, rue du Rempart St. Etienne, Toulouse, France.
Maury, P., 21, rue du Chateau d'Eau, Paris.
Mehne, I. G., Schwenningen (Württemb. Schwarzwald), Germany.
Metallwaaren, Glocken & Fahrradarmaturenfabrik A. G., vorm. H. Wissner, Mehlis, Thur.
Moorthamers, B., Rempart St. Catherine 16, Antwerp.
Mors, L., 8, rue des Marronniers, Paris.
Née, Ernest, 47, rue du Montparnasse, Paris.

Bell Manufacturers—Electric—*continued.*

Neveux, —, 15, rue de la Boëtie, à Perigueux (Dordogne).
Ollagnier, L., 93, rue du Rocher, Paris.
Pallier, 36, rue de Dunkerque, Paris.
Pelletier, L., Fils, 169, rue de la Pompe, Paris.
Perilli, A., via 4 Canti di S. Francesco 43, Genoa, Italy.
Perlasca, Erede, corso Vittorio Emmanuele 37, Pavia, Italy.
Persoons, A., place de Meir 58, Antwerp.
Petit, J. L., rue Anselmo 78, Antwerp.
Pile, E., 24, rue de la Perle, Paris.
Piret, J., 51, rue Mouffetard, Paris.
Poncet & Lacroix, 5, rue de Condé, Lyons, France.
Radi, L., 40, rue Pascal, Paris.
Raekelboom, J., 19, terrasse Sainte Catherine, Lille, France.
Ramberg & Bauer, Gothenburg.
Rastoul, —, 50, rue Alsace Lorraine, Toulouse, France.
Reiner, Fred., Johnstrasse 38, Munich, Germany.
Renault, E., 18, rue Gambetta, Nevers, France.
Respen, L., place de Malines 15, Antwerp.
Richard, V., 48, rue de l'Université, Paris.
Rœvens, —, 90, boul. Menilmontant, Paris.
Rosatti, Ferdinando, via del Gambero 16, Rome.
Rosiers, D., 3, rue Saint Vincent, Nogent sur Marne, France.
Rouchand, Fernando, via La Marmora, Turin.
Rozier, 5, rue Saint Augustin, Paris.
Sangalli, Luigi, via P. Vittoria 44, Milan.
Schaeffer, Aug., Moselstr. 40, Frankfort-a.-M.
Schaub, G. R., Weberstr. 151, Frankfort-a.-M.
Schledt, Vve L., 65, rue des Alexiens, Brussels.
Schlesinger, Maurice, & Cie., 189, rue du Temple, Paris.
Sörensen, Ferd. E., & Co., Dronn. Tverg. 55, Copenhagen, K.
Stiebing, G., 52, Breitegasse, Frankfort-on-Main, Germany.
Stuhl, G., Strasburg, Germany.
Tagliaferri, Gaetano, corso V. Emm. 3, Piacenza.
Thorsen, C. F., Gl. Kongevej, 91A, Copenhagen.
Tossens, Ch., 25, Longue rue du Vanneau, Antwerp.
Tulpinck, L., 89, rue St. Bernard, Brussels.
Vallot & Pauze, rue de la Préfecture, St. Etienne, France.
Van de Meersche, P., rue de Londres 16, Brussels.
Van den Camp, Vve. C., Digue de Brabant 18, Ghent, Belgium.
Vergottini, Francesco, Lecco, Italy.
Vermehren, Edv., Sofiev 26 Hell., Copenhagen.
Widy, A., pl. de la Reine 42, Brussels.
Winterstein, K., Kaiserstr. 65, Frankfort-on-M., Germany.
Wolf, H., Kronprinzenstr. 17, Frankfort-on-M.
Zeda Frat., Vicolo Facchini 2, Milan, Italy.
Ziegenspeck, Oscar, 56, Kommandantenstr., Berlin.
Zimmermann, E., Eschersheimer Landstr. 22, Frankfort-on-M.

Boiler Composition Makers.

F.—Composition pour jointes de chaudières à vapeur.
G.—Kesselstein—Fabr. von Chemikalien für Verhinderung von.

Konigswarter & Ebell, Linden, near Hanover, Germany.

Boiler Makers.

F.—Chaudières—Fab. de.
G.—Dampfkessel—Fab. von.

Aktien Gesellschaft für Maschinenbau vorm. Brand & Lhuillier, Brünn, Austria.
Babcock & Wilcox, Ltd., 6, rue Laferrière, Paris.
Bonnet, Spazin & Cie., Lyon (Rhône), France.
Deutsche Babcock & Wilcox Dampfkessel Werke A. G., 1, Kaiser Wilhelmstr., Berlin, C.
Duisburger Dampfkesselfabrik, Duisburg a. Rhein, Germany.
Düsseldorf Ratinger Röhrenkesselfabrik, Ratingen bei Düsseldorf, Germany.
Layh, Ch., 75, rue de la Clinique, Brussels.
Leroux, J., & L. Gatinois, 19-25, rue de la Voûte, Paris.
Niclausse, J. & A. (Société des Générateurs Inexplosibles "Brevets Niclausse.") Hors concours, membres des Jurys Internationaux Expositions Universelles: Paris, 1900; St. Louis, 1904; Milan, 1906; Franco-British, 1908; Grands Prix: St. Louis, 1904; Liége, 1905; Spanish-French, 1908; Franco-British, 1908; 24, rue des Ardennes, Paris (XIX. Arr^{t}.).
Piedbœuf, Jacques, Jupille, près Liége, Belgium.
Walther & Co. (Kommandit-Gesellschaft), Delbrück, nr. Cologne.

Boiler & Steam Engine Fittings Mfrs.

F.—Chaudières et Machines à vapeur—Fab. d'accessoires de.
G.—Teile für Kessel u. Dampfmaschinen.

Société du Verre Étiré, 10, rue Thimonnier, Paris.

Bolts, Screws, Nuts, &c.—Makers of.

F.—Boulons, Ecrous, Vis—Fab. de.
G.—Bolzen, Schrauben, Muttern—Fab. von.

Fessler, Johann, Nietenfabrik, 108, Auenstr., München, Germany.
Eiffe & Fehr, Rodingsmarkt, Hamburg.

Boosters.

F.—Survolteurs.
G.—Zusatzdynamo.

Brackets & Pendants.

See Electroliers.

Brass Founders & Manufacturers to the Electrical Trades.

F.—Laiton—Fond. et Fab. de.
G.—Messing—Giesser & fab.

Industrie Metallique, rue de la Princesse 10, Brussels.
Mattarelli, Giulio, Lecco, Italy.
Van der Kolf & Molijn, Noord-Singel 183, Rotterdam.

Bronzers—Electro.

F.—Electro Bronzeurs.
G.—Electro Bronzierer.

Riedinger, L. A., Augsburg, Bayern, Germany.

Cabinet Work—Electrical.

F.—Ebènisterie pour appareils électriques.
G.—Electr. Holzarbeiter.

Schwabe, Franz, & Co., Langewiesen i/Thür., Germany.
Soulé, D., 42, rue Fessart, Paris.

Cable (Electric) Manufacturers.

F.—Câbles électriques—Fab. de.
G.—Kabel—Electrische—Fab.

Actien Gesellschaft der Metallfabrik, vorm. Gebrüder Rosthorn, dépôt I., Schœnlaterngasse, No. 11, Vienna.
Allgemeine Elektricitäts Gesellschaft Kabelwerk Oberspree, Oberschöneweide, Berlin.
Alliot, R., & Rol, 38, rue de Reuilly, Paris.
Arribat, 7, rue Tripière, Toulouse, France.
Aubert, Grenier & Co., Cossonay-Gare, Switzerland.
Basse et Selve, Altena, Westphalia, Germany.
Böthling, A., 23, Pessotshnaja-st., St. Petersburg, Russia.
Callender's Deutsche Kabel Ges. m. b. H., Buschstr. 7, Hamburg. (Teleph. No. Ia. 719.)
Chaffiaùd, A, 47, rue du Pas St. Georges, Bordeaux, France.
Champin, H., 7, ave. de Villiers, Paris.
Claude, Robert, & Sœur, 9, rue de Sablonville, Neuilly, France.
Debauge & Cie., 3, rue de la Feuillade, Paris.
Debièvre, M., 277, rue du Ballon, Lille, France.
De la Charleroi, 99, boul. du Hainaut, Brussels.
De la Mathé, G. & H. B., Gravelle St. Maurice, Seine, France.
Deutsche Kabelindustrie G. m. b. H., Berlin-Neubabelsberg, Germany.
Drahtumspinnerei und Kabelfabrik, L. Köppel, Mariengasse 25, Prague II.
Dusseldorfer Eisen und Draht Industrie, Dusseldorf-Oberbilk, Germany.
Erste Oesterr.-ung. Fabrik von Isolirten Kabeln und Drähten für electrotechn. Zweicke, 60, Schottenfeldg., VII., Vienna, Austria.

Cable (Electric) Manufacturers—*continued.*

FELTEN & GUILLEAUME LAHMEYER-WERKE ACT. GES., Carlswerk, Mulheim-am-Rhein, Germany.
Fortin-Hermann, 138, boul. du Montparnasse, Paris.
François, L., Grellou, A., et Cie., 77, rue Saint Charles, Paris.
Froitzheim & Rudert, 11, Neue Königstrasse, Berlin, N.O.
Garsonnin & Cie., 114, rue de Turenne, Paris.
Grashoff, A., Ludenscheid, Westphalia.
Guiseppe & Redaelli, Leeco, Italy.
Haekethal Draht und Kabel Werke, A. G., Hanover.
Hanover Caoutchouc, Gutta-Percha, & Telegraph Works, Linden, nr. Hanover.
Houry & Filleul, 60, rue de Provence, Paris.
Huber, R. & E., Pfaeffikon, Zurich, Switzerland.
Indiarubber, Gutta-Percha, & Telegraph Works Co., Ltd., Persan-Beaumont, France.
Jacquet & Casson, 30, rue des Bourdonnais, Paris.
Joquet, L., 9, rue Moraud, Paris, XI.
Kabel und Gummi Werke, Heinrich Eger & Co., Schwechat, nr. Vienna.
Kabelfabrik und Drahtindustrie Aktien Gesellschaft, Stelzhammerg 4, Vienna XII. 2.
Kabelfabrik Landsberg a. W., Landsberg a. W., Germany.
Kabelwerke Brugg A. G., Brugg, Switzerland.
Kabelwerk Rheydt A. G., Rheydt, bei Dusseldorf, Germany.
Kabelwerk Reydt A. G., 14, rue des Comédiens, Brussels.
Kabelwerk Wilhelminenhof A. G., Krausenstr. 37, Berlin.
Kaltschugin Co., Kelerowo, nr. Moscow.
Kiew Cable Factory, Ltd., 22, Bagoutowskaja, Kiew, Russia.
Kurth, Anton, Chemnitz-Kappel, Germany.
Land- und Seekabelwerke Aktien-Gesellschaft, Cologne-Nippes, Germany.
Larsonneau Frères & Co., 29, rue des Cloys, & 46, avenue Parmentier, Paris.
Lehner & Aron, Potsdamerstr. 134A, Berlin.
Levy Frères, 10, rue Thimonier, Paris.
Lynen & Co., Eschweiler, Rheinland, Germany.
Martignoni, L., via Giaffa 6, Genoa.
Nordisk Elektrisk Ledningstraad and Kabelfab., 105, Ryesgade, Copenhagen, O., Denmark.
Piontkowsky, G. de, 10, rue Saint Gilles, Paris.
Pirelli & Co., 21, via Ponte Seveso, Milan.
Pirelli & Ca., Villanueva y Geltrú (Barcelona), Spain.
Podobedoff, M., & Co. (dealers), Fontanka 65, St. Petersburg, Russia.
Pradera Hermanos y Ca., Bilbao.
Reeben Joint Stock Co., Malaja Ochta Maienskaya-rd. 1, St. Petersburg.
Schwechater Kabel-und Gummi-Werke Heinr. Eger & Co., Nibelungengasse, Vienna I.
Sociedad des Cables Electricos de Algorta, Algorta, Bilbao, Spain.
Société Alsacienne de Constructions Mécaniques, 7, rue Drouot, Paris. Works: Mulhouse & Grafenstaden, Alsace.
Société Belge pour la Fab. des Cables et Fils Electriques, Société Anonyme, rue Stephenson, Brussels.
Societé Française des Cables Electriques, 11, Chemin du Pré Gaudry, Lyons.
Speiser & Co., Nuremberg, Germany.
Tacottet es Tarsa (Tacottet & Co.), Budapest, Hungary.
Turké, O., 142, rue du faub. St. Denis, Paris.
Usines, Ateliers & Cablerie de Jeumont (Nord), 75, boul. Haussmann, Paris.
Vereinigte Kabelwerke Akt. Ges., St. Petersburg, Russia.
Vilafranca, P., Ricart 6, Barcelona.
Voelmy, J., 13, Cottbuser Damm, Berlin, S. 59, Germany.
Voltohm, Seil & Kabel Werke Act. Gesellschaft, 129, Hainerweg, Frankfort-on-the-Main.
Winiwarter, G., Getreidemarkt 8, Vienna I., Austria.

Cable Machinery (Electric)—Makers of.

F.—Cables élcctr.—Fab. de machines pour.
G.—Elektr. Kabel Maschinen—Fabr. von.

Korting, W., Barmen, Germany.
Lepreux, A., 119, rue de Flandre, Paris.
Maschinenbauanstalt für Kabelfabrikation Conrad Felsing, jun., Coepenick, nr. Berlin. *See advt., page* 14.
Olier & Cie., rue Perouzet, Argenteuil (Seine-et-Oise), France.
Rittershaus & Bleeher, Barmen, Germany.
Stein, G., Blumenstr. 24, Berlin, O.

Cables (Electric Light)—Makers of.

F.—Cables pour l'éclair. élec.—Fab. de.
G.—Kabel für Electrisches Licht—Fabr. von.

Deutsche Kabelwerke Akt. Ges., Berlin-Rummelsburg.
Felten & Guilleaume Lahmeyerwerke Act. Ges., Carlswerk, Mulheim-am-Rhein, Germany.
Sirtaine, Emile, rue de la Limite 23, Brussels, Belgium.
Suhner & Co., Herisau, Switzerland.
Vorwerk & Sohn, Barmen, Germany.
Zahm, C., Weipert, Bohemia.

Carbide of Calcium.

F.—Carbure de Calcium.
G.—Carbid.

Allgemeine Carbid und Acetylen Ges. m. b. H., Schinkelplatz 1/2, Berlin, W. 56.
Compagnie Française des Carbures de Calcium, Séchilienne (Isère), France.
Società Industriale Elettrochimica, Pont St. Martin, Milan, Italy.

Carbide of Calcium—*continued.*

Società Italiana per il Carburo di Calcio, Rome, Italy.
Società pel Carburo di Calcio, Terni, Italy.
Società Piemontese per la Fabbricazione del Carburo di Calcio, Turin, Italy.
Société Anonyme Suisse des Industries Electrochimiques Volta, 5, rue des Granges, Geneva, Switzerland.
Société Electro Métallurgique de St. Beron, St. Béron (Savoie), France.
Société Franco-Suisse d'Electrochimie, Vernier, près Geneva.
Usines Electriques de la Lonza, Geneva.

Carbon Makers & Suppliers.

F.—Charbons—Fab. et Marchs. de.
G.—Kohlen—Fab. und Lief. von.

Beleuchtungskohlenfab. "Union" Christof Köcher, Kronack, Germany.
Compagnie Française de Charbons pour l'Electricité, 53, rue de Châteaudun, Paris. Works: Nanterre (Seine).
Compañia Fabril de Carbones Eléctricas (Soc. Anon.), 27, rambla Cataluna, Barcelona.
Deutsch, S., & Bak, V/1, Magdalenenstr. 107, Vienna, Austria.
Elektrische Kohlenfab. Ges. m. b. H., Baden, nr. Vienna.
Fabrique Belge de Crayons Électriques (Soc. Anon.), 468, rue St. Leonard, Liége, Belgium.
Faussemagne, F., 316, avenue de Saxe, Lyon, France.
Förster & Leuchtag, Kaufmannshaus, Hamburg, Germany.
Humann & Teisler, Dohna, bei Dresden.
Hummel, —, 26, rue St. Christophe, Brussels.
Kugelmann & Co., Wallstr. 62, Berlin, S.
Messmang, Heinr., Stieling St. Heising bei Kempten, Bavaria.
Noblécourt, A., & Cie., 3, rue St. Guillaume, Courbevoie (Seine), France.
Pfaffenberger, C., 105, Mariahilferstr., Vienna VI/2.
Plania Werke Akt. Ges., Berlin, Germany.
Rouschmeyer, G., quai Jemmapes 176, Paris.
Schiff & Co., manufacturers of carbons for electric arc lamps, Schwechat, nr. Vienna. (Telegs.: "Shipcarbon, Vienna." A.B.C. Code used.) London branch: Ship Carbons, Ltd., 67, Aldersgate-st., E.C.
Sirius Werke, Baden, nr. Vienna.
Società Anonima Italiana dell'Elettro-carbonium, Rome.
Société Anon. "Le Carbone," 12-33, rue de Lorraine, Levallois-Perret (Seine), France.
Société Anonyme pour la Fabrication des Charbons à Lumière Mainbottel, near Mercy-le-bas (Meurthe-et-Moselle), France.
Società Italiana Electrocarbonium, Narni, Scalo, Italy.

Carbon Brushes.

F.—Balais de Charbon.
G.—Kohlen-Bürsten.

BERNE, J. A. (late E. Carré), 68 bis, rue de Lagny-Montreuil, Paris.
Capelli, M., via Morigi 12, Milan, Italy.
Le Carbone Akt. Ges., Mainzerlandstr. 259, Frankfort-a.-M., Germany.
Planiawerke Akt. Ges. für Kohlenfabrikation, Königsgratzerstr. 6, Berlin, W. 9.

Carbon Rods & Battery Plates.

F.—Verges à charb. et plaques à pile—Fab. de.
G.—Kohlenstange & Platten für Batterien—Fab. von.

Berne, J. A. (late E. Carré), 68 bis, rue de Lagny-Montreuil, Paris.
Carbone, Le (soc. anon.) (anc. Lacombe & Cie.), 12 & 33, rue de Lorraine, Levallois-Perret, near Paris.
Conradty, C., Nuremberg, Germany.
Lemach, A. C., Liechtensteinstr. 3, Vienna, Germany,
Lessing, Dr. Albert, Nürnberg, Bavaria.
Planiawerke Akt. Ges. für Kohlenfabrikation, Königsgratzerstr. 6, Berlin, W. 9.
Schiff & Co., manufacturers of carbon blocks for carbide of calcium & electrolytical processes and carbon brushes, Schwechat, nr. Vienna. (Telegs.: "Shipcarbon, Vienna." A.B.C. Code used.) London branch: Ship Carbons, Ltd., 67, Aldersgate-st., E.C.
Siemens Gebrüder & Co., Herzbergstr. 128-137, Lichtenberg bei Berlin.

Case Makers — For Telegraph, Telephone & Electrical Instruments.

F.—Etuis pour Instruments télégraphiques téléphoniques et électriques—Fab. d'.
G.—Kasten für teleyraphische telephonische u. elek. Instrumente.

Ceiling Rose Manufacturers.

F.—Rosaces pour plafonds—Fab. de.
G.—Decken-Rosetten Fabr.

KLAAR & SCHULTZ, Waldemarstr. 14, Berlin, S.O. 26, Germany.
Kramer & Löbl, Gablonz, Bohemia, Austria.

Chemical Glass & Apparatus Manufacturers.

F.—Verrerie et Appareils de Chimie.
G.—Chemisches Glas & Apparate—Fab. von.

Alt, Eberhardt & Jäger Act. Ges., Ilmenau, Germany.
Société du Verre Étiré, 10, rue Thimonnier, Paris.

Chemical Glass & Apparatus Manufacturers—*continued.*

Vlet, Julien, 29, rue Mot, Fontenay-sous-Bois (Seine), France.
Wissenschaftl. Institut für Laboratoriums-Bedarf, Ludwig H. Zeller, Leipzig, Saxony.
Zeller, Ludwig H., Leipzig, Saxony.

Chemical Manufacturers.

F.—Fabricants de Produits Chimiques.
G.—Chemikalien—Fabr.

Alder, Victor, 42, Humboldtgasse, Vienna X., Austria.
Allgemeine Thermit-Ges. m. b. H., Essen-a.-d.-Ruhr.
Bardot, C., 19, Passage Duranton, Paris.
Bender, Dr., & Hobein, Dr., 76A, Gabelsbergerstr., Munich.
Berrurier, A., 27, rue du Grand Prieuré, Paris.
Berrurier, Père et Fils, 14, rue Caffarelli, Paris, France.
Bosnische Elektricitäts Actienges., Jajce, Bosnia; & Magdalenstr. 8, Vienna VI/1.
Broemme Frères, Wassilievsky Ostrow, 12th line, 37, St. Petersburg.
Chemische Fabrik Akt. Ges. vorm. Carl Scharff & Co., Breslau.
Chemische Fabrik auf Aktien (vorm. E. Schering), Müllerstrasse, Berlin, N.
Chemische Fabrik Brugg A. G., Brugg.
Chemisches Laboratorium, Dr. N. Caro, Meinekestr. 20, Berlin, W. 15.
Consortium für Elektrochemische Industrie, Nurnberg, Germany.
Couteux, L., 57, rue des Archives, Paris.
De Bonnier, H., et Cie., 14, rue de la Blanchisserie, Brussels.
Delaite, Emile, & Cie., rue Hors-Château, 50, Liége.
Desmazures, Gust., 6, rue Barbette, Paris.
Dumont, P., 46, rue de la Chapelle, Paris.
Electricitätswerk Hagneck, Biel, Switzerland.
Elektrochemische Industrie Dr. Riep & Friedländer G. m. b. H., Reichenbergerstr. 3-4, Berlin, S.O. 26.
Etablissements Poulenc Frères, 92, Vieille-du-Temple, Paris.
Gallais, —, 73, boul. de la Villette, Paris.
Goldschmidt, Th., Essen-a.-d.-Ruhr.
Jurgensen, Dr., & Bauschlicher, Prague, Weinberge, Austria.
Matthes, E., & Weber Act. Ges., Duisburg, Germany.
Norwegian Electro-Chemical Industrial Co., Ltd., Raadh. gd. 20, Christiania.
Rademacher, Carl, & Co., Carolinenthal, bei Prague, Austria.
Schweizerische Gesellschaft für Elektrochemische Industrie, Bern.

Chemical Manufacturers—*continued.*

Società Anonima Dinamite Nobel, Avigliana, nr. Turin.
Società Anonima Esplodenti Prodotti Chimica, 3, Piazza Bodoni, Turin. Works: Villafranca, Lunigiana.
Société Anonyme de Produits Chemiques Etablissements Malétra, 11, rue La Boétie, Paris.
Société Centrale de Produits Chimiques, 42 et 44, rue des Écoles, Paris.
Société pour l'industrie chimique à Bâle, Usine de Monthey, Monthey (Valais), Switzerland.
Wagner, Dr. Eugene & Emil v., 96, Soroksárergasse, Budapest, Hungary.
Zambelli, A. C., corso Raffaello 20, Turin, Italy.

Chemical Merchants & Agents.

F.—Produits chimiques—Marchands et agents de.
G.—Chemikalien—Händler und Agenten.

Minner, Otto, & Co., Arnstadt-i.-Thuringia, Germany.
Ruelle, H., 38, rue de Sévigné, Paris.

Chemists—Analytical.

F.—Chimistes—Analytiques.
G.—Chemiker—Analytiker.

Chemists—Electro.

F.—Electrochimistes.
G.—Elektrochemiker.

Antrick, Dr. O., Chemische Fabrik auf Aktien, 127, Schillerstr., Charlottenburg, Berlin, Germany.
Chemische Fabrik Buckau A. G., Magdeburg, Germany.
Chemische Fabrik Griesheim-Elektron, Frankfort-on-the-Main, Germany.
Chenal, Douilhet & Co., 22, rue de la Sorbonne, Paris.
Deutsche Elektrochemische Gesellschaft, Berlin, Germany.
Dumoulin, E., 19, rue des Petit Champs, Paris.
Elektron Gesellschaft, Bitterfeld, Germany.
Hulin, Léon, Grenoble (Isère), France.
Malleron, G., 85, rue de Rivoli, Paris.
Pabst, Albert, 12, avenue Stinville, Charenton (Seine), France.
Popp, Dr., & Dr. Becker, analytical & electrochemical laboratory, Frankfort-on-the-Main, Germany.
Pousin, E., rue de l'Université 22, Reims, France.
Société d'Electro-chimie, 2, rue Blanche, Paris; & St. Michel de Maurienne & Vallorbe, Switzerland.
Société Electro-Chimique du Giffre St. Jeoire, Annecy (Haute-Savoie), France.

Clamps for Conducting Wire.

F.—Emboitures pour Conducteurs.
G.—Drahtklemmen.

Clock Wheels, Pinions, &c.—Makers of.

F.—Roues d'horlogerie.
G.—Uhrräder-Fabriken.

Clocks & Synchronization—Electric.

F.—Horloges et Synchronisation—électriques.
G.—Uhren und Zeitmesser—Elektrische.

Berliner Elektra Uhren Leopold Guttmann, Grossbeerenstr. 5, Berlin, S.W. 11.
Bois Fils, 5, rue du Pont, Gien (Loiret), France
Detouche, C., 18, boulevard Poissonnière, Paris.
"Elektra" Vertrieb Elektrischer Uhren (Patent Möller), Jacob Neuweck, Ritterstrasse 87, Berlin, S.
Fabrique d'Appareils Electriques, Plan Perret, Neuchâtel.
Garnier, P., 16, rue Taitbout, Paris.
Gautier, Montfort l'Amaury (Seine-et-Oise), France.
Gros, Bernard, Azille (Aude), France.
Hartmann vorm. D. Névir Johs, Unter den Linden 48/49, Berlin, N.W. 7.
Jordan, G., Raütenstr. 8 & 9, Nordhausen, Germany.
Klumak Frères, Biberstr. 2, Vienna, Austria.
Krause, R., Oldenburgerstr. 13, Berlin, N.W. 21.
Kulicska, Anton, Iskola-utcza 6, Budapest II., Hungary.
Labrosse, L., 5, rue Auguste Comte, Lyons, France.
Marziali, C., & Figli, via S. Spirito 30, Florence, Italy.
Meyer, Jacques, Aigle, Switzerland.
Möller, Alexandrinenstr. 93, Berlin, S. 14.
Neher Söhne, J., Barerstrasse 34, Munich, Bavaria.
Normal Zeit Ges. m. b. H., Charlottenstr. 6, Berlin.
Perret Fils S. A., Neuchâtel, Switzerland.
Renouf, —, 30, rue Nöel Ballay, Chartres (Eure-et-Loire), France.
Schauer, Emil, Bernardgasse 26, Vienna VII., Austria.
Société Anon. Magneta, 42, boul. Bonne Nouvelle, Paris.
Vareilles, L., 3, rue Bonneterie, Avignon, France.
Wagner, C. T., Wiesbaden, Germany.
Wehrlé, E., 3, place du Petit Sabion, Brussels.
Westendorp, P. & E., Elberfel l, Germany.
Winbauer, Alois, Theresiengasse, I., Baden, bei Wien, Austria.

Coils—Medical & Intensity.

F.—Bobines—Médecine et intensité.
G.—Spulen—Medicinische & Intenzitäts.

Baudet, Donon & Cie., 139, rue Saussure, Paris.
Böttcher, Oskar, Berlin, W. 57. Works in Gebirge, Pobershau, Marterbüschel, Saxony.
Dubois, 28, rue Corbeau, Paris.
Gianoli, L., 26, boul. Magenta, Paris.
Guenet, Jules, 5, rue Montmorency, Paris.
Rogalski, E., Alte Leipzigerstr. 110, Berlin, C. 19.
Wolff, S. N., & Co., Beuel-Bonn, Rheinland, Germany. (Telegs.: "Wolff, Beuel-Bonn.")

Combined Switch & Wall Socket Manufacturers.

F.—Emboitures avec commutateurs combinés—Fabricants.
G.—Combinirte Ausschalter und Steckkontact—Fabrikanten.

Compasses.

F.—Boussoles.
G.—Kompasse.

Houlliott, 60, rue Nazareth, Paris.

Condensers—Makers of.

F.—Condensateurs—Fabr. de.
G.—Condensatoren Fabr.

Modzelewsky, J. de, Fribourg, Switzerland.
Société Gen. des Condensateurs Electriques, Fribourg, Switzerland; & 5, rue d'Assas, Paris.

Conduit Systems of House Wiring.

F.—Systèmes conduites de fil élec.—Fab. de.
G.—Draht Leitung für Haüser—Systeme.

Deutsche Kabelwerke Akt. Ges., Berlin-Rummelsburg.

Conduits (Underground) & Culverts.

F.—Conduits—Sousterrains—Fab. de.
G.—Untergrund. Röhren Fab.

Cottancin Construction, The, 47, boul. Diderot, Paris.
Chollet, 23, ave. du Maine, Paris.
Küppers Metallwerke G. m. b. H., Bonn; & Berlin, Germany.
Roig Hermanos, Talleres de (Soc. en Com.), Villancieva y Geltru, Barcelona.
Stà. Italiana per Conduttori Elettrici Isolati e Prodotti Affini, Leghorn, Italy.

Contractors—Electric Light & Power.

F.—Eclairage Electrique—Entrepreneurs d'.
G.—Electrisches Licht—Unternehmer für.

A. E. G. Thomson-Houston Iberica, Carrera de San Jeronimo 43, Madrid, Spain.

Contractors—Electric Light & Power— *continued.*

A. E. G. Union Electrique (Soc. Anon.), 156, rue Royale, Brussels.
Actiengesellschaft für Gas & Electricität, late E. von Koepper & Co., Goebenstr. 16, Cologne. Factories: Cologne-Ehrenfeld.
Adagio, Angelo, Tolentino (Prov. di Macerato), Italy.
Alioth, R., & Co., Basle, Switzerland.
Allgemeine Beleuchtungs & Heiz Industrie A. G., Bellevuestr. 5, Berlin, W.
Altenburg Strassenbahn und Elektricitätswerk, Altenburg.
Amelin et Renaud, 39, Jean Jacques Rousseau, Paris.
André, Ch., rue du Pont Neuf. Charleroi, Belgium.
Andreucci, Carlo, Ancona, Italy.
Annibal, F., 8, rue Bonne Carrière, Salon (Bouches-du-Rhône), France.
Aramburu, Azpiazu & Co., Azpeitia (Guipozcoa), Spain.
Argnani, Ing. Vittorio, & Co., Ancona.
Artiz, Justo, y Co., Zumarraga, Guipozcoa, Spain.
Ascher, Jul., Waldstr. 33, Berlin, N.W.
Auriemina, Carlo, Santa Maria di Capua, Italy.
Banti & Torrigiani, via Montevecchio; & Canale del Porto, Fano, Italy.
Barducci, G., Caserta.
Bartels, Franz, & Co., Breitgasse 64, Danzig, Germany.
Bein & Wedemeier, 40, Kaiserstr., Frankfort-on-the-Main.
BELGIAN ELECTRIC LIGHTING BOARDS, LTD., quai au Foin 17, Brussels.
Benoit, E., 119, rue St. Maur, Paris.
Berger, Joseph, Belgrade, Servia.
Bergische Elek. Ges. m. b. H., Elberfeld, Germany.
Berliner Elektricitäts Werke, Berlin, N.W.
Berliner Elektrische Beleuchtungs Aktien Gesellschaft, 28, Alexanderstrasse, Berlin, O.
Berliner Vororts Elektricitäts Werke G. m. b. H., Steglitz-Berlin.
Bersano, M., piazza F. D. Guerrazzi 5, Pisa.
Bianchi Muggiani & Sutermeister, Intra, Italy.
Blos & Co., Madrid, Spain.
Bœddinghauss, J., Düsseldorf, Germany.
Boittier, E., Dôle (Jura), France.
Bonacini, G., & C., piazza Arcivescovado, Pisa, Italy.
Bonistalli, E., via G. Bruno 25, Pisa.
Brant, fils, H., Canal des Recollets 20, Antwerp, Belgium.
British Continental Electricity Co., Ltd., 3, via Umberto, San Remo, Italy; & 82, Victoria-st., London, S.W.
Büchler, H., Schönthalgasse 27, Zurich.
Calderoni, D., Omegna (Prov. di Novara), Italy.
Callegari, Aurelio, 198, via Vittorio Emanuele, Parma.

Contractors—Electric Light & Power— *continued.*

Carlier, V., Cambrai (Nord), France.
Casier, L., rue de la Brêche 17, Antwerp.
Castiglione, Vittorio, 31, corso Palestro, Brescia, Italy.
Cavana, Dottr. Francesco, Cremona, Italy.
Chassagne, F., 49, rue des Mathurins, Paris.
Chilesotti, Ing. P., e C., Thiene, Italy.
Ciurnelli & Bariletti, Ponte Valleceppi (Perugia), Italy.
Clerici, G., via Gabrio Casati 2, Milan.
Cobianchi, Vittorio, Omegna (Prov. di Novara), Italy.
Compagnia Anonima Continentale, via Quadronno 41–43, Milan, Italy.
Compagnie Auxiliaire d'Electricité (soc. anon.), 31, rue du Gouvernment, Brussels.
Compagnie Centrale d'Éclairage et de Transport de Force, 22, rue Rossini, Paris.
Compagnie d'Électricité de l'Ouest-Parisien, 73, boul. Haussmann, Paris.
Compagnie d'Electricité de Spa, Spa, Belgium.
Compagnie des Eaux & l'Électricité de l'Indo-Chine, 58, rue de Londres, Paris.
Compagnie du Gaz de Saint-Quentin, Saint Quentin, France.
Compagnie Electrique Anversoise, 8, quai Cockerill, Antwerp, Belgium.
Compagnie Electrodynamique Charleroi-Villette, Belgium.
Compagnie Électro-Mécanique, Le Bourget (Seine), France.
Compagnie Française d'Éclairage Electrique, 1 *bis*, cité Bergère, Paris.
Compagnie Générale de Travaux d'Eclairage et de Force (anciens etablissements Clémançon), 23, rue Lamartine, Paris.
Compagnie Havraise Suburban d'Éclairage & Force Motrice par l'Electricité, 11, rue du Saint Adresse, Havre, France.
Compagnie Internationale d'Éclairage Électrique, Tours, France.
Compagnie Meridionale d'Eclairage & de Force, Marseilles.
Compagnie Universelle d'Eclairage de Chauffage & de Force Motrice, Auxerre (Yonne), France.
Companhia de Luz Electrica, rua de Passos Manoel, Oporto, Portugal.
Compañia Barcelonesa de Electricidad, Mata 2, Barcelona.
Compañia General Madrileña de Electricidad, Madrid.
Condray, J., 15, place des Halles; & 2, rue du Petit Change, Chartres, France.
Continentale Gesellschaft für Elektrische Unternehmungen Nürnberg A. G., 94, Landgrabenstr., Nürnberg.
Dassel, O, Barmen.
Dehousse, H., & Co., 75, rue Potagère, Brussels.
Delagoutte Frères, 12, rue des quatre Fils, Paris.
Demblon & Verset, 16, rue Gérard, Antwerp.
Deutsche Gasfernzünder Gesellschaft, 38, 39, Dorotheenstrasse, Berlin, N.W.

Contractors—Electric Light & Power— *continued.*

Deutsche Ges. für Bremer Licht G. m. b. H., Leipzigerstr. 103, Berlin.
Deutsche Unternehmung für Elektrische Beleuchtung, Kaiser Wilhelm Ring 11, Cologne, Germany.
Dierman, W., & Co., 1, rue Saint Léonard, Liége.
Direction des Services Industriels, Le Locle, Switzerland.
Dorn, C. F., Nachf., Stuttgart.
Dumont, Louis, rue Montozer 74, Brussels.
Echten, A., rue du Dublin 32–32A, Brussels.
Eggersmann & Lang, Aachen, Germany.
Ego, H., quai aux Pierres de Taille 19, Brussels.
Ehrling, O., Schmiedestr. 3, Leipzig-Plagwitz, Germany.
Electra Castellana, Vega L., Bustamente y Co., Gran Via 50, Bilbao, Spain.
Electra de Bolueta, Ripa 1, Bilbao, Spain.
Electric Light Co., A. E. G. (Elektrische Aktiebolaget), St. Vattug. 9, Stockholm, Sweden.
Electricitäts Actien Ges. vorm. Schuckert & Co., Neue Taschenstr. 19, Breslau, Germany.
Electricitätswerk Eisenach A. G., Eisenach, Germany.
Electricitätswerk Hagneck, Biel, Switzerland.
Electricité de Stavelot (Ste. Anon.), Stavelot, Belgium.
Electricity Supply Co. for Spain, Ltd., calle Espoz y Mina, Madrid, Spain.
"Elektra" Aktien Ges., Lüttichaustr. 21I, Dresden, Saxony.
Elektrische Licht & Kraft Anlagen Akt. Ges., Kanonierstr. 17–20, Berlin.
Elektriska Aktiebolaget, Lundmakaregatan 7, Stockholm, Sweden.
Elektrizitätsges. Bogenhard & Co., Eichengasse 1, Erfurt, Germany.
Elektrizitäts Ges. Alioth, 22, Aeschenvorstadt, Basle, Switzerland.
Elektrizitätswerk Ilmenau, Thuringia.
Elektrizitätswerk Kubel, St. Gallen, Switzerland.
Elektrizitätswerk Spreitenboch A. G., Spreitenboch.
Elektrizitätswerk Stalden-Emmenthal, Stalden-Emmenthal, Switzerland.
Elektrizitätswerk, Wangen a. d. Aare, Switzerland.
Elektr. belysningsanläggning, H. Karlsson, Örebro, Sweden.
Elektr. Kraftoverförings-o-belysningsanläggn, Motala, Sweden.
Elektron Lighting Co., Ltd., Gothenburg, Sweden.
Entreprise Thusy-Hauterive, Fribourg, Switzerland.
Erste Kroatische Warasdener Act. Ges. für Elektrische Beleuchtung, Warasdin, Croatia.
Fabrica de Fluido Electrico "La Concepcion," San Francisco, Linares, Spain.
Faesch, Fr., 15, Spalentorweg, Basle.
Falsen, H., Kirkegade 17, Christiania.

Contractors—Electric Light & Power— *continued.*

Favero, Valentino, Bassano (Prov. di Vicenza), Italy.
Fein, C. & E., Telegraphenbau-Anstalt, Stuttgart, Germany.
Felten & Guilleaume Lahmeyerwerke Act. Ges., Carlswerk, Mulheim-am-Rhein, Germany.
Fiat Lux Co. Alemanna de Electricidad, Malaga.
Finska Elektriska Aktiebolaget, 2, Sodra Magasinsgatan, Helsingfors, Finland.
Fischer, W., Predigerstr. 9, Nordhausen, Germany.
Force et Eclairage par l'Electricité, Société Anonyme, boul. d'Anderlecht, Brussels.
Force et Lumière Electrique (Soc. Anon.), 9, rue de Rocroy, Paris.
Foureau, —, 54, rue de Chabrol, Paris.
Franzosi, Luigi, Omegna (Prov. di Novara), Italy.
Franzosi Fratelli, Omegna (Prov. di Novara), Italy.
Frappat, —, 7, rue de Lycée, Grenoble (Isère), France.
Fratelli Cellai, Lungarno Regio, Pisa.
Fratelli Petrini, Bastia, Italy.
Freitag, G., Barmen.
Friedrichs, E., 8, Gemarkerstr., Barmen.
Frognerkilens Fabrik, Bygdö, near Christiania, Norway.
Fröhlich & Perthen, Kolowratring 3, Vienna I.
Furrer, J., Weesen, St. Gallen, Switzerland.
Garrone e Marchetti, Varallo Sesia (Prov. di Novara), Italy.
Gas, Elektrizitäts und Wasserwerke, der Stadt Cöln, Cologne.
Gasquet, E., rue de Gand, Iseghem, Belgium.
Gentile, M. T., via Solferino 7, Milan.
Gesellschaft für Elektrische Beleuchtung, Frutigen, Berne, Switzerland.
Gesellschaft für Electrische Kraftübertragung & Elektr. Licht, Pfaffikon, Zurich.
Gesellschaft für Elektrische Unternehmungen, 45, Dorotheenstr., Berlin.
Gesellschaft für Elektrizität Wirth & Futterknecht, Konstanz-am-Bodensee, Germany.
Gesellschaft für Licht u. Kraftanlagen m. b. H., Gebr. Kohl, III. Dudreilerstr. 8, Saarbrücken, Germany.
Ghysens, J., 22, rue du Vivier, Liége.
Gibault, Vve Ch., ave. Philippe Auguste 68 & 70, Paris.
Gillibert, A., et Cie., 25, rue de la Darse, Marseille.
Gittens, C., Chaussée de Malines 116, Antwerp, Belgium.
Godfrin, 8, boul. Perrier, Epernay (Marne), France.
Gonzalez, Hijos de Jose Maria, Co. de Electricidad Mondoñedo, Lugo, Spain.
Grubert, F., & Sohn, 31, Krausenstr., Berlin, S.W.
Hagedorn, W., 5, Alte Jacobstrasse, Berlin, Germany.
Haldenwang & Co., Königstr. 33, Elberfeld, Germany.

Contractors—Electric Light & Power— *continued.*

Hanoulle, L., 47, rue de l'Instruction, Brussels.
Hanseatische Siemens - Schuckert Werke G. m. b. H., Hamburg, Kiel & Bremen, Germany.
Herz, S., Magdeburgerstr. 33, Berlin, W.
Hess & Perino, Corso Dante 42, Turin.
Holmestrands Elektricitetsverk, Holmestrand, Norway.
Holwech, Olaf M., Fredriksstad, Norway.
Imhoff, Ewald, Barmen, Germany.
Imperial Continental Gas Association, Schenkengasse 10, Vienna I.
Impresa Illuminazione Elettrica, Tizzana (Prov. di Firenze), Italy.
Impresa Illuminazione Elettrica della Città di Susa, Italy.
Impresa Illuminazione Elettrica di Acqui, Italy.
Impresa Illuminazione Elettrica di Aosta, Italy.
Impresa Illuminazione Elettrica di Casalpusterlengo, Italy.
Impresa Illuminazione Elettrica, Albenga, Liguria, Italy.
Impresa Illuminazione Elettrica di Grosseto, Italy.
Impresa Illuminazione Elettrica di Moncalieri, Italy.
Impresa Illuminazione Elettrica di Pesaro, Italy.
Impresa Illuminazione Elettrica, Stradella, Pavia, Italy.
Impresa Illuminazione Elettrica di Trino Vercellese, Piemonte, Italy.
Impresa Impianto Elettrico della Valle Brembana, Bergamo, Italy.
Impresa per Applicazioni Elettriche, Forli, Italy.
Impresa per l'Illuminazione Elettrica di Molfetta, Molfetta, Bari, Italy.
Jaccio e Molteni, Vaprio d'Adda.
Jean & Bouchon, 52 bis, rue des Martyrs, Paris.
Jovanovitch Sofronia Bros., Belgrade, Servia.
Joos, Hector, 65, rue de la Regence, Brussels.
Kaufholz, K. E., 10, Tübingerstr., Stuttgart.
Kniepkanys, H. A., Elberfeld, Germany.
Koch, Rudolf, Göttingen.
Koopman & Co., 370, Heerengracht, Amsterdam.
Koppel, A., Lecce, Italy.
Korting Gebr., Elektricität A. G., Alt Moabit 3, Berlin, N.W. 40.
Körting Gebr., Pragerstr. 49, Dresden.
Kraft u. Licht Anlagen Ges. (A. Brauner & Cie.), XIII/1 Sobieskiplatz 3, Vienna.
Krogh, A. J., övre Slotsgd. 7, Christiania.
Kronenberg & Schroeder, Elektrizitätsgesellschaft, Elberfeld, Germany.
Lacroix, J. de, 1, rue Théodore de Banville, Paris.
Lahaye & Blum, 5, rue du Moniteur, Brussels.
Lange, 53 *bis*, boul. de la Liberté, Lille (Nord), France.
Lardinoy, Aimable, rue du Four Chapitre 9, Tournai.
Lebek, A., Barmen.

Contractors—Electric Light & Power— *continued.*

Lebocey & Cie., 23, rue de Paris, Troyes (Aube), France.
Lebrun, B., Mons, Belgium.
Lelièvre, Vve., & Lepargneul, Beuzeuille (Eure), France.
Licht & Kraftwerke, G. m. b. H., Friedrich Karl Ufer 2/4, Berlin.
Licht- und Wasserwerke Thun, Thun, Switzerland.
Licht- und Wasserwerke, Langnau, Berne, Switzerland.
Luna, Carlos, Salamanca, Spain.
Luth & Roséns Elektriska Aktiebolag, Stockholm, Sweden.
Mack, C. E., Waldschmidstr. 49, Frankfort-on-Main.
Magis, P., 21, place de la Gare, Anvers.
Maifreni, Francesco, Adria (Prov. di Rovigo), Italy.
Maison Beer (Soc. Anon.), Jemeppe-lez-Liége, Belgium.
Malignani, A., Udine, Italy.
Malmö Städs Elektricitetsverk, Malmö, Sweden.
Marcahir, J., 54, rue de l'Industrie, Jemeppe-lez-Liege.
Marschel & Pannicke, Chausseestr. 54, Berlin.
Martorelli, Ing. P. I., piazza Sta. Maria la Nuova 8, Naples.
Merola, Vincenzo, & Co., Cassino, Caserta, Italy.
Meyer, Th., Meinkenstr. 6, Bremen, Germany.
Minghetti, S., Bologna, Italy.
Moda, A., & Co., Giaveno, Turin, Italy.
Molvo, G. G., jun., Fonarny per. 3, St. Petersburg.
Mongin Fils, 23 et 25, rue de Grignan, Marseilles, France.
Moses, L., 51, Auguststr., Berlin, C.
"Motor" Aktien Gesellschaft für angewandte Elektricität, Baden, Switzerland.
Mülhauser Elektrizitätswerke Mulhouse, Alsace, Germany.
Narath, Fr., Wms. Sohn, Barmen, Germany.
Noerrenberg & Co., Rome, Italy.
Ortesereichische Gasglühlicht und Elektrizitätsgesellschaft, IV. Schleifmüflgasse 4, Vienna.
Pampana, V., via S. Paolo 17, Pisa, Italy.
Pandiani, E., via Boccaccio 23, Milan, Italy.
Partebois, C., 34, rue Crépin, Lyon (Rhône), France.
Pellenz, Carl, Cologne; & Hamburg.
Petrucci, Luigi, & Co., Forli, Italy.
Pico, Vittorio, Termignone, Ghemme (Prov. di Novara), Italy.
Piérard-Verhelst, J., Peruwelz, Brabant, Belgium.
Pinochi, P., via N. Pisano 8, Pisa.
Piumatti, Enrico, via Mad. Cristina 33, Turin.
Podesta, Eredi & Ferdinando, Casalbuttano (Prov. di Cremona), Italy.
Popular Gijonesa de Alumbrado, Gijon, Spain.
Porta & Co., Milan.
Priano, Tomaso, Ovada, Italy.

Contractors—Electric Light & Power— *continued.*

Puccinelli, Salvadore Figli, Pisa, Italy.
Radomer Electric Co., Radom, Poland.
Ravioli, Carlo, Corso V. Emanuele 1, Turin, Italy.
Reinacher, Ing. G., Arezzo, Italy.
Reisser, Wilhelm, 13A, Wilhelmsplatz, Stuttgart, Germany.
Reivacher, L. Ott., Arezzo, Italy.
Richiardone, —, via dei Mille 44, Turin.
Riggaz, 12, rue de Sèze, Lyons, France.
Ritter & Uhlmann, Clarastr., Basle.
Rocher-Joos, 10, ave. Louise, Brussels.
Rockel, Ad., Wilmersdorferstr. 107A, Charlottenburg, Berlin.
Ros, Edmond, Jambes, Namur, Belgium.
Rosada, G., & Co., Treviso.
Rossi, Emmanuele, & Co., Finalmarina, Italy.
Rossi, G. di G., & Ing. Ed., via St. Luca 1, Genoa, Italy.
Roux, E., 59, rue Nièvre, Nevers (Nièvre), France.
Ruozi & Camellini, via Em. a. S. Piétro, Reggio Emilia, Italy.
Sachsisch-Thuringische Akt. Ges. für Licht u. Kraft Anlagen, Magdeburgerstr. 37, Erfurt, Germany.
Salzmann, A., rue Vanneau 43, Antwerp, Belgium.
Santoro, Ing., Palermo.
Saulnier, A., 81, rue du Cherche Midi, Paris.
Sbrana, P., via S. Zeno 52, Pisa.
Schafer, Rud., jun., Baltzerstr., Nordhausen, Germany.
Schmidtsdorff, R., Chausseestr. 39, Berlin, N.
Schreder & Sonnen, 15, rue de Sclessin, Liége, Belgium.
Schneegans, —, Ilmenau.
Schulze, Otto, & Isenbeck, Strassburg i/Elsass, Germany.
Schumacher, C. F., Lucerne, Switzerland.
Schwerd, L. E., Karlsruhe, Baden, Germany.
Scola Fratelli, Vercurago, nr. Lecco.
Sellari, Andrea, Corso Carlo Alberto, Grosseto, Italy.
Service d'Electricité de la Commune de Boudry, Canton de Neuchatel, Switzerland.
Service d'Electricité de la Commune de Landeron, Canton de Neuchatel, Switzerland.
Service d'Electricité de la Commune de St. Blaise, Canton de Neuchatel, Switzerland.
Service Electrique de la Commune Municipale de St. Imier, St. Imier, Switzerland.
Siemens-Schuckert Werke G. m. b. H., Gartenstr. 51, Breslau V.
Simundt, F., G. m. b. H., 96, Lützowstr., Berlin, W.
Sironi, Giovanni, Treviso.
Smidt, C., 14, rue Collège, Namur.
Smolensk Electric Co., Smolensk, Russia.
Sociedad Anglo-Española de Electricidad, Pelayo 12, Barcelona, Spain.
Sociedad Anonima "Alambres del Cadagua," Bilbao.

Contractors—Electric Light & Power— *continued.*

Sociedad Anonima de la Vega de Armijo, de Lux Electrica, Codorba, Spain.
Sociedad Anonima Electra-Recajo, Logroño, Spain.
Sociedad Anonima "Electrica de Vedia," Vedia, Vizcaya, Spain.
Sociedad Electrica Gallega (Laforet y Co.), Vigo, Spain.
Società Alzanese di Elettricità, Alzano-Maggiore, Italy.
Società Anglo-Romana per l'Illuminazione di Roma, Rome.
Società Anonima Bergamasca per distrubuzione di Energia Ellettrica, Bergamo, Italy.
Società Anonima Bolognese di Elettricità, via Independenza 69, Bologna.
Società Anonima Co-operativa Abbadiese per l'Illuminazione Elettrica, Abaddia Alpina, Turin.
Società Anonima Co-operativa Lecchese di Elettricità, Lecco, Italy.
Società Anonima Co-operativa per la Illuminazione Elettrica, Perrero, Turin, Italy.
Società Anonima Co-operativa per l'Illuminazione Elettrica Perosa Argentina, Turin, Italy.
Società Anonima Co-operativa "Unione Elettrica Gardone-Inziono," Gardone Valtrompia, Brescia, Italy.
Società Anonima Co-operativo Telefonica Trevisana, Treviso.
Società Anonima de Rossi & Co., corso Umberto 1°, 23, Naples.
Società Anonima di Elettricità Alessandrina, Alessandria, Italy.
Società Anonima Elettrica, Murano, Venice, Italy.
Società Anonima Elettricità Alta Italia, via Arsenale 21, Turin.
Società Anonima "Elettricità Umbra," Perugia, Italy.
Società Anon. "La Brianza," Merate, Milan.
Società Anonima Livornese d'Elettricità, Leghorn.
Società Anonima "Luce Elettrica," Chiuro, Sondrio, Italy.
Società Anon. Officina di Produzione e Distribuzione di Energia Elettrica, Cagli (Pesaro), Italy.
Società Anonima per Azioni "Elettricità Toscana," Pisa, Italy.
Società Anonima per Imprese Elettriche "Conti," Monza, Italy.
Società Anonima per Imprese Pubblicke, Pordenone, Italy.
Società Anonima per la Luce ed Energia Elettrica, Canelli, Alessandria, Italy.
Società Anonima per l'Illuminazione Elettrica ed Escercizio di Molino e Trebbia, San Daniele del Friuli Udine, Italy.
Società Anonima per l'Illuminazione Elettrica Campodolcino, Sondrio, Italy.
Società Anonima per la Produzione e Distribuzione di Energia Elettrica, Gazzaniga, Bergamo, Italy.

Contractors—Electric Light & Power— *continued.*

Società Anonima per la Produzione e Distribuzione di Energia Elettrica, Pordenone (Prov. di Udine), Italy.
Società Anonima per Prodotti Elettrici, Genoa, Italy.
Società Anonima Piacentina per l'Illuminazione Elettrica, Piacenza, Italy.
Società Bagni Lido, Venice.
Società Bergamasca d'Elettricità, Bergamo, Italy.
Società Co-operativa di Produzione e Consumo di Luce Elettrica, Aosta, Italy.
Società Cooperativa Alessandro Volta, Electrical Engineers via Mazzini, Pavia, Italy.
Società Co-operativa Fenestrellese per l'Illuminazione Elettrica, Fenestrekle, Turin, Italy.
Società Co-operativa di Consumo per la Distribuzione Luce Elettrica e Forza Motrice, Ivrea, Italy.
Soc. Coperative Luce Elettrica, Chiavenna, Italy.
Società "d'Elettricità," Sondrio, Italy.
Società del Gas, Varese (Lombardia).
Società dell' Illuminazione, Cesena, Italy.
Società di Illuminazione Elettrica di Venezia, S. Luca, Corte Morosina 4422, Venice.
Società Elettrica Marosticanese, Marostica, Veneto, Italy.
Società Elettrica Anonima Cooperativa, Bagolino, Brescia, Italy.
Società Elettrica Anonima Co-operativa, Morbegno, Sondrio, Italy.
Società Elettrica di Vestone, Vestone, Brescia.
Società Elettrica Ossolana, Intra, Lago Maggiore, Italy.
Società Elettrica Ossolana, Novara, Italy.
Società Elettricità Comense A. Volta, Como, Italy.
Società Elettricità di Collio Valtrompia, Collio, Brescia.
Società Elettricità di Sarezzo, Sarezzo, Brescia, Italy.
Società Elettricità Toscana, Pisa, Italy.
Società Generale Casalese di Elettricità, Casale Monferrato, Italy.
Società Gen. El. dell' Adamello, via Armorari 8, Milan.
Società Generale Italiana Edison di Elettricità, 2, via Tommaso Grossi, Milan, Italy.
Società Generale per la Illuminazione, Siracusa, Italy.
Società Generale per la Illuminazione Anonima, Naples.
Società Illuminazione Elettrica, Cremona, Italy.
Società Impianti idro-elettrico, Valle Imagna, Clenezzo, Bergamo, Italy.
Società Industriale di Elettricità, Rieti, Umbria, Italy.
Società Industriale d'Illuminazione Elettrica, Battaglia, Padua, Italy.
Società Industriale della Valnerina, Terni, Perugia, Italy.
Società Italiana di Applicazioni Elettriche, Turin, Italy.

Contractors—Electric Light & Power— *continued.*

Società Italiana di Elettricità, Sistema Cruto, Turin.
Società Italo Svizzera per la Illuminazione Elettrica, Sta. Maria, Capua, Vetere, Italy.
Società Ligure di Elettricità, Genoa.
Società Lombarda per Distribuzione di Energia Elettrica, rue Principe Umberto 17, Milan.
Società Loverese di Elettricità, Lovere Bergamo, Italy.
Società Monregalese di Elettricità, Mondovi-Breo, Italy.
Società per l'Illuminazione Elettrica, Arona (Prov. di Como), Italy.
Società per l'Illuminazione Elettrica di Bagni di Lucca, Italy.
Società per l'Illuminazione Elettrica, Castello di Godego, Treviso, Italy.
Società per l'Illuminazione Elettrica, Gavardo, Brescia, Italy.
Società per l'Illuminazione Elettrica, Gavi, Italy.
Società per l'Illuminazione Elettrica di Mendrisio, Mendrisio, Canton Ticino, Switzerland.
Società per l'Illuminazione Elettrica Salo-Gardone, Salo, Brescia, Italy.
Società per l'Impianti dell' Energia Elettrica, Bertalia 60, Bologna, Italy.
Società per lo sviluppo delle Imprese Elettriche in Italia, via Victor Hugo 1, Milan, Italy.
Società per l'Utilizzazione delle Forze Idrauliche, Sede a Milano, Domodossola, Italy.
Società Piemontese per Illuminazione Elettrica, R. Pario, Turin, Italy.
Società Toscana per Imprese Elettriche, piazza Bavanzati 2, Florence, Italy.
Società Vicese di Elettricità, Vicoforte, Mondovi, Italy.
Société Anonyme Ateliers de Constructions Electriques, Charleroi, Belgium.
Société Anonyme Belge d'Electricité A. E. G.-l'Union Electrique. Brussels.
Société Anonyme d'Eclairage Electrique, Wevelghem, Belgium.
Société Anonyme d'Éclairage Électrique du Secteur de la Place Clichy, 53, rue des Dames, Paris.
Société Anonyme d'Electricité du Borinage, Pâturages, Belgium.
Société Anon. d'Electricité, Ninove.
Société Anon. d'Electricité et de Constructions Mécaniques, 421, avenue Van Volxem, Brussels.
Société Anon. d'Energie Electrique de Grenoble et Voiron, 164, cours Berriat, Grenoble; & Lyons.
Société Anonyme "Electrarecajo," Logrono, Spain.
Société Anonyme, Force et Eclairage, Anseremme, Belgium.
Société Anonyme l'Électrique, 245, chaussée d'Anvers, Lacken, Brussels.
Société Anonyme Russo-Belge, rue Fosse-aux-Loups 37, Brussels.

Contractors—Electric Light & Power—*continued.*

Société Continentale de Traction et d'Eclairage par l'Electricité, 60, rue Caumartin, Paris.
Société d'Eclairage Electrique, St. Petersburg, Russia.
Société d'Eclairage "Genappe Electrique," Genappe, Belgium.
Société d'Electricité de l'Escaut 8, Quai Cockerill, Antwerp.
Société d'Electricité des Galeries Saint-Hubert, 56, rue des Bouchers, Brussels.
Société de l'Energie Electrique du Littoral Mediterranéen, Toulon (Var), France.
Société de l'Usine Electrique des Clées, Yverdon, Switzerland.
Société des Forces Electriques de la Goule, St. Imier, Switzerland.
Société des Tramways de Sebastopol, Sebastopol, Russia.
Société des Usines Hydro-electriques de Montbovon, Romont (Fribourg).
Société Electrique de l'Ouest, rue Dugommier 6, Nantes, France.
Société Électrique Vevey-Montreux, Montreux, Switzerland.
Société Française de Distributions et de Constructions Electriques, 15, rue du Louvre, Paris.
Société Française de matériel agricole, éclairage électrique et transport de la force, 5, rue de Dunkerque, Paris.
Société Française d'Exploitations des Procédés Hermite, 5, rue Drouot, Paris. (M. Curie, secretary.)
Société Générale d'Entreprises, Athens, Greece.
Société Grenobloise de Force et Lumière, Grenoble (Isère), France.
Société Industrielle d'Energie Electrique, 60, rue Caumartin, Paris.
Société "Le Triphasé," Asnières, Seine, France.
Société Lyonnaise des Forces Motrices du Rhône, 37, rue de la République, Lyons, France.
Société Nantaise d'Eclairage et de Force par l'Electricité, 16, rue Lamoricière, Nantes.
Société Normande d'Électricité, 14, rue du Petit-Salut, Rouen (Seine-Inférieure), France.
Société Officini Elettrische Genovesi, via del Campo 12, Genoa.
Société pour les Applications Générales de l'Electricité, rue Birmingham 54, Brussels.
Société Toulouse d'Électricité, 10, Quai Saint-Pierre, Toulouse (Haute-Garonne), France.
Soule, L., 13, rue de Thorigny, Paris.
Stamm, G., via Bocca di Leone 3, Rome.
Station Hydraulique d'Éclairage Électrique, 6, rue du Rû, Verdun (Meuse), France.
Sterlich, R., & Sander, VII. Kirchengasse 11, Vienna.
Stockholm Electric Light Co., Stockholm, Sweden.
Sutermeister, Carlo, & Co., Intra.
Tacchi, L., Porta Nuova 18, Pisa.
Taddei, Gerolomo, Turin.
Tassart, Balas, & Cie., 21, rue de Chateau-Landon, Paris.

Contractors—Electric Light & Power—*continued.*

Teplitzer Electricitäts und Kleinbahn-Gesellschaft, Teplitz, Bohemia.
Tomassini & Albanesi, Castelfidardo (Ancona), Italy.
Tonscheidt, A., Skalitzerstr. 9, Berlin, S.O.
Toubas, J., 2, boul. Victor Hugo, Nîmes (Gard), France.
Tritzschler, Herm., Oranienburgerstr. 7, Berlin.
Trollhättans Elektriska Kraftaktiebolag, Trollhättan, Sweden.
Uccelli, Icilio, Leghorn, Italy.
Udobro, Alfaro y Ca., Tafalla, Navarra, Spain.
Uguccioni, D., & Co., via Condotta 3, Florence.
Usines Electrochimiques de Hafslund, Sarpsborg, Norway.
Van Beers, Frères, rue de Joncker 34, Brussels.
Van der Windt, S., 1, rue Ortelius, Brussels.
Vannucchi, F., Pisa, Italy.
Van Oolen, 2, rue Mosselman, Liége, Belgium.
Verbulst, G., rue aux Laines 4, Brussels.
Vizcaino, Pascual, Almansa, Spain.
Voghera, Ing. S., Padua, Italy.
Wagner, F. W., Mohrenstr. 15, Berlin.
Waldek & Wagner, Prague, Austria.
Warsage, Clement, 185, boul. Anspach, Brussels.
Welter, Louis, & Co., Nachf, Wolfsstr. 1A, Cologne.
Wengler, Franz, gr. Kalandstr. 10, Weissenfels, a. d. S., Germany.
Westdeutsche Electricitäts Ges. m. b. H., Essen-Ruhr, Germany.
Weyrich, Hugo, Ilmenau, Germany.
Wiener Gasindustriegesellschaft, Maria Theresienstr. 8, Vienna.
Wienert, M., Ilmenau, Germany.
Wiessner, Rob., & Baumann, Alexandrinenstr. 37A, Berlin, S.
Wockatz & Co., Gothenburg, Sweden.
Woodhouse & Baillie Riviera Electricity Co., Ltd., Ventimiglia & Bordighera, Italy.
Zanni, V., via G. Guisti 10, Pisa.
Zimmer, Ad., Nachf. Otto Täkel, Weissenburgerstr. 20, Berlin, N.
Zürcher Telephongesellschaft, Actiengesellschaft für Elektrotechnik, Zurich.

Contractors—Installation.

F.—Installations—Entrepreneurs d'.
G.—Unternehmer—Einsetzung.

Ae, Otto, Ammonstr. 18, Dresden, A.
Aktiengesellschaft für Electricitäts Anlagen, Kanonierstr. 17/20, Berlin, W.
Alioth, R., Société d'Electricité Alioth, Arlesheim, Switzerland.
Allgemeine Elektricitatsges., Elsterstr., Leipzig.
Allmänna Svenska Elektriska Aktiebolaget, Westerås, Stockholm & Malmö, Sweden.
Andre & Cie., 31, rue Condorcet, Paris.
Andren, Edwin, & Co., Gothenburg, Sweden.
Arickx, G., 3, rue Philippe de Champagne, Brussels.

Contractors—Installation—*continued.*

Armaud, G., 5, rue Bonaparte, Paris.
Aronstein, A., 26, rue ten Bosch, Brussels.
Bachler-Baumann, Ernst, Aarau, Switzerland.
Bajetta, Giovanni, Foro Bonaparte 1, Milan, Italy. (Telephone No. 361.)
Baltische Akt. Ges. für Licht, Kraft & Wasserwerke, Kiel, Germany.
Barbieri, Domenico Menotti, Società delle Forze Idrauliche del Moncenisio, Turin, Italy.
Bardot, R., 8, rue Duhamel, Lyon, France.
Barth, M., Bautznerstr. 55, Dresden, N.
Battle, Jose, P° de Luchana, 21, Madrid.
Baumann, Kölliker & Co., Gotthardstr. 39 & 41, Zurich.
Bearnard, C., via Bertola 39 bis, Turin.
Beauvalet Frères, 3, rue Perrault, Paris.
Becker, Max, Wanfriederstr. 186/7, Mühlhausen, Thur., Germany.
Beleuchtungshaus Helios, Schneider & Hampe, Gr. Packhofstr. 25, Hanover.
Bellinger, F., Dürenerstr. 205, Köln-Lindenthal, Germany.
Berghanel, R., Rochlitzerstr. 39, Chemnitz.
Berghausen, A., Victoriastr. 2, Nähe Hauptpost, Köln-a.-Rh.
Berliner Elektrische Beleuchtungs & Kraftübertragung Werke, Alte Jacobstr. 48A, Berlin.
Berliner Installations-Werkstatt Paul Noack, Linkstr. 9, Berlin, W. 9.
Bernescu, S., & Co., Calea Victorici 77, Bucharest.
Bersezio, M., via Arcivescovado 1, Turin.
Bertea, D., via Corte d'Appello 2, Turin.
Berthier, 26, rue Feydeau, Paris.
Betriebs Aktienges. Deutscher Elektrizitätswerke vorm. Magdeburger Elektrizitätswerk, Friedrich Karl Ufer 2–4, Berlin, N.W. 40.
Beyer, A., Herrenstr. 2, Mühlhausen-i.-Th., Germany.
Beyts, J., 13, rue de la Concorde, Ghent.
Bigamo, B., via Alfieri 24, Turin.
Bisschot, J., rue du Marché du Parc 65, Brussels, Belgium.
Blender, H., Geisselstr. 67, Cologne-Ehrenfeld.
Bolliger & Oberer, Güterstr. 88, Basel, Switzerland.
Bonfantini, M., via Monferrato 11, Turin.
Bordoni, P., corso Vinzaglio 5, Turin.
Börner & Herzberg, 14, Bernburgerstrasse, Berlin, S.W.
Bosio & Daghetto, corso Vittorio Emanuele II. 92, Turin.
Brambach, R., Kutteltreppe 11, Nordhausen, Germany.
Brasilianische Siemens-Schuckertwerke Elek. Ges. m. b. H., Askanischerplatz 3, Berlin, S.W. 11.
Brofft, J., Joachimstr. 15, Berlin, W.
Broglio, F., via Corte d'Appello 13, Turin.
Brouhot & Cie., Vierzon (Cher), France.
Budry & Clerc, Clarens, Vaud, Switzerland.
Bureau Electrotechnique Hütten, 53, rue de la Caserne, Brussels.
Cance, A., 5, rue St. Vincent de Paul, Paris.

Contractors—Installation—*continued.*

Caroly, J., Agrippastr. 19, Cologne.
Caty, A., rue Tanneurs 219, Brussels.
Cavallero Fratelli, piazza Castello 25, Turin.
Cazorla, V. M., Alderete 5, Malaga, Spain.
Cepollini-Marchesa, via Cavour 10–12, Turin.
Cerruti, C., via Maria Vittoria 20, Turin.
Challes, B., 12, rue Gonod, Clermont-Ferrand (Puy-de-Dôme), France.
Chemnitzer Privat-Telefon Ges. A. Müller & Co., Annaburgerstr. 2, Chemnitz.
Chiado-Viret, P., via Arsenale 19, Turin.
Chrétien, P. C., 82, ave. de Breteuil, Paris.
Christensen, R., Odder, Denmark.
Closset, M., 91–93, boul. de Hainaut, Brussels.
Combet, Toury, 49, rue Dugueslin, Lyon (Rhône), France.
Compagnia Generale dele Acqua, Venice.
Compagnie d'Exploitations et de Travaux Industriels, 92, boul. Haussmann, Paris.
Compagnie Egyptienne Thomson-Houston, 10, rue de Londres, Paris; & 46, rue de Naples Brussels; & Cairo & Alexandria, Egypt. *See advt., page* 959.
Compagnie Électrique, 42, avenue Philippe Auguste, Paris.
Compagnie Nancéenne d'Éclairage Électrique, Nancy, Meurthe-et-Moselle, France.
Compagnie pour la Fabrication des Compteurs, 16 & 18, boul. de Vaugirard, Paris.
Corio, A., via Bertola 17, Turin.
Cotaniaficio Veneziano St. Marta, Venice.
Dalloz, 9, rue Gentil, Lyons, France.
Darnault, E., 39, rue de Chabrol, Paris.
Deagostini, M., via Madama Cristina 26, Turin.
De Block, Ecaussinnes, Belgium.
Deboeck, P., rue de l'Arbre-Bénit 28, Brussels.
Degraeve Frères, Chaussée de Haecht 44, Brussels.
De Housse, H., & Cie., 75, rue Potagère, Brussels.
Delahaye & Maurice, 13, place de la Gare, Tours, France.
Delplace, G., 46, rue des Marais, Paris.
Demaria, V., via San Massimo 14, Turin.
Demblon & Verset, 16, rue Gérard, Antwerp, Belgium.
Denoyelle, E., & Co., 40, rue Denfert Rochereau, & 3, rue Augrère, Paris.
Deplanque, 7, rue Couquelin, Boulogne-sur-Mer (Pas-de-Calais), France.
Desaulty, J., 153, boul. Frederic Degeorges, Bethune (Pas-de-Calais), France.
Desnos, H., 7, rue Cardinal Lemoine, Paris.
Desrues, 77, rue du Faub. St. Jacques, Paris.
Dias Santilhano, J., & Co., Singel 413, Amsterdam.
Diebel, Friedr., Lungengasse 49, Cologne.
Dittman & Scherzer, Nicolaistr. 10, Chemnitz.
Divé, P. et G., frères, Chaussée de Gand 108, Brussels.
Dolinetsch, —, 47, rue de Paris, Clamart (Seine), France.
Dortmunder Elektrizitäts Ges. m. b. H., Dortmund, Germany.

Contractors—Installation—*continued.*

Dumas, G., 6 bis, rue Saint Paul, Limoges (Haute-Vienne), France.
Durafour, G., 60, boul. des Brotleaux, Lyons, France.
Ehinger & Hilpert, Seerbachstr. 26, Frankfort.
Electrical Illuminating Station (Lora Stefano & Fratelli), Coggiola, Novara.
Electrogerie, L', 4, rue de Clichy, Paris.
Electrophile, L', 66, ave. de la Republique, Paris.
Elektricitätsgesellschaft Hansa m. b.H., Obernstr. 25, Bremen.
Elektrizitätswerk Luisenstadt G. m. b. H., Mariannenstr. 31, Berlin, S.O. 26.
Elektrizitätswerk Wannsee A. G., Friedrich Karl Ufer 2–4, Berlin, N.W. 40.
Elektromontana G. m. b. H., Schiffbauerdamm 21, Berlin, N.W. 6.
Entreprise Electro-Mecanique, 19, rue de Milan, Paris.
Eschwege, Paul, 26, rue Laffitte, Paris.
España, M., 37, rue des Rempart, Bordeaux (Gironde), France.
Etienne, —, 7, rue Michel Charles, Paris.
Eva, A., via Amedeo Avogadro 4, Turin.
Fabbrica Mantelle Carbon (soc. anon.), Venice, Italy.
Felten & Guilleaume Lahmeyerwerke Act. Ges., Carlswerk, Mulheim-am-Rhein, Germany.
Ferrad, A., 16, rue Auguste Comte, Lyons (Rhône), France.
Ferrero, Ph., 19, rue Delille, Nice, France.
Fleischhauer, G., Königstr. 68, Magdeburg.
Fleumer Frères, 46, rue du Molinel, Lille (Nord), France.
Fournier, V., 4, rue de Bellegarde, Toulouse (Haute-Garonne), France.
Frajese, D., & Co., via Medina 33, Naples.
Fredecke & Suffenplau, Bahnhofstr. 6, Hanover.
Frohn, G., & Co., Elberfeld.
Frühinsfeld & Co., 16, Woltmannstr., Hamburg.
Gaiero, Debernardi & Co., via San Domenico 40, Turin.
Garbayo y Moreno, Manuel, Compañia Electrica, San Sebastien.
Garde-Roux, —, Vaucluse, France.
Gatti, F., via Valperga Caluso 28, Turin.
Gautier, M., 36, rue St. Lazare, & 78, rue Taitbout, Paris.
Geisel, J., Deisterstr. 2B, Hannover-Linden.
General Swedish Electric Co., Ltd., Westerås, Sweden.
Genta, A., via dei Fiori 18, Turin.
Gherbel, I., jun., Splaiul Mihai Voda 5, Bucarest.
Glöss, Louis, Karlstr. 4, Chemnitz, Saxony.
Glühlampen Fabrik Union, Ltd., Dorotheenstr. 31, Berlin, N.W. 7.
Gmür & Co., Schännis, St. Gallen, Switzerland. (Telegrams: "Gmüre, Schännis.")
Goller, Gebrüder, Bayreutherstr. 44, Nürnberg.
Granoux, A., & Cie., 2, rue Pierre Levee, Paris; & 17, boul. du Nord, Marseilles.
Grégoire, Gaston, 26, rue Sauvenière, Spa, Belgium.

Contractors—Installation—*continued.*

Gribaudi, C., via Barbaroux 33, Turin.
Grohé, L., Klosterstr. 29, Kaiserslautern, Germany.
Gros & Charreyre, rue Stella 9, Lyons, France.
Grosse, Franz, & Co., Platz 15, Düren, Germany.
Grosso, G., corso Vinzaglio 7, Turin.
Gubernati, S., corso Valdocco 1, Turin.
Guiseppe, A., vico Casana 27–29, Genoa.
Hansen & Co., Villemoesgade 8, Copenhagen Ö., Denmark.
Harkenfeld, L. von, Waisenhausstr. 16, Dresden, A. I.
Haug, Filip, & Co., Christiania, Norway.
Hecht, E. J. C., Kiel.
Hegelmann, R., Anger, Erfurt, Germany.
Hegenbarth, Eug., Schlettstadt i-E., Germany.
Heller, J. F., Peterstr. 19, Nürnberg.
Helmsky, Wilhelm, VIII. Josefstädterstr. 9, Vienna, Austria.
Hempel, G. A., Äussere Klosterstr. 5, Chemnitz.
Herhahn, Edmund, Barmen, Germany.
Höhler, Aug., Dortmund, Germany.
Houis, J., 167, rue Saint Maur, Paris.
Houtman, J. D., Anna Paulownastraat 107, The Hague.
Hubert, L, 87, boul. Beaumarchais, Paris.
Hubert, M., 35, rue Grignan, Marseilles, France.
Impresa Illuminazione Elettrica (Garrone & Co.), Ovada, Italy.
Impresa Illuminazione Elettrica (Garrone Mannetti & Co.), pieve di Teco (Prov. di Genova), Italy.
Impresa Luce Elettrica di Avellino Esercita dalla Banca Popolare, Avellino.
Industrie Elek. Ges. m. b. H., Neue Friedrichstr. 37, Berlin, C. 2.
Installations Werke Gr. Lichterfelde, Söhtstr. 9, Gr. Lichterfelde, Berlin.
Internationale Elektricitäts Gesellschaft, 1, Wipplingerstrasse 30, Vienna.
Ishac, Louis, 66, rue Denfert-Rochereau, Toulouse, France.
Jacobs, Joh. F., Fettstr. 12, Hamburg.
Jacques, Leon, & Cie., 27, rue Vinave d'Ile, Liége, Belgium.
Jacquet, P., 83, rue de Dunkerque, Paris.
Jansohn, G., Fruchthallstr., Kaiserslautern, Germany.
Jauquemin, rue Gambetta 68, Poitiers, France.
Jensen, C., Kgl. Weinberge, Nerudagasse 26, Prague 313/VIII.
Jumeau & Jallot, 82, boul. Montparnasse, Paris.
Katz, P., 10, rue des Hirondelles, Brussels.
Kaufer, K., Kanonenwall 18, Hanover.
Kauschus, Emil, Müngstr, Konigsberg-i.-Pr.
Kaut, A., & Co., Elek. Ges., Elberfeld, Germany.
Keiling, H. F., Obermainanlage 7, Frankfort-a.-M.
Keller, Leleux & Cie., 3, rue Vignon, Paris.
Kilp Nachfolger, J. (B. Himmler), Hochstr. 2, Frankfort-a.-M.
Klemm, Emil, & Dressler, Gr. Plauenschestr. 25, Dresden, A.

Contractors—Installation—*continued.*

Kloosterhuis, H. A., 178, Kalverstraat, Amsterdam.
Koch, J., 41, Langensalzearstr., Eisenach, Germany.
Köchij, H., Garten Allee 9, Hannover-Linden.
Kogel, J., Gilbachstr. 29, Cologne.
Köhler, Spiller & Co., Weserstr. 33, Frankfort-a.-Main.
Köhn & Rowoldt, Friesenplatz 24, Cologne.
Köth, J., Piusstr. 8, Cologne-Ehrenfeld, Germany.
Kramme, C., 76 & 77, Gitschinerstr., Berlin, S.W.
Křižik, Fr., Prague, Karolinenthal, Austria.
Kuckuk Gebruder, Dortmund.
Kühne, Paul, Friedrichstr. 23, Chemnitz, Saxony.
Kure, Per., Pilestrade 27, Christiania.
Küstner, Geo., innere Johannisstr. 14I, H. G., Chemnitz, Saxony.
Labbé, Z., 208, rue St. Maur, Paris.
Lafleur, Efrem, Lago Maggiore, Intra, Italy.
Lange, A. & P., via Juvara 16, Turin.
Lausitzer Elektrizitäts Werk, Ltd., Friedrich Karl Ufer 2–4, Berlin, N.W. 40.
Lebelle, P., 16, rue des Filles du Calvaire, Paris.
Leclerc, J., 43, rue de Fives, Lille (Nord); & 32, rue Rabelais Fives, St. Maurice, France.
Leclerc, L., & Cie., place des Eaux Vives, Geneva, Switzerland.
Leclercq, J., rue d'Ecosse 68, Brussels.
Leconte & fils, 87, rue Nationale, Lille (Nord), France.
Lemaire, E., 51, ave. de Versailles, Paris.
Lequy, C., rue du Canon 9, Brussels.
Lerco, Vincent & Co., via Estramurale Modugno, Bari, Italy.
Leser, A., & Co., Schaafenstr. 69, Cologne.
Lethimonier & Cie., 32, rue Felicien David, Paris.
Lheyraud, J., & Cie., ave. de la Motte Picquet 57 bis, Paris.
Liebold, H., Gr. Kirchgasse 3 & 5, Dresden.
Loret, G., 33, rue Berzelius, Paris.
Ludwig, Fr., Langebrücke 17, Erfurt, Germany.
Luino, D., via San Domenico 35, Turin.
Magherini, S., via Arciveescovado 1, Florence.
Magis, P., 21, pl. de la Gare, Antwerp, Belgium.
Marietti, Ing., & Co., via San Quintino 19, Turin.
Märkische Installations Ges., Ltd., Adalbertstr. 6, Berlin, S.O.
Marktscheffel, G., Weissekreuzstr. 8/8A, Hanover.
Marten, H., Brüsseler Platz 16, Cologne.
Massadro, G., via Borgo Dora 12, Turin.
Mathelot, —, 3, rue Meissonier, Paris.
Matthes, G., 54, Prinzenstr., Berlin, S. 14.
Meier, F. C., Dortmund.
Meininghaus, H., Dortmund, Germany.
Mercey & Cie., rue des Templiers, Lyons, France.
Messerli, E., Bern, Switzerland.
Michaud, A., 7, rue Paul Bert, St. Etienne (Loire), France.
Minuti, F., via Vecchietti 4, Florence.
Monnet & Caramelli, via XX Settembre 11, Turin.
Morand, Ph., 32, boul. Haussmann, Paris.
Morgenstern, A., 65, Gosslerstr., Hamburg.
Neumeyer, —, Schlettstadt, Germany.

Contractors—Installation—*continued.*

Nicolai, H., Essen, Germany.
Niederschlesische Elektricitäts und Kleinbahn Aktien Ges., Waldenburg, Germany.
Nierth & Forster, Bautzen, Saxony.
Nonhoff (Maison), rue Anneessens 3, Brussels, Belgium.
Ohlendorf & Francke m. b. H., Königstr. 53A, Hanover.
Olivero, F., via San Donato 56, Turin.
Ollino, P., via Gioberti 22, Turin.
Ortigosa, Andreu, Garvayo & Co., Pamplona, Spain.
Parisienne, La, 19, rue Montera, Paris.
Pelou, M., 79, boul. Malesherbes, Paris.
Pelz, Alfred, & Co., Steindamm 160, Konigsberg-i.-Pr.
Perazzone, A., via Genova 11, Turin.
Perricli, —, Capo Telegrafista Societa Tramway Biellessi, Vercelli.
Peter, Albert, Kötzschenbroda, Saxony.
Petrella Fratelli, via Cibrario 4, Turin.
Philipsen, H. P., Slagelse, Denmark.
Pillet, F. J., boul. Garibaldi 38, Paris.
Plessner, H., Schneebergerstr., Zwickau, Saxony.
Plücken, Gottfried, 19, Luth. Kirchstrasse, Crefeld, Germany.
Pöschmann & Co., Pillnitzerstr. 50, Dresden.
Prudhomme, A., 82, ave. de Breteuil, Paris.
Quanonne, F., Co., rue Belliard 161, Brussels.
Rasche & Co., 2B, Prinzenstr., Chemnitz.
Rauschenbach, Fritz, Waisenhausstr. 24, Dresden, A.
Regoort & Co., The Hague, Holland.
Renard, L., 41, rue de Bellefond, Paris.
Rene, F., 3, rue Auguste Comte, Lyons, France.
Reybel, 48, rue de la Charité, Lyons, France.
Riccardi, G., via Alfieri 5 bis, Turin.
Richard, H., 9, rue des Trois-Bornes, Paris.
Richter, Carl H., Uplandstr. 97, Wilmersdorf, Berlin.
Risso, D., via S. Sebastiano 51R, Genoa.
Robert, 19, rue des Capucines, Commercy (Meuse), France.
Robert, G., 89, rue Voltaire, Levallois-Perret (Seine), France.
Rode, Max, Konigstr. 165, Elberfeld, Germany.
Rollet, H., 35, rue Jacob, Paris.
Römpler, C., Altonaerstr. 22, Berlin, N.W.
Rosch, Aug., Kranichstr. 27, Nordhausen, Germany.
Rosenkranz & Sciwert, Gutenbergstr. 22, Dortmund, Germany.
Rouvroy, Ed., rue Catalogue 1 bis, Ghent.
Sachsische Baugesellschaft für Elektrische Anlagen m. b. H., Langestr. 6, Leipzig.
St. Petersburger Technisches und Industrie Bureau, Katharienenhofer Prosp. 63, St. Petersburg.
Salm, Ludw., Palmstr. 45, Cologne.
Sanglier, E., 145, rue Varin, Liège, Belgium.
Sara, Ed., & Co., via Polacchi, Palermo, Italy.
Schäfer, K., Weberstr. 22 & 23, Hannover-Linden.

Contractors—Installation—*continued.*

Scheib, Ing. E., Georgstr. 48, Hanover.
Scheier, H., Oranienburgerstr. 59, Berlin, N. 24.
Scheitlin, Emil, Linsebühlstr. 4A, St. Gallen, Switzerland.
Schiller, P., Hannover-am-Marstall.
Schimpfermann, H., & Co., Gerichtsweg 16, Leipzig.
Schleenhain, Horst, innere Klosterstr. 17, Chemnitz, Saxony.
Schlosser, Jac., Karlstr. 15, Kaiserslautern, Germany.
Schmidtsdorff, R., Chausseestr. 39, Berlin, N.
Schmoll, Chr., 38, Biebererstr., Offenbach-a.-Main, Germany.
Schon, F. J., Dortmund.
Schreihage Gebr., Chemnitz, Saxony.
Schröder, Ad., Rendelerstr. 23, Frankfort-on-Main.
Schroeder, P., Philippstr. 6, Cologne-Ehrenfeld.
Schütz, C. W., Kl. Johannisstr. 9, Hamburg.
Société Anonyme d'Électricité, 39, avenue Marceau, Courbevoie (Seine), France.
Société Anonyme La Westendaise, Westende, Belgium.
Société d'Electricité des Immeubles du Loiret, 15, rue Adolphe Crespin, Orleans (Loiret), France.
Société Française d'Electricité, 56-58, rue St. Aubin, Angers, France.
Société "l'Eclairage Électrique." Offices & Works: 364, rue Lecourbe, Paris.
Société Lyonnaise d'Installations, 57, quai St. Vincent, Lyons.
Squindo, G., Biella, Italy.
Svendsen, Einar, Allégade 17, Copenhagen F.
Technisches Bureau für Elektrische Licht u. Kraft Anlagen, Münchenerstr. 34, Berlin, W.
Torth, G., Schlettstadt (Alsace), Germany.
Touzet, C., 20, rue de la Bourse, St. Etienne (Loire), France.
Troller, V., Central station, Lucerne, Switzerland.
Urena, A., Fabrica de Luz Electrica, Alcala, Madrid.
Vadala & Co., via Cavour, Palermo, Italy.
Vallet & Ducoté, 51, boul. Richard Lenoir, Paris.
Vallin, E., 5, rue de Lancry, Paris.
Vandenkerckhoven, J., 26, rue de Paris, Brussels.
Verband der Elektrotechnischen Installationsformen in Deutschland, Schiffelstr. 1, Frankfort-on-Main.
Verdier, R., & Cie., boul. des Minimes, Toulouse, France.
Vereenoghe, J., pl. de la Couronne 7, Brussels.
Vereinigte Elektrizitätswerke G. m. b. H., Bülowstr. 24, Berlin, W. 57.
Verhoeven, J., rue du Singe 23, Brussels.
Verità, A., via Cento Stelle 63, Florence.
Vieweg, P., Zwickauerstr. 57, Chemnitz.
Vivet, L., 77, rue d'Aubagnes, Marseille, France.
"Volta" Société en Comandite pour Installations Electrotechniques, Strada Smârdan 51, Bucharest.
Walser, Otto, Herisau.
Wedde & Meyer, Goethestr. 2A, Hanover.

Contractors—Installation—*continued.*

Weiler, H., Triererstr. 12, Cologne.
Wichmann, O., Kehdenstr., Kiel.
Wiedmann, Walter, Kneiphof Langgasse 56, Kœnigsberg, Pr. Germany.
Wijnmalen & Hausman, Glashaven, Rotterdam.
Wilhelm, L., Hanau, Germany.
Witte, J., & Vogt, 6, Böckmannstr., Hamburg.
Wohlfarth, O., Körnerplatz 2, Chemnitz.
Wolff & Grâfe, Bahnhofstr., Erfurt, Germany.
Wolff & Westebbe, Dortmund.
Wynants, T., rue d'Artois 27, Brussels.
Zinck, Potthoff & Co., Immenhof 11, Hamburg.

Contractors—Telegraph.

F.—Télégraphes—Entrepreneurs de.
G.—Unternehmer für Telegr. Anlagen.

Apel, Wilhelm, Göttingen.
Biedermann, F., 18, Bambergerstr., Berlin, W.
Blöming, L., Filzengraben 18, Cologne.
Brüger & Jakobi, Poststr., Ilmenau, Germany.
Christ, Max, Merseburg, Germany.
Conrad, H., Nicolaistr. 21, Weissenfels a. d. S., Germany.
Demme, B., Steinweg 55 & 56, Muhlhausen-i.-Th., Germany.
Ebert, Th., kl. Ritterstr. 2, Merseburg, Germany.
Engel, G., Weissenfelserstr. 3, Merseburg, Germany.
Felten & Guilleaume Lahmeyerwerke Act. Ges., Carlswerk, Mulheim-am-Rhein, Germany.
Hüttel & Haugwitz, Markstr., Ilmenau, Germany.
Kautye, J. W. T., Hansaplatz 9, Hamburg.
Klug, E., Steinweg 29, Muhlhausen-i.-Th., Germany.
Leehner, Heh. J., von Hagen Nachf., Frankfurt a/M., Germany.
Mohring, E., Leipzigerstr., Weissenfels a. d. S., Germany.
Ockert, H., Judenstr. 15, Nordhausen, Germany.
Oppel, J., Neumarkt 13, Merseburg, Germany.
Pfaff, H., Lavesstr. 61, Hanover.
Schneider, H., Karl Auguststr., Ilmenau, Thur., Germany.
Schneider, P., Schloss-str., Ilmenau, Germany.
Siedle, S., & Söhne, Furtwangen, Badischer-Schwarzwald, Germany.
Sippel, H., Schmalestr. 5, Merseburg, Germany.
Steckel, A., Kylischestr. 33, Sangerhausen, Germany.

Contractors—Telephone.

F.—Téléphones—Entrepr. de.
G.—Unternehmer—Telephon.

Allgemeine Telephon-Ges. m. b. H., Maybachstr. 10, Cologne, Germany.
Alterocca Virgilio, Terni, Italy.
Antwerp Telephone & Electrical Works, Ltd. (Rod. B. Bumiller, manager), Antwerp, Belgium. (Telegrams: "Electrical, Anvers.")
Becker, A., Nürnbergerstr. 38, Berlin

Contractors—Telephone—*continued.*

Bell Telephone Manufacturing Co., 18, rue Boudewyns, Antwerp.
Cie. du Téléphone Bell, Grande rue Tonneliers, La Louviere, Belgium.
Cie. du Théâtrophone (Soc. anonyme d'Auditions Téléphoniques), 23, rue Louis-le-Grand, Paris.
General Telephone Co., Stockholm, Sweden.
L'Hoest, Félix, rue des Augustin 55, & place de l'Université 60, Liége, Belgium.
Nederlandsche Bell Telephoon Co., Damstraat, Amsterdam, Holland.
Sierra, Hijos De I., calle Mayor 20, Madrid, Spain.
Società Anonima Co-operativa dei Telefoni, 5, Piazza Venezia palazzo Buonaparte, Rome.
Società Anonima dei Telefoni, Pordenone (Prov. di Udine), Italy.
Società Telefoni, via Rigattieri, Pisa, Italy.
Società Telefonica di Zurigo, via 42 Settembre 19, Verona, Italy.
Società Telefonica pal servizio pubblico & privato, 4, via Nicolo Lionello, Udine, Italy.
Société Anonyme de Telephonie Privée, boul. de la Senne, Brussels.
Stockholms Allmänna Telefonaktiebolag, Stockholm, Sweden.
Telephone Works, Ltd., late J. Berliner, Kniestr. 18, Hanover, Germany.
Telephonic Wucherpfennig, Louisenstr. 6, Hanover.
Troni, Ing. Vittorio e Ci., Cagliari, Italy.

Copper Merchants.

F.—Cuivre—Marchands.
G.—Kupfer—Händler.

Franch, —, 6, avenue de Versailles, Paris.
Lemaréchal Frères & Cie., 3, rue Chapon, Paris.
Pilliard, L., 106 & 107, rue St. Martin, Paris.
Piolat, B., 14, rue Portefoin, Paris.
Sachs. Copper & Brass Works, Grünthal bei Olbernhau, Saxony.
Vanderkindere, Alb., & J. Devos, 18, rue Bara, Brussels-Midi, Belgium.

Core Serving Machine Manufacturers.

F.—Machines à servir les noyaux.
G.—Maschinen zur Herstellung der Seele fur Drahtseile.

Maschinenbauanstalt für Kabelfabrikation Conrad Feiling, jun., Coepenick, nr. Berlin. *See advt., page* 14.

Counter Weights.

Kramer & Löbl, Gablonz, Bohemia, Austria.

Cranes (Electric)—Makers of.

F.—Grues électriques—Fab. de.
G.—Electrische Krähne—Fab. von.

Bonnafous, Ch., Bozonnet & Cie., 59, rue des Cloys, Paris.

Cranes (Electric)—Makers of—*continued.*

Caillard & Cie., 20, rue de Prony, Le Havre; & 117, boul. Magenta, Paris.
Collet & Engelhard, Offenbach-on-the-Main, Germany.
Compagnie Internationale d'Electricité, Liége, Belgium.
Eisenwerk (vorm. Nagel & Kaemp), A. G., Hamburg-Uhlenhorst, Germany.
Larini, Nathan & Co., Milan, Italy.
Lavoisier, Ducoulombier, 3, rue de l'Amidonnerie, Tourcoing (Nord), France.
Mallard, P., 33, quai le France, Rouen, France.
Tenner, Armin, Zimmerstr. 34, Berlin, S.W., Germany.
Weiler, E., Quitzowstr. 25/26, Berlin, N.W. 5.

Cut-Outs—Makers of.

F.—Coupe-circuits—Fab. de.
G.—Strom-Unterbrecher—Fabr. von.

Christophe, 19, rue des Graviliers, Paris.
Compagnie Anglaise, 76, faub. St. Denis, Paris.

Cut-Outs (Magnetic)—Makers of.

F.—Coupe-circuits—Magnetiques.
G.—Strom-Unterbrecher—Magnetische—Fabr.

Borg, C., Gerberstr. 19/27, Leipzig, Saxony, Germany.
Juste, J., rue de la Chine 8–10, Paris.

Dental Appliances (Electric)—Makers of.

F.—Appareils élec. de dentistes.
G.—Zahnärztliche Apparate (Elek.)—Fabr. von.

Tack, Robert, G. m. b. H., manufacturers of dental drilling machines, lighting, &c., instruments, Ritterstr. 11, Berlin, S. 42. (Telegs.: "Robert Tack, Berlin Ritterstrasse." Teleph. No. Amt. IV. 10137.)

Depositors—Electro.

F.—Galvanoplastie.
G.—Galvanisatoren—elektre.

Guillon & César, 137, rue Oberkampf, Paris.
Société d'Electro-Métallurgie de Dives, 11 bis, rue Roquépine, Paris. Works: Dives (Calvados).

Designers & Draughtsmen.

F.—Dessinateurs.
G.—Zeichner & Entwerfer.

Harty, L., Fils, 26, rue d'Ostende, Brussels.

Distributors & Suppliers of Electricity.

F.—Électricité—Fournisseurs et distributeurs d'.
G.—Electricität—Verteilung und Lieferung von.

Compañia Toresana de Electricidad, Toro, Zamora, Spain.

Distributors & Suppliers of Electricity—*continued.*

Cie. Hydro-Electrique Anversoise, 59, pl. de Meir, Antwerp, Belgium.
Electricité Neuchateloise S. A., Neuchatel, Switzerland.
Société Electrique de Gryon, Gryon (Vaud), Switzerland.

Door Openers—Electric.

F.—Ouvre-portes électr.
G.—Electr. Thür Oeffner.

Brandt, J., Aachenerstr. 55A, Cologne.
Kissling, Gottlieb, Ebingen, Württemberg.
Schortmann, G., & Son, Leipzig-Plagwitz, Germany.
Schott, Geo. V., Wurzburg, Germany.

Driving-Band Makers—Cotton, Hair, Indiarubber, Leather.

F.—Fab. de Courroies en Coton, Crin, Caoutchouc, Cuir.
G.—Fab. von Baumwolle-, Haare-, Gummi-, Leder Treibriemen.

Appel, Richard, Jordanstr. 60, Frankfurt-am-Main-Bockenheim.
Blachier, F., & Cie., 14, boul. Gambetta, Grenoble.
Chartran, Ivry-port (Seine), France.
Decq Belting Factory, 36, rue d'Artois, Brussels.
Domange, A., & fils, 74, boul. Voltaire, Paris.
Heucken, Konr., & Co., Aachen, Germany.
Hoppentstedt, G., 23, rue d'Hauteville, Paris.
Houben et Cie. (leather), rue Coronmeuse & rue de la Halle, Verviers, Belgium.
Janke & Gutherz, Elisabethstr. 9, Berlin, N. 24.
Klinge, E. (leather), Jagdweg 14 & 16, Dresden.
Klinge Gebrüder, Oststr. 10-14, Dresden-Lobtau.
Lechat, J., & Cie., 16, ave. de la République, Paris.
Loewe, C. A., Invalidenstrasse 12, Berlin, N.
Melzow, Otto, Andreasstr. 32, Berlin, O.
Michelin & Cie., Clermont-Ferrand; & 105, boul. Pereire, Paris.
Sorge & Schma, 18, Schlesischestr., Berlin, S.O.
Union Ges. für Treibriemen-Fab., Ltd., Ritterstr. 75, Berlin, S.W.

Driving-Chain Makers—Steel.

F.—Chaînes d'entrainement d'Acier.
G.—Treibketten—Stahl.

Benoit, —, 84, rue Oberkampf, Paris.

Dynamo Brushes—Makers of.

F.—Fab. de Balais de dynamos.
G.—Dynamo Bürsten—Fab. von.

Bauer, Hugo, IV. Victorgasse 16, Vienna.
BERNE, J. A. (late E. Carré) (manufacturer of carbon brushes), 68 bis, rue de Lagny-Montreuil, Paris.
Bittrich & Simon, Schönau bei Chemnitz.
Boudreaux, L., 8, rue Hautefeuille, Paris.

Dynamo Brushes—Makers of—*continued.*

Damade, E. J., & Cie., Place de la Republique, Sinlenoble près Douai, France.
Esnouf & Cie., rue d'Havre, Mons, Belgium.
Favrolle, —, 5, rue Moreau, Paris XII.
Franck & Co., Schlettstadt i/E.
Galvanische Metallpapierfabrik Akt. Ges., Gerichstr. 2, Berlin, N.
Gantois, J., & Cie., St. Die-Vosges; & 46, boul. Magenta, Paris.
Graphitoide, Le, Soc. Anon., 36, rue Eugène Carriere, Paris.
Hartmann, H., & Co., 6, Oranienstr., Charlottenburg-Berlin.
Hüttlinger, J. L., Schwabach, bei Nüremberg.
Koch, J. C., Hohenlimburg, Westphalia.
KRÖTLINGER, CARL, VII. Halbgasse 3, Vienna.
Lang, L., & fils, Schlettstadt, Alsace, Germany.
Lemaire, Gaston, rue Hinemart 10, Rheims, France.
Lippmann, H., Hohenlimburg, Germany.
Martel, Catala & Cie., Schlestadt, Alsace.
Mizery, J., 25, rue Amelot, Paris.
Mortier & Bultingaire, 81, boul. Richard Lenoir, Paris.
Patz, Louis, Frankenstr. 9, Dresden A. 19, Germany; Kirchengasse 43, Vienna VII/2, Austria; & Perczel Mor-Utcza 4, Budapest V.
Petzold, E., jun., Chemnitz 42.
Pickhardt, G., Kölner Chaussée 149, Bonn-on-the-Rhine, Germany.
Quentin, P., 24, boul. des Batignolles, Paris XVII.
Ringsdorff, P., Essen, Ruhr, Germany.
Rylander & Rudolph (carbon brushes), Stockholm, Sweden.
Sächsische Dynamobürsten-Fabrik, Franz Kostorz, Dresden A., Germany.
Schniewindt, C., Neuenrade, Westphalia, Germany.
Svenska Dynamoborstfabriken, Stockholm.
Zentsch, Louis, & Co., Langestr. 36, Leipzig, Germany.

Dynamo Manufacturers.

F.—Dynamos—Fab. de.
G.—Dynamo-Maschinen—Fab. von.

Aarhus Dynamo & Electro Motor Manufactory, Aarhus, Denmark.
Ainardi & Machurot, 12, rue Lafayette, Marseilles.
Ansolt & Cie., rue du Maroc 27, Paris.
Baugesellschaft für Elektrische Anlagen, Graf Adolfstr. 83-87, Dusseldorf, Germany.
Becquart, L., 115, rue Torgol, Lille, France.
Begemann, E. H., Helmond, Holland.
Berghanel & Lindner, Lutherstr. 66, Chemnitz, Saxony.
Bertraux, 127, rue de la Chapelle, Paris.
Besserdich, W. A., & Co., 11A, Eszterházygasse, Vienna VI.
Bouillet, —, 94, rue de Montreuil, Paris.

Dynamo Manufacturers—*continued.*

Bouton, G., & Cie., 5 & 7, rue Nicolai, Brussels.
Burghardt, Gebrüder, Mülhausen, Elsass, Germany.
Bürgin, Emile, 1, Missionstr., Basle, Switzerland.
Commissaire, 18, rue du Lenain, Paris.
Compagnie de l'Industrie Électrique et Mécanique, brevets Thury, Geneva, Switzerland.
Compagnie Internationale d'Electricité, Société Anon., quai de Coronmeuse 30, Liége, Belgium.
Compagnie Universel Electric, 35, rue de Bagnolet, Paris.
Constructions Electriques Nancy, Nancy (Meurthe-et-Moselle), France.
Conz Elec. Ges. m. b. H., Hamburg, Germany.
Corberon, Ch., 54, rue de Chabrol, Paris.
Decauville aîné Société Anonyme des Etablissements, Evry-Petit Bourg, Seine-et-Oise, France.
De Forenade Jernstoberier Ak., Nestred, Denmark.
Derry, 24, rue de la Fosse, Nantes (Loire-Inférieure), France.
Deutsche Elektrizitäts-Werke zu Aachen (Garbe, Lahmeyer & Co. Akt. Ges.), Aachen, Germany.
Dotal, François, 42, boul. de Belleville, Paris.
Doyen, A, 38, quai Jemmapes, Paris.
Dutry-Colson Maison, Ghent.
Dynamo & Elektromotoren Bauanstalt f. Machek & Ges. V. Brauhausg. 82, Vienna.
Eck, N., 5, boul. Péreire, Paris.
Elektrische Fabrik Rheydt, Rheydt (Rheinpr.), Germany.
Elektromotorenwerke Heidenau G. m. b. H., Heidenau bez Dresden.
Etablissement Galileo, Florence, Italy.
Fabke, Gebr., Wendenstr. 41–43, Hamburg 15.
Fabrik für Electrotechnik und Maschinenbau Bamberg, Germany.
Fundiçaõ de Belem, Calçada d'Ajuda 18, Belem, Lisbon, Portugal.
Gindre Duchavany & Cie., 18, quai de Retz, Lyons (Rhône), France.
Gloker, J., 5, impasse de Gênes, Paris.
Grammont, A., Pont de Chéruy (Isère), France.
Grandguillot, J., 9, rue de la Bourse, Le Hâvre.
Grauer, S., & Cie., 46, rue Ghende, Brussels, Belgium.
Henneton, H., 5, rue Colson, Lille, France.
Henriksen, N., Slotsgade 16, Aalborg, Denmark.
Henrion, F., Nancy, France; & 113, rue Réaumur, Paris.
Iglesis & Regner, 32, rue Rennequin, Paris.
Iliyne-Berline, 8, rue des Dunes, Paris.
Industrielle Generale, l'(Soc. Anon.), 27, rue La Bruyère, Paris.
Jacquet Frères, à Vernon (Eure), France.
Jaeger, E., & Fils, Epernay (Marne), France.
KRÖTLINGER, CARL, VII. Halbgasse 3, Vienna.
Kuksz, Luedtke et Grether, 25, rue Leszno, Varsovie, Russia.
Kunze & Co., Gross-Zschachwitz bei Dresden, Germany.

Dynamo Manufacturers—*continued.*

Lagneau, 15, 17, rue Taclet, 121, rue Pellaport, Paris 20e arr.
Lecorsais, A., Luxembourg.
Levysohn Gebr., Markgrafenstr. 89 & 90, Berlin, S.W. 68.
Ley, Rud., Arnstadt, Germany.
Lœvenbruck, —, Maromme (Seine-Inf.), France.
Luminais fils & Pageot, 9, rue Dubreil, Nantes, France.
Maffei-Schwartzkopff Werke G. m. b. H., 23, Chausscestr., Berlin, N.
Maschinenfabrik Oerlikon, bei Zürich, Switzerland.
Maxant, L., 38 & 40, rue Belgrand, Paris, France.
Milsan, L., 3, rue Centrale, Ile Lacroix, Rouen.
Mongin, P., 5 & 7, rue Beranger, & 11, rue de Jean, Marseille, France.
Naamlooze Vennootschap Electrotechnische Industrie voorheen Smit, Wilhem, & Co., Slikkerveer, Holland.
Olivet, G., & Co., 6, cours de Rive, Geneva, Switzerland.
Palacios, N., Orellana 9, Madrid.
Palmcrantz & Co., Stockholm, Sweden.
Pigard & Molitor, 2 bis, rue Gonnet, Paris.
Präzisions Werksstätten Mittweida, Mittweida, Saxony.
Prokop, Wwe. Jos., Palackýstr. 204, Pardubitz, Bohemia, Austria.
Remy-Dennis, Marly-les-Valenciennes, Nord, France.
Reutlinger, B. C., 197, Röderbergweg, Frankfort.
Röder, E., 13, Ritterstr., Berlin, S. 42.
Rychnowski, Franç., Platz Chorozernyzna 15, Lemberg, Austria.
Sachsenwerk, Licht-und Kraft Aktienges., Niedersedlitz bei Dresden.
Sautter, Harlé & Cie., 26, ave. de Suffren, Paris.
Schneider & Co., 42, rue d'Anjou, Paris. Works: Le Creusot (Saône-et-Loire), & Champagne (Seine-et-Marne), France.
Schuchardt & Schütte, Spandauerstr. 59/63, Berlin, C. 2.
Schumann's Elektrizitätswerk, Leipzig Plagwitz, Germany.
Schwarz, R., 31, Reisnerstr., Vienna III., Austria.
Schwerd, L. E., Karlsruhe, Baden, Germany.
Società Anon. Italiania Gio Ansaldo Armstrong & Co., Genoa.
Società Anon. Truffet, Viale P. Romana 55, Milan.
Società Esercizio Bacini, Ltd., 18, piazza Annunziata, Genoa.
Société Anon. des Etablissements S. Grauer & Cie., 74 & 76, boul. Richard Lenoir, Paris.
Société Anonyme du Phœnix pour la Fabrication des Machines et Mécaniques, Gand, Belgium.
Société des Anciens Etablissements Luc Court & Cie., Lyon, France.
Société des Etablissements Elwell, 194, ave. de Paris, Plaine St. Denis (Seine), France.
Société Nouvelle des Etablissements Decauville aîné, 13, boul. Malesherbes, Paris; & Petit-Bourg, Seine-et-Oise.

Dynamo Manufacturers—*continued.*

Stucchi & Co., via Tortona 11, Milan, Italy.
Thrige, T. B., Odense, Denmark.
Unione Elettrotecnica Italiana, 60, viale Principe d'Acaja, Turin.
Vejtruba, Josef, jun., 11, Kleiner Ring, Prague.
Vereinigte Elektromotoren-Werke G. m. b. H., Mainzerstr. 23, Berlin, O. 112.
Viglietti, Antonio Nipote, Mondovi, Italy.
Werner & Menchen, 133A, Residenzstr., Berlin-Reinickendorf.
Wiklunds, Aktb. W., Verks, Stockholm, Sweden.

Dynamo Wires.

F.—Fil pour Dynamos.
G.—Draht für Dynamos.

Deutsche Kabelwerke Akt.-Ges., Berlin-Rummelsberg.

Dynamos—Testing.

Leconte, Félix, rue Royale 25, Tournai, Belgium. Special thermometers, rapid & exact in action, for the temperature of collectors, rings & windings.

Earthenware Manufacturers for Electrical Purposes.

F.—Poterie pour l'Electricité—Fab. de.
G.—Thonwaaren für Electr. Zwecke.

Actien-Gesellschaft fur Glasindustrie, vormals Fried. Siemens, Freibergerstr. 91, Dresden; & I. Jacoberstr. 6, Vienna.
Bordoni, A., e Figli, via Savona 29–31, Milan, Italy.
Deutsche Ton & Steinzeug-Werke A.G., Berlin-Charlottenburg, Germany.
Fuisseaux, F. De, à Baudour, près Mons, Belgium.
Glashüttenwerke vormals J. Schreiber & Neffen, 22, Liechtensteinstr., IX., Vienna.
Jacob, Delafou & Co., à Pouilly-sur-Saône (Côte-d'Or), France.
Lederer et Nessényi, I. Operngasse 14, Vienna, Austria.
Reich, S., et Cie., 3, Czerningasse, II., Vienna.

Ebonite Manufacturers.

F.—Ebonite—Fab. d'.
G.—Ebonite—Fabrikanten.

Englebert, O., fils & Cie., rue de Vennes 29–37, Liége, Belgium.
Indiarubber, Gutta-Percha & Telegraph Works Co., Ltd., 97, boul. Sébastopol, Paris.
Tournerie Ouvrière, La, Lavans les St. Claude (Jura), France.
Traun, Dr. Heinr., & Söhne, vorm. Harburger Gummi Kamm Co., Meyerstr. 59, Hamburg, Germany.
VEREINIGTE GUMMIWAAREN FABRIKEN HARBURG-WIEN, Wimpassing im Schwarzathale, Austria. Office: Caniahilfenstr. 115, Vienna VI.

Electricians.

F.—Electriciens.
G.—Elektriker.

Abbatecola, Livio, Ufficio Tecnico Intendenza di Finanza, Florence.
Acrocca, Ing. D., via Principe Umberto 112, Rome, Italy.
Agemian, V., 14 & 16, Ziver Bey Han, Galata, Constantinople.
Agüeras, M., Independencia 17, Zaragoza, Spain.
Alepée, E., Auch (Gers), France.
Alexeeff, A., Polotz-Siedletz Railways, Wilna, Russia.
Almano, —, Le Puy (Haute-Loire), France.
Amiot, I., 11, rue du Lunaiss, Paris.
Anasa, V., calle de Estruch 9, Barcelona.
Andréani, R. J., Courbevoie (Seine), France.
Apolloni, G., 23, via Marche, Rome.
Arnales, S., Coso 27, Zaragoza.
Arnaud, E., 11, rue Victor Hugo, Bayonne (Basses-Pyrénées), France.
Arnould, C., 55, rue de Rome, Paris.
Arnoult, Gabriel, 7, rue d'Eupatoria, Tours (Indre-et-Loire), France.
Arrojo, H., fonda de Simon, Cordoba.
Aschner, Lipót, Árpád út 32, Ujpest, Budapest, Hungary.
Association libre d'Ouvriers, place de l'Université, Liége.
Auboy, L., 4, rue de la Paille, Le Mans (Sarthe), France.
Avzin, D., Rostow-on-Don, Russia.
Aznar-Cabanas, F., 67, San Andres, Coruña, Spain.
Bablick, Heinr., Wahringerstr. 73, Vienna XVIII.
Bablon, V., 42, rue Boulard, Paris.
Bailly, Armand, Société Cockerill, 2, place Cockerill Seraing, Belgium.
Bapst, A., 22, route de Croissy, Vésinet (Seine-et-Oise).
Barni, Edoardo, via Becchere, Brescia, Italy.
Barone, A., & Fratello, via Principe Amedeo, Bari, Italy.
Batault, Dr. Emile, Geneva, Switzerland.
Bavay, H., 96, Galerie de Commerce, Brussels.
Becquerel, Henri, 6, rue Dumont d'Urville, Paris.
Bélot, C., 24, rue du Poinçon, Brussels.
Bence, A., boul. Bertrand, Caen (Calvados), France.
Bernard, J., & A. Pecourt, 86, rue d'Amsterdam, Paris.
Bertemati, Carlos, 59, rue Large, Jerez de la Frontera, Spain.
Bertrand, —, Lure (Haute-Saône), France.
Bieloteloff, A., Miasnitskaya 28, Moscow, Russia.
Biervliet, H. Van, 25, rue Marie-Thérèse, Louvain, Belgium.
Bihin, Capt. E., 4, rue des Rentiers, Ettérbeek, Belgium.
Binsfeld, J., Blücherstr. 11, Cologne.
Blanchet, —, 9, rue du Pere Lachaise, Paris.
Blas, Crispin de, Santander, Spain.
Bligny, —, 64, rue Tiquetonne, Paris.

Electricians—*continued.*

Blondel, —, 234, faub. St. Honoré, Paris.
Blosse Fils, 10 & 12, rue Michel-Ney, Nancy (Meurthe-et-Moselle), France.
Boch, J., 10, rue Balance, La Chaux de Fonds, Switzerland.
Boens, Oscar, rue de Marcinelle 23 (S), Charleroi, Belgium.
Boiffard, —, rue Marceau, Chinan (Indre-et-Loire), France.
Boje, D., Gt. Northern Telegraph Co., Nystad, Russia.
Bomhals, F., rue Coupure 156, Ghent.
Bonet, E., Mozas 4, Sevilla, Spain.
Bonna, Prof. A. E., rue Petitot 15, Geneva.
Bonnefils, L., Valence d'Agen (Tarn-et-Garonne), France.
Bonnet-Delaville, Dr., 25, ave. de l'Opéra, Paris.
Boterdaele, L., 32, rue de Bruxelles, Ghent.
Boudot, F., 31, ave. MacMahon, Paris.
Bougard, X., rue de l'Ecole 25, Brussels.
Bouty, J., rue du Val-de-Grâce, Paris.
Bouvier-Dreux, —, 21 bis, rue Joinville, Laval (Mayenne), France.
Braeuer, P. G., & Co., Matthiasstr. 12, Breslau X.
Breant, —, 22, rue Jeanne d'Are, Rouen.
Brenta, V., rue Rogier 99, Brussels.
Brioux, —, rue de l'Arquebuse 21, Reims (Marne), France.
Brooze, E., boul. Ch. Sainetelette, Mons, Belgium.
Broussilovsky, J., Krementschouk, Russia.
Brout, L., 34, rue des Vinaigriers, Paris.
Brozler, F., I. Predigergasse 3, Vienna.
Brunius, Hakon, Gothenburg, Sweden.
Brusch, Dr. W., 4, Körnerstr., Lubeck, Germany.
Buisine & Cie., 44, rue du Louvre, Paris.
Buisset, Prof., University, Brussels.
Bunnik, H. E., Königin Emmakade 136, The Hague, Holland.
Buyens, J., rue Sans-Nom 19, Ghent, Belgium.
Bytebier, E., Marché au Buerre 1, Ghent, Belgium.
Cadiot, E. H., & Co., 12, rue St. Georges, Paris.
Cailletet, I., 75, boul. St. Michel, Paris.
Cailloux & Richel, 50, ave. Victor Hugo, Paris.
Calvo, F., Xuclá 25, Barcelona.
Camozzi, Otto, Electrizitätswerk, Niederlössnitz, Dresden.
Candau, J. B., 15, passage Richelieu, Pau (Basses-Pyrénées), France.
Canon, L., ave. de la Gare, Attigny (Ardennes), France.
Caravaca, C., Rioja 10, Sevilla, Spain.
Carmagnolle, Fils, 13, ave. Felix Faure, Valence (Drôme), France.
Carobbi, Cesare, Pistoja, Italy.
Casse, —, 19 *bis*, passage Deschamps, Paris.
Castado, G., 5, rue de la Sablonière, Brussels.
Castel, C., rue de Mons 75, Valenciennes (Nord), France.
Cauchepén & Fils, Bernay (Eure), France.
Cauderay, Jules, 28, rue d'Etraz, Lausanne, Switzerland.
Cavents, L., ave. Charlotte, Antwerp.

Electricians—*continued.*

Ceni & C., Caravaggio, Bergamo, Italy.
Cerveaux, E., 3, rue de Coigny, Verviers (Aisne), France.
Champin, —, 39, rue de la Charité, Lyon (Rhône), France.
Champion, Turpin & Baissat, 50, ave. Victor Hugo, Paris.
Champy, Leon, Longue rue D'Herenthals 21, Anvers, Belgium.
Chapdelaine, 64, rue Saint Servin, Bordeaux, France.
Chapon, —, 29, rue des Chaussettiers, Clermont-Ferrand (Puy-de-Dôme), France.
Charles, Louis, 20, rue Dulong, Paris.
Charpin, A., 32, rue Popincourt, Paris.
Chatiliez, J., 13, rue de la Chaussée, Verdun (Meuse), France.
Chaussenot, Henri, 11, rue Duperré, Paris.
Checa, P., Reyes Catolicos 33, Granada, Spain.
Chistoni, Prof. Ciro, R. Università, Modena, Italy.
Chomeau, E., 46, rue de Rome, Paris.
Claude, G., 30, rue Boissière, Paris.
Clisson, A., 6, rue St. Pierre, Versailles (Seine-et-Oise), France.
Closier, E., 63, rue Thiers, Nogent-sur-Marne (Seine), France.
Closson, S., rue Bouxhate 1, Verviers, Belgium.
Clota, F., Jordana 9, Valencia.
Cobos Varona, Tomás, Jaen, Spain.
Coissac, P. A., 4, rue du Général Pérez, Limoges (Haute-Vienne), France.
Colley, Prof. R., Mojaisk Station, Moscow-Brest Railway, Russia.
Colusse, E., 21, ave. du Chemin de fer, Avon (Seine-et-Marne), France.
Compagnie d'Electricité de Montpellier, Montpellier (Hérault), France.
Compañia Anonima Mengemor de Electricidad, Fernando VI. 23, Madrid.
Constañer Pages, José, conde del Asalto 157 Barcelona.
Consyns, L., Mont St. Jacques, Antwerp.
Contempré, François, 62, rue des Capucins, Brussels.
Corrons, J., 11, rambla de Estudios, Barcelona, Spain.
Cosmovici, Alexandre, Str. Bonaparte 6, Bucharest, Roumania.
Cosson, —, 4, rue Bosio, Paris.
Costil, E., 7, rue Solferino, Paris.
Coutard, H., Arques la Bataille (Seine-Inf.), France.
Couvreux, Abel, 78, rue d'Anjou, Paris.
Crahay, J., 4, rue Morétus, Brussels.
Culmsee, V., Gt. Northern Telegraph Co., Mariehamn, Finland.
Culot, Henri, rue du Pot d'Or, Liége.
Daehsel, Edm., Gustav Adolfstr. 12, Weissensee, Berlin.
Damseaux, R., ave. Albert & Elisabeth 22, Woluwé, Brussels.

Electricians—*continued.*

Danbe fils, avenue de Villiers 47, Paris.
Danner, C., 45, ave. Pasteur, Rouen, France.
Daries, Aristide, 32, rue Montpensier, Pau (Basses-Pyrénées), France.
Dary, Georges, Saint Ost, Canton de Miraude (Gers), France.
Davignon, Guillaume, rue des Bas-arts 39, Val St. Lambert lez Liége.
De Bavay, V., 68, rue du Midi, Brussels.
Dechelette, —, 4, rue Emile Souvestre, Rennes (Ille-et-Vilaine), France.
Decoulange & Loizeau, 83, G^de rue, Roubaix, France.
Dedecker, E., rue des Sœurs Blanches, Ostend, Belgium.
De Gryse, T., Ninove, Belgium.
Degryse Fils & L. Lepers, 20, rue du Château, Tourcoing (Nord), France.
Delepine, G., 2, rue du Quatre Septembre, Paris.
Dell 'Orto, L., Cernobbio (Prov. di Como), Italy.
Deloddere, A., rue Bavière 1, Brussels.
Demaret, Léon, ave. rue d'Havré 17, Mons, Belgium.
Demblon & Verset, 16, rue Gérard, Antwerp, Belgium.
Dénarier, L., Villa Brunet, rue Emile Zola, Toulon, France.
Denis, Ernest, pl. de Flandre 10, Mons, Belgium.
De Rossi, G., & Co., Corso Umberto I. 23, Naples.
De Stefani, Stefano, via Leoncino 10, Verona, Italy.
Deutsche Haustelephonges. m. b. H., Sophienstr. 6, Berlin, C. 54.
De Walque, —, 26, rue des Joyeuses-Entrées, Louvain, Belgium.
Digard, —, 13, rue du Bassin, Cherbourg (Manche), France.
Di Nardi, G., Vico Berio a Toledo 9-16-17, Naples, Italy.
Di Nasso, Arfeo, via S. Agostino 16, Pisa, Italy.
Dobou, M., Serranos 20, Valencia, Spain.
Dolbeau, M., La Flèche (Sarthe), France.
Doniol, —, Brioude (Haute-Loire), France.
Dorn, E., professor at the University, Halle, Germany.
Doublemart, F., 40, rue de Paris, Lille (Nord), France.
Doubrava, Dr. S., 95, Neugasse, Brünn, Austria.
Doumer, Dr. E., Lille (Nord), France.
Draux, E., place d'Armes, Mezières (Ardennes), France.
Dreyfus, A., Sté. Industrielle des Téléphones, 25, rue du Quatre Septembre, Paris.
Drosten, Rob., rue du Marais 49, Brussels.
Dubois & Baseil, 30, rue Locquenghien, Brussels.
Dubois-Favresse, —, boul. Audent 46, Charleroi, Belgium.
Dubreuil, L., 32, rue Denfort-Rochereau, Paris.
Ducastel, C, 61, rue Nationale, Lille (Nord), France.
Duchange, J., rue de Belzunce 9, Paris.

Electricians—*continued.*

Dujardin, A., 77, rue de Tourcoing, Roubaix, France.
Dumont, M., Givry (Saône-et-Loire), France.
Dupraz, Henri, Geneva, Switzerland.
Durand & Cie., 282, boul. Voltaire, Paris.
Dussart, Charles, Administration des Télégraphes, Liége, Belgium.
Ebert, Prof. Dr. Hermann, Technische Hochschule, München.
Edelmann & Wallin, Friedrichstr. 19, Berlin.
Eenberg, B. Reimers, 22, place de Brouckère, Brussels. (Telegrams: "Eenberg, Brussels.") *See advt., page* 1042.
Eichler, Ant., IV. Favoritenstr. 20, Vienna.
Einbeck, J., Landshuterstr. 37, Berlin, W.
Eisenstuck, Paul, Bayerischestr. 80, Leipzig, Saxony, Germany.
Electra Soc. Anon. Anciennement Emile Closset, rue St. Jean 26, Brussels.
Elektricitätswerk Marktbreit, Marktbreit-a-M., Germany.
Elektrisk Bureau (Luth & Rosen), Stockholm.
Elmer, J. W., Service Electrique, Geneva.
Elster, Prof. Dr. J., The Gymnasia, Wolfenbüttel.
Ernest, Denis, ave. d'Havre, Mons.
Ernst, Dr., Kremenezky, Mayer & Co., Oesterr. Schuckertwerke, IX. Severingasse 2, Vienna.
Escalante Gonzales, José, Santander, Spain.
Eskens, A., 1, rue Denrées, Brussels.
Eurieult, V., 123, rue de Grenelle, Paris.
Even, Victor, rue Jonfosse, Liége.
Fabra Hermanos, Fuster, Calle Claris 30, Barcelona, Spain.
Fahrenwaldt & Vogel, Martin Lutherstr. 75, Berlin, W. 30.
Faisan, Ant., rue de la Regence 18, Liége.
Falk & Frank, Dresdenerstr. 84, Berlin, S. 14.
Fasse, J. E., 12, rue de l'Hôtel-de-Ville, Lyon.
Fastenakel, Victor, & Cie., 19, rue de Chartres, Neuilly-sur-Seine, France.
Fayot, —, Boulogne-sur-Mer (Pas-de-Calais), France.
Fernandez, —, 24, rue Vauban, Angoulême, France.
Fernandez, Vicente, Gijon, Spain.
Ferrer, J. A., Arzobispo Mayoral D., Valencia, Spain.
Ferry, P., 37, rue Gambetta, Lunsville, France.
Fervaille & Deschryver, 39, rue de la Balle Dorée, Antoing, Belgium.
Finnis, Herbert, Eastern Telegraph Co.'s c.s. "Levant One," Piræus, Greece.
Fischer, R., Hartmann & Braun, Frankfurt-am-Main.
Flamand, J. B., rue du Nord 25, Brussels.
Fleurman, A., 35, courte rue des Foulons, Bruges, Belgium.
Fontvielle, Ch., 61, rue de la Republique, St. Chamond (Loire), France.
Fornier, A., 40, rue Victor Hugo, Lyons (Rhone), France.
Forster, W. G., Eastern Telegraph Co., Cadiz, Spain.

Electricians—*continued.*

Fortin, G., Thury-Harcourt (Calvados), France.
Frachebois, Ch., 66, rue Lafayette, Paris.
Fredriksson, E., Graubergsdal, Sweden.
Fremin, O., Hautmont (Nord).
Frère, G., rue du Jardinier 65, Ledeberg, Ghent.
Fritz, Capt., Orient, Vaud, Switzerland.
Gad & Lauritzen, Odense, Denmark.
Gadois & Dumanche, 58, rue de la Faisanderie, Paris.
Gaebler, O., Hartmann & Braun, A. G., Frankfort-on-the-Main.
Gallud, Ramon, Lealtad, Santander, Spain.
Gambs, 8, place des Jacobins, Lyon.
Garcia Gomez, José, Fucar 5, Madrid, Spain.
Garrone & Arigo, 8, via Gioberti, Turin, Italy.
Gascard, A., rue Pierre Bullet 6, Paris.
Gaudin, L., Coppet, Vaud, Switzerland.
Gazagnaire, rue d'Antibes 56, Cannes (Alpes Maritimes), France.
Gebauer & May, Köthenerstr. 21, Berlin.
Georgeivsky, N., Institut Technologique, St. Petersburg.
Gérard, A., rue Wazon 122, Liége.
Gerard, C., Arlon, Belgium.
Gérard, Prof. Eric, M.I.E.E., Directeur de l'Institut Électro-technique Montefiore, rue St. Gilles 35, Liége, Belgium.
Gerland, Prof. Dr. Ernst, Royal Academy of Mines, Clausthal, Germany.
Gerteis, R., 67, rue Rochechouart, Paris.
Geslin, A., 100, rue Guillaume Tell, Paris.
Gezen, B. J., Municipality, Perm, Russia.
Ghrysbrecht, Osc., 43, rue de Gravelines, Brussels.
Gil, J., Espoz y Mina 39, Zaragoza, Spain.
Gil, Pedro, Campos, Cartagena, Spain.
Gilbert, A., 87, rue St. Thomas, St. Quentin (Aisne), France.
Gilles, Dr., 18, rue Saint Jacques, Marseilles.
Gillon, L., 29, rue Saint Pierre, Caen, France.
Giry, 9, place l'Hotel de Ville, St. Etienne (Loire), France.
Gody, J. H. L., 85, rue du Viaduc, Brussels.
Goffin-Tamine, T., Nivelles.
Golay, P. E., Brassus, Vaud, Switzerland.
Goldhahn, William, Hainstr. 31, Leipzig.
Goldhammer, Dimitry, Dr. Phys., University, Kasan, Russia.
Gomez, Pedro Juan, calle Murquia 35, Cadiz.
Gomez, R., Linares (Jaen), Spain.
Grapin, Auberty & Co., 19, rue de Penthièvre, Paris.
Grimozzi, Emilio, Terni, Italy.
Gröper, Albin, 18, Alexanderstrasse, Dusseldorf, Germany.
Guilbert, A., 39, rue Lafayette, Rouen (Seine-Inférieure), France.
Guillaume, Dr. C. E., Bureau International des Poids et Mesures, Pavillon de Breteuil, Sèvres, France.
Guillemart, A., 196, faub. Céres, Reims, France.
Guitton, A., & Cie., 20, rue de la Bourse, Saint-Étienne, Loire, France.

Electricians—*continued.*

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Henry, E., rue St. Andre des Arts 27, Paris.
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Herman, —, Royal Palace, Laeken.
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Holm, Trap P., Nystad, Finland.
Honta & Cazenove, 19, rue Latapré, Pau (Basses-Pyrenées), France.
Horn, Dr. Th., Leipzig, Germany.
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Hugon, A., Grande rue 14, Alfortville, France.
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Jacob, H., Fils, rue Luther 84, Brussels.
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Jacopetti, Alfonso, Pace a Chiaja 11 & 13, Naples, Italy.
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Jensen, N. P., Danish Telegraphs, Helsingör.
Johansson, P. A., Söderhamn, Sweden.
Joos, Ch., Hamme-lez-Termonde.
Jorgensen, H. A., Great Northern Telegraph Co., Calais.
Josse, H., 17, boul. de la Madeleine, Paris.
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Jungels, H., Arlon.

Electricians—*continued.*

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König & Willings, Bielefeld, Germany.
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Lacourte & Cie., 26, rue Marbeuf, Paris.
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Lambert, L., 23, rue Jourdan, Marseilles, France.
Langdon, E. S., Eastern Telegraph Co., Carcavellos, Portugal.
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Larochaymond-Defrenne, A., 19, boul. de l'Industrie, Mons.
Lavenan & Cie., 78, rue des Archives, Paris.
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Leclercq, J., rue de la Raquette 22, Mons, Belgium.
Lefevre, J., rue Bécassine 14, Bruges.
Lefèvre, Alb., & Cie., 42, rue Saint Ferdinand, Paris.
Legendre Frères, 105, rue de Turenne, Paris.
Lejeune, P., rue du Temple 26, Verviers.
Lemaire, Léon, 92, de la Drève, Péruwelz, Belgium.
Lemaire & Hiltcher, 9, rue Rolourd, Lille (Nord), France.
Lemaitre et Lambert, rue du Pont Neuf 33, Charleroi, Belgium.
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Lenglez, E., & Cie., boul. Sainctelette 89, Mons, Belgium.
Lenoir, F. C., 194, boul. Malesherbes, Paris.
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Electricians—*continued.*

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Lesbaudy, —, 100, ave. Kléber, Paris.
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Liniger & Perrin, 13, rue St. Jacques, Grenoble (Isère), France.
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Macquaire & Cie., 60, rue la Boëtie, Paris.
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Maione, R., Largo Monteoliveto 9, Naples.
Maire, L., 3, ave. Gambetta, Paris.
Majorelle Frères, 2, rue St. Georges, Nancy, France.
Malabert, L., 12, rue du Helder, Paris.
Mansard, G., & Cie., rue Charlot 71, Paris.
Marchal, —, rue d'Alembert 11, Paris.
Marchi, G., via Dogali 1, Florence, Italy.
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Marié-Davy, 21, rue Pierre-Guérin, Autcuil, Paris.
Marin, F., Aire, Cartagena, Spain.
Mars, A., 15, rue Hoche, Cannes, France.
Martin, P., 14, rue Garnier, Nice.
Martine, G., 15, rue de Roubaix, Lille, France.
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Mathiba, Hermann, 43, Ohlauerstr., Breslau, Germany.
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Mathieu & Bertaud, 110, rue des Dames, Paris.
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May, E., & Cie., 11, ave. de Tourville, Paris.
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Mazo, E., 8, boul. Magenta, Paris.
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Mermet, Achille, 60, rue de Paris, Joinville le Pont, France.
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Mille, P., 3, rue Castex, Paris.
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Electricians—*continued.*

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Montecatino Frat., via Lungo Celso 76, Naples.
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Nielsen, F. L. H., Great Northern Telegraph Co. of Copenhagen, Ltd., St. Petersburg.
Nielsen, N., Great Northern Telegraph Co., Libau, Russia.
Nielsen, Overgaad, Danish Telegraphs, Nyborg, Denmark.
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Orban, Michel, 16, rue Crespel, Brussels.
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Pellat, Henri, 23, ave. de l'Observatoire, Paris.
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Petersen, Albert, M.I.E.E., Arendal, Norway.
Petiot & Cie., 63, rue de la République, Lyon.
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Phasmann, Aug., Saint-Mihiel (Meuse), France.
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Electricians—*continued.*

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Ponthière, H., Louvain, Belgium.
Ponzio, G., 42, corso Venezia, Milan.
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Pornon, J., rue de Grammont 28, Paris.
Porte, L., 9, rue Ancelle, Neuilly-sur-Seine, France.
Pouchain, P., La Chapelle d'Armentières (Nord), France.
Pouzol, J., 15, Grande Rue, Montpellier, France.
Pouzol, —, 19, rue place du Marche, Nimes, Belgium.
Prior, H. P., A.M.I.E.E., Fabrikvej, Copenhagen, F.
Privé & Varet, 6, rue Gresset, Amiens.
Prokchine, Paul, Maître du Gymnase, Kostroma, Russia.
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Prytz y Campos, S., Alicante, Spain.
Puech, F., & Guin, 28, rue d'Aumale, Paris.
Puig, E., Hermani 25, San Sebastian, Spain.
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Rapaz & Décosterd, Evian-les-Bains, Haute-Savoie, France.
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Electricians—*continued.*

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Rouchouse, D., 3, rue Louis Blanc, St. Etienne, France.
Rouger, L., & Payen fils, 3, ave. Garibaldi, Limoges, France.
Rougier, M., 5, boul. Louis Blanc, Limoges.
Roulle, Cesar, 3, rue Auguste Pelet, Nîmes, France.
Roullet, —, 23, rue Serpente, Paris.
Roux, E., 12, rue du Coq, Marseilles, France.
Rupp, Dr. H., Brown, Boveri & Co., Baden, Switzerland.
Ruskiewicz, Th., Moniuszki 3, Warsaw, Russia.
Sahulka, Dr. J., Tech. Hochschule, Vienna.
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Scandellari, Alfonso, Ponte S. Giovanni, Perugia.
Schabel, Johann, I. Augustinerstr. 12, Vienna.
Schachwerdoff, Nicétas, Simpheropol, Russia.
Scharf & Co., 131D, Friedrichstr., Berlin, N. 24.
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Séverin, —, La Louvière, Belgium.
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Electricians—*continued.*

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Usener, Dr. Hans, Neufeldt & Kuhnke, Kiel.
Uzel, Pierre, Maison Harlé & Cie., 39, rue Vital, Paris.
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Verscheuren, H., rue Magelein 17, Ghent, Belgium.
Viau, G., 41, rue d'Amsterdam, Paris.
Viellard-Migeon & Cie., Morvillars, France; & 7, rue du Chateau d'Eau, Paris.
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Walter, Jos., 21, rue du Chevalier, Antwerp, Belgium.
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Wattenhofer, Ch., Cully, Switzerland.
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Weiskirchen, Eugène, la Louvière, Hainault, Belgium.
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Wilga, A., Helsingfors, Russia.
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Zay, E., 73, rue de Monceau, Paris.
Ziane, Jules, 2, rue Hôtel des Monnaies, Brussels.
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Electricians—Consulting.

F.—Électriciens—Consultants.
G.—Elektriker—Beratende.

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Electricians—Consulting—*continued.*

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Leconte, Félix, rue Royale 25, Tournai, Belgium.
Richard, F., 4, rue du Musée, Brussels.
Richez & Co., rue Pont-Neuf 64, Brussels.
Schiemann, Max, & Co., Wurzen, Saxony.
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Weber, Dr. Leonh., The University, Kiel, Germany.
Welsbach, Dr. Karl Auer von, Oesterr. Gasglühlicht und Elektr. Gesellschaft, IV. Schleifmühlgasse 4, Vienna.
Wiedemann, Prof. Gustav, University of Leipzig, Germany.

Electricians—Domestic.

F.—Électriciens—Inst. de maisons, &c.
G.—Elektriker für Hausanlagen.

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Electricians—Experts.

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G.—Electriker—Fachkundige.

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Demblon Aug, Edeghem, Antwerp, Belgium.
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Electricians—Manufacturing.

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G.—Electriker—fabr.

Accumulatorenfabrik, Hagen i. W., Germany.
Angelle, L. R., 15, rue de Londres, Paris.
Antwerp Telephone & Electrical Works, Ltd., Rod. B. Bumiller, manager, Antwerp, Belgium. (Telegrams: "Electrical, Anvers.")
Appareillage Gardy Soc. Anon., 13, rue Caumartin, Paris.
Ateliers Jaspar (Sté. Anon.), 2 & 4, rue Jonfosse, Liége, Belgium.
Aulagne, J. B., 12, ave. d'Orléans, Paris.
Bachmann, Hermann, Weimar, Germany.
Becker, B., & Cie., 18, ave. de Tourville, Paris.
Bergerot, H., 19, rue Molière, Paris.
Belle, R., 25, Damengraben, Aachen, Germany.
Blondel & Crépin, 31-45, boul. Baraban, Amiens.
Boet, P., chaussée de Wavre 148, Brussels.
Bonnier, M., 18, rue St. Gilbert, Lyon-Monplaisir, France.
Bosshard, H., Charleville, Ardennes, France.
Bouilhet, Ch. H., 56, rue de Bondy, Paris.
Buchmeyer, F. W., Knochenhauerstr. 40, Bremen.
Buderus & Co., 19, Kesluerstr., Hanover.
Burri, W., Knobelstr. 14, Munich.
Carrier, B., 7, rue Fénélon, Paris.
Coca, José, Tolosa (Guipuzcoa), Spain.
Collet, C., Aigle, Switzerland.
Conti, Bruno & Biraghi, 4, via Sant' Ugo, Genoa.
Danière Frères, 20, rue Jules Janin, Roanne (Loire), France.
Dasse, G., 47-49, rue David, Verviers, Belgium.
Deckert & Homolka, IV., Favoritenstrasse, 42, Vienna; & V. Doruttya-u., Budapest.
De Cock, P., quai au Bois 8, Ghent.
Delafosse, A., Fontenay-Tresigny (Seine-et-Marne), France.
Demblon & Verset, 16, rue Gérard, Antwerp, Belgium.
Deppe, Paul, & Co., Abelmannstr. 27 II, Hanover.
Desseux, David, 61, place Badouillère, St. Etienne, France.
Devarennes, Vve. Constant, & Cie., 108, faub. St. Denis, Paris.
Dieterichs & Löffelhardt, 9, Hansaplatz, Hamburg, Germany.
Dreyer, Rosenkranz & Droop (patent indicators), Hanover.
Ducas, E., rue de Guérande 3, Nantes (Loire-Inférieure), France.
Dumonchel, P., 40, rue de Verneuil, Paris.
Dupont, D., 3, rue Ami-Lullin, Geneva, Switzerland.
Eggermont, E., boul. du Petit Dock 9, Ghent.
Electrisk Bureau, 4, Boldhusgade, Copenhagen.
Electrizitätswerk a. d. Sihl, Wädenswil, Zurich.
Établissement Dynamothérapique, 27, rue de Londres, Paris.
Etablissements J. J. Heilmann, 38, rue de Laborde, Paris. Works: Le Hâvre.
Fabrik für Electrotechnik und Maschinenbau Bamberg, Bamberg, Germany.
Fallou, J., rue St. Ambroise 33, Paris.

Electricians—Manufacturing—*continued.*

Felten & Guilleaume Lahmeyer Werke Act. Ges., Carlswerk, Mulheim-am-Rhein, Germany.
Feugray, E., 36, rue de Dunkerque, Paris.
Fielder, R., Kreuzbergstr. 42F, Berlin, S.W.
Focquet, Ch., Chaussee St. Pierre, Brussels.
Freund, M., Wilhelmstr. 23, Gleiwitz, Germany.
Gavazzi, Ad., via S. Nicolao 2, Milan.
Gérard, E., et Cie., 40, quai d'Amercœur, Liége.
Graf, L., Bar-le-Duc (Meuse), Paris.
Guénée, A., & Cie., Jonsville le Pont, France.
Hannot, Albert, ave. van Volxem 387, Brussels.
Hauptmann, J. C., Eilenburgerstr. 11, Leipzig.
Henriksen's Elektriske Fabrick, 29, Nörrefarimagsgade, Copenhagen, K.
Hinterholzer & Co., Fraunhoferstr. 4, Munich.
Hoffmann, J., 13, pl. des Wallons, Liége, Belgium.
Huguenin, L., Fils, La Sarras, Switzerland.
Hurseaux, —, 70, rue de Loos, Lille (Nord), France.
Jacobs, Andre, 26, rue Saxe-Coburg, Brussels.
Jacobs, Th., 11, rue de la Province (Nord), Antwerp.
Jahn & Cie., rue Zérézo, 9, Brussels.
Jenkins, F. C., Koenigstr. 7, Hamburg.
Jensch, Gebr., Hirschberg i. Schl.
John, E. P., Gnesen, Germany.
Keiser & Schmidt, Linienstr. 134, Berlin, N. 24.
Kruger, R., 41, Michaelkirchstrasse, Berlin.
Laffay, A., 1, place Emil Zola, Dijon (Cote-d'Or).
Lainé, E., 59, quai de Valmy, Paris.
Luher & Aigner, Häberlstr. 12, Munich.
Lutéce Electrique, La, 49, rue Buffault, Paris.
Marcus-Julien, H., Longue rue du Vanneau 58, Antwerp.
Martineau, —, 36, boul. Diderot, Paris.
Masson, M., & Cie., 25, rue de Senlis, Asnières, France.
Matthaey, Max, 16, Cuvrystr., Berlin, S.O. 33.
Mertens, —, rue Maigre Gentbrugge, Belgium.
Midoz, C., 8, rue Gambetta, Besancon (Doubs).
Migeon, Raoul, et Fils, 10, rue de l'Arsenal, Angoulême, Charente, France.
Mildé, Chas., Fils et Cie., 51, 60, & 62, rue Desrenaudes, Paris.
Miller, H., Ltd., Hazebrouck, France. *See advt., page* 17.
Minssart, —, 115, rue d'Aboukir, Paris.
Negro, Ing. L., via Valpergi Caluso 8, Turin.
Picard, L., 8, rue St. Claude, Paris.
Poulain, A., et Fils, route Nationale 5 et 9, Charleville (Ardennes), France.
Pundsack, J. R., Ansgarütorstr. 11, Bremen.
Quaedvlieg, C. F., rue des Grandes Halles 11, Courtrai.
Ravet, 83, rue Nationale, Lille; & 13, Coutour St. Martin, Roubaix, France.
Richard-Heller, 18 & 20, cité Trévise, Paris.
Richez & Cie., rue Toulons 69, Brussels.
Rigaux, Ch., rue Destonvelles, Brussels.
Roche-Froment, 7, rue du Bastion, Reims, France.
Rougé, —, 47, rue St. Andre des Arts, Paris.
Rousselle & Tournaire (Soc. Anon.), 52, rue de Dunkerque, Paris.

Electricians—Manufacturing—*continued.*

Ruhstrat Gebrüder, Göttingen, Germany.
Saint-Lager, H., 5, côte des Cordeliers, Romans, France.
Schaefer, C. A., 34, Marstallstr., Hanover.
Schneider, Jean, 29, rue de la Limite, Brussels.
Schwaan, Ernst, & Zimmermann, 15, Gruner Weg, Berlin, O. 27.
Schwabe & Co., 55, Wallstr., Berlin, S.
Société Alsacienne de Construction Mécanique, 4, rue de Vienne, Paris.
Société de Construction Electrique, rue Molière 67, Lyon, France.
Société Lausannoise d'Electricité, ci-devant Soc. Anonyme Olivet, Lausanne, Switzerland.
Taillefer, A., & Cie., 6, cité Reverin, Paris.
Tannert, C., 58, Kronprinzstr., Leipzig.
Thirel, J. (Renard Suc.), 41, rue de Bellefond, Paris.
Umbreit & Matthes, Leipzig-Plagwitz, Germany.
Uster Fabrik für electrische Apparate, Uster, Switzerland.
Verdan, Ed., Yverdon, Vaud, Switzerland.
Wehrle, E., & Co., Furtwangen, Baden.
Zimmerli, Kaser & Co., Kirchberg-Berne, Switzerland.

Electricians—Medical.

F.—Électriciens—Médicins.
G.—Electrothérapie.

Branly, Ed., D.SC., M.D., 21, ave. de Tourville, Paris.
Longfils, —, Ransart, Belgium.
Machado, V., rua Instituto Virgilio Machado 12, Lisbon.
Rousse, J., 9, place Marengo, Saint-Etienne.
Senftleben Gebr., 97, Skalitzerstr., Berlin, S.O. 36.
Tripier, Dr. A., 8, rue Castellane, Paris.

Electricians—Medical Manufacturing.

F.—Appareils Electro-Medicaux—Fabr. de.
G.—Elektrotherapeutische Instrumente—Fab.

Bandekow Bros., Belle Alliance platz 7, Berlin, S.W.
Blaensdorf, R. Nacf., 28, Schillerstr., Frankfort-on-the-Main, Germany.
Boniface, E., & H. Boutonnet, 53, boul. de Strasbourg, Paris.
Boyères, F. de, 51, rue Rennequin, Paris.
Brunet-Loiseau Frères, 13, rue des Francs Bourgeois, Paris.
Bunon, —, 27, rue Vieille du Temple, Paris.
Cazeneuve, —, 20, rue Saint Libastiers, Paris.
Clasen, G., 38, rue de l'Hôpital, Brussels.
Demaurex, M., place Fusterie 10, Geneva.
Drault & Raulot-Lapointe, 57, boul. du Montparnasse, Paris.
Durillon Frères, 4, rue be la Charité, Lyon, France.
Eck, A. R., Wilhelmstr. 121, Berlin, S.W.
Elektricitätsgesellschaft "Sanitas," Friedrichstr. 131D, Berlin, N.

Electricians—Medical Manufacturing—*continued.*

Elektrotechnisches Institut Frankfurt, G. m. b. H., Frankfurt-am-Main.
Feurier, C., Epinal (Vosges), France.
Figueras, E., 162, faub. St. Denis, Paris.
Francois, A., 18, ave. Carnot, Paris.
Gaife, G., 9, rue Méchain, Paris.
GALLE, RICHARD, 8, Alte Jacobstr., Berlin, S.W.
Gauernack & Reinboth, Dresden, Germany.
Ghien fils & Muret, 12, rue Gubernatis, Nice.
Gladow, B., Charitéstr. 2, Berlin, N.W. 6.
Grazzini, Dr. Gio. Batta, Piazzi Strazzi 3, Florence.
Grundmann, C., Poststr. 51, Chemnitz, Germany.
Heller, Richard, 18 & 20, cité Trévise, Paris.
Hinaux, E., & H. Thomas, 9, rue St. Maur, Paris.
Jagoury & Cie., 14, rue Vivienne, Paris.
Jirasko, A., Margarethenstrasse 36, IV., Vienna, Austria.
Kallmeyer, R., & Co., Johannisstr. 20/21, Berlin, N.
Kilian & Hesslich, Kurhausstr. 3, Waidmannslust, Berlin.
Krause, W., & Co., Ziegelstr. 3, Berlin.
Lepine, Ph., 14, place des Terreaux, Lyon, France.
Maack, Ernst, Lübeckerstr. 77, Hamburg.
Malaquin, A., 48, rue Monsieur le Prince, Paris.
Mayer et Wolf, 12, Waisenhausgasse, IX., Vienna.
Minne, —, 9, rue Pierre-Levée, Paris.
Nyrop, Camillus, Kjöbmagergade 43, Copenhagen, Denmark.
Pech, M., G. m. b. H., 15, am Karlsbad, Berlin, W.
Penning, Alfons, Rheinwerstr. 24, Bonn-am-Rhein, Germany.
Pericaud, G., 85, boul. Voltaire, Paris.
Reiniger, Gebbert & Schall, Berlin-Erlangen.
Samer, M., rues d'Arès, Bordeaux, France.
Schumann, A., 55, Alleestr., Dusseldorf.
Schulmeister, Louis, 5, Spitalgasse, IX., Vienna Austria.
Seifert, W. R., Neugasse 20, Dresden.
Sonel, A., & Cie., 16, rue de la Barre, Lyons, France.
Tack, Robert, G. m. b. H., manufacturers of electro-medical apparatus & instruments, Ritterstr. 11, Berlin, S. 42. (Telegs.: "Robert Tack, Berlin Ritterstrasse." Teleph. Amt. IV. 10137.)
Vellino, Juan, Bruch 127, Barcelona.

Electricity Meters—Makers of.

F.—Compteurs d'électricité—Fabr. de.
G.—Electricitäts Zähler—Fabr. von.

Aron, H., G. m. b. H., Wilmersdorferstr. 39, Charlottenburg, Berlin.
Aubert, A., Lausanne, Switzerland.
Compagnie Anon. Continentale, 9, rue Petrelle, Paris.

Electricity Meters—Makers of—*continued.*

Compagnie Belge pour la Fab. des Compteurs et Materiel Gaz, Eau, Electricité (Soc. Anon.), Brussels.
Compagnie des Compteurs Aron, 200, quai de Jemmappes, Paris.
Compagnie pour la Fabrication des Compteurs & Matériel d'Usines à Gaz, rue des Palais 149, Brussels.
Compteurs d'Energie Électrique, système Aron, 200, quai de Jemmappes, Paris.
Couaillet Frères, Saint Nicolas d'Aliermont (Seine-Inférieure), France.
Delepine-Barrois, Saint Nicolas d'Aliermont (Seine-Inférieure), France.
Einstein, R , via Felice Cavallotti 11, Milan.
Electra Apparatenbau, Ges. m. b. H., 45, Elisabeth Promenade, Vienna IX.
Electro Cervera, 66, rue Turbigo, Paris.
Etoile Magnetique, L', 45, rue Jacob, Paris.
Gabriel, R., Zentagasse 4, Vienna V./1.
Isaria Zahlerwerke G. m. b. H., Munich 25, Germany.
Ketterer, B., Söhne, Furtwangen, Bad. Schwarzwald, Germany.
Königswerther, Alex. 79, Pankstr., Berlin, N. 39.
Küstermann & Co., Prinzen Allee 74, Berlin, N.
Landis & Gyr, Zug, Switzerland.
Maatschappij ter Vergaardiging van Gas-Water en Electriciteitsmeters, Dordrecht, Holland.
Michel & Cie., 16, boul. de Vaugirard, Paris.
Peloux, A., quai de la Poste 10, Geneva, Switzerland.
Reimer & Seidel, Rieglergasse 4, Vienna XVIII.
Saxonia Elektrizitäts Zählerfab., Grosszschachwitz, Dresden.
Schiersteiner Metallwerk, G. m. b. H., Schwerinstr. 3, Berlin, W. 30.
Seiler Frères, 17, rue Martel, Paris.
Società Italiana gia Siry, Lizars & C., viale Porta Lodovica 21-23, Milan.
Solar Zähler Werke m. b. H., Konigstr. 11/13, Hamburg.
Soulat, J., 25, rue Michel le Comte, Paris, III^e.
Thormann, B., 31, Wassmannstr., Berlin, N.O. 18.
Viot de Mery, Le Sage & Cie., 43, rue de Laucry, Paris X.
Wiener Elektricitäts Zählerwerk, Vienna III.

Electricity Works—Contractors for the Construction & Maintenance of.

F.—Stations Centrales—Entrepreneurs de Construction et Entretien.
G.—Elektricitätswerk—Unternehmer zur Errichtung & Aufrechterhaltung von.

Felten & Guilleaume Lahmeyerwerke Act. Ges., Carlswerk, Mulheim-am-Rhein, Germany.

Electro—Alloying.

Almindelig Elektro-Metallurgisk Aktieselskab., Tordenskjoldsgade 6B, Christiania.

Electro-Platers' & Electro-Typers' Plant & Material.

F.—Galvanoplastie—Electrotypie—Fournitures pour.
G.—Alfenide und Galvanoplastie—Materialen für.

Krötlinger, Carl, VII. Halbgasse 3, Vienna.
Norddeutsche Affinerie Actiengesellschaft, Hamburg, Germany.
Pfanhauser, Wilh., XIII/4, Gusenleithnerstr. 14, Vienna.
Tichomiroff, Was. Alex. et Lid. Alex., Pawlowitsch, Baranowa, Russia.
Werth, F., & Co., 3, via L. Cagnola, Milan.

Electro-Plating & Depositing Machine Manufacturers.

F.—Machines pour Dorure, argenture et galvanisation—Fabr. de.
G.—Maschinen für Galvanoplastik—Fabr. von.

Electro-Silver & Nickel Platers & Gilders.

F.—Doreurs & Argenteurs.
G.—Galvanoplastik, &c.—Materialen für.

Berliner Electro-Plated Waarenfabrik G.m.b.H., Ritterstr. 90, Berlin, S.
Bloch, F., 39, Östergade, Copenhagen.
Christofle et Cie., 56, rue Bondy, Paris.
Couturier, L., 39, rue de la Paroisse, Versailles, France.
Dansk Forsölvnings-Anstalt, Kjöbmagergade 50, Copenhagen.
Demarquet Frères, 79, rue du Temple, Paris.
Drewsen, C. C., Östergade 1, Copenhagen, K., Denmark.
Drewsen, H. C., Amagertorv 6, Copenhagen, Denmark.
Ekman, A., & Co., Toldboden, Copenhagen, Denmark.
Galvanophoren fabrik System Vogt, S. Szubert, Berlin-Schöneberg.
Gasterstaedt, J., VII., Zieglergasse, 69, Vienna, Austria.
Langbein, Dr., & Co., via Brera 12-14, Milan, Italy.
Le Clère, E., 58, rue Bonaparte, Paris.
Madsen & T. Baagoë, 30, Tordenskjoldsgade, Copenhagen.
Nava, L., via St. Stefano del Cacco 2, Rome.
Paolucci, E., & Grandi, via Barberia 7, Bologna, Italy.
Schenone, Benvenuto, via Ponte Nuovo 4, Leghorn, Italy.
Société l'Orfèvrerie d'Ercuis, Ercuis, et 64, rue de Bondy, Paris.
Wiskemann, Otto, rue du Chêne, Brussels.

Electroliers, Brackets & Pendants.

F.—Lustres et Appliques.
G.—Candelaber, Konsole und Hängelampen.

Ahrendt & Co., Alexandrinenstr. 118, Berlin, S.W.

Electroliers, Brackets & Pendants—*continued.*

Alumina, S. A., Vieux Marché aux Grams, Brussels.
Bakalowits Söhne, E., I. Kärnthnerstr. 12, Vienna.
Beyer, M., & Co., Zemskaja 12, St. Petersburg.
Brocas & Co., 214 & 216, Longue rue d'Argile, Antwerp.
Campe & Co., 26, Neue Grünstr., Berlin.
Compagnie des Bronzes, 28, rue d'Assaut, Brussels.
Danubia Actien-Gesellschaft, 49, Porzellangasse, Vienna IX.
Demblon & Verset, 16, rue Gérard, Antwerp.
Ditmar, R., Gebrüder Brünner A. G., Eugengasse 57, Vienna X.
Eckel & Glinicke, Belle-Alliancestr. 92, Berlin, S.W. 61.
Eiffe & Fehr, Rodingsmarkt, Hamburg.
Eisenwerk Gerlafingen, Gerlafingen, Solothurn, Switzerland.
Erste Productiv Gesellschaft der Bronze Arbeiter, VII. Schottenfeldgasse 66, Vienna.
Fabrique Suisse de Lustrerie, Le Pont, Vaud, Switzerland.
Falbe, Osc., A.-G., Manteuffelstr. 77, Berlin.
Fonderia del Pignone, Florence; & Piazza St. Marco, Rome.
Hees, Peter, Sebastianstr. 3, Berlin, S.
Heichemer & Schmeidel, Obennarspforten 3-5, Cologne.
Heine, Franz X., Vöhrenbach, Baden.
Hollenbach's, D., Neffen Ed. & F. Richter, VIII. Josefstædterstr. 44, Vienna.
Huth, L., & Co., Prenzlauerstr. 41, Berlin.
Jacquemard, Jean, fils, La Ricamarie près Saint Etienne (Loire), France.
Jehan, H., 5, rue Oberkampf, Paris.
Jellinek, Friedrich, VII. Kirchengasse 24, Vienna.
Klaar & Schultz, Waldemarstr. 14, Berlin, S.O. 26.
Kreuzberger & Sievers, 25, Ritterstr., Berlin, S.W.
Mundt, Nic., 31, Starhemberggasse, IV., Vienna.
Pannke & Co., Fürstenstr. 5, Berlin.
Radaelli, R., via Vittoria Colonna 2, Milan.
Rheinische Bronzewaarenfab. Schüz & Beringer, Mainz.
Rosenberg & Stern, Stallschreiberstr. 5, Berlin, S.
Sächsische Bronzewaarenfabrik Actien-Gesellschaft, Wurzen-in-Sachsen, Germany.
Schaefer & Hauschner, 233, Friedrichstrasse, Berlin, S.W.
Schicker, Curt, Regensburg 75, Germany.
Schwinzer & Graff, 18, Sebastianstr., Berlin, S.
Snigola Gebr., Alte Jakobstr. 6, Berlin, W.
Société Française d'Appareillage de Lustrerie pour le Gaz et l'Electricité, 30, rue des Vinaigriers, Paris.
Sommet, F., 4, cité de Phalsbourg, Paris.
Susse Frères, place de la Bourse, & 13, boul. de la Madeleine, Paris.
Unione Italiana Gas Elettricità, via Padova, Milan.
Wagner, Adolph, Langestr. 53, Chemnitz, Saxony.
Zimmermann, Chr., Leibnizstr. 5, Frankfort-on-Main.

Electrolytic Carbons.

F.—Charbons électrolytiques.
G.—Elektrolytische Kohlen.

Elektrizitäts Gesellschaft Haas & Stahl, Aue-i.-Erzgeb, Germany.

Electrotypers.

F.—Électrotypie.
G.—Galvanisceure.

Delaunay, E. B., 12, rue Saint Gilles, Paris.
Dewez, —, 219 & 239, rue Saint-Denis, Paris.

Engine & Boiler Makers.

F.—Machines et chaudières à Vapeur.
G.—Dampf-Maschinen und Kesseln.

Boulet, J., et Cie., St. Denis (Seine), France.
Farcot, Joseph, 17, avenue de la Gare, St. Ouen, France.
Kuhn, G., Stuttgart-Berg, Germany.
Nordhauser Maschinenfabrik u. Eisengiesserei, Schmidt, Kranz & Co., Ulrichstr. 1/2, Nordhausen, Germany.
Pilter, Maison Th., Soc. Anon., 24, rue Alibert, Paris.
Rikkers, St. Denis, Seine, Paris.
Société Anonyme des Etablissements Delaunay Belleville, Ateliers de l'Ermitage à Saint Denis (Seine), France.
Soc. Centrale de Construction de Machines, 30, route d'Aubervilliers, Pantin (Seine), France.
Soc. Française des Balances Automatiques et Engins Spéciaux, 15, avenue de l'Opéra, Paris.
Sulzer Brothers, Winterthur, Switzerland.
Swiderski, Ph. (steam), Plagwitz-Leipzig, Germany.
Taatz, Alw., Halle S., Germany.

Engine Makers—Gas.

(*See also* Motors.)

F.—Machines à Gaz—Fab. de.
G.—Gas-Maschinen—Fabr. von.

Benz & Co., Mannheim.
Compagnie des Moteurs Duplex, 130, rue Lafayette, Paris.
Compagnie des Moteurs Niel, 22, rue Lafayette, Paris.
Compagnie Française des Moteurs à Gaz et des Constructions Mécanique, 135, rue de la Convention, Paris.
Dannecls (Soc. Anon. des Ateliers), rue des Remouleurs 69, Ghent, Belgium.
Dresdner Gasmotorenfabrik, vorm. Moritz Hille, Dresden, Saxony.
Ehrhardt & Sehmer G. m. b. H., Schleifmühle, post Saarbrücken, Germany.
Gasmotoren Fabrik Deutz, Cologne-Deutz.
Körting, Gebr., Körtingsdorf, nr. Hanover.
Langen & Wolf, Laxenburger-strasse 53, X., Vienna, Austria.
Niel, —, rue Lafayette 22, Paris.
Pierson, J. & O. G., 47, rue Lafayette, & 54, faub. Montmartre, Paris.

Engine Makers—Petroleum.

F.—Machines à Pétrole—Fab. de.
G.—Maschinenbauer Petroleum.

Dresdner Gasmotorenfabrik vorm. Moritz Hille, Dresden, Saxony.
Société des Moteurs Gnôme, 14, quai du Petit Gennevilliers, Gennevilliers (Seine), France.
Von Mulmann & Forkel, rue de Laeken, Brussels.

Engine Makers—Steam—Electrical Purposes.

F.—Machines à Vapeur pour l'électricité—Fab. de.
G.—Dampf-Maschinen für elek. Zwecke—Fabr. von.

Aktiengesellschaft der Maschinenfabrik Escher Wyss & Cie., Zürich, Switzerland.
Arndt Gebrüder, Fenstrasse 21, Berlin, N.
Ateliers de Construction (H. Bollinckx) (soc. anon.), Brussels.
Berlin-Anhaltische Maschinenbau-Aktiengesellschaft, Dessau, Germany.
Boulet, J., et Cie., 31 & 33, rue Boinod, Paris.
Bresciani, Michele, Mondovi, Italy.
Dingler'sche Maschinenfabrik A.G., Zweibrücken, Germany.
Douane, —, 23, avenue Parmentier, Paris.
Erste Brünner Maschinenfabrik Ges., I., Brünn, Austria.
Farcot, J. O., 1, avenue de la Gare, St. Ouen, France.
Fouché & de Laharpe, 38, rue des Ecluses St. Martin, Paris.
Fürstlich Stolbergische Maschinenfabrik, Ilsenburg a/Harz, Germany.
Hörenz, Otto, Dresden.
Koch, Bantelmann & Paasch, Magdeburg-Buckau, Germany.
Kuhn G. m. b. H., Stuttgart-Berg, Germany.
Le Blanc, J., & fils, rue du Rendez-Vous 52, Paris.
Leflaive & Cie., Saint-Etienne (Loire), France.
Maschinenbau Anstalt und Eisengiesserei, A. Borsig, Tegel, nr. Berlin.
Maschinenbau-Gesellschaft Basle, Basle, Switzerland.
Maschinenfabrik Augsburg Nürnberg A. G., Nürnberg, Germany.
Maschinenfabrik Esslingen, Abtheilung fur Elektrotechnik, Esslingen, Germany.
Naeyer, De, et Cie., Willebrouck, Belgium.
Neville, E. G., & Co., Venezia, Italy.
Sack & Kiesselbach, Maschinenfabrik G. m. b. H., Rath, bei Düsseldorf.
Schickau, F., Elbing, Germany.
Siegel, Feodor, Schönebeck-am-Elbe, Germany.
Société Centrale de Construction de Machines, 30, route d'Aubervilliers, Pantin, Paris.
Société Française des Balances Automatiques et Engins Spéciaux, 15, avenue de l'Opéra, Paris.
Sté. Anon. des Ateliers Carels Frères, Dock 53, Ghent, Belgium.
Sulzer Brothers, Winterthur, Switzerland.

Engine Makers—Steam—Electrical Purposes—*continued.*

Sundwiger Eisenhütte Maschinenbau Actiengesellschaft, Sundwig i. Westf., Germany.
Weyher et Richemond, 50, route d'Aubervilliers, Pantin, Paris.
Zeister Machinefabriek, Zeist, Holland.

Engines—Steam—High Speed—Makers of.

F.—Machines à Grande Vitesse—Fabr. de.
G.—Dampfmaschinen—Grosse Schnelligkeit—Fab.

Boulte, Larbodière & Cie., 6, rue De Laborde, Paris. Works: Aubervilliers.
Clement & Jacqmain, rue Enghien 14, Brussels.
Delaunay-Belleville, St. Denis (Seine), France.
Kieler Maschinenbauanstalt Act. Ges., Kiel, Germany.
Lanz, Heinrich, Mannheim, Germany.
Maschinenfabrik Buckau, Ltd., Magdeburg-Buckau, Germany.
Salmson, E., & Co. (agents for E. S. Hindley & Sons), 55, rue de la Grange aux Belle, Paris.
Wolf, R., Magdeburg-Buckau, Germany.

Engineers—Civil.

F.—Ingénieurs—Civils.
G.—Ingenieure—Civil.

Arnoux, Réné, 16, rue de Berlin, Paris.
Baert, A. G. T., Statenlaan 92, The Hague, Holland.
Barillet, L. F., 6, avenue de la Motte Picquet, Paris.
Bidet, V. A., 20, quai de la Mégisserie, Paris.
Boulte, Henry, 7, rue de Clichy, Paris.
Broeck, C. C., Horsens, Denmark.
Du Welz, Edward, rue du Chalet 14, Brussels.
Griffisch, G. J., 183, rue Legendre, Paris XVII.
Hennicke & Goos, Börsenbrücke 6, Hamburg, Germany.
Huici, Em., "La Electrica de la Vega de Amijo," Marmolejo, Spain.
Lavezzari, A., 42, rue Blanche, Paris.
Loder, C. F., Southern Tramway Co., Breda, Holland.
Nagtglas Versteeg, C. D., 78, N. Z. Voorburgwal, Amsterdam.
Odazio, Conte Arnaldo, Carrara, Italy.
Van Drunen, J., rue des Champs Elysées 9, Brussels.

Engineers—Consulting.

F.—Ingénieurs—Consultants.
G.—Ingenieure—Beratende.

A. E. G. Union Elektricitäts Ges., Gumpendorferstr., "Rahlhof," Vienna VI/1.

Engineers—Consulting—*continued.*

Agence de Brevets A. Wunderlich & Co., Ltd., ave. des Arts 3, Brussels, Belgium.
Allgemeine Elektricitäts Ges., Wienerplatz 1, Dresden.
Bède, E., & Co., 10, Square Guttenberg, Brussels.
Bellens, C., 43, rue de Chézy, Neuilly sur Seine, France.
Blouin, H., 43, boul. Voltaire, Paris.
Böhm-Raffay, Br., II. Darwingasse 11, Vienna.
Bouvier, Adolphe, 25, avenue de Noailles, Lyon, France.
Bureau Technique de l'Electricité, 15, rue de la Pepinière, Paris VIII.
Cserhati, Jenö, 1, Szilágyi Dezsötér, II., Budapest.
Cuénod, Hermann, Chatelaine, nr. Geneva, Switzerland.
Demblon, Aug., Edeghem, Antwerp, Belgium.
De Wit, W. C. & K., 183, Prins Hendrikkade, Amsterdam.
Elektriska Pröfningsanstalten Holmgren & Rossander, Regeringsgatan 38, Stockholm.
Fischinger, E. G., George Bährstr. 10I, Dresden, Saxony.
Fontaine, E. P., 27, rue Tronchet, Paris.
Gauthier, P., & Cie., Geneva-Versoix, Switzerland.
Iffland, Karl, Arndtstr. 70, Dortmund.
Jervis, Ing. T., via Principe d'Acaja 10, Turin, Italy.
Lehmann-Richter, Dr. E. W., Beethovenstr. 5/I., Frankfurt-a.-M.
Lemonnier, M., ave. Louise 285, Brussels.
Loenen Martinet, F. P. G., Terneuzen, Holland.
Marxen, H., Varrentrappstr., Bockenheim, Frankfort-on-Main.
Montú, Chev. uff. C., corso Re Umberto 7, Naples, Italy.
Peters, Prof. Dr. F., 26, Verl. Wilhelmstr., Gross Lichterfelde, Berlin.
Raclot & Cie., 35, rue de la Regence, Brussels.
Ransy, A., 11, cours des Minimes, Liége, Belgium.
Routin, J. L., 6, rue Auguste Comte, Lyon (Rhône), France.
Simon, P., 1, quai de l'Est, Lyons, France.
Taaks, H., Filderstr. 55, Stuttgart.
Wahlstrom, Emil. A., Seestr. 4, Stuttgart, Germany.
Weizsaecker, Hugo, Neckarstr. 15A, Stuttgart, Germany.
West, Jul. H., Stuttgart-Degerloch.
Wiesemann, Th., 133, rue Charles Quint, Brussels.
Wissing, C. P., Ostre Gaswork, Copenhagen.
Zahn, Dr. G. H., Rathenowerstr. 2, Berlin, N.W.

Engineers—Electric Light & Power.

(*See* CONTRACTORS—INSTALLATION.)

Engineers—Electrical.

F.—Ingénieurs—Électriciens.
G.—Elektrotechniker.

Aas, Th., Prinsensgd. 51, Trondhjem, Norway.
Acerboni, C., S. Marco 96, Venice.
Actien-Gesellschaft für Automatischen Verkauf, neu-Kölln am Wasser 24, Berlin.
Actien Gesellschaft Sächsiche Elektricitätswerke vorm. Pöschmann & Co., Dresden. Works: Heidenau.
Adams, H. F., Municipal Electrical Works, Trompstraat 75, The Hague, Holland.
Adamson & Laurantzon, Toldbodg. 8, Christiania, Norway.
Agnus, —, 4, rue Alboni, Paris.
Agthe, K., 4, Chausseestrasse, Berlin, N.
Aguire, D. M., Com. de Luz Elec., Granada.
Ahlhelm & Voigt, Poggenphuhl 22 & 23, Danzig, Germany.
Ahles, K., Lessingstr. 13, Stuttgart.
Ahrend, Wed. J., & Zoon, Singel 24, Amsterdam, Holland.
Akt. Ges. für Gas, Wasser & Elektricitäts Anlagen, 14, Altonaerstr., Berlin, N.W.
Aktiebolaget Gottfr. Stromberg, Helsingfors, Finland.
Aktiengesellschaft Mix & Genest, Berlin-Schöneberg; Hamburg; & Cologne.
Aktieselskabet Elektrisk Bureau, Middelthunsgade 17, Christiania, Norway.
Aldighieri, A., Sebenico, Austria.
Aldinger, P. E., Weimarstr. 48, Stuttgart.
Alewijnse, C., Waalkade, Nijmegen, Holland.
Aliamet, M., Cie. des Chemins de fer du Nord, 46, rue de la Concord, Asnières (Seine), France.
Allgemeine Elec. Ges., Gartenstr. 9, Breslau.
Allgemeine Electricitäts Gesellschaft, St. Martinstr. 41, Posen, Germany.
Allgemeine Elektricitäts Gesellschaft, Hohe Bleichen 31/2, Hamburg.
Allgemeine Elektricitäts Gesellschaft Basel, 44, Gerbergasse, Basle, Switzerland.
Amezola & Zarauz, calle de Eguia, Bilbao, Spain.
Anastassiu, J. C., Strada Matei-Voevod 31, Bucharest, Roumania.
Andoli, Ing. L., & C. Bertola, via Alfieri 26, Turin, Italy.
Andreu, José, Cia. de Pamplona de la Sociedad Electricista, Pamplona, Spain.
Andreu, F. F., & Co., Mahon, Balearic Islands, Spain.
Andrews, G. L., Lisbon Electric Tramways, Ltd., Lisbon.
Andriessen, E., 7II, Eschestr., Chemnitz, Saxony.
Ansaldo, Gio., Armstrong & Co., Cornigliano, Ligure, Italy.
Antipin, Nic., 34, Nylandsgatan, Helsingfors, Russia.
Antoniotti, R., 12, via Principi d'Acaja, Turin.
Antwerp Eng. Co., rue des Indes, Antwerp.
Appelius, C., Officine Elettriche Genovesi, Genoa.
Arcellaschi, Leonardo, Soc. Elettr. Laria, via Francesco Ballarini 2, Como, Italy.

Engineers—Electrical—*continued.*

Ardovino, A., Monteoliveto 37, Naples, Italy.
Arendt, R., "Electrica Bucharest," Bucharest, Roumania.
Arldt, Dr. C., Pfalzburgerstr. 80, Berlin, W. 15.
Armet, H., 8 bis, rue Marceau, Montpellier (Hérault), France.
Aron, Prof. H., Kaiser allée 219 & 220, Berlin, W.
Aroud, T., 3, rue Felix Poulat, Grenoble (Isère), France.
Arsumanoff, M. A., Moscow-Koursk Railways, Moscow, Russia.
Arvers, Louis, 5, boul. St. Martin, Paris.
Ashcroft, E. A., M.I.E.E., Vadheim, Sogne, Norway.
Astafieff, N., Kolomna, Russia.
Ateliers de Construction Electriques de Charleroi (Soc. Anon.), Charleroi, Belgium.
Aubert, A., Basel, Switzerland.
Aubry, J., Ste. Normande d'Electricité, 73, rue de la Republique, Rouen (Seine-Inf.), France.
Audemars Frères, Se Sentier, Vaud, Switzerland.
Auge, D., 88, rue Chevallier, Levallois-Perret (Seine), France.
Ausfeld & Spyri, Basel, Switzerland.
Autran, G., 19, rue du Général Dufour, Geneva, Switzerland.
Avaeff, P. M., Pesotschnaya 5, St. Petersburg, Russia.
Avakiawz, G. S., Armavir, gouv. Coubane, Caucase, Russia.
Averdieck, W., Bankstr. 4, Dresden, A.
Azaria, P., 5, rue Boudreau, Paris.
Azarola y Solorzano, General Chinchilla 7, Pamplona, Spain.
Badenberg, G., via Stabile 123, Palermo.
Badon-Pascal, G. A., 30, rue des Dames, Paris.
Bagge, C., Fiskebryggen 6, Christiania, Norway.
Baguette, W., Kunibertskloster 19, Cologne, Germany.
Baillat, Ernest, Sté. Hydro-Electrique du Guiers, Pont de Beauvoisin, Isère, France.
Baillehache, E. J. J. (Comte de), 12, boul. Pereire, Paris.
Baillon, L., 172, rue Joseph II., Brussels.
Bainville, A., 5, ave. Rochegude, Nanterre (Seine), France.
Balbach, M., Mainz, Germany.
Ballantine, J. B., Dunderland Iron Ore Co., Ltd., Guldsmedvik, Norway.
Bamberger, Dr. K., Kurfürstenstr. 124, Berlin, W. 62.
Bancelin, E., 21, rue Le Verrier, Paris.
Banti, Ing. G., 224, via Cavour, Rome, Italy.
Baranovsky, N., Swerinskaya 7–9, St. Petersburg, Russia.
Barassi, V., Foro Bonaparte 65, Milan.
Barbier & Turenne, 82, rue Curial, Paris.
Barbou, A., Société Gramme, 28, place St. Ferdinand, Paris.
Baril & Co., 27, rue des Croisades, Brussels.
Barnet Lyon, L. M., Statenlaan 14, The Hague, Holland
Barni, E., 9, via Trento, Brescia, Italy.
Bartelous, Victor, 50, rue des Minimes, Brussels.

Engineers—Electrical—*continued.*

Barth, P., 24, place St. Jean, Liége.
Bartoli, Gioacchino, Sebenico, Italy.
Bary, Paul, 33, rue des Jeûneurs, Paris.
Bas, Giov., 1, Foro Bonaparte, Milan, Italy.
Bas, Hy., 17, via Principe Umberto, Milan, Italy.
Basse, B., Bentitzstr. 11, Weissenfels.
Bast, Omer de, 20, rue Cesar Franck, Liége, Belgium.
Basterrechea, José, Izurza (Vizcaya), Spain.
Battaglia, T., via Nizza 7, Turin.
Baumann, J., Viktoriastr. I., Munich.
Baumert, C., 4, via Principe Umberto, Milan, Italy.
Baur, John, Ganz Electric Co., Ltd., Budapest, Hungary.
Bayer, Hans H., Beatrixg 16A, Vienna III.
Bayerische Elektricitäts Werke, Thierschstr. 26, Munich.
Becce, Ch., Sta. Italiana Westinghouse, Vado Ligure, Savona, Italy.
Beck, Ch. L., Villa Bellevue, Lausanne.
Becks & Cie., 3, rue de l'Harmonie, Liége.
Bede, P., 91, boul. d'Anderlecht, Brussels.
Beekman, L. M. A., The Electra, Amsterdam.
Beer Maison (Soc. Anon. Ateliers de Construc. Mecaniques et Fonderies), Jemeppe, près Liége.
Bekking, J. A. M., Boerenvischmarkt 10, Rotterdam.
Bellenot, A., 7, faub. du Château, Neuchatel, Switzerland.
Belloni, Emilio, via Porta Fenaglia 5, Milan.
Belloni, E., 19, via Calmaggiore, Treviso, Italy.
Belotti, Ing. S., 13, corso Romana, Milan.
Benack, A., Friedrich Wilhelm-Platz 4, Friedenau, Germany.
Benavides, Mariano, Almirante, Medina del Campo, Valladolid.
Benoist, G., Ste. d'Eclairage et de Force par l'Electricité, 169, boul. Malesherbes, Paris.
Benoit, A., Nyon, Vaud, Switzerland.
Benteli, A., 12, Schwarzenburgstr., Berne.
Benthcim, Wm., Landsbergerstr. 82, Berlin, C.
Bentivoglio C., via Giulini 7, Milan, Italy.
Berg, C., Nachf., Brunswick.
Bergé, H., 64, boul. Menilmontant, Paris.
Bergeron, L., Maison Farcot Frères & Cie., 17, rue de Pontoise, Ermont (Seine & Oisc), France.
Bergès, G., 38, rue de la Chaussée d'Antin, Paris.
Bergh, Ch., & Co., Malmö, Sweden.
Bergmann & Westphal, Mühlenstr. 73, Berlin.
Bergstrom, E., & Co., 22, Scheelegatan, Stockholm.
Berlin, C., Weissenfels, Germany.
Berliner, Dr. A., Beymerstr. 23, Gruneweld-Berlin.
Berliner Elektricitäts-Werke, 22, Schiffbauerdamm, Berlin, N.W.
Berlow, M., The Polytechnic, Riga, Russia.
Berner, Otto, & Co., Admiralitätstr. 58, Hamburg.
Bernhard, E., Acherstr. 13A, Bonn, Germany.
Bernhardt, M., Senefelderstr. 97, Stuttgart.
Bertiñi, Angelo, via Guastalla 11-A., Milan.
Bertrand, P., 31, rue du Marais, Brussels.

Engineers—Electrical—*continued.*

Beutier, L., & Ch. Vernier, 37, rue Sedaine, Paris.
Bianco, Ing. E., via Colli 17, Turin.
Biedermann & Czarnikow, 7, Kreuzbergerstrasse, Berlin, S.W.
Bierenz & Co., Zenogasse 23, Vienna XII/1.
Bischoff, R., Vauseyou, Neuchâtel, Switzerland.
Bischoff & Hensel, Mannheim.
Biske, M., 40, rue des Augustins, Liége, Belgium.
Biskupski, F., 19, Victoriastr., Posen, Germany.
Bissmark, A. I. G., & Co., Gothenburg, Sweden.
Bitter, J., 19, Grosse Gallus-str., Frankfort-on-Main.
Biver, L., 16, rue Cuvier, Paris.
Björkegren, Emil, Tegnérsgatan 2, Stockholm, Sweden.
Bladin, Kristofer, General Swedish Electric Co., Stockholm, Sweden.
Blakstad, R., Electrical Works, Arendal, Norway.
Blanke, H., Naumburgerstr. 11, Leipzig.
Blau & Lukács, 38, Eötvös utcza, Budapest VI., Hungary.
Bloch, Dr. L., 11, Schumannstr., Berlin, N.W. 6.
Bloomfield, C. W., Ateliers de Constructions Electrique du Nord et de l'Est, Jeumont, France.
Bochet, —, Harlé & Cie., 2, rue Scheffer, Paris.
Bockh, C., Lindenstr. 38, Nieder-Schönhausen, Berlin.
Boettcher, Alfred, Magdeburg, Germany.
Boileau & Muret, rue de Bourg 28, Lausanne, Switzerland.
Bois-Reymond, A., du, 29ª, Schiffbauerdamm, Berlin, N.W.
Boissonnas, A., Ch. de la Chevillarde 11, Geneva.
Boistel, E., 66, rue de Vaugirard, Paris.
Bolle, Oscar, 33, Leipzigerstrasse, Berlin, W.
Boldorini A., via Benedetto Marcello 30, Milan, Italy.
Bolze, H., Louisenstr. 24, Munich.
Bonelli, Enrico, via Sacchi 18, Turin.
Bonghi, M., 5, Parco Regina Margherita, Naples, Italy.
Bouvillain, Ph., & E. Ronceray, 9 & 11, rue des Envierges, Paris.
Borck & Goldschmidt, 145, Köpnickerstr., Berlin, S.O.
Borel, H. H., Sté. Anon. Westinghouse, 71, rue de Chaillot, Paris.
Borel Fils, Cortaillod, Switzerland.
Borsig, A., Tegel, nr. Berlin.
Boschan, A. von, II. Nordbahnstr. 50, Vienna.
Boström, A., Aktiebolaget L. M. Ericsson & Co., 5, Tulegatan, Stockholm.
Bottiglia, Prof. A., Museo Industriale, Turin.
Böttner, A., 33, Wilhelmstr., Zwickau, Saxony.
Boty, P., 59, rue de la Vallée, Brussels.
Bouchard, —, 19, quai d'Orléans, Rennes, Paris.
Boucher, A., Prilly, Canton de Vaud, Switzerland.
Bouchon, —, Société Electrique, 56, rue de la Victoire, Paris.
Bour, Paul, 2, rue Greuze, Paris.
Bourdin, J., 57, ave. Victor-Hugo, Boulogne.
Bourdon, René, rue St. Pierre 17, Liége.

Engineers—Electrical—*continued.*

Bourgue, J. A., Manufacture Parisienne d'Appareillage Electrique, 143, boul. Murat, Paris.
Bovy, Hugues, boul. des Tranchées 16, Geneva.
Boy de la Tour, H., Cie. de Fives-Lille, 64, rue Caumartin, Paris.
Boye & Thoresen's Elektriska Aktiebolag, Gothenburg, Sweden.
Bozzolo, G., 55, corso Buenos Aires, Milan.
Brandenburg, E., 8, quai des Usines, Laeken-Brussels.
Brandes, Ludwig, 12, Stiftstrasse, Hanover.
Brault, C., 18, quai de Clichy, Clichy (Seine), France.
Brauner & Elben, Vasil. Ostr. 3 line 26, St. Petersburg.
Braunschweigische Maschinenbauanstalt, Brunswick.
Brell, H., Prinz Friedrich Karlstr. 3, Berlin, N.
Bremner, D. A., M.I.E.E., Dunderland Iron Ore Co., Guldsmedvik-i-Ranen, Norway.
Bressius, Emil, G. m. b. H., Rödelheim, nr. Frankfort-on-the-Main.
Bresson, L., 1 bis, rue de l'Elysée, Grenoble (Isère), France.
Brilluoin, André, 92, boul. Haussmann, Paris.
British Engineering Works, 232, Torrente de la Olla, Barcelona, Spain.
Brizio, L., via Pisacane 1-3, Genoa, Italy.
Brockhaus Gebr., Warringerstr. 8, Dusseldorf.
Bröderna Haglind, 7, Tekusloggatan, Stockholm.
Brodie, W. A., A.C.G.I., M.I.E.E., San Rocco, San Remo, Italy.
Brüggemann & Lewus, Dresdnerstr. 16, Leipzig.
Brun, R., 10, ave. de Wagram, Paris.
Brünig, Heinr., 6, Admiralteyskayanaber, St. Petersburg, Russia.
Brunn, C. H., Tordenskjoldsg. 1, Christiania.
Brunn Otto & Uldall, Collijörusensgade 3, Copenhagen.
Brunn & Sörenson, Lille Torv, Aarhus; & Niels Juelsg. 15, Copenhagen K., Denmark.
Brunswick, E. J. L., 1, rue Alphonse Daudet, Paris.
Brzeski, S., Luissenstr. 19 & 20, Posen.
Bub, Carl, Ludwigstr., Augsburg.
Buccellati, G., Victor Hugo 4, Milan.
Büchler, Hans, Schontalgasse 27, Zurich III.
Buchsenmeister, A., Kinechma, Government of Kostroma, Russia.
Buffa, M., Società Elettrica Apuane, Carrara, Italy.
Buffaud, Jules, & Tavian, A., 35, rue de la Duchère, Lyons.
Buhle, Prof. Max, 21, Ludwig Richterstr., Dresden.
Bühler, Dr. E., Tuttlingen, Germany.
Bunet, P., 59, boul. Pasteur, Paris.
Bureau, —, 4, boul. Jamar, Brussels.
Büssing, F., Cologne-Lindenthal, Germany.
Busson, V., 65, rue de Bretagne, Paris.
Cabré, Juan Mª, Director of the "Electra" Compañia General de Electricidad, Bilbao.
Cadot, P., Marennes (Charente-Inf.), France.
Cailhava, E., 8, cours de Gourgues, Bordeaux.

Engineers—Electrical—*continued.*

Caillavet, L. J., Cie. Electrothermique Keller & Leleux, St. Hilaire (Seine), France.
Cailho, —, Chemin de fer de l'Etat, 23, rue Remusat, Paris.
Calandri, Cav. E., Società Telefonica, Turin.
Calandri, Oreste, via Milano, Rome.
Calvé, F., Cie. du Metropolitain de Paris, 4, rue de Sfax, Paris.
Cam, W. G. H., A.M.I.E.E., British Continental Electricity Co., Ltd., San Remo, Italy.
Campion, M., Sté. d'Electricité du Bassin de Charleroi, Roux, Belgium.
Cany, G. X., Ste. Française d'Electricité A. B. G., 42, rue de Paris, Gennevilliers (Seine), France.
Canziani, E., & Co., Portici Vittorio Emanuele 28, 30 & 32, Genoa.
Caradeau Frères, 72, rue d'Angoulême, Paris.
Carlowitz, Oscar, Lemforderstrasse 12, Hanover, Germany.
Carpentier, H. J., 34, rue du Luxembourg, Paris.
Carpentier, J., M.I.E.E., 20, rue Delambre, Paris.
Carr, G., Narva Flax Works, Narva, Russia.
Carvalho, A. de M., 24, Praça de D. Pedro, Oporto.
Casper, Sam, Chausseestr. 36, Berlin, N.
Castanheira das Neves, J. P., 405, rua do Salitre, Lisbon.
Castanier, H., 6, rue Exelmans, Paris.
Castoldi, Ing. M., via S. Agnese 6, Milan.
Cavalli d'Olivola, C., 30, via Po, Turin.
Centonze, Angelo, Altamura (Bari), Italy.
Centurione, Marquis C., 49, via degli Ufficio del Vicario, Rome.
Ceradini, Ing. E., Piazza Chiodo 2, Spezia, Italy.
Chabert, —, Cie. Française de Construction Electriques et Mecaniques, Levallois-Perret (Seine), France.
Champy Frères, 21, Longue rue d'Herenthals, Antwerp.
Chapeau, Felix, 99, ave. des Champs-Elysées, Paris.
Chaperon, Georges, 37, rue Monge, Paris.
Chapuis, L., & Co., 142, rue Lafayette, Paris.
Chardin, Ch., 5, rue de Châteaudun, Paris.
Chargnioux, Charles, 31, rue de l'Hôtel-de-Ville, Lyon.
Charlier, Jules, 54, rue Froissard, Brussels.
Charpentier, P., 9, boul. Carnot, Belfort, France.
Chateau Frères, 125, boul. de Grenelle, Paris.
Chesnay, E., 7, rue Saint Pierre les Dames, Reims, France.
Cheswright, H. T., 15 *bis*, rue de Maubeuge, Paris.
Chevallier, C. H., 8, rue Villedien, Bordeaux.
Chitaroff, A. M., Tiflis, Russia.
Christianssands Elektricitetsverk, Christianssand, Norway.
Cicogna, Ch., ave. Louise 390, Brussels.
Clamond, C., 15, rue Picot, Paris.
Clerici, M., 13, via Marco Minghetti, Rome.
Clerici, M. Carlo, via Monforte 48, Milan.
Cohendet & Cie., 166, quai Jemmapes, Paris.
Cohn, O. N., 44, St. Kongensgade, Copenhagen.
Cohn, Holger & Otta, 44, St. Kongensgade, Copenhagen, K.

Engineers—Electrical—*continued.*

Colardeau, P., Cie. des Voitures Electriques Krieger, 32, rue Vallier, Levallois-Perret (Seine), France.
Colombo, Cav. P., via Sicilia 42, Rome.
Colombo, R., 255, corso Umberto, Rome.
Coltri, Carlo, via P. Umberto 17, Milan.
Columbo, Spizzi & Co., 7, via Bezecca, Milan, Italy.
Comboni, J., Technical Institute, Piazza Cavour, Milan.
Comi, Ing. Felice, & Cia., via Gaetana Agnesi 10, Milan.
Compagnie d'Eclairage Electrique du Secteur des Champs-Elysées, 2, avenue des Ternes, Paris.
Compagnie de Fives-Lille pour Constructions Mécaniques et Entreprises (Soc. An.), 64, rue Caumartin, Paris; & at Fives (Nord) & Givors (Rhône).
Compagnie Electrique de la Loire, St. Etienne, France.
Compagnie Française pour l'Exploitation des Procédés Thomson-Houston, 10, rue de Londres, Paris.
Compagnie Internationale d'Électricité (Société Anonyme), 30, quai de Coronmeuse, Liége, Belgium. (Managing director, H. Pieper.)
Comptoir General d'Electricité, 5, rue Ballu, Paris.
Conlon, W., 175, Alte Jakobstr., Berlin, S.W.
Conovaloff, M. A., Helsingfors, Russia.
Conti, E., via Saffi 25, Milan.
Coppola, M. di Ciro, corso Garibaldi 118, Portici, Naples.
Cornagliotti, G., Piazza Cariguano 2, Turin.
Cornetet, —, 76, rue de Gravel, Levallois (Seine), France.
Costa, Cav. E., via Poli 14, Rome.
Courbier, J., quai Gailleton, Lyons, France.
Court, Luc & Co., 88, 90 & 92, rue Robert, Lyon, France.
Courtant, A., 51, 58 & 60, rue Desrenaudes, Paris.
Couvreur, A., place Verte 19, Verviers, Belgium.
Cox, H., Maschinenfab. Esslingen, Cannstatt.
Crampon, G., rue de la Pompe 8, Paris 16e.
Croizat, Vittorio, via Gioberti 11, Turin.
Croon & Co., Rokin 154, Amsterdam.
Crotogino, H., Allgemeine Electricitäts Ges., Augustastr. 69, Breslau XIII.
Cruto, A., via Pia Quinto 4, Turin.
Cuan, C., 17, boul. Pasteur, Paris.
Cunin, —, 18, rue de la Chaussée d'Antin, Paris.
Czepek, Dr. R., 59, Eichhorngasse, Brünn, Austria.
Czermak, K., 3, Fruchtgasse, Vienna, II/2.
Dahlander, Robt., Stockholm, Sweden.
Danielewski, S. (Helios Co.), Cöln-Ehrenfeld.
Da Pasquier, A. E., c/o W. R. Schou & Co., 21, Fordenskjoldsgade, Copenhagen.
Dareste de la Chavanne, 84, boul. de Courcelles, Paris.
David, Ch. N., 69, ave. de Segur, Paris.

Engineers—Electrical—*continued.*

David, L. A., via Diagonal 182, Barcelona.
Davidsen, L. D., & Co., Steuersgd. 8, Christiania.
Davis, F., Galleria Natta, Turin.
Debachy, T., 83, boul. Dolez, Mons.
De Benedetti, A., 2, via Berchet, Milan.
De Cazenave, Administrateur délégué of the Antwerp Telephone & Electrical Works, Berchem, Antwerp.
De Ceuninck, E. & R., rue de la Pacification 28, Brussels.
Decker, Aug., Stockholms Elektricitetsverk, Tulegatan 13, Stockholm.
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Engineers—Electrical—*continued.*

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Engineers—Electrical—*continued.*

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Engineers—Electrical—*continued.*

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Engineers—Electrical—*continued.*

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Lineff, A. L., Municipality, Moscow.
Martos, Victor, A.M.I.E.E., VII. Erzsébetkörút 44, Budapest.
Melhuish, T. W. W., 14, Brandenburgischestr., Südende bei Berlin.
Neveux, V., 13, boul. de Courcelles, Paris.
Nilson, J., quai Cockerill 8, Antwerp.
Orefice, G., via Grazie 6, Brescia, Italy.
Panzarasa, Ing. A., Foro Bonaparte 42, Milan, Italy.
Peña y Braña, Luis de la, San Roque 8; & Alcala 4, Madrid.
Phillips, E. G., Conde de Aranda 1, Madrid.
Pierard, Emile, rue le Corrége 77, Brussels.
Ross, F., IV. Johannstraussg. 36, Vienna, Austria.
Schœn, Aug., 22, rue Margnolles, Caluire et Cuire, Rhône, France.
Schultz, E. E., 108, calle Lauria, Barcelona, Spain.
Strelin, A., Zurich, Switzerland.
Verdier, F., 8, rue de la Fidélité, Paris.
Zacharias, J., Schloss-str. 4, Charlottenburg, Berlin.

Engineers—Electrical Manufacturing.

F.—Ingénieurs—Constructeurs.
G.—Ingenieure—Elek. & Fab.

Allgemeine Electricitäts Gesellschaft, Artilleriestr. 29, Hanover.
Allgemeine Elektricitäts Gesellschaft Thomson-Houston, 5, piazza Castellano, Milan.
Allgemeine Elektricitäts Gesellschaft, Karawannaia 9, St. Petersburg,
Ateliers de Constructions Electriques du Nord et de l'Est, 31, ave. de l'Opéra, Paris.
Ateliers Thomson-Houston (Anc. Etablissements Postel Vinay), 219, rue de Vaugirard, Paris.
Barbier, R. P., 46, boulevard Richard Lenoir, Paris.
Bartelmus, Donat & Co., Marchettigasse 1, Vienna VI.
Berlin-Charlottenburger Elektricitäts Ges. m. b. H., Mommsenstr. 11, Charlottenburg.
Brown, Boveri & Co., Ltd., Baden, Switzerland.
Brusson, Jeune, Villemur (Haute-Garonne), France.
Chaynes, H., 84, rue du faub. St. Martin, Paris.
Chisholm, J. W., M.I.E.E., Atocha 32, Madrid, Spain.

Engineers—Electrical Manufacturing—
continued.

Chouanard, E., 3, rue Saint Denis, Paris.
Coirard & Richard, 126 bis, rue Leccurbe, Paris.
Compagnie de Construction Electrique (Soc. Anon.), rue du Docteur Lombert, Issy les Moulineaux, Paris.
Construcciones Mecanicas y Electricas (Soc. Anon.), 12, Plaza de Cataluna, Barcelona, Spain.
Couffinhal & Fils, 60, rue de Roanne, St. Etienne, France.
Deligny, J. L., 87, boul. St. Michel, Paris.
Deutsch-Ueberseeische Elektricitäts Ges., 29–30, Kanonierstr., Berlin, W.
Drefus, J. A., 180, quai Valmy, Paris.
Dreyer, Rosenkranz & Droop, Hanover, Germany.
Electricité Industrielle, 13, place de l'Hôtel de Ville, Havre.
Electrotech. Industrie, Slikkerveer, Holland.
Elektrizitätsanlagenges. m. b. H., Neustadter Markt. 17, Chemnitz.
Elektrotechnische Gesellschaft zu Leipzig, Königstr. 2, Leipzig.
Fabrica de Electricidad de la Cia. de Tranvias de Madrid, Bernardo 105, Madrid.
Felten & Guilleaume Lahmeyerwerke Act. Ges., Carlswerk, Mulheim-am-Rhein, Germany.
Frémy, E., 57, boul. du Hainaut, Brussels.
Frisé, E., boul. de la Rochelle, Bar le Duc (Meuse), France.
Grund & Öhmichen, Karlsruhe, Baden, Germany.
Haussy, A., fils & Badet, rue des Pyramides, 16, Lille, France.
Hébert, Pont Audemer (Eure), France.
Hedoin, G., rue Princesse 69, Lille, France.
Hoffmann, M., Dorotheenstr., Leipzig, Saxony.
Jung, Hermann, Frankenallee 38, Frankfort-on-Main, Germany.
Keirsschieter, Remy de, Iseghem, Belgium.
KRÖTLINGER, CARL, VII. Halbgasse 3, Vienna.
"La Industria Electrica" Barcelona, Soc. Anon., 6, Plaza Cataluña, Barcelona, Spain.
Lamerand-Gronier, boul. Victor Hugo, 45, Lille, France.
Lemonsu, E., 22, rue Violet, Paris.
Maison Brèguet, 19, rue Didot, Paris.
Marelli, Ercole, & Co., Ltd., Milan, Italy. (Telegs.: "Ventilator, Milan." Teleph. Nos. 809–3150.) Works in Sesto S. Giovanni.
Martin, Antoine, 52, avenue de la Gare, Nice (Alpes Maritimes), France.
Massy, E., 198, rue Cardinet, Paris.
Mitteldeutsche Elektricitäts Werke G. m. b. H., Berlin.
Moltini, Pietro, Salita S. Maria di Castello 1, Genoa.
Morane Jeune & Cie., 23, rue Jenner, Paris.
Neue Berliner Elektrizitäts G. m. b. H., Hannoverschestr. 30, Berlin.
Neumüller, A., Reisingerstr. 13/2, Munich, Bavaria.
Richard, J., 25, rue Melinque, Paris.

Engineers—Electrical Manufacturing—*continued.*

Robin, F., 6, rue Haxo, Paris.
Roche-Grandjean, 27, boul. de la Chapelle, Paris.
Schmidtsdorff, R., & Co., 146, Kurfürstenstr., Berlin, W.
Società Italiana di Elettricità Ganz, via Solferino 15, Milan.
Société Anonyme des Anciens Ateliers de Construction Van den Kerchove, 189, Coupure, Ghent, Belgium.
Sté. Ane. Gramme, 20, rue d'Hautpoul, Paris.
Société de Constructions Electro-mecaniques, Lopouchinskaya 8, St. Petersburg, Russia.
Stettiner Elektricitätswerke, Stettin, Germany.
Trémeau-Jambon, Châlon-sur-Saône, France.
Westinghouse ElectricitätsAktienges., Dorotheenstr., Berlin, N.W.
Wolff, Gustav, Söhne, Adalbertstr. 41, Berlin, S.O. 16.
Wunderlich & Herrman G. m. b. H., Rotermundstr. 28, Hanover.

Engineers—Electrical Testing.

F.—Ingénieurs—Essais électriques.
G.—Ingenieure für Electr. Prüfungen.

Bayerische Landesgewerbeanstalt (formerly Gewerbemuseum), Nurnberg, Germany.
Bayerischer Revisions-Verein, Elektrotechnische Abteilung, Kaiserstr. 14, Munich.
Iffland, Karl, Arndtstr. 70, Dortmund.
Neustadt, Leopold, c/o Ganz Electric Co., Ltd., V. Hold-utcza 25, Budapest.
Physikalisch-Technische Reichsanstalt, Abteilung II. zu Charlottenburg bei Berlin, Berlinèrstrasse, 151.

Engineers—Electricity Works.

F.—Ingenieurs—Usines élec.
G.—Ingenieure—Elektricitäts Centrale.

Beloseroff, T., Tomsk, Russia.
Crawshaw, E., Malaga Electricity Co., Malaga.
Meng, Walter, City, Dresden.
Schüdlich, K., Elberfeld, Germany.
Süchting, Fr., Bremen.
Voss, G., Städt., Rixdorf bei Berlin.

Engineers—General.

F.—Ingénieurs—en général.
G.—Ingenieure—Allgemeinen.

Allaire, E., 18, rue Flatters, Paris.
Barron, Juan, 366, Diputacion, Barcelona.
Bolander, G., & Co., Gothenburg, Sweden.
Brocq, F. A., 18, boul. de Vaugirard, Paris.
Budapesti általanos villamossagirt, VII. Kazinczy-u. 21, Budapest.
Calvert & Co., Gothenburg, Sweden.
Chatiliez, J., Verdun-sur-Meuse (Meuse).

Engineers—General—*continued.*

De Boringe, J., 35, rue Faidherbe, Lille, France.
Delvaux, Henri, & Cie., 43, rue de la Poste, Brussels.
Demerbe, V., & Co., Jemeppes, Mons, Belgium.
Deswarte, R., 13, rue de Fleurus, Lille, France.
Escolá, Luis, Cortes 586, Barcelona, Spain.
Figee & de Kruijff, N. Z., Voorburgwal 28 & 30, Amsterdam, Holland.
Fischinger, E. G., Niedersedlitz bei Dresden.
Forns, P., y Cia., D. Jaime I. 54, Zaragoza, Spain.
Garcia, A., & Co., 8, rue du Marché, Brussels.
Giovanni, Ansaldo, Armstrong & Co., Sampierdarena, Genoa.
Goliasch, G., & Co., Kaiser Friedrichstr. 227 & 228, Berlin-Rixdorf.
Grouvelle, Jules, & H. Arquembourg, 71, rue du Moulin Vert, Paris.
Guilbert, C., 18, rue de la Jonquières, Paris.
Guller & Züst, R., Lago Maggiore, Intra, Italy.
Gwyther y Cañeta, Fuencarral 135, Madrid.
Hald, D., & Co., Stockholm.
Hillerscheidt & Kasbaum, 44, Schönhauser-Allée, Berlin, N.
Kleeman, Gustav, Hamburg.
Limousin, H., Société Nantaise d'Eclairage et de Force par l'Electricité, 16, rue Lamoricière, Nantes, France.
Manne, J., 15, rue de Douvres, Brussels.
Meyer, Marcel, 40, rue Blanche, Paris.
Odero Fratelli, Sestri Ponente & La Foce, Genoa.
Paevsky, K., Odessa, Russia.
Rossler & Baumbach, Neue Mainzerstrasse, 71, Frankfurt-am-Main.
Rothenbach, A., Bern, Switzerland.
Scharrer & Gross, Nürnberg.
Schmetz, M., Boxgraben 47, Aachen, Germany.
See, E. & A., 15, rue d'Amiens, Lille, France.
Société Anonyme des Moteurs, Sclessin, Liége, Belgium.
Sonnenthal, E., jun., Berlin, C.
Van Swieten, A., Dutch Railways, Amsterdam.
Van Vrijberghe de Coningh, G. J., Tr. State Railways, Utrecht, Holland.

Engineers—Hydraulic.

F.—Ingénieurs—Hydrauliques.
G.—Ingenieure—Hydraulische.

Actiengesellschaft vorm. Joh. Jacob Rieter & Cie., Winterthur, Switzerland.
Azari, M., via Settembrini 50, Milan.
Fiorenzi, G., Osimo, Italy.
Società delle Forze Idrauliche, Tivoli, Rome.
Van Lint, V., 73, Avenue Michel-Ange, Brussels.

Engineers—Mechanical.

F.—Ingénieurs—Mécaniciens.
G.—Ingenieure—Mechanische.

Aktien Maschinenbau Anstalt vorm. Venuleth & Ellenberger, Darmstadt.

Engineers—Mechanical—*continued.*

Ateliers Walschaerts, 62, pl. de Constantinople, St. Gilles, Brussels.
Bary, W., Issakievska Ploschard 7, St. Petersburg, Russia.
Barzano, Carlo, via Bagutta 24, Milan, Italy.
Bederlunger, A., & Co., 46, via Vitt.Emanuele, Pisa.
Bertrand, Th. A., State Railway, Utrecht, Holland.
Björk & Jansson, N. Hamngatan 22, Gothenburg, Sweden.
Boccasavia, Gaetano, via Stella 25, Milan.
Etablissements Decauville ainé, Soc. Anon., Petit Bourg, Seine-et-Oise, France.
Fautrier, P., St. Vio 704, Venice.
Geveke & Co., de Ruyterhade 113, Amsterdam.
Gritters, H. C. J., Rotterdam, Holland.
Linders, Olof, Stockholm, Sweden.
MacDowall, J., & Barbour, Vulcan Engine Works, Piræus, Greece.
Maschinenbau-Anst. Humbolt, Kalk, nr. Cologne, Germany.
Neuwinger, Markert & Seiffert (manufacturing), 67, Lothringerstrasse, Berlin, N. 54.
Orval, M., fils, 44, quai Marcellis, Liége, Belgium.
Polte Armaturen-und Patronen-Fabrik, Magdeburg-Sudenburg, Germany.
Ramel, Geo. F., 37, Nordstr., Zurich, Switzerland.
Richard, F. M., 23, ave. de la Grande Armée, Paris.
Salari & Albaredi, Frazione Foce, Genoa.
Servettaz, Giovanhi, Savona.
Soc. Anon. Fabrica la Amistad, Oviedo, Spain.
Società Costruzione Meccaniche, Trevise.
Soc. Ane. des Ateliers du Canal, rues du Canal & Ledeganck, Borgherout, Antwerp, Belgium.
Société Anon. John Cockerill, Seraing, Belgium.
Société Générale de Chemins de fer économiques (soc. anon.), 54, rue de Namur, Brussels.
Tamagno, Musso & Squindo, Biella, Italy.
Weiler, Max, Morlanwelz, Belgium.
Wilson & Maclaren, piazza d'Armi, San Pier d'Arena, Italy.

Engineers—Mining.

F.—Ingénieurs des Mines.
G.—Ingenieure—Gruben.

Contreras, Adriano, Argensola 19, Madrid.
Craven, Robert H., Mineira de Libiola, Sestri Levante, Italy.
Cuyper, — De, Montigny-sur-Sambre, près Charleroi, Belgium.
Grohmann, E., Seriphos, Greece.
Iffland, Karl, Arndtstr. 70, Dortmund.
Lacasa, M., 11, Lealtad, Madrid.

Engineers' Stores.

F.—Ingenieurs—Fournisseurs et magasins pour.
G.—Ingenieure—Lagerhaus.

Société du Verre Étiré, 10, rue Thimonnier, Paris.

Engineers—Telegraph.

F.—Ingénieurs—Télégraphes.
G.—Ingenieure—Telegraphenbau.

Aarstad, T. I., Drammen, Norway.
Agémian, Mighirditch, Pera Posts & Telegraphs, Constantinople.
Anderson, James (divisional manager), Eastern Telegraph Co., Athens, Greece.
Baboulet, G. Louis M., Posts & Telegraphs, Toulouse, France.
Banneux, J., M.I.E.E., Director State Telegraphs Department, Brussels (Central).
Billing, E. I., Royal Swedish Rlys., Stockholm, Sweden.
Binet, L., Service Technique des Télégraphes de la Cie. de l'Ouest, 1, place St. Thomas d'Aguin, Paris.
Blackwood-Price, Henry N., M.I.E.E., 5, via Fabio Severo, Trieste, Austria.
Bleuland van Oordt, L., Bleyenburghade 11, Utrecht.
Boomsma, A., Chief Telegraph Office, Amsterdam, Holland.
Boulvin, R., 30, rue de Ten Bosch, Brussels.
Brändli, E., Administration Suisse des Télégraphes, Berne, Switzerland.
Breisig, Prof. Dr. Franz, Joachim Friedrichstr. 14, Halensee, nr. Berlin, N.
Broughton, R. A., Western Telegraph Co., Lisbon, Portugal.
Browne, H. V., Direct Spanish Telegraph Company, Barcelona, Spain.
Cael, A., 31, rue Saint Guillaume, Paris.
Cardarelli, Comm. F., Posts & Telegraphs, Rome.
Chewki Effendi, Constantinople.
Colard, O., Posts & Telegraphs, 43, rue de l'Union, Brussels.
Collette, A. E. R., M.R.I.E., M.I.E.E., The Hague. Holland.
Constantinis, A., Athens, Greece.
Cramer, Hans, Blankenburg-Harz.
Curman, N. R., Stockholm, Sweden.
Delarge, Frédéric, Hôtel Central des Postes et des Télégraphes, Brussels.
Delville, Trophime, Bell Telephone Manufacturing Co., Anvers, Belgium.
De Pauw, J. F., 36, rue de Savoie, Brussels.
Desperssés, L. H., 3, rue du Mont Thabor, Paris, France.
De Vere, A. V., Tobacco & Co., Constantinople.
Eschbaecher, E., Secretary of the International Telegraph Bureau, a. d. Bale.
Evrard, F., Service Telegraphs, Station du Nord. Brussels.
Fahri, Effendi, Constantinople.
Felten & Guilleaume Lahmeyerwerke Act. Ges., Carlswerk, Mulheim-am-Rhein, Germany.
Férid bey, Constantinople.
Forchammer, —, Danish Government Telegraphs, Copenhagen.
Forster, W. G., Eastern Telegraph Co., Zante, Greece.
Frei, P., Chemins de fer Fédéraux, Berne, Switzerland.

Engineers—Telegraph—*continued.*

Friis, H. W., Royal Norwegian Telegraphs, Drammen, Norway.
General Telephone Co., Stockholm, Sweden.
Gilhespy, W., Eastern Telegraph Co., Trieste.
Gramaccini, Jules H. F., M.I.E.E., 11, passage de la Visitation, Paris VII^e.
Guenzel, E., Indo-European Telegraph Co., Odessa, Russia.
Gulstad, K., M.I.E.E., Great Northern Telegraph Co., Copenhagen.
Gurlt, W., Kiefholzstr. 21, Berlin, S.O.
Hansen, Carl V., Fredericia, Denmark.
Hérardin, —, 53, rue des Écoles, Montreuil-sous-Bois (Seine), France.
Hohl, Kuns, Berne, Switzerland.
Hornbech, Axel, Christiania, Norway.
Husson, L., 3, square du Croisic, Paris.
Izard, Justin, Posts & Telegraphs, Clermont-Ferraud, France.
Jensen, V. T., Gt. Northern Telegraph Co., Ltd., Thorshavn, Faeroe Island.
Kirt, H., Posts & Telegraphs, Riga, Russia.
Koefod, C. E., Gt. Northern Telegraph Co., Copenhagen, Denmark.
Koomans, Dr. N., van Kinsbergenstr. 3, The Hague.
Krarup, C. E., Royal Danish Telegraphs, Kjobmagergade 61, Copenhagen K.
Lambotte, L., 112, rue Wazon, Liége, Belgium.
Larsen, Simen, Arendal, Norway.
Lawton, G. F., Eastern Tel. Co., Hotel des Postes et Télégraphes, Marseille & Bona, France.
Leduc, —, Hôtel des Postes, Brussels.
Leigh, P. M., Thormöhlensgd. 49, Bergen, Norway.
Lie, J. B., Christiania, Norway.
Lloyd, T. H., A.M.I.E.E., Anglo-American Telegraph Co., Brest.
Lorain, —, 18, rue de Staël, Paris.
Madelli Effendi, Constantinople.
Marret, H., Anglo-American Telegraph Co., Havre, France.
Maxwell, H. H., Eastern Telegraph Co., Villa Real Santonio, Algarve, Portugal.
Meurling, L. A., Superintendent Swedish State Railways, Stockholm.
Meyer, N. R., Danish Government Telegraphs & Telephones, Copenhagen.
Moll, —, rue du Montet 67, Nancy.
Mouhammed, Emine Effendi, Constantinople, Turkey.
Mulder, S., Nassau-Dillenburgstr. 32, The Hague, Holland.
Naglo, Emil, 2, Eichenstr., Berlin.
Nerville, F. de, 59, rue de Ponthieu, Paris.
Parkinson, J. A., Eastern Telegraph Co., Cadiz, Spain.
Petersen, E. B., Copenhagen Telephone Co., Kastrup, Amager, Denmark.
Petersen, J. A. P., Gt. Northern Telegraph Co., Ltd., Gothenburg, Sweden.
Pratesi, R., Eastern Telegraph Co., Candia, Crete.

Engineers—Telegraph—*continued.*

Rasmussen, A. C. M., Gt. Northern Telegraph Co., Ltd., Nystadt, Finland.
Raymond, G., M.V.O., Eastern Telegraph Co., Corfu.
Raymond, L., M.I.E.E., 56, rue Washington, Paris.
Roosen, Alf., 19, rue des Ménapiens, Brussels, Belgium.
Rydin, S. L. H., Royal Board of Swedish Telegraphs, Stockholm.
Schild, Dr. Karl, Berne, Switzerland.
Seaton, W. S., 32, rue Caumartin, Paris.
Seibt, Dr. G., Berchtergadenerstr. 15, Schöneberg bei Berlin.
Sörensen, R., Government Telegraphs, Arendal, Norway.
Spohr, H. G., Baumweg 10, Frankfurt-am-Main, Germany.
Strecker, Prof. Dr., Imperial German Telegraphs, Burggrafenstr. 15, Berlin, W. 62.
Suenson, Commodore E., M.I.E.E., Great Northern Telegraph Co., Copenhagen.
Taille, I. De la, Orleans, Loiret, France.
Thrane, O. R. V., Government Railways, Copenhagen.
Torjnsen, E. H., Egersund, Norway.
Touanne, G. de la, M.I.E.E., 80, rue Bonaparte, Paris.
Trap-Holm, J. P., Great Northern Telegraph Co., Seydisfjord, Iceland.
Van der Bilt, C. L., Nassaulaan 11A, The Hague, Holland.
Van Embden, S. J. J. H., The Hague, Holland.
Van Hasselt, M. A., Malakkastraat, 5, The Hague, Holland.
Vidarte, M., Jerez de la Frontera, Spain.
Visser, J. J. F. C., Netherlands Telegraphs, The Zwolle, Holland.
Visser, P. J., s'-Hertogenbosch, Holland.
Walsöe, C. E., Royal Danish Telegraphs, Copenhagen, Denmark.
Welter, Heinrich, Schilderhof, Cologne, Germany.
Wolff, F., Government Railways, Aarhus, Denmark.

Engineers—Telephone.

F.—Ingénieurs—Téléphones.
G.—Ingenieure—Telephon.

Bailleux, G., 3, rue Donizetti, Paris.
Bergh, Georg, Helsingfors, Finland.
Berthon, A., chief of Government Telephone Department, 51, rue de la Chaussée d'Antin, Paris, France.
Blixt, H., Telephone Office, Malmö, Sweden.
Brodersen, A., Mandals Telephone Co., Mandal, Norway.
Cahen, Michel, 91, rue de la Loi, Belgium.

Engineers—Telephone—*continued.*

Cedergren, H. T., Stockholms Allmänna Telefon-Aktiebolag, Stockholm, Sweden.
Cornet, L., 33, rue Rudolphe, Antwerp, Belgium.
Courtois, G., Sté. Industrielle des Téléphones, 32, rue Théophile Gautier, Paris 16e.
Czeija, Nissl & Co., Dresdnerstr. 75, Vienna XX./2, Austria.
Ekeberg, L. E., Rikstelefonstation, Malmö.
Felten & Guilleaume Lahmeyerwerke Act. Ges., Carlswerk, Mulheim-am-Rhein, Germany.
Fung, C., Société des Téléphones, 25, rue du Quatre Septembre, Paris.
Gras, J. J., 7, rue Montbrun, Paris.
Hallén, C., Stockholms Allmänna Telefon Aktiebolag, Stockholm.
Legache, G. V., 129, rue St. Maur, Paris.
L'Hoest, Felix, rue des Augustin 55, & place de l'Université 60, Liége, Belgium.
Marrangoni, Prof. A., Vercelli, Italy.
Meyer-May, A., Sté. Industrielle des Téléphones, 18, ave. Niel, Paris.
Officina Elettrica, via Vittoria Colonna 9, Milan, Italy.
Saltini, Giovanni, piazza Volta 5, Como, Italy.
Società Telefonica Bresciana, via Torre d'Ercole, Brescia, Italy.
Società Telefonica Comense, Como, Italy.
Société de Telephones Neyroud, 6, rue Estelle, Marseilles, France.
Sportelletti & Picchi, via Bartolo, Perugia, Italy.
Warning, J. H., jun., Nederlandsche Bell Telephoon Mij, Amsterdam, Holland.

Engineers—Ventilating.

F.—Ingénieurs—Ventilation.
G.—Ingenieure—Ventiliren.

Aktiebolaget de Lavals Angturbin, Stockholm, Sweden.
Electrotechnische Mechanische Industrie, Utrecht, Holland.
Farcot, E., 163, ave. de Paris, Plaine St. Denis, France.
Marelli, Ercole, & Co., Milan, Italy.
Matecki & Obrembowicz, 39, Siennastr., Warsaw, Russia.
Mestern & Co. (Nachf.), 6, Oranienstr., Berlin, S.O. 26, Germany.

Engravers—General.

F.—Graveure—En général.
G.—Graveure—Allgemeine.

De Seauve, 35, boul. des Capucines, Paris.
Graphische Ges., Lindenstr. 16/17, Berlin, S.W.
Lemaire-Leboutte, J., rue du Brou 11, Verviers, Belgium.
Van Zwieten, J., Binnenweg 420, Rotterdam, Holland.

Experimental Electric Work.

F.—Travaux d'essai électrique.
G.—Versuchsweise Elektrische Arbeit.

Bayerische Landesgewerbeanstalt (formerly Gewerbemuseum), Nurnberg, Germany.
Officina del Genio Militaire, Pavia, Italy.
Van Vloten, Frank, Heerenstraat, Wageningen, Holland.

Exporters & Importers of Electrical & Telegraphic Plant.

F.—Exportateurs et importateurs d'outillage électrique et télégraphique.
G.—Ausführer und Einführer von elektrischen und telegraphischen Materialen.

Baumann, Felix, Bahnhofstr. 21c, Zwickau, i. S., Germany.
Breymann & Hübener, Brandstwiete 24, Hamburg, Germany.
Eenberg, B. Reimers, 22, place de Brouckère, Brussels. (Telegrams: "Eenberg, Brussels.")
See advt., page 1042.
Elektrom. Techn. Bureau, Inh. Julius Kleinert, Hettnerstr. 5, Dresden, A.
Falchenberg, P. C., Toldbadg. 11, Christiania, Norway.
Hecht, Pfeiffer & Co., Ritterstr. 48, Berlin, Germany.
Hess, L., Fatebenefratelli 15, Milan, Italy.
Krolik, Hugo, & Wolf, Ritterstr. 30, Berlin, S., Germany.
Miller, H., Ltd., Hazebrouck, France. *See advt., page* 17.
Nyssens, Henri, rue des Peignes 33, Antwerp, Belgium.
Pervazian, A., 283, Zindan Capou, Constantinople, Turkey.
Romeo, N., 35, Foro Bonaparte, Milan, Italy.
Talbot, R., Wassertorstr. 46, Berlin, S. 42.
Verdoux, J., 482, Grande rue de Pera, Constantinople, Turkey.
Warburg, R. D., & Co., Mauerstr. 53, Berlin, W., Germany.

Fan Motors.

F.—Moteurs à ventilation—Fabricants de.
G.—Ventilatoren-Motoren—Fabrikanten von.

Cie. Sturtevant, 62, rue Saint Lazare, Paris.
Electrotechnische Mechanische Industrie, Utrecht, Holland.
Gasca, Albin, 220, rue Lafayette, Paris.
GRIVEL, ANDRÉ, 62, rue de Provence, Paris
Ventilateur Blackman-Keith.
Gueudelot, —, 75, boul. Voltaire, Paris.
Hanisch & Co., Kastanienallee 84, Berlin, N. 37, Germany.
Michel & Cie., 82, rue de la Folie Méricourt, Paris.
Monnet & Moyne, 11, rue Torricelli, Paris.

Fan Motors—*continued.*

Plau & Cie., 24, rue des Petites Ecuries, Paris.
Schwark, Max, & Co., 101, Ritterstr., Berlin, S. 42.
Turké, O., 142, rue du faub. St. Denis, Paris.
Wissenschaftl. Institut für Laboratoriums-Bedarf Ludwig H. Zeller, Leipzig, Saxony.
Wulff, Franz, Alexandrinenstr. 22A, Berlin, Germany.

Fittings Makers—Electrical.

F.—Fournitures pour l'éclairage électrique—Fabricants de.

G.—Armaturen—Elektrische—Fabrikanten von.

Aktien-Gesellschaft. Schaeffer & Walcker, 18 & 19, Lindenstrasse, Berlin, S.W.
Allgemeine Metallwerke für Beleuchtung G. m. b. H., 20/23, Rotherstr., Berlin, O. 17.
Arndt & Marcus, Elisabeth Ufer 29, Berlin, S.O. 26.
Aubert, C., 56, rue Mazenod, Lyon (Rhône), France.
Aumeunier, 21, rue Beranger, Paris.
Bachmann, O., Hirschengr. 70, Zurich I., Switzerland.
Balant, Ch., rue Chisaire, Mons, Belgium.
Barth, G. & O., Potsdamerstr. 63, Berlin, W. 57, Germany.
Barthel, A., Poststr. 39, Chemnitz, Germany.
Baur, Prosper, 71, rue Charlot, Paris.
Beaume, A., Fils, 53, rue de Châteaudun, Paris.
Beisswenger, J., Yorkstr. 59, Berlin.
Beleuchtungskörper G. m. b. H., Luisenstr. 29, Berlin.
Bellens-Peeters, A., Chaussée de Malines 45, Antwerp.
Bendix, J., 50 ter, rue de Malte, Paris.
Bengel, J., 99, ave. de la Republique, Paris.
Berdiel, A., 20, rue Cavenne, Lyons, France.
Bergmann, S., & Co., Actien Gesellschaft, Hennigsdorferstr. 33-35, Berlin.
Bernard, Lyon, 55, rue des Archives, Paris.
Biais Frères & Cie., 74, rue Bonaparte, Paris.
Bischoff, Paul, & Co., Neue Königsstr. 5, Berlin, Germany.
Boulanger, Ch., 25, rue N.-D.-de-Nazareth, Paris.
Bouquet, A., 7, rue Froissart, Paris.
Braune, G., Chausseestr. 68, Britz-Berlin, Germany.
Brechenmacher, F., Frankfort-on-the-Main, Germany.
Brossé Mouriat & Cie., 8, boul. de Villiers, Paris.
Budweg, F., & Sohn, Schmidstr. 26, Berlin, S.O., Germany.
Buisson, M., Chaussée de Mons 52, Brussels.
Busch, Louis, 17, Pfaffengasse, Mainz, Germany.
Caumers, Vve. P., 76, rue de Turenne, Paris.
Chaput, L. V., 20, boul. Voltaire, Paris.
Chercholy, E., 16, faub. St. Denis, Paris.

Fittings Makers—Electrical—*continued.*

Conrad, F. B., 19, Glogauerstr., Berlin, S.O., Germany.
Coupier & Cie., 100, rue Amelot, Paris.
Delisle, Les Frères, 24, rue Pavée, Paris.
Desir, F., 37, Grande rue des Charpennes, Lyon (Rhône), France.
Dezavis & Béchard, 6, rue Beranger, Paris.
Disclyn, A., & Linn, 17, boul. de la Madeleine, Paris.
Dombard Fils, Aug., rue du Centre 47, Verviers, Belgium.
Douillet, Em., 46, boul. de la Bastille, Paris.
Dubrujeaud & Jean Richermoz, 41, rue St. Sebastien, Paris.
Edelmuller, J., 81, boul. Richard Lenoir, Paris.
Ehestädt & Robert, 35, Brandenburgstr., Berlin, S., Germany.
Ehrich & Graetz, 105 & 106, Alexandrinenstr., & 92 & 93, Elsenstr., Berlin, S.O. 36.
Espie, A., 72, rue de Turenne, Paris.
Favre & Cie., 4, rue de Saintonge, Paris.
Fischer & Co., 36, Rheinstr., Mainz.
Florand, Robert, 116 & 118, rue St. Georges, Lyons, France.
Frenzel, A. T., Steinschönau, Bohemia.
Friedrich, A., 3 & 4, Reichenbergerstr., Berlin, S.O.
Frognerkilens Fabrik, Bygdö, near Christiania, Norway.
Gas und Wasserleitungsgeschäft Stuttgart, G. m. b. H., 36, Calwerstr., Stuttgart, Germany.
Gautier, M., quai des Brotteaux 29, Lyons, France.
Gervais, F., 12, rue des Filles du Calvaire, Paris.
Gesellschaft für Beleüchtungskörper vorm. Zeissor, Habiger, & Co., 72, Neustiftg., Vienna, Austria.
Gillet, Forest & Cie., 32, boul. Henri IV., Paris.
Glathe, W., Zwickauerstr. 75, Chemnitz, Germany.
Goldscheider, F., 45, rue de Paradis, Paris.
Goyvaerts & Co., rue de l'Avenir 11, Borgerhout, Antwerp.
Grimm, Ed., Ritterstr. 111, Berlin.
Grün & Fischer, 10, Kirchberggasse, Vienna VII./2, Austria.
Guiard, J., 245, boul. Voltaire, Paris.
Hanniet (Maison), rue des Pierres 29, Brussels.
Hansen, H., & Co., Prinzessinenstr. 20, Berlin, S., Germany.
Hauer, Rich., Gneisenaustr. 107, Berlin, Germany.
Heber, J. G., 30, Melchiorstr., Berlin, S.O., Germany.
Hellmann, H. W., Bernauerstr. 78, Berlin, N. 28, Germany.
Hentschke, Buchholz & Co., alte Jacobstr. 1c, Berlin.
Hertwig, Paul, Mülhausen i. Thür., Germany.
Högner & Weller, Leutzsch, bei Leipzig, Saxony, Germany.
Hondebine, E., 64, rue de Turenne, Paris.
Hornemann, F., 7, Neuenburgerstr., Berlin, Germany.

Fittings Makers—Electrical—*continued.*

Jacob & Schappel, 28, Schillerstr., Frankfort-on-Main, Germany.
Jahnel, Josef, Haida, Bohemia.
Jaillard, Jeune, 58, rue des Tournelles, Paris.
Jaillard & Veraud (Béziel & Ribot succ.), 54, boul. Voltaire, Paris.
Javey & Cie., 106, rue Réaumur, Paris.
Jonas Gebr., 30, Adalbertstr., Berlin, S.O., Germany.
Károly, E., 3, Nagy Jánosutcza, Budapest, Hungary.
Kellermann, J., 114, Köpenickerstr., Berlin, S.O. 16, Germany.
Kindermann, C. F., & Co, Möckernstr. 68, Berlin, S.W. 47.
Kissling, Rudolf, & Sohn, Untere Viaductgasse 33, III. Vienna; & Budapest.
Klinghoff, Jul., 91, Potsdamerstr., Berlin, W., Germany.
Koppin, R., Elizabeth Ufer 5 & 6, Berlin, S.O., Germany.
Köttgen, H., & Co., Berg-Gladbach; & Severinstr., Cologne, Germany.
Kray, Max, & Co., 7, Boeckhstr., Berlin, S., Germany.
Kühne & Heinemann, G. m. b. H., Hanover, Germany.
Langer, C., kl. Plauensche-Gasse 6, Dresden.
Lapointe, —, 100, rue Amelot, Paris.
Laub, L., VI. Andrassy-út 46, Gyár-utca 11, Budapest.
Leblanc-Barbedienne, G., 30, boul. Poissonnière, Paris.
Ledentu Frères, 64, rue de Saintonge, Paris.
Lerch, F., 61, boul. Richard Lenoir, Paris.
Lericque, L., 60, rue Saint Sabin, Paris.
Lerolle Frères, 1, rue du Foin, Paris.
Lutz, Edward, & Co., 41, Hausergasse, Vienna X, Austria.
Maes & Damon, 17, rue Saint Gilles, Paris.
Marchal, —, 7, rue Montpensier, Paris.
Maschinen und Armaturenfab. vorm. H. Breuer & Co., Hochst-a.-M., Germany.
Maschmann, Rockenbach & Co., Mainz, Germany.
Massin, R., 70, rue des Tournelles, Paris.
Melzer & Neuhardt, Stolzenthalergasse 6, VIII. Vienna.
Monduit, P., Fils, 31, rue Poncelet, Paris.
Moosbrunner Glasfabriks Aktienges., Kasernengasse 6, Vienna VI./1.
Muller, Emile, & Co., Ivry Port, près Paris.
Mütz, J., & Co., 12, Riemergasse, Vienna I, Austria.
Neuhaus, Guglielmo, via Peschiera 5, Milan, Italy.
Neumeyer, F., 29, Gibitzenhofstr., Nurnberg, Bavaria.
Oberdhan & Beck, Bauhofstr. 2, Mainz, Germany.
Ouvrard, G., Parvis St. Gudule, Brussels.
Peltret, —, 53, rue Saint Sabin; & 44, rue Amelot, Paris.
Pester, Otto, Poststr. 34, Chemnitz, Saxony, Germany.
Peyré, G., 204, rue Saint Maur, Paris.

Fittings Makers—Electrical—*continued.*

Pignolet, A., & Cie., 106, rue Vieille du Temple, Paris.
Pillot, E., 38, rue de Turenne, Paris; & 16, rue des Minimes, Paris.
Pinedo, 137, rue Vieille du Temple, Paris.
Poulet & Cie., 38, ave. de la Republique, Paris.
Raingo Frères, 102, rue Vieille-du-Temple, Paris.
Renon, V^ve^ et fils, 13, rue Payenne, Paris.
Rigual, P., 13, rue des Arquebusiers, Paris.
Ripoche, 113, boul. Beaumarchais, Paris.
Rousseau, E., Fils, 6, ave. Parmentier, Paris.
Sächsische Holzwarenfab. Max Böhme & Co., Akt. Ges., Dippoldiswade, Germany.
Sailly, P., Caillet & Cie., 10, rue St. Antoine, Paris.
Samson, 7, rue Beranger, Paris; & 30, avenue de l'Opera, Paris.
Schmahl & Schulz, Barmen, Germany.
Schmidt, J. H., & Söhne, Iserlohn, Germany.
Schneider, A., 23A, Ferd. Foststr., Leipzig, Stötteritz, Germany.
Schnyder, Gebr., Lucerne, Switzerland.
Schott & Schildorfer, 13, Leitha-str., Vienna XX/2.
Schwarz, A., & Co., 72, Mörfelderlandstr., Frankfort-on-Main.
Sengier, M., rue St. Jean 37, Brussels.
Société des Etablissements Metallurgiques A. Durenne, 26, faub. Poissonnière, Paris.
Société Gen. d'Eclairage et de Chauffage, 22, boul. Richard Lenoir, Paris.
Stabernack, Paul, & Co., Ringbahnstr. 53 & 54, Tempelhof, Berlin, W.
Staub Sohn, G., Zug, Switzerland.
Tade, Otto, 92, Aldabertsstr., Berlin, S.O. 26.
Tade, Otto Tr., jr. G. m. b. H., 49, Ritterstr., Berlin, S.W. 68.
Testuot, —, 9, rue Mayran, Paris.
Thibault, M., 40, rue de Lévique, Paris.
Tietz & Co., 21, Oranienstr., Berlin, S.O.
Tvermoes & Abrahamson, Raadmandsgade 43, Copenhagen L.
Val d'Aosta, Société du, 58, boul. Voltaire, Paris.
Valcke Frères, rue de la Chapelle 84, Ostende.
Valentin, L., Mainzerlandstr. 166, Frankfurt-am-Main, Germany.
Vandel & Cia., Avigliana, nr. Turin, Italy.
Vian, Vve, 5, rue Thorigny, Paris.
Vildieu, A., 80, rue de Turenne, Paris.
Villette, P., 107, boul. Richard Lenoir, Paris.
Wellner, C., Cossebaude, Dresden, Germany.
Wessbecher, E., 59–61 bis, rue de la Grange aux Belles, Paris.
Wilmotte Fils, J., 116, boul. de la Sauvenière, Liége, Belgium.
Wirschitz & Co., 5, Goethestrasse, Munich.

Flexible Tube Makers.

F.—Tubes flexibles—Fab. de.
G.—Biegsame Röhren—Fab. von.

Manufacture Métallurgique de la Jonchère, 15, rue Saussier-Leroy, Paris.

Flexible Wires & Cords for Electric Light.

F.—Conducteurs flexibles pour l'éclairagé électrique.
G.—Biegsame Drähte für elektrisches Licht.

Fuchs, J. W., Nuremberg.
Société Industrielle de Creil, 47, rue de Chateaudun, Paris.

Forgings.

F.—Forges (outils et objets).
G.—Schmiedewaaren.

Heyden & Kaufer, G. m. b. H., Hagen-i.-W., Germany.

Fuse Boards & Distribution Boards.

F.—Planches fusées et planches de Distribution.
G.—Sicherungs-Brette u. Verteilungs-Brette.

Fuse Manufacturers—Electric.

F.—Coupe-circuits—Fab. de—électr.
G.—Zündschnur—Fab. von—Elektr.

Actien-Gesellschaft Dynamit Nobel, I. Schaufler gasse 2, Vienna.
Berger, J., Marcinelle, près Charleroi, Belgium.
Borg, Carl, Kochstr. 28, Leipzig, Saxony, Germany.
David, L., 9, rue de Madrid, Paris VIII.
Elektrotechnische Fabrik Westfalen G. m. b. H., Kierspe i. W., Germany.
Grenier, L., 151–153, boul. de la Croix Rousse, Lyons, France.
Kehrs, C. W., & Co., Düsseldorf, Germany.

Galvanometers.

F.—Galvanomètres.
G.—Galvanometer.

Wissenschaftl. Institut für Laboratoriums-Bedarf, Ludwig H. Zeller, Leipzig, Saxony.
Zeller, Ludwig H., Leipzig, Saxony.

Gas Generating Machine Manufacturers.

F.—Gaz—Machines pour la fab. de.
G.—Gaserzeugungs Maschinen.

Gauge Glass Manufacturers.

F.—Calibre—Fab. de.
G.—Wasserstandsgläser—Fab. von.

Société du Verre Étiré, 10, rue Thimonnier, Paris.

Gears & Pinions—Manufacturers of.

F.—Engrénages et Pignons.
G.—Triebwerke.

General Suppliers of Electrical Requisites.

F.—Fournitures générales électriques.
G.—Bedarfsartikel—Lieferanten von.

Abraham, J., Gleditschstr., Berlin, W. 30, Germany.
Beck, F. P. J., The Hague, Holland.
Burns, J., 16, rue Portefoin, Paris.
Carrons, Don Salvador De (Viuda), calle de Regomir, Barcelona, Spain.
Cochet, —, 34, boul. Henri IV., Paris.
Eenberg, B. Reimers, 22, place de Brouckère, Brussels. (Telegrams: "Eenberg, Brussels.")
See advt., page 1042.
Fouque, J., 55, Allées Lafayette, Toulouse (Haute Garonne), France.
Gavarry, L., 30, rue Gay Lussac, Paris.
Gendre & Gény, 37, rue Saint Thiebaut, Nancy, France.
Goldberg, L., Nicolaevskayastr. 59, St. Petersburg.
Gourevich, T. A., Basseynagastr. 26, St. Petersburg.
Guérot, C., 54, rue Daguerre, Paris.
Hakon, Brunius & Co., Gothenburg, Sweden.
Lemaître, P. & A. Bauby, 5, rue Martignac, Bordeaux (Gironde), France.
Merlin, —, 87, ave. Malakoff, Paris.
Moiroux, J. B., & Cie., 2, rue Armény, Marseilles, France.
Mongin, A., 35, rue de la Darse, Marseilles, France.
Montpellier, L., 32, rue Dutot, Paris.
Roselló, Vuida de Eugenio, Rambla de Estudios, Barcelona, Spain.
Roulet, A. P., 65–68, rue du Chemin Vert, Paris.
Ruffet, J., 14, rue Cail, Paris.
Sauvanet, J., 9, 11 & 13, rue du Surmelin, Paris.
Traverse, G., 119, rue St. Maur, Paris.
Varet, E., & Collette, 9, rue d'Inkermann, Lille, France.
Wollschläger, H., Dreibrezelstrasse, 6, Magdeburg, Germany.

Glass Cell (Battery) Manufacturers.

F.—Vases en verre pour piles.
G.—Glaskrüge für Elektrische Batterien.

Campe & Co., 24, Seydelstrasse, Berlin.
Dewinter, Vve., et Fils, 47, rue Vautour, Brussels, Belgium.
Glashüttenwerke Weisswasser, 12, Luisen Ufer, Berlin, S.
Haroux, —, 1, rue du Figieur, Paris.
Legras et Cie., 85, ave. de Paris, Plaine-St. Denis, France.
Norsk Elementfabrik, Ltd., Tordenskjoldsgade 6B, Christiania, Norway.
Paris et Cie., 49, rue Paradis, Paris.

Glass Cell (Battery) Manufacturers—*continued.*

Raetsch & Co., Hohlglass-Hüttenwerk, Muskau, Germany.
Rigault Ainé, 17, rue du Pont-aux-Choux, Paris.
Tissier, —, 90, rue de Rivoli, Paris.

Glass Lined Tubing.

F.—Tubes avec revetement en verre—Fabr. de.
G.—Glasgefütterten Röhren—Fabr. von.

Société du Verre Étiré, 10, rue Thimonnier, Paris.

Glass Manufacturers.

F.—Verre—Fab. de.
G.—Glas—Fabr. von.

Blanchard & Cie., 99, faub. St. Martin (cour du Commerce), Paris.
Boirre, Vve., aîné, & F. Boirre, 8, rue de Vaucouleurs, Paris.
Compagnie des Glaces & Verres Speciaux du Nord, Jeumont (Nord), France.
Cristalleries de Choisy-le-Roi, Houdaille & Triquet, 40, rue de Paradis, Paris. Works: Choisy-le-Roi (Seine), France.
Ilmenauer Glas Instrumentenfabrik Albert Zuckschwerdt, Ilmenau, Thuringia, Germany.
Inwald, Josef, Glass Works, A.G., Mariahilferstr. 103, Vienna VI/2, Austria.
Knížek, Josef, Ullersdorf, bei Teplitz, Bohemia.
Neue Oberlausitzer Glashütten Werke Schweig & Co. Akt. Ges., 27, Skalitzerstr., Berlin, S.O. 26.
Palme, Christoph, & Cie., Parchen-Schelten, Bohemia.
Palme, Reinhold, Söhne, Haida, Bohemia.
René, Strauss, & Cie., 63, boul. Sebastopol, Paris; & Gebirgstr., Gablonz a. N., Bohemia.
Rindskopf's, Josef, Söhne, Teplitz, Bohemia.
Sächsische Glaswerke A.G., Deuben-Dresden, Germany.
Schultze, W., Nachfl., Admiralstr. 7, Berlin.
Société du Verre Étiré, 10, rue Thimonnier, Paris.
Stölzlés Söhne, C., IV., Freihaus, Vienna.
Streit Gebrüder, von, Glaswerke G. m. b. H., Alexandrinenstr. 22A, Berlin, S.W.
Thüringische Glasinstrumenten-Fabrik (von Alt, Eberhardt & Jäger), Ilmenau, Germany.
Tzschach, Edm., Steinach (S.M.), Germany.
Verlot, L., 56, faub. St. Denis, Paris.
Yvon & Tournaire, 19, rue Albouy, Paris.

Glass Supplies—Electrical.

F.—Verre pour l'electricité—Fourn. de.
G.—Glaswaaren—Elek.

Bohnert, C. & W., Bronnerstr. 13, Frankfort-on-Main, Germany.
Broda, M., & Co., 16, Ritterstr., Berlin, S.

Glass Supplies—Electrical—*continued.*

Feuillet, Vve., & fils, (Shades), 3 & 5, rue des Guillemites, Paris.
Gervais, L. (ancienne Maison Monniot), 8, rue Martel, Paris.
Giebel, Hans, Prinzenstr. 26, Berlin.
Hirsch, Janke & Co., A. G., Weisswasser O/L., Germany.
Kobe & Co., Hessischestr. 8, Berlin, N. 4.
Kramer & Löbl, Gablonz, Bohemia, Austria.
Meidinger, E., 21, rue de l'Hirondelle, Paris.
Seypel & Cie., rue Gaucheret 84, Brussels.
Société Anonyme des Cristalleries du Val St. Lambert, Val St. Lambert, Belgium.
Wolff, S. N., & Co., Beuel-Bonn, Rheinland, Germany. (Telegs.: "Wolff, Beuel-Bonn.")

Globes for Electric Lighting—Makers of.

F.—Globes en verre pour l'éclair. élec.
G.—Glas Glocken für Elektrisches Licht.

Actien Gesellschaft für Glasindustrie vorm. F. Siemens, Freibergerstr. 91, Dresden, Saxony, Germany.
Behne & Loth, Ritterstr. 84, Berlin, S.
Goldberg, Karl, Haida, Bohemia.
Hess, E., 12, rue Martel, Paris.
Kontny, E., 42, Schubertstr., Dresden-Blasewitz, Germany.
Lambalais, G., 8, rue Martel, Paris.
Monnier et Cie., 104, rue Folie Méricourt, Paris.
Moser, Ludwig, & Sons, Karlsbad Glass Works, Karlsbad, Bohemia.
Naud, A., 14, rue du Faubourg St. Denis, Paris.
Schaefer & Hauschner, 233, Friedrichstrasse, Berlin, S.W.
Schappel, Jacob, Schillerstr. 28, Frankfürt-am-Main, Germany.
Société Anon. des Globes Diffuseurs, Système Fredureau, 52, rue Lafayette, Paris.

Governor Makers—Electric.

F.—Regulateurs électriques—Fab. de.
G.—Regulator—Fabrikanten—Elektrische.

Gutta-percha Wires & Cables.

F.—Fils et Cables—Gutta-percha.
G.—Gutta-percha Draht und Kabel.

Deutsche Kabelwerke Akt. Ges., Berlin-Rummelsburg.
Felten & Guilleaume Lahmeyerwerke Act. Ges., Carlswerk, Mulheim-am-Rhein, Germany.
NORDDEUTSCHE SEEKABELWERKE, AKTIENGESELLSCHAFT, manufacturers of submarine telegraph cables, layers & repairers of cables by own cable steamers, Nordenham o/Weser. (Telegs.: "Kabelwerke, Nordenham." Teleph. No. 11.)

Heating & Cooking Apparatus Makers —Electric.

F.—Appareils élec. de chauffage et de cuisine—Fab. d'.
G.—Heizungs-u. Koch-Apparaten (Elek.)—Fabr. von.

American Electrical Heater Co., Potsdamerstr. 10/11 Berlin, W. 9.
Deutsche Gold & Silber Scheide Ans. vorm. Rossler, 4-10, Schneidwallg., Frankfort, Germany.
Electricité Moderne, L', 9, rue Montesquieu, Paris.
"Elektra," F. Schindler, Bregenz Vorarlberg, Austria.
"Elektra" Fabriken Elektrischer Heiz-u-Kochapparate, Wadenswil, Switzerland.
Goisot, G., 10, rue Belidor, Paris.
Grenier, Alph., 25, faub. Montmartre, Paris.
Grunberg, Leon, & Cie., 49, rue de Tangier, Paris.
Gutjahr, F., Stierstr. 20, Friedenau, Berlin.
Helberger, Hugo, G. m. b. H., Munich 41.
Moury, S., 67, quai Claud Bernard, Lyons (Rhône), France.
Payrard, E., 2, pl. La Kanal, Grenoble (Isère), France.
Perrault-Niepce, 9, quai de Retz, Lyon, France.
Prometheus Gesellschaft m. b. H. Bockenheim, Frankfort-on-Main ; & at Vienna, &c.
"Promoteus" Wierss & Co., Liestal, près Basle, Switzerland.
Schniewindt, C., Neuenrade, Westphalia, Germany.
Senator, Severin, Neu Winterfeldtstr. 17, Berlin, W.
Società Torni Elettrici Stassano, Turin, Italy.
Thermophon Ges. Alfons Pollak, Friedrichstr. 162, Berlin, W. 8.
Usines du Pied (Soc. Anon.), Fumay (Ardennes), France.
Vavon Frères & Faulcon, 5, rue Abel, Paris.

Ignition Accumulators.

F.—Accumulateurs d'allumage.
G.—Zündung—Akkumulatoren.

Schlesische Accumulatoren-Werke A. G., Canth Krs., Neumarkt, Germany.

Illumination—Electrical.

F.—Illuminations électriques.

BELGIAN ELECTRIC LIGHTING BOARDS, LTD., quai au Foin, 17, Brussels.

Incandescent Lamp Manufacturers— Electric.

F.—Lampes à incandescence—Fab. de.
G.—Electrische Glühlampen—Fab. von.

Aktiengesellschaft "Rigi," Goldau, Switzerland.
Cance, Alexis, 5, rue St. Vincent de Paul, Paris.

Incandescent Lamp Manufacturers— Electric—*continued.*

Clerici & Co., Società Edison per la Fabbricazione delle Lampade Elettriche, via Broggi 6, Milan, Italy.
Compagnie Française pour la Fabrication des Lampes Electriques à Incandescence, 34, rue Godot de Mauroi, Paris.
Compagnie Générale d'Electricité, Apartado 150, Barrio del Pacifico, Madrid.
Compagnie Générale des Lampes à Incandescence, 5, rue Boudreau, Paris; & rue de l'Orme, Ivry-sur-Seine, France.
Compagnie Glow Lamp, 8, boulevard Capucines, Paris.
Corona Glühlampenfab. G. m. b. H., Lindowerstr. 18/19, Berlin, N. 89.
De Lavals Svea Glowlamp Co., Ltd., Stockholm, Sweden.
Deutsche Gasglühlicht A.G. Auerges., Rotherstr. 20–23, Berlin.
Dresdner Glühlampenfabrik Zschocke & Co., Sternstr. 15, Dresden, N. 11.
Duthoit & Libaud, Croix (Nord), France.
Economical Electric Lamps, Michael Lobenthal, Lutherstr. 30, Berlin, W. 62.
Electricitäts-Gesellschaft Gelnhausen, Ltd., Gelnhausen, Germany.
Electrische Glühlampen-Fabrik "Watt," Scharf, Löti & Latzko, Nussdorf; & I. Schottenring 17, Vienna.
Elektrische Gluhlampenfab., Aarau A. G., Aarau, Switzerland.
Electrische Glühlampen Fabrik, Zofingen, Switzerland.
Fleischhacker Lampen Compagnie, Grossenhainerstr. 92, Dresden.
Fleischmann, M., Vienna XVII/1, Austria.
Freund, Alb., Neue Friedrichstr. 56, Berlin.
Friedrich, C., 118, Linienstr., Berlin, N.
Gabriel, F., & H. Angenault, 10, rue Gaillon, Paris; & 15, Victoria-st., London, S.W.
Gautier, Pidoux et Cie., 17, rue Le Peletier, Paris.
Glühlampenfab. Adler, Rosenthalerstr. 26, Berlin, C. 54.
Glühlampen-Fabrik Pintsch A.G., Dorotheenstr., 95 & 96, Berlin, N.W. 7.
Glühlampenfabrik Plechati, Mühlenstr. 22, Berlin-Pankow.
Glühlampen Fabrik "Union" G. m. b. H., 31, Dorotheenstr., Berlin. Works: Finsterwalde N/L.
Glühlampenwerk "Anker" G. m. b. H., Steinmetzstr. 45, Berlin-Rixdorf.
Goossens, E., Pope & Co., The Venloo Incandescent Lamp Manufactory, Venloo, Holland.
Hacker, Moritz, Phorusplatz 7, Vienna, IV., Austria.
Houpeau, F., 52, faub. du Temple, Paris.
James, M., & Delaporte, rue Saint Antoine 62, Paris.
Janssens, A., 16, place de la République, & 33, rue de l'Entrepôt, Paris.

Incandescent Lamp Manufacturers—Electric—*continued.*

Karlson, A., 19, St. Annae Plads, Copenhagen K., Denmark.
Kremenezky, Joh., XX. Dresdnerstr. 55/57, Vienna.
Kruger & Friedeberg, Kastanien Allée 26, Berlin, N.
Kühn, A., rue du Lavoir 51, Brussels.
Kullak, F. C. (Kom. Ges.), 18, Gartenstr., Berlin, N. 4.
Kunitz, H., Mariannen Platz 12, Berlin, S.O. 26.
La Française, 59, boul. de Strasbourg, Paris.
La Lampe Osram, Sté. Anon., 20, Cité Trévise, Paris.
Lallouette & Laforge, 3, passage de l'Industrie, Paris.
Larnaude, André, 19, rue Camille-Desmoulins, Issy les Moulineaux (Seine), France.
Latzko, Rudolf (Electrische Glühlampen-fabrik "Watt"), IX/1 Wehegasse 12, Vienna.
Lefevre, Vve., Gonette (Seine-et-Oise), France.
Lenud, A., 46, rue Amelot, Paris.
Lichtwerke Ges. m. b. H., Köpenickerstr. 71, Berlin, S.O. 16.
Lucini, G., & Figli, via St. Brigida 72, Naples, Italy.
Maack, Ernst, Lübeckerstr. 77, Hamburg.
Millet, F. T., Persan (Seine-et-Oise), France.
Ohl, G. E., Hamburg, Germany.
Ohlinger, F., 65, faubourg St. Denis, Paris.
Philips & Co., Eindhoven, Holland.
Pintsch, Gebrüder. *See* Glühlampen-Fabrik Gebrüder Pintsch.
Pintsch, Julius, Akt. Ges., 95 & 96, Dorotheenstr., Berlin, N.W. 7; & Fürstenwalde a. Spree, Germany.
Pope & Co., Venloo, Holland.
Radium Elektrizitäts G. m. b. H., Wipperfurth, Germany.
Rogier, Smagghe & Co., Breda, Holland.
Scharf & Co. (Electrische Glühlampen-Fabrik "Watt"). Office: I. Schottenring 17, Vienna. Works: Nussdorf, Grinzingerstr. 95.
Schweiz Glühlampenfab. A. G., Zug, Switzerland.
Società Elettrica Milanese, 8, via Tivoli, Milan.
Società Anon. di Elettricista Fulgor, Genoa.
Società Anonima per la Fabbricazione Lampade a Incandescenza Fulgor, Genoa, Italy.
Società Italiana Fabbriche Lampade Phœbus, Bologna, Italy.
Société Centrale d'Electricité et de Lampes à Incandescence (Usines Pulsford), 10, rue Taitbout, Paris.
Stabilini, M., Piazza Castello 11, Milan.
United Incandescent Lamps & Electrical Co., Ltd., Ujpest, nr. Budapest, Hungary.
Vereinigte Glühlampenfabriken G. m. b. H., Leipzigerstr. 23, Berlin, W. 8.
Verkaufsstelle Vereinigter Glühlampen Fabriken G. m. b. H., Leipzigerstr. 23, Berlin, W. 8.
Verrier & Lebrun, 9, rue Mislay, Paris.
Watt Electrische Glühlampenfab., I. Schottenring 17, Vienna.

Incandescent Lamp Manufacturers—Electric—*continued.*

Westinghouse Metallfaden Glühlampenfabrik, G. m. b. H., Atzgersdorf bei Vienna; & Krugerstr. 4, Vienna I.
Wiener Elektrische Glühlampen-Fabrik, Sturm & Co., Liechtensteinstrasse 12, Vienna, IX.
Wolff, S. N., & Co., Beuel-Bonn, Rheinland, Germany. (Telegs.: "Wolff, Beuel-Bonn.")
Wolfram Lampen A. G., Hochfeldstr. 2, Augsburg, Bavaria.
Zirkon-Glühlampenwerk Dr. Hollefreund & Co., Müllerstr. 30, Berlin, N. 65.
Zurcher Glühlampen-Fabrik, Sihlhofstr. 3, Zurich.

Incandescent Lamp Socket Makers.

F.—Douilles de lampes à incand.—Fab. de.
G.—Glühlamp Fassungen—Fab. von.

Hutte, 163, rue de Charonne, Paris.
Porzellanfabrik Kloster Veilsdorf, Akt. Ges., Kloster Veilsdorf, Sachs-Meiningen, Germany.

Indiarubber & Gutta-percha Manufacturers & Dealers.

F.—Caoutchouc—Fab. & march.
G.—Gummi & Gutta Percha fab. & Händler.

Act. Ges. Metzeler & Co., Munich, Germany.
Berqueraud Fils, 72, rue des Archives, Paris.
Buissart, Paul, & Cie., Fourmies (Nord), France.
Casseler Gummiwaaren Fabrik, H. Nickel & Co., Philosophenweg 47, Cassel.
Clouth, Franz, Rhenish Rubber Manufactory, Ltd., Cologne, Nippes, Germany.
Cie. Anonyme des Procédés Gentsch, 101, Chemin de Gerland, Lyon (Rhone), France.
Continental Caoutchouc & Gutta-Percha Co., Vahrenwalderstr. 100, Hanover.
De Schamphelaere Pol, 19, rue des Champs, Ghent, Belgium.
Etablissements Hutchinson Cie. Nationale du Caoutchouc Souple, 60, rue St. Lazare, Paris.
Falconnet, Perodeaud & Cie., Choisy-le-Roi, Seine, France.
Felten et Guilleaume Lahmeyerwerke Act. Ges., Mulheim-on-Rhine, Germany.
Geldner, J., & Co., Fröbelstr. 11, Leipzig-Plagwitz.
Grellon, François, et Cie., 43, rue des Entrepreneurs, Paris.
Guibal, C., 35, rue Nationale, Ivry-Pont (Seine), France.
Gummiwerk Oberspree G. m. b. H., Wilhelminenhofstr. 46, Oberschöneweide, Germany.
Indiarubber, Gutta-Percha & Telegraph Works Co., Ltd., 97, boul. Sébastopol, Paris, & Persan-Beaumont, France.
Jenatzy Leleux, C., rue Stephenson, 10, Brussels.
Kuntze & Co., Ltd., Drottningg 52, Stockholm, Sweden.

Indiarubber & Gutta-percha Manufacturers & Dealers—*continued.*

Lamarche, A., 149, rue de Javel, Paris.
Lerenard Fils, Alfortville (Seine), France.
Mannheimer Gummi-Guttapercha und Asbest-Fabrik, Mannheim, Baden.
Manufacture Générale de Caoutchouc L. Edeline (Pneumatiques Français Gallus), 43, quai National, Puteaux (Seine), France.
Maurel & Fils, 140, rue de Rivoli, Paris.
Merten Gebr., Gummersbach, Rheinland, Germany.
Morellet, les Fils d'Aug., 44, rue Sévigné, Paris.
Müller, C., Patent und Hartgummiwaren Fabrik, 89, Neue Königstr., Berlin, N.O.
New York Hamburger Gummi Waaren Compagnie, Hamburg, Germany.
NORDDEUTSCHE SEEKABELWERKE, AKTIENGESELLSCHAFT, suppliers of finished gutta percha of all kinds, Nordenham o/Weser. (Teleg.: "Kabelwerke, Nordenham." Teleph. No. 11.)
Pavoux, Eug., 23, rue du Taciturne, Brussels.
Rheinische Gummi & Celluloid fabrik, Neue Jacobstr. 18, Berlin, S.
Schmitz-Jérôme & Co., Hanover.
Société Anon. des Etablissements Falconnet Perodeaud, Choisy-le-Roi (Seine), France.
Traun, Dr. Heinr., & Söhne, vorm. Harburger Gummi Kamm Co., Meyerstr. 59, Hamburg, Germany.
VEREINIGTE GUMMIWAAREN-FABRIKEN HARBURG-WIEN, Wimpassing im Schwarzathale, Austria. Office: VI. Mariahilferstr. 115, Vienna VI.
Vereinigte Zünderfabriken Draht und Kabel Werke, Meissen, Saxony.

Influence Machine Makers.

F.—Machines à Influence—Fab. de.
G.—Influenz Maschinen Fabr.

Böttcher, Oskar, Berlin W., 57. Works in Gebirge, Pobershau Marterbüschel, Saxony.
Hartz, P. F. A., & Wolpers, 4, Zollenbrücke, Hamburg.
Leuner, Oscar, Mechanisches Institut, Dresden.
Voss, J. Rob., 20, Palisadenstrasse, Berlin.
Wehrsen, Alfred, 31, Schlesischestr., Berlin, S.O.

Inspectors (Electrical)—Government & Municipal.

F.—Inspecteurs électr. du Gouvernement et Municipalité.
G.—Inspektoren—Elek.—Regierungs und Städtische.

Allgäuer, J., Berne, Switzerland.
Clerc, Ed., Association Suisse des Electriciens, Lausanne, Switzerland.
Ericson, E. C., Kommers Kollegium, Stockholm, Sweden.

Inspectors (Electrical)—Government & Municipal—*continued.*

Gribi Gottlieb, Berne, Switzerland.
Gschwind, F., St. Gallen.
Holzsbuch, J., 31, rue Octave Feuillet, Paris.
Laval, —, Nancy, France.
Maisonneure, Jacques, 6, rue Voltaire, Nantes (Loire-Inférieure), France.
Tebedeff, T. A., St. Petersburg.
Von Mühlenfels, Wilh. J. A. (telegraph), 2nd District, Royal Swedish Railways, Göteborg, Sweden.

Instrument Makers & Dealers—Electrical.

F.—Instruments électriques—Fab. et March.
G.—Elektrische Instrumente—Fab. u. Händler.

Allemano, G., Galleria Sulapina, Turin, Italy.
Almeida & Soares, 20, rua Nova do Almada 28, Lisbon.
Amelin & Renaud, rua da Magdalena 1, Lisbon.
Ameye, C., Iseghem, Ghent, Belgium.
Balestrazzi, F., Lung Arno, Mediceo, Pisa.
Balzarini, E., piazza S. Nazaro, 27, Milan, Italy.
Bardelli, F., & Co., via Roma Gallina Natta, Turin.
Beck, G., & Co., 64, Georgenkirchstr., Berlin, N.O.
Bellieni, H., 1, place Carnot, Nancy, France.
Beltrame, Giovanni, corso P. Borsari 25, Verona, Italy.
Bertollo, Luigi, via del Campo, Genoa.
Biel, E., rua Formosa 340, Oporto.
Borch, L. A., Roarsvej 23, Copenhagen, Denmark.
Büchler, J. H., Altbüsserstr., Breslau, Germany.
Caminada Gebr., Lange Houtstr. 3, The Hague, Holland.
Cardini, L., e Figlio, via G. Dupré, Siena, Italy.
Caron Frères, Quimper, France.
Carraffa, Giuseppe, via Macqueda, 155, Palermo, Italy.
Charron, Vve., & Bellanger, 142, rue St. Maur Paris.
Ciampi, T., via Vittorio Emmanuele 27, Leghorn, Italy.
Cochot, G., 45, rue de Tanger, Paris.
Cornet, J., 66, rue de Rennes, Paris.
Corrons, J., 4, Rambla de Canaletas, Barcelona, Spain.
De Vita, Domenico, Largo del Nilo 9, Naples, Italy.
Ducotè, —, Cluny (Saône-et-Loire), France.
Ducousso, Th., 82, rue Notre Dame des Champs, Paris.
Duroni & Co., galleria Vittorio Emmanuele 9, Milan.
Edelmann, Prof. Dr. M. Th., 82, Nymphenburgerstr., Munich, Germany.
Esslingen Maschinenfabrik, Esslingen, Germany.
Fabroni, Paolo, via Nuova, Verona, Italy.
Fontaine, G., 16, 18, & 20, rue Monsieur-le-Prince; & 24, rue Racine, Paris.

Instrument Makers & Dealers—Electrical—*continued.*

Fontana, Paolo, & Co., via Asse 14, Bologna.
Franchini, Clodonco, via d'Azeglio 16, Bologna, Italy.
Fries, A. & D., via Carlo Felice 15R, Genoa, Italy.
Galvany, Palissy, rua Serpa Pinto 91, Lisbon.
Gans & Goldschmidt, Chausseestr. 25, Berlin, N. 4.
Giralt y Laporta, J., Aribau 28, Barcelona.
Grondi, Oreste, via Cavalleria 10, Bologna.
Guggenheimer, Dr. S., Nürnberg, Germany.
Hartvig, Moritz, Gl. Kongevej. 13, Copenhagen, Denmark.
Henry-Lepaute, 15, rue Halévy, Paris.
Houel, E., Docelles (Vosges), France.
Jacobsen, N., 25, Pilestræde, Christiania.
Jest, Cav. Carlo, via di Po 13, Turin, Italy.
Kadelbach & Randhagen, Nogatstr. 25, Berlin-Rixdorf.
Kapsch & Söhne, 53, Schottenfeldgasse, Vienna VII.
Kärger, G., 52, Krautsstr., Berlin, O.
Kessner, Paul, Kreuzbergstr. 30, Berlin, S.W.
Knudsen, Cornelius, 15, Kjöbmagergade, Copenhagen.
Labarre, J. B. R., rue du Midi 150, Brussels.
Lefort & Duvan, 14, rue du Bourg. Tibourg, Paris.
Leopolder & Sohn, III. Erdbergstr. 52, Vienna.
Levreaud, F., rua Cedofeita 115, Oporto.
Lezy, G., 17, rue Maurice Mayer, Paris XIII.
Ligier, M., 43, boul. Henri IV., & 17, rue Albony, Paris.
Liuzzi, F., via Rizzoli, 16A, Bologna, Italy.
Lucco, Luigi, piazza Madonna degli Angeli, Turin.
Lyngby, Aug., Möntergade 12, Copenhagen.
Machol & Marter, Kommandantenstr. 18, Berlin, S.W.
Manifacier, —, Auxerre (Yonne), France.
Marinelli, Ottavio, corso V. E. 9, via Astagno 2, Ancona, Italy.
Meiser & Mertig, 27, Kurfürstenstr., Dresden, N.
Meyer, J. F., 37, Clausiusstr., Zurich IV.
Michel, G., 40, rue Sainte, Marseille, France.
Miller, H., Ltd., Hazebrouck, France. *See advt., page* 17.
Moessen, Robert, IV. Alleegasse, 38, Vienna.
Möller, Emil, Horsens, Denmark.
Monteiro & Magriço, rua de Santa Catharina 39, Oporto.
Morfino, Fortunato, via Macqueda 164, Palermo.
Motta, J. Maria, rua das Amoreiras 140, 1°, Lisbon.
Müller-Uri, R., Brunswick.
Nazzari, G., Corso Vitt. Emanuele 86, Pavia.
Née, Ernest, 47, rue du Montparnasse, Paris.
Noé, C. F., 8, rue Barthollet, Paris.
Oliva, José, calle del Principe 19 & 21, Madrid.
Orfeo, Dr. N., 19, via S. Vespucci, Pisa.
Paggi, G., via de Martelli 7, Florence, Italy.
Palma, Ing. De Domenico, Istituto Casanova, Naples.

Instrument Makers & Dealers—Electrical—*continued.*

Persico, Vittorio, corso Garibaldi 16, Cremona, Italy.
Pfister & Streit, Seilerstr., Berne, Switzerland.
Pierucci, Luigi, via S. Frediano 22, Pisa, Italy.
Pilliard, L., 106 & 107, rue St. Martin, Paris.
Raffai, Gaetano, via Magistrato 32, Mantua, Italy.
Ramos & Silva, rua Garrett 63 & 65, Lisbon.
Ranieri, Gius., corso Vittorio Emmanuele 56, Bari.
Recarte, Hijò, 8, Echegaray; & 15, Carrera de San Jéronimo, Madrid.
Reina, Vda de Villar, Madrid.
Ricci, Augusto, Ravenna.
Richard Frères, 8, impasse Fessart, Paris.
Ruden, E. G., Stockholm.
Sack, D., et Cie., 55, rue Legendre, Paris.
Santos, L. Conto, rua dos Fogueteiros 9, Oporto, Portugal.
Schäffler, O., VII/3 Wienbergerg. 30, Vienna.
Schmidt, F., & Haensch, 16, Prinzessinenstr., Berlin, S. 42.
Schultze, G. A., Charlottenburger Ufer 53/54, Charlottenburg-Berlin.
Scottini, L., via Cadogno, Bergamo, Italy.
Serafini, A., & figli, via Vitt. Em. 7, Bergamo, Italy.
Siedentopf, W., Würzburg, Germany.
Silva, Ing. Angelo, piazza Garibaldi, Parma, Italy.
Société des Etablissements Henry-Lepaute, 5, rue Halévy, Paris.
Société des Lunetiers, 6, rue Pastourelle, Paris.
Spano, Cav. Ing. Gaetano, Salita S. Sebastiano, Istituto Casanova, Naples, Italy.
Spindler & Hozer, Göttingen, Germany.
Thiele, F. A., 154, Gl. Kongevej, Copenhagen.
Tlach & Keil, Nestroygasse 9, Niederlage, Vienna, II.
Vallot, Fils, 13, rue d'Arcole, St. Etienne, France.
Vanderbiste, E., 68, rue de la Montagne, Brussels.
Vigliani, P., via Lagrange 25, Turin, Italy.
Vigoni, Pietro, Borgo Spesso 19, Milan, Italy.
Wery-Delderenne, 4, rue des Carmes, Liége, Belgium.
Western Electric Company, Antwerp, Belgium.
Weston Instrument Co., Ltd., The, Ritterstr. 88, Berlin, S. 42.
Worringen, E., Humboldtstr. 20, Kalk nr. Cologne.
Zandén, Iwan, 20, Vestmannagatan, Stockholm.
Zeller, Ludwig H., Leipzig, Saxony.
Ziegenspeck, Oscar, 56, Kommandantenstrasse, Berlin, S. 14.

Insulating Fittings.

F.—Fournitures isolants—Fabr. de.
G.—Isolations Armaturen—Fab. von.

Société du Verre Étiré, 10, rue Thimonnier, Paris.

Insulating Materials Manufacturers.

F.—Isolation—Fab. de matière à.
G.—Isolations Materialien—Fab. von.

Ascher, Dr. Max, & Co., G. m. b. H., 29, Linkstr., Berlin, W.
Berninghaus, J., via Arte della Lana 11, Naples.
Buttler, —, 22, ave. Parmentier, Paris.
Chambournier, E., 23, rue de Marseille, Lyon (Rhône), France.
Charpentier, Leon, 128 ter, boul. de Clichy, Paris.
Chautard, V., & Christensen, 8, cité Rougemont, Paris.
Clouth, Fr., rue des Riches-Claires 35, Brussels.
Comotti & Gignous, via Nirone 8, Milan.
Compagnie Générale d'Electricité, 5, rue Boudreau, Paris.
Compagnie Internationale de la Galalith, 31, rue Cavé, Levallois-Perret (Seine), France.
Custer, W., Zurich, V.
Delobel, H., 20, rue Arago, Saint Ouen (Seine), France.
Duisberg, R., & Co., Barmen.
Eisenstädter Gebr., 40, Wiedener Hauptstr., Vienna IV/1.
Faradit Isolierrohr Werke Max Haas, Chemnitz-Reichenhain, Saxony.
Fayaud, Vve. A., fils & gendre, 100 & 102, rue St. Denis, Paris.
Foy, F., 54, rue de l'Haij, Gentilly (Seine), France.
Frischauer & Co., 41, Gumpendorferstr., Vienna VI.
Funk, Joh. Marmorwerke Nürnberg, Schwabacherstr. 99, Nürnberg.
Germot & Crudenaire, 23, quai Michelet, Levallois-Perret (Seine), France.
Haefely, E., Laufenstr. 5, Basel, Switzerland.
Hanover Rubber Co., Ltd. (Hannoversche Gummi-Kamm Co. Actien-Gesellschaft), Hanover-Limmer, Germany.
Heising & Co., Scharnweberstr. 27, Reinickendorf-W.
Homécourt, L., 4, rue du Buisson St. Louis, Paris.
Houart, Oct., Sclessin lez Liége, Belgium.
Indiarubber, Gutta-Percha & Telegraph Works Co., Ltd., Persan-Beaumont, France.
Isolatoren Werke München G. m. b. H., Gummon-Werke, Graefing 30, Munich, Germany.
"Isolectra" Société Anonyme, rue du Canal 44, Borgherout-Antwerp.
Jagenberg, Ferd. Emile, Düsseldorf.
Knoll, Fried. G, 19, Hospitalstr., Stuttgart, Germany.
Leipziger Gummi-Waaren Fabrik, Weststrasse, 72, Leipzig.
Megerle, Franz, Friedberg bei Frankfurt-a-Main, Germany.
Metivier & Co., 92, rue de la Victoire, Paris.
Mica Insulating Works, Ltd., Breitenbach, nr. Basle.
Peintures Minerales Françaises (Soc. Anon.), 11, rue Curton, Clichy (Seine), France.
Pressspan, u. Pappenfab. Zwönitz, Oskar Koch, Zwönitz i. S., Germany.

Insulating Materials Manufacturers—*continued.*

Pressspanfabrik Untersachsenfeld Act. Ges. vorm. M. Hellinger, Post Neuwelt, Saxony.
RAUSCHERT, PAUL, PORCELAIN WORKS, Huettengrund-Huettensteinach, Thur., Germany. London offices: 47, Milton-st., E.C. *See advts.*, INSULATORS & PORCELAIN & CHINA FITTINGS, BRITISH SECTION.
Renaud, Texier & Co., 5, rue Nicolas-Flamel, Paris.
Reye, G. W., & Söhne, 22, Sonninstrasse, Hamburg, Germany.
Rignon, A., via Avigliana ang. Via G. Collegno, Turin.
Roehrig Meyer G. m. b. H., Nollendorfstr. 13, Berlin, W. 30.
Rost, H., & Co. (Gutta-Percha), Hamburg & Harburg, Germany.
Roux, B., 144, rue du Chemin Vert, Paris.
Salomon Gebrüder, 3, Ohestrasse, Hanover, Germany.
Schmidt, Anton, & Sohn, Düsseldorf, Germany.
Schwarzenberger Papierfabrik (vorm. Keller & Gottschaldt), Wildenau b. Schwarzenberg. i. Sa., Germany.
Société Anon. des Anciene Etablissements J. B. Torrilhon, 10, rue du faub. Poissonnière, Paris.
Standard Varnish Works, 41, rue de la Bienfaisance, Brussels.
Tournel, H., 18, ave. d'Italie, Paris.
Vacuum Pressgut Ges. m. b. H., 263, Schwedterstr., Berlin, N.
Vitrite Works, Ltd., The, Middelburg, Holland.
Weidmann, H., à Rapperswyl, Switzerland.

Insulators (Electrical) Manufacturers.

F.—Isolatoirs électriques—Fabricants d'.
G.—Isolatoren—Elektrische—Fabrikanten.

Ambroin-Werke Ges. m. b. H., Wollank-str. 41, Berlin-Pankow, Germany.
Avtsine & Cie., 12 bis, ave. des Gobelins, Paris.
Bapterosse, F., & Cie., 50, rue d'Hauteville, Paris.
Bouillard, L., 7, rue Lesage, Paris.
Brandt, H. A., Barmbecherstr. 14, Hamburg.
Buckauer Porzellan Fabrik, Magdeburg, Germany.
Charbonneaux & Co., route de Cormontreuil, Reims (Marne), France.
Deroche, C., Retourneloup près Esternay (Marne), France.
Didier, A., & Fils, 70, rue d'Angoulême, Paris.
Dressel, Kister & Co., Passau (Bayern), Germany.
Durand Frères, Molinges (Jura), France.
Ebell, E., Hollmannstr. 10, Berlin. S.W.
Eiffe & Fehr, Rodingsmarkt, Hamburg.
Einhorn & Damcke, Tilsiterstrasse 10, Berlin, Germany.

Insulators (Electrical) Manufacturers —*continued.*

Electro Material, L', 7, rue Dupuis, Paris.
Flügger & Boecking, Hammerdeich 60, 70, Hamburg; & Vienna.
Fuisseaux, F. De, Baudour, près Mons, Belgium.
Gundelach, H., 116, Köpenickerstr., Berlin, S.O.
Isola Werke A. G., Oerlikon, Switzerland.
Isolation Aktiengesellschaft, Mannheim, Germany.
Jenatzy-Leleux, C., rue Stephenson 10, Brussels.
Karlsbader Kaolin-Industrie-Ges., Merkelsgrün bei Karlsbad.
Lazzar & Marcon, Trevizo, Italy.
Lippmann, Otto, Ansprung-Zöblitz, Sächs. Erzgebirge, Germany.
Maillochon Frères, Impasse du Moulins Joly, Paris.
Manufacture de Porcelaines de Sainte Foy, L'Argentière (Rhone), France.
Martel & Thomas, Esternay (Marne), France.
Morel, E., 58, rue Grenéta, Paris.
Nürnberger Herkules-Werke A. G., Fürtherstr. 191 & 193, Nurnberg.
Pertus, C., 10, rue St. Antoine, Paris.
Ploeg, S. de, 5, rue Helène, Paris XVII.
Pohl, L., Tellnitz, Bohemia.
Pulvolit G. m. b. H. Schlossstr., Frankfurt-a.-Main.
RAUSCHERT, PAUL, PORCELAIN WORKS, HUETTENGRUND - HUETTENSTEINACH, THUR., GERMANY. (Telegs.: "Rauscherts Hüttengrund-Huettensteinach." Teleph. Nos. 55 & 210.) Insulators & insulating materials of every description. London offices: 47, Milton-st., E.C. (Teleph. London Wall 8086.) *See advts. under* INSULATORS & PORCELAIN & CHINA FITTINGS, BRITISH SECTION.
Rene, L., & Co., 49, rue de Miromesnil, Paris.
Richter, Gustave, Charlottenburg, bei Berlin.
Roger, Emile & Provost, 35, rue de Tolbiac, Paris.
Rosenthal Ph. & Co., A. G., Selb, Bavaria.
Sachsische Serpentinstein Gesellschaft, Zöblitz, im Erzgebirge, Saxony.
Schomburg, H., & Söhne A. G., Berlin, N.W.
Schwarz, J. von, Nürnberg-Ostbahnhof.
Société Anon. de la Manufacture de Porcelaine, Saint Foy l'Argentière (Rhône), France.
Société Anon. de Produits Electro Techniques, 10 & 12, rue Lécluse, Paris.
Société Anon. des Anciens Etablissements Parvillée Frères & Cie., 56, rue de la Victoire, Paris.
Société Anon. des Etablissements Adt, 45, rue Turbigo, Paris.
Société Gen. des Etablissements Bergougnan & Cie., Clermont-Ferrand (Puy - de - Dôme), France.
Stadelmann, J., & Co., Nuremberg, Germany.
Stanthuysen, E., 19, rue de Blanchisserie, Brussels.
Suddeutsche Isolierrohr-Werke (G. m. b. H.), Lauf, bei Nurnberg.
Usine Fréderic Nyst, rue Renouy, Angleur lez Liége, Belgium.

Insulators (Electrical) Manufacturers —*continued.*

Vereinigte Isolatorenwerke A. G., Wollankstr. 32, Berlin-Pankow.
Verrerie & Folembray, 2, rue du quatre Leplanche, Paris.
Wolff, S. N., & Co., Beuel-Bonn, Rheinland, Germany. (Telegs.: "Wolff, Beuel-Bonn.")

Insurance Cos.—Fire, Employers' Liability, Engines, Boilers, &c.

F.—Compagnies d'Assurance—Contre l'incendie, responsabilité des patrons, machines à vapeur, chaudières et machines élec.
G.—Versicherungs Ges.—Feuer, Haftpflicht, Maschinen, Kesseln u. elektr. Triebwerk.

Iron & Steel Manufacturers & Merchants.

F.—Fer et acier—Fab. et March.
G.—Eisen & Stahl—Fab. und Händler.

Ravéne, Jacob, Söhne & Co., 5 & 8, Wallstr., Berlin, C.
Siecke & Schultz, Oranienstr. 120, Berlin, S.W.

Ivory & Wood Turners.

F.—Tourneurs en bois et ivoire.
G.—Elfenbein & Holz Drechsler.

Kring, N. M., & Son, 14 & 16, Bredgade, Copenhagen K., Denmark.
Monti, Ch., 127, rue Oberkampf, Paris.
Viault, 66, boul. Voltaire, Paris.
Wolff, S. N., & Co., Beuel-Bonn, Rheinland, Germany. (Telegs.: "Wolff, Beuel-Bonn.")

Jointing Material.

F.—Matière à Jointoiement.
G.—Fügung-Material.

Laboratories—Electrical.

F.—Laboratoires électriques.
G.—Werkstätten—Elektrische.

Bayerische Landesgewerbeanstalt (formerly Gewerbemuseum), Nurnberg, Germany.
Laboratoire Central d'Electricité (Société Internationale des Electriciens), 14, rue de Staël, Paris.
Laboratorio Central para Ensayo de Materiales de la Escuela de Ingenieros, calle de Alfonso XII., Madrid.
Laboratorio Elettrico, Spezia, Italy.
Schniewindt, C., Neuenrade, Westphalia, Germany.

Laboratories (Electrical) Furnishers.

F.—Laboratoires élec.—Fournisseurs pour.
G.—Werkstätten (elek.)—Einrichtungen von.

Vereinigte Fabriken für Laboratoriumsbedarf G. m. b. H., Luisenstr. 52, Berlin, N.W. 6.

Lacquer & Varnish Manufacturers & Merchants.

F.—Laques et Vernis—Fab. et March. de.
G.—Lack & Firniss—Fabr. und Händler.

Frankfurter Lackfabrik G. m. b. H., Frankfurt-a.-Main.
Grosse & Bredt, Alexandrinenstr. 119 & 120, Berlin, S.W. 68.
Marx, L., Mainz, Germany.
Rugenstein, Karl, Hannover-Hainholz, Germany.

Ladders.

F.—Echelles.
G.—Leitern.

Porta, Vedova, e Figlio, 13, Aug. Anfossi, Milan, Italy.

Lamp Holder Makers.

F.—Porte-Lampes—Fab.
G.—Lampen Fassungen—Fabr.

Frankfurter Eisenbau-Anstalt, Rohnstad & Zweigle, Taunusstr. 44, Frankfort-on-the-Main.
Friedrichswerk, Inh. Friedr. Vaerst, Kleinschmalkalden-i.-Thur., Germany.
Kramer & Löbl, Gablonz, Bohemia, Austria.
Kröger & Schneider G. m. b. H., Wipperfurth, Germany.
Kruger, Paul, Neue Schönhauserstr. 11, Berlin, C.
Moderow, G., 8, Kottbuserstr., Berlin, S.O. 26.
Pape, M., 49, Palisadenstr., Berlin, N.O.

Lamp Makers (for Motor Cars, Railways, &c.).

F.—Lampes pour automobiles, chemins de fer, &c.—Fabr. de.
G.—Lampen Fabr. (für Motorwagen, Eisenbahnen, &c.).

SCHULZE, F. F. A., 47, Fehrbellinerstr., Berlin, N.

Lamp Post Manufacturers (for Electric & Telegraphic Purposes).

F.—Poteaux pour l'électricité et la télégraphie.
G.—Lampen Pfosten Fabr. für elektrischen und telegraphischen Zwecke.

Actiengesellschaft für Gas & Electricitäts vorm. E. von Koeppen & Co., Hansaring 30, Cologne. Factories: Cologne, Ehrenfeld.
Deutsch Oesterreichische Mannesmannröhren-Werke, Dusseldorf, Germany.
Durenne, A., 26, rue du faub. Poissonnière, Paris.
Le Roy, G. M., 3 bis, place de la Republique, Levallois-Perret (Seine), France.

Launch Designers & Builders—Electric.

F.—Bateaux électriques—Dessinateurs et Constructeurs.
G.—Boot Entwurfer und Bau—Elektrische.

Lead Covered Cable Makers.

F.—Cables couverts de Plomb.
G.—Bleibedeckte Kabel—Fab. von.

Deutsche Kabelwerke Akt. Ges., Berlin-Rummelsburg.

Lecturers' Apparatus.

F.—Lecteurs—Fabr. d'appareils pour.
G.—Vorleser—Fab. von Apparate für.

Böttcher, Oskar, Berlin, W. 57. Works in Gebirge, Pobershau, Marterbüschel, Saxony.
Wissenschaftl. Institut für Laboratoriums-Bedarf, Ludwig H. Zeller, Leipzig, Saxony.
Zeller, Ludwig H., Leipzig, Saxony.

Lifts (Electric)—Makers of.

F.—Ascenseurs Électriques—Fab. d'.
G.—Aufzüge—Elektrische—Fabr. von.

Aufzugsplege G. m. b. H., Weberstr. 7, Berlin, N.O. 18.
Bleichert, A., & Co., Leipzig-Gohlis.
Burgdorf Gebrüder, gr. Gärtnerstr. 59, Altona, Germany.
Delvaux, Henri, & Cie., 43, rue de la Poste, Brussels.
d'Ester, Th., 11, Marxergasse, Vienna III/2.
Edoux, Léon, & Cie., 72-78, rue Lecourbe, Paris.
Fleischmann & Co., Chausseestr. 8, Berlin, N. 4.
Freissler, Ant., X. Erlachplace 4, Vienna; & David-utcza 2, Budapest VI.
Geslin, Auguste, 10, rue Guillaume Tell, Paris.
Hamer, Jan, & Co., Amsterdam.
Kloss & Heumann, Ringbahnstr. 119, Wilmersdorf, Berlin.
Lievens, —, rue du Telephone 53, Brussels.
Louis & Jacquet, 47, ave. Victor Hugo, Paris.
Pifre, Abel, 174, 176, rue de Courcelles, Paris. Works at Albert (Somme), France.
Roux, Combaluzier et Cie., 22, rue de Passy, Paris.
Samain et Cie., rue Saint Amand 12, Paris.
Schindler & Co., Lucerne.
Schindler & Co., Ringbahnstr. 53, Tempelhof bei Berlin.
Schmidt, Kranz & Co., Nordhausen, Prussia, Germany.
Vernes, A., Guinet, Ligros & Cie., 22, rue de Passy, Paris.
Wertheim, F., & Co., IV. Louisengasse 6, Vienna, Austria.
Willaredt, A., 12, ave. du Midi, Brussels.
Winterhalter, A., Schmidgasse, St. Gallen, Switzerland.

Light Companies—Electric.

F.—Éclairage électrique—Compagnies d'.
G.—Elektrische Beleuchtung Gesellschaften.

Aarhus Electricitetsverk Light, Power & Tramway, Aarhus, Denmark. Manager, E. Gunst.
Allgemeine Electricitäts Gesellschaft, Friedrich Karl-Ufer 2/4, Berlin.

Light Companies—Electric—*continued.*

Arvika Electric Light Co., Arvika, Sweden.
Askersund Electric Light Co., Askersund, Sweden.
Bern Stadt. Elektrizitäts und Wasserwerke, Bern, Switzerland.
Christiania Elektricitetsverk, Christiania.
Compagnie d'Eclairage par le Gaz et l'Electricité de la Ville de Montlucon (Allier), France.
Compagnie d'Electricité d'Angers & Extensions, quai Felix Faure, Angers.
Compagnie de Gaz & Electricité, Angoulême (Charente), France.
Compagnie Electrique d'Eclairage et de Force, 7, rue Albert, Rennes, France.
Compagnie Européenne d'Eclairage & de Chauffage par le Gaz, Rouen.
Compagnie Gen. de Distributions d'Energie Electrique, 10, rue de Mogador, Paris.
Compagnie International d'Électricité, 141, rue Lafayette, Paris.
Compagnie Luchonnaise d'Eclairage par le Gaz et par l'Electricité à Bagnères de Luchon (Soc. Anon.), Bagneres de Luchon, France.
Companhia do Gaz do Porto, Porto, Portugal.
Companhias Reunidas Gaz e Electricidade, Lisbon, Portugal.
Compañia Avrilense, Fabrica Luz Electrica, Avila, Spain.
Compañia de Luz Electrica, Leon, Spain.
Compañia de Luz Electrica, Lerida, Spain.
Compañia de Luz Electrica, Ponferrada.
Compañia Electrica de San Sebastian, Spain.
Compañia General Abulense, Fabrica de Luz Electrica, Avila, Spain.
Compañia General Electricidad, Granada, Spain.
Compañia Lyonesa de Alumbrado y Calefaccion, Coruña, Spain.
Djursholm Electric Light Co., Djursholm, Sweden.
Electra Asturiana, Oviedo, Spain.
Electric Light Co., Ltd., for Fyen, Odense, Denmark.
Electric Power Co., Ltd., Bakou, Russia.
Electrique, L' (soc. anon.), 319 *bis*, Chaussée d'Anvers, Brussels. Central lighting station, 15, rue Zérézo.
Eskilstuna Electric Light Co., Ltd., Eskilstuna, Sweden.
Falun Electric Light Co., Falun, Sweden.
Ferrara Officini Elettrica per Illuminazione Pubblica, via Cartevecchia, Ferrara.
Fiat Lux, Marques de Larios 10, Malaga, Spain.
Fredricksstad Gas & Electricitetsverk, Fredrikstad, Norway.
Gas & Elektricitats Co., Ltd., Bremen.
Helsingfors Elektriska Belysnings Aktiebolag, Helsingfors, Finland.
Impresa Illuminazione Elettrica, St. Marcello Pistojese, Italy.
Impresa Impianto Elettrico di Todi, Todi (Umbria).
Impresa Luce Elettrica, Crema (Prov. di Cremona), Italy.

Light Companies—Electric—*continued.*

Italian Electrical Light & Power Co., Ltd.
Kiew Electric Co., Ltd., Proreznaja 17, Kiew, Russia.
La Electricista Segoviana, Segovia.
Luz Electrica de Ciudad Rodrigo, Ciudad Rodrigo, Salamanca, Spain.
Malaga Electricity Co., Ltd.
Martinez, A., y Ca., "Sociedad Logroñesa de Alumbrado Electrico," Logroño, Spain.
Municipal Electric Central Illuminating Station, Modena.
Services Industriel (Eau, Gaz, Electricité), Hotel de Ville, Neuchatel, Switzerland.
Sociedad Anonima Hidro Electra, Najera, Spain.
Sociedad Electrica Vitoriana, Vitoria, Spain.
Sociedad Hidro Electrica del Chorro, Doña Trinidad Grund 16, Malaga, Spain.
Sociedad Palentina de Electricidad, Palencia, Spain.
Sociedad Popular Ovetense, Oviedo, Spain.
Società Acquedotto de Ferrari, piazzi Campetto 4, Genoa, Italy.
Società Anonima per l'Industria del Gas ad Illuminazione Elettrica, Ancona.
Società Anonima Piacentina per l'Illuminazione Elettrica, Piacenza.
Società della Luce Elettrica, Delebio, Italy.
Società Elettrica di Benevento, Milan, Italy.
Societa Eridano, Fornovo di Taro (Provincia di Parma), Italy.
Società Generale per la Illuminazione, via Marina, Naples.
Societa Idroelettrica Ligure, Mouchio (Provincia di Parma), Italy.
Società Monzese di Elettricità, Monza, Milan.
Società per l'Illuminazione Elettrica, Laveno, Italy.
Società Sicula Imprese Elettriche, Palermo, Italy.
Società Sviluppo Imprese Elettriche, via Vincenzo Monti 14, Milan.
Soc. Anonyme d'Eclairage Electrique du Secteur de la Place Clichy, 53, rue des Dames, Paris.
Société Anonyme d'Electricité, Azay-le-Rideau, France.
Société Anonyme d'Electricité de Bourg, St. Andéol (Ardèche), France.
Société Anonyme d'Électricité (système A. Gérard), 39, avc. Marceau, Courbevoie (Seine), France.
Société Anonyme l'Électrique, 245, chaussée d'Anvers, Lacken, Brussels, Belgium.
Société Anonyme Liegeoise d'Electricité, 42, rue Lambert de Begue, Liége.
Société d'Eclairage Electrique de Bordeaux et du Midi, 26 & 28, rue du Temple, Bordeaux.
Société d'Eclairage de la Ville d'Alais, boul. Louis Blanc, Alais (Gard), France.
Société d'Eclairage Electrique de la Velléc du Greirvaudau, Lancey (Isère), France.
Société du Gaz et de l'Electricité de Colombier, Canton de Neuchatel, Switzerland.
Société Electricité Gaz & Eau, Moissac (Tarn & Garonne).
Société Électrique Vevey-Montreux, Montreux, Switzerland.

Light Companies—Electric—*continued.*

Société Genevoise d'Electricité, 6, cours de Rive, Geneva.
Société Meridionale de Transport de Force, St. Georges près Axat (Aude), France.
Société Regionale d'Energie Electrique de Loire et Rhône, 40, cours du Midi, Lyons, France.
Station Hydraulique d'Eclairage Electrique (Jules Chatiliez, directeur), 6, rue du Rû, Verdun (Meuse), France.
Storvik's Electric Light Co., Storvik, Sweden.
Trondhjems Electric Light & Tramway Co., Hospitalsgd. 20, Trondhjem, Norway.

Lightning Arresters—Makers of.

F.—Paratfoudres—Fab. de.
G —Blitzschutz vorrichtung—Fab. von.

Diementhal, F., Siegen-i-W., Germany.
Gola, G., 32, corso Francia, Turin, Italy.
Holyhausen, Max, Hagelsburgerstr. 5, Berlin, S.
Knodt, G., Bockenheim, Frankfort-on-Main, Germany.
Schniewindt, C., Neuenrade, Westphalia, Germany.
Siemsen, R., Alexanderstr. 7, Hanover.
Tricoche, A., 2, rue de Grassi, Bordeaux.

Lightning Conductor Manufacturers & Erectors.

F.—Paratonnerres—Fab. et monteurs de.
G.—Blitzableiter—Fabr. von.

Baum, T., 19, Thurmstr., Essen-Ruhr, Germany.
Berghausen, Heinrich, Andreaskloster 8, Cologne, Germany.
Berghausen, Joh. Jos., Gereonskloster 2, Cologne, Germany.
Blitz-Werk, Freiberg, Saxony, Germany.
Boone-Masureel, Q., Meulebeke, Belgium.
Closset, Emile, 26, rue St. Jean, Brussels.
Dumoulin, C. J., à Chauffailles (Saône-et-Loire), France.
Ghysens, M., & Cie., 50, rue des Clarisses, Liège.
Godard, E., rue Damrémont 23, Paris.
Hubau, A., Roulers, Belgium.
Kirchkoff, Xaver, Friedenau, Berlin.
Lorrette, M., 103, rue de Grenelle, Paris.
Montilla Hermanos, Victoria 38, Malaga, Spain.
Otto, A., Lauchstadterstr., Merseburg.
Penotti, Giovanni, via Lagrange 24, Turin, Italy.
Rauche & Beth, Zwickau-Schedewitz, Saxony.
Rossteuscher, H., Repsingasse 15, Schleusingen, Germany.
Schlag & Berend, 34, Alexander-str., Berlin, C.

Lightning Engineers.

F.—Paratonnerres—Ingenieurs.
G.—Blitzableiter—Ingenieure für.

Eckardt, W., & Hotop, G. m. b. H., Aachenerstr. 1, Cologne, Germany.
Holwech, Olaf M., Fredriksstad, Norway.

Lubricator Makers for Electric Machines & Engines.

F.—Graisseurs—Fab. de.
G.—Schmier borrichtung—Fab. von.

Henry, R., 117, boul. de la Villette, Paris.
Plum, C., & Co., Lousbergstr., 68, Aachen, Germany.
Reinach, Ernesto, via Lario 71c, Milan, Italy.
Wolff, S. N., & Co., Beuel-Bonn, Rheinland, Germany. (Telegs.: "Wolff, Beuel-Bonn.")

Machine Tool Makers.

F.—Outils pour Machines—Fab.
G.—Maschinen Werkzeug—Fabr.

Adler & Eisenschitz, via Principe Umberto 30, Milan, Italy.
Ateliers de Constructions Mécaniques, Mulhouse (Alsace); & 18, boul. Magenta, Paris.
Bauer & Seilheimer, G. m. b. H., Sionsthal 14, Köln, Germany.
Bernhardt, M., Stuttgart, Germany.
Bliss, E., Co. (Paris), 6, rue des Bateliers, St. Ouen, France.
Briegleb, Hansen & Co., Gotha, Germany.
Darras, A., 123, boul. St. Michel, Paris.
Delaval, Henry, & Cie., 11, rue Morand, Paris.
Dick, Friedr., Esslingen a/N., Wurttembg. Files & tools for electrical & general engineers. (Telegs.: "Dick, Esslingen-Neckar.")
Dierksmeyer & Helsner, Mockau 107, Leipzig, Saxony.
Dudeck, H., Hermannstr. 24, Berlin-Rixdorf.
Eisenführ, W., 31a, Kommandantenstr., Berlin, S.
Elektricitäts & Maschinen Industrie R. Valentin, Breslau, Germany.
Ganz Electric Co., Ltd., Lövöház 39, Budapest, II., Hungary; & Vienna.
Gesellschaft des Echten Naxos-Schmirgels, "Naxos-Union," 43, Waldschmidtstrasse, Frankfort-on-the-Main; & 3, Seidengasse, Vienna, VII.
Gesellschaft für Elektrische Maschinen und Installationsbedarf (m. b. H.), Lindenstr. 101, Berlin, S.W. 68.
Gottwalt Flohr, Ehrenfeld, Cologne.
Gueury, A., 44, boul. de la Bastille, Paris.
Huré, P., & Cie., 218, rue Lafayette, Paris.
Karcher, A. Wittwe, 32, Niederdorf, Zurich, Switzerland.
Körting, Wilh., Barmen.
Krämer, Franz, Iserlohn, Germany.
Krenzler, G., Unter Barmen, Germany.
Kreyton, W., & Co., Abo, Russia.
Kücke, Wm., & Co., Elberfeld, Germany.
Lapipe, H., & Wittmann, 141, rue Oberkampf, Paris.
Loewe, Ludw., & Co., Actien-Gesellschaft, 17–19, Huttenstr., Berlin, N.W.
Lorch, Schmidt & Co., Bockenheim, Frankfurt am-Main.

Machine Tool Makers—*continued.*

Maquinaria Anglo-Americana, Cortes 559, Barcelona.
Maschinenfabrik Esslingen, Platzl 4, Munich, Bavaria.
Maschinenfabrik Prometheus, G. m. b. H., Reinickendorf, Berlin.
Mongin, Ed., 40, ave. Philippe Auguste, Paris.
Moynet, Les Gendres de A., 4 & 6, rue des Haudriettes, Paris.
Pokorny & Wittekind, Bockenheim, Frankfurt-am-Main, Germany.
Riva, Moneret, & Co., Milan.
Rousseau, E., 64, ave. Gambetta, Paris.
Schmidt Nachf, J. A., Solingen, Germany.
Sedlmayr, Andreas, München, Germany.
Società Costruzione Macchine-utensile Michele Ansaldi & Co., via XX. Settembre 12, Turin, Italy.
Walz, H., Strelitzerstr. 60, Berlin, N. 31.
Weisser, J. G., Söhne, St. Georgen, Schwarzwald, Germany.
Werner & Pfleiderer, Ltd., Cannstatt, Germany.
Wicard, Ed., 20, rue des Puits l'Eau, Tournai, Belgium.
Wolf, Jahn, & Co., Frankfurt-am-Main, Germany.
Zipf & Langsdorf Nachfolger, Oberrad, near Frankfurt-a.-M.

Machinery Merchants & Agents.

F.—Machines—March. et représent de.
G.—Maschinen—Händler & Agenten.

Adams, C., representative in Belgium of Messrs. Saxby & Farmer, London, rue des Gallais 267, Brussels.
Baerlein, F., rua da Conceição 35, Lisbon, Portugal.
Biscköff, Wilh., Dresden-Lobtau, Germany.
Büchler & Pascal, Zurich, Switzerland.
Gesellschaft für elektrische Industrie, Karlsruhe, Baden.
Henry, Edward, 21, rue Caumartin, Paris.
Meyer, Roth & Pastor, Köln-a-Rh.-Raderberg, Germany.
Overhoff, Julius, IX/2 Niederhofergasse 7, Vienna.
Schuchard, J. O., Barmen.
Zacco & Co., Aktiebolaget, Stockholm, Sweden.
Ziese, R. A., Wassily Ostr. 12th linie, N. 27, St. Petersburg.

Magnet Manufacturers.

F.—Aimants—Fab. d'.
G.—Magnet-Verfertiger.

Backhaus & Langensiepen, Leipzig-Plagwitz, Germany.
Böhler & Co., A. G., Gebr., Quitzowstr. 24, Berlin, N.W. 5.

Magnet Manufacturers—*continued.*

CARALP & LAUR, 55, boul. Auguste Blanqui, Paris. Established in 1885. Manufacturers of permanent magnets for electrical apparatus, magnets for meters, ammeters, magnetos, telephones, &c. Honourable mention, Paris Exhibition, 1889. Bronze medal, Paris, 1900. Sole awards to magnet manufacturers.
Compagnie des Aciers Boehler 166, ave. Parmentier, Paris.
Gauquelin, —, 220, rue Lafayette, Paris.
Göppinger Magnetfabrik, Carl Scholl, Göppingen, Wurttemberg.
Krautheim, G., Chemnitz-Altendorf, Germany.
Maisonneuve, —, 15, passage Alexandrine, Paris.
Spindler, A., et Cie., 11, rue Château d'Eau, Paris.
Tigges & Co., Haspe i. W., Germany.

Magnetic Steel Manufacturers.

F.—Acier Magnétique.
G.—Magnet-Stahl.

Bischoff, Felix, Duisburg-am-Rhein, Germany.

Magneto & Electric Machine Mfrs.

F.—Machines magnétiques et électr.—Fabr. de.
G.—Magnet. & Elektr. Maschinen Fabr.

Bonetti, L. (Roycourt, suc.), 69, ave. d'Orléans, Paris.
Electrische Station für Bel. & Kraftübertragung, III. Linke Bahngasse, Vienna.
Prinoth, Ch., et Cie., 46, boul. de Strasbourg, Paris.
Remy, Heinr., Hagen i/W., Germany.

Manganese Iron.

F.—Fer-Manganèse—Fab. de.
G.—Mangan-Eisen—Fab. von.

Società Anon. Coltivazione Cave Manganese, Bonassola, Italy.

Manganese Merchants.

F.—Manganèse—March.
G.—Braunstein—Händler.

Chamossy, Daniel, & Cie., Romanèche Thorins (Saône & Loire), France.
Drouhin, R., 27, rue des Ardennes, Paris.
Foerster, Chr. Gottlob, Ilmenau, Thür., Germany.
Hüttel, Hermann, Ilmenau, Thur.
Minner, Wilhelm, Arnstadt, Thür., Germany.
MINNER, OTTO, & CO. (makers), Arnstadt Thur., Germany.
Rae Fratelli, via Polastrini 3, Leghorn, Italy.
Wesche & Co., Magdeburg N. 27, Germany.

Manufacturers' Agents.

F.—Representants de fab.
G.—Fabrikvertreter.

Agence Scientifique & Industrielle, 53, rue de la Caserne, Brussels.
Agencia Téc. Industriàle, 2, Juan Bravo, Madrid.
Alexeeff, J. G., & Co., Moscow.
Gardy, R., rua do Assumpçao 99, Lisbon, Portugal.
Grau Hermanos, Valencia, Spain.
Gruber, Fondatinnea Carol, Bucharest, Roumania.
Heilborns Electricitäts-Byra, Centralpalatset, Stockholm.
Henderson & Co., Athens, Greece.
Koronzwitt, A., Presbrajenskaia 39, Odessa, Russia.
Kraus, Ch., rue Gaucheret 190, Brussels.
Marcherat, P., 42, rue Fessart, Paris.

Manufacturers' Representatives.

F.—Représentants de Fabricants.
G.—Fabrikvertreter.

De Cordova, Pablo M., Muelle 21, Santander, Spain.
Lange, A., via Monforte 40, Milan, Italy.
Monti & Martini, via Tasso 5, Milan, Italy.
Roos & Elbert, Mainz, Germany.

Marble—Workers & Turners of.

Stein, Herman, Gerokstr. 3, Dresden A., Germany.

Mathematical Instrument Makers.

F.—Instruments mathématiques—Fab.
G.—Mathematische Instrumenten—Fabr.

Rost, Rud. & Aug., 7, Marzstr., Vienna XV.
Tavernier-Gravet, 19, rue Mayet, Paris.

Measuring Instrument Makers—Electric.

F.—Instruments de mésure électrique—Fab. de.
G.—Elektrische Massinstrumente—Fab. von.

Abrahamsohn, R., Kantstr. 24, Charlottenburg, Berlin.
Baraban, Maison, 175, rue St. Honoré, Paris.
Bartels, G., Goettingen, Germany.
Bornhäuser, Ilmenau, Thuringen, Germany.
C. G. S. SOCIETÀ ANONIMA PER ISTRUMENTI ELETTRICI gia C. Olivetti & C., via Broggi 4, Milan, Italy.
Cie. pour la Fab. des Compteurs d'Usines à Gaz, 29, rue Claude Vellefaux, Paris.
Compagnie F. A. C., 81, rue St. Maur, Paris.
Desailly, J., 25, rue D'Alleray, Paris.
Dessolle & Cie., 58 bis, rue Gide, Levallois-Perret (Seine), France.
Electrométre Usuelle, 81, boul. Voltaire, Paris.
Elektrotechnische Messinstrumente u. Apparatebau (Ges. m. b. H.), 13A, Ackerstr., Bonn, Germany.

Measuring Instrument Makers—Electric —*continued.*

"Emag" Elektr. Messinstrumente und Apparatebau G. m. b. H., Bonn-on-Rhine, Germany.
Fauvin, Amiot & Cie., 81, rue St. Maur, Paris.
Gans & Goldschmidt, Reinickendorfstr. 96, Berlin, N. 65.
Hartmann & Braun Act. Ges., Frankfurt-a.-M.-Bockenheim, Germany.
Klaege, Fr., & Cie., rue de Cologne 183, Brussels.
L'Electrométrie Usuelle, 81, boulevard Voltaire, Paris.
Mahr, Carl, Esslingen 9A N., Germany.
Monge, G. & A. de, 85, rue du Progrès, Brussels.
"Nadir" Fabrik Elektrischer Mess Instrumente, Kadelbach & Randhagen, Rixdorf, Berlin.
Olivari, Mario, & Co., Milan; & Genoa, Italy.
Pillon, A., & J. Welter, 42, rue des Fourneaux, Paris.
Prince, F., 7, rue Réaumur, Paris.
Richard Frères, 8, impasse Fessart, Paris.
Santarelli, Georges, via Giotto 2 *bis*, Florence, Italy.
Siry Lizars & Cie., Viali Porta Lodovica 21-23, Milan.
Société Anonyme des Ateliers de Mecanique de Precision, Territet, Vaud, Switzerland.
Thury et Amey, 12, chemin des Sources, Geneva, Switzerland.
Trüb, Fierz & Co., Hombrechtikon-Zurich, Switzerland.
Weber, W. G., Zurich IV., Switzerland.

Metal Manufacturers & Founders—General.

F.—Métaux—Fab. et Fondeurs—en général.
G.—Metall Fabr. und Giesser—im Allgemeinen.

Actien-Gesellschaft der Emaillierwerke und Metallwaren-fabriken Austria, Spitalwiese 23, Brünn.
Aluminium-Fabrik, Hemelingen bei Bremen, Germany.
Aluminium Industrie A.-G., Neuhausen, Switzerland.
Barigozzi, Emilio, Monza, Italy.
Compagnie Française des Metaux (soc. anon.), 10, rue Volney, Paris. Works: St. Denis (Seine), France.
Flornara & Co., via Garibaldi, Turin, Italy.
Fonderies et Laminoirs de Biache St. Vaast (soc. anon.), 28, rue St. Paul, Paris.
Gesellschaft für Elektrische Metallbearbeitung, 101 & 102, Leipzigerstr., Berlin, W.
Hompesch & Co., Ritterstr. 9, 10, Berlin, S. 47.
Lehmann, Leo, Lausitzerstr. 25, Berlin, S.O.
Meissner, Carl, Feldschlösschen Str. 10, Dresden A.
Officini, Ramella, via Quirinale 5, Rome, Italy.
Rickler, Enrico, corso Palestro 8, Turin, Italy.

Metal Manufacturers & Founders—General—*continued.*

Società degli Alti Forni, Fonderie ed Acciaierie di Terni, Terni, Perugia, Italy.
Società Metallurgica Anonima Italiana, Leghorn.
Société Electro-Métallurgique Française, Froges, Isère, France.
Soleau, E., 127, rue de Turenne, Paris.
Sonntag, A., 58, rue Lourmel, Paris-Grenelle.
Werner, Emil, Schmalkalden i. Thur., Germany.

Metal Merchants.

F.—Marchands—Métaux.
G.—Metall—Händler.

Hubert, Fülöp es Tsai, Kerlez-ut. 39, Budapest VII.
Leroux, E., 3, rue Descartes, Paris.
Oberschlesische Eisen-Industrie Actien-Gesellschaft, Gleiwitz.

Metal Shades & Reflectors.

F.—Abatjour et Reflecteurs—en Métaille.
G.—Schirme und Reflectoren von Metall.

(*See* Reflector & Shade Manufacturers.)

Wolff, S. N., & Co., Beuel-Bonn, Rheinland, Germany. (Telegs.: "Wolff, Beuel-Bonn.")

Metal Spinners.

F.—Fileurs de Métal.
G.—Metall Spinnereien.

Droz, Veuve, 16, rue Pierre-Levée, Paris.

Metallic Filament Lamps.

Baldur-Werke, Berlin.
Glühlampen-Fabrik "Phœbus" A. Berrenberg, Oberbilker allee 68, Düsseldorf, Germany.
Société Anon. des Usines Electriques Bergmann, 6, rue Boudreau, Paris.
Société Anon. des Usines Pintsch, 46, rue d'Anjou, Paris.

Metallurgists—Electro.

F.—Métallurgistes—Électro.
G.—Erzkundige—elektro.

Compagnie Electro-Thermique Keller Leleux & Cie., 3, rue Vignon, Paris.
Elektro-Metallurgie, G. m. b. H., Hollmannstr. 32, Berlin, S.
Gin, G., 149, rue Rome, Paris.
Humboldt, Ateliers de Construction, 17, boul. Haussmann, Paris.
Louis, C., Pierrefitte-Nestalas (Hte. Pyrénees), France.
Néo Metallurgie, La (Soc. Anon.), 10, rue de Louvois, Paris.
Società Anonima Elettrometallurgica Bergamasca, Bergamo, Italy.
Société des Etablissements Keller-Leleux, 3, rue Vignon, Paris.

Meteorological Instrument Makers.

F.—Instruments de Météorologie—Fab. d'.
G.—Meteorologische Instrumente—Fabr. von.

Olland, W. C., Utrecht.

Mica Merchants.

F.—Mica—Marchands.
G.—Glimmer—Händler von.

Aschheim, J., Planufer 92D, Berlin, S. 59.
Avtsine & Cie., 12 *bis*, avenue des Gobelins, Paris.
Barrera, Alberto, corso Vitt. Emanuele 34, Turin, Italy.
Berliner Glimmerwarenfab. Ignatz Ascheim, Plan Ufer 92D, Berlin, S. 59.
Bohde, Paul, Beim Strohhaus 85, Hamburg.
Breslauer Glimmerwarenfab. Krawutschke & Nebelung, Kopischstr. 55, Breslau, Germany.
Buschkiel & Fuhrmann, Holbeinstr. 119, Dresden, A. 16.
Frankfurter Glimmerwarenfab., Landsberg & Ollendorff, Frankfurt-a-M.-Bockenheim, Germany.
Glimmerwerke Bardt & Co., Gothenstr. 10/16, Hamburg 15.
Jaroslaws Erste Glimmerw. Fabrik, Berlin-Friedenau.
Meirowsky & Co., Köln-Ehrenfeld, Germany.
Vorberg & Co., Niederlahnstein a/Rhein, Germany.
Weis, Ad., 29, rue des Vinaigriers, Paris.
Wilde, G. De, & Co., 1, place du Louvre, Paris.

Micrometers & Measuring Instruments—Makers of.

F.—Micromètres et instr. de mésure—Fab. de.
G.—Mikrometer & Mess Instrumente—Fab. von.

Microphone Makers.

F.—Microphones—Fab. de.
G.—Microphon-Fabrikanten.

ANTWERP TELEPHONE & ELECTRICAL WORKS, LTD., Antwerp, Belgium. (Telegrams: "Electrical Anvers.")
Berne, J. A. (late E. Carré), manufacturer of microphone carbons, 68 bis, rue de Lagny-Montreuil, Paris.
Burgunder, Alf., 48, ave. Felix-Faure, Paris.
Conradty, C., Nuremberg, Germany.
Journaux, J., 56, rue des Cévennes, Paris.

Miners' Safety Lamps—Electric.

F.—Lampes de sûreté pour mines.
G.—Electr. Gruben Lampen—Fabr. von.

Schlesische Accumulatoren-Werke A. G., Canth Krs. Neumarkt, Germany.

Mining Machinery (Electric)—Makers of.

F.—Machines électr. de Mines—Fab. de.
G.—Elektr. Gruben Maschinen—Fabr. von.

Mirrors & Diverging Lenses for Search Lights.

F.—Miroirs et lentilles pour projection électr.
G.—Spiegel und divergierende Linsen für Scheinwerfer.

Motor Carriages.

F.—Voitures Automobiles.
G.—Motor Wagen.

Allgemeine Betriebs-Actiengesellschaft für Motorfahrzeuge, Köln.
B.-G.-S. Electrical Horseless Carriage & B.-G.-S. Special Auto-Car Cell Co., 12 bis, avenue de Madrid, Neuilly-sur-Seine, France.
Beuzelin & Cie., 8 & 10, rue de l'Abreuvoir, & 1, 9 & 13, rue de l'Industrie, Courbevoie (Seine), France.
Boeker, H. H., & Co., Remscheid, Germany.
De Bonnezau, Digue du Canal de Charleroi 4, Brussels.
Electromotion, Société Française des Voitures Electriques, 7 *bis*, rue Deguingand, Levallois-Perret (Seine), France.
Elektromobil G. m. b. H., Mittelstr. 25, Berlin, N.W.
Kraftmaschinen mit Elektrischem Ausgleich, Ltd., Luisenstr. 21, Berlin, N.W. 6.
Lambert, A., & Cie., 27, ave. de la Grande Armée, Paris.
Neue Automobil Ges. m. b. H., Luisenstr. 31, Berlin, N.W. 6.
Plancher, Rochat & Cie., 39, ave. Marceau, Courbevoie (Seine), France.
Società Anonima di Costruzioni Elettriche e Meccaniche gia Turrinelli & Cie., Milan.
Société d'Electricité Mors, 7, rue Duranti, Paris.
Société Française d'Automobiles Electriques (Licence Krieger), 114-116, rue Gravel, Levallois (Seine), France.
Svenska Motorwagns Aktiebolaget, Stockholm.
Ullmann, Jacques, 16, boul. St. Denis, Paris.
Van Nieuwenhove, G., & E. De Clercq, Longue rue d'Argile 376, Antwerp.

Motor Car Requisites—Electrical.

F.—Fournitures pour automobiles—élec.
G.—Motorwagen Zubehöre—elek.

Miller, H., Ltd., Hazebrouck, France. *See advt., page* 17.

Motor Manufacturers—Electric.

F.—Moteurs électriques—Fab. de.
G.—Motoren—elek.—Fabr. von.

Allgemeine Elektromotoren Werke Hirschberg & Honings, Dortmund, Germany.
Atlas Electro Motors, Adalbertstr., Frankfort-on-Main.
Baut, A., 391, rue de Progrès, Brussels.
Blondeau, J. C, 15, passage Gourdon, Paris.
Bödker, H., Randers, Denmark.

Motor Manufacturers—Electric—*contd.*

Bonnefils, L., Valence d'Agen (Tarn-et-Garonne), France.
Bouillet, 7, Passage Vaucouleurs, Paris.
Bret Frères, Verneine (Eure), France.
Bruncken, J., Geisselstr. 90/92, Cologne-Ehrenfeld.
Commune Française d'Electricité et de Mecanique, 5, boul. Magenta, Paris.
Compagnie Continentale Electrique, 122, rue de Rome, Marseilles, France.
Compagnie des Moteurs Otto, 155, rue de la Croix Nivert, Paris.
Comptoir Général de Mécanique, 119, rue St. Maur, Paris.
Daimler Motoren Gesellschaft, Marienfelde, Berlin.
Dehl, Gebr., Neuenburgerstr. 24, Berlin, S.W. 13.
Doignon, 85, rue Notre Dame-des-Champs, Paris.
Dumont, Pierre (système Bory), Bellegarde, Ain, France.
"Duplex" Motors, 130, rue Lafayette, Paris.
Electromotorenwerke "Glück Auf," Dortmund.
Elektromotoren und Dynamowerke Werner & Menchen, Residenzstr. 133A, Reinickendorf-Berlin.
Fallon, J., 33, rue St. Ambroise, Paris.
Freund, J., jun., Gitschinerstr. 106A, Berlin, S.W.
Goulut & Borne, Luxeuil les Bains (Haute-Saône), France.
Hilger, W. H., & Co., Bonn-a-Rh., Germany.
Hille Moritz, G. m. b. H., Tharandterstr. 30, Dresden, A.
Klimenko, Alexis, Kozlow, Russia.
Körting Gebrüder, Markgrafenstr. 8, Leipzig.
KRÖTLINGER, CARL, VII. Halbgasse 3, Vienna.
La Electromotora, Murcia, Spain.
Lecoq, Martin, & Co., Acacias, Geneva.
Letombes, 59, rue d'Amsterdam, Paris.
Ludt, Ch., 78, rue de Crimée, Paris.
Mackek, Franz, & Co., Radchgasse 3, Vienna IX.
Maede, F. A., Weinböhla i. Sa., Germany.
Marelli, Ercole, & Co., Ltd., Milan, Italy. Works in Sesto S. Giovanni.
Maschinenbau-Actien Gesellschaft vormals Ph. Swiderski, Leipzig-Plagwitz, Saxony, Germany.
Meunier, Em., 16, rue de Birague, Paris.
Motorenfabrik "Protos," G. m. b. H., Berlin-Reinickendorf, Berlin.
Motorwerke Schwarz & Co., Ltd., Ritterstr. 26, Berlin, S. 42.
Muck, Alwin, Naunynstr. 56, Berlin, S.O. 26.
Patay, M., 8, rue de Rêve d'Or, Lyon, France.
Progress Motoren und Apparatebau, Ltd., Wilmersdorferstr. 39, Charlottenburg-Berlin.
Reiss & Klemm, Stallschreiberstr. 18, Berlin, S.
Robatel, T., Buffaud & Cie., 59, Chemin de Baraban, Lyons, France.
Schüler, W., & Co., Waldemarstr. 27, Berlin, S.O. 26.
Sociedad Anonima Electromotriz Valcarlos, Pamplona, Spain.
Société Anon. des Ateliers Grezes & Piques, 47, Canal de Brienne, Toulouse, France.

Motor Manufacturers—Electric—*contd.*

Spezialfabrik für Elektromotoren und Elektrische Antriebe G. Meidinger & Cie., Basle, Switzerland.
Stator Motoren Fabrik Eugen Allgaier, Jonasstr. 66, Rixdorf-Berlin.
Voigt & Mühler, C., Leipzig-Gohlis.
Vulkan Motoren Ges., Ltd., Wilmersdorferstr. 39, Charlottenburg-Berlin.
Wichler & Co., Leipzig-Schleussig, Germany.
Wissenschaftl. Institut für Laboratoriums-Bedarf, Ludwig H. Zeller, Leipzig, Saxony.
Zeller, Ludwig H., Leipzig, Saxony.

Nickel Manufacturers, Refiners & Merchants.

F.—Nickel—Fab. Raffineurs et March.
G.—Nickel—Fabr. Läuterer u. Händler.

Barop, E., 57, boul. de Strasbourg, Paris.
Geitner's, Dr. Agentanfabrik (F. A. Lange), Auerhammer bei Aue, Saxony.
Lange, F. A., 1, boul. Voltaire, Paris.
Perille, J., 98, avenue de Clichy, Paris.
Société Anonyme "Le Ferro-Nickel," 17, rue du Pont-aux-Choux, Paris.
Société Anonyme le Nickel, 26, rue Lafitte, Paris.
Vereinigte Deutsche Nickelwerke Act. Ges., Schwerte, Westphalia.

Nickel Platers.

F.—Nickeleur.
G.—Vernickeler.

Oil Manufacturers, Refiners & Merchants.

F.—Huiles—Fab. Raffineurs et Marchands d'.
G.—Oel Fab. Raffineure und Händler.

Cuypers, W., & Stalling, Dresden, Saxony.
Jourdan, Simon & Co., Cette (Hérault), France.
Meurer, Gebr., Frankfurt-am-Main.

Omnibuses, Cabs & Parcels Vans—Electrical.

F.—Voitures, Omnibuses, &c.—élec.
G.—Omnibusse, Droschken & Packwagen—Elektr.

Berliner Elektromobil-Droschken A. G., Chaussеestr. 128/129, Berlin, N. 4.
Société Générale d'Automobiles Mecaniques, 1, quai National, Puteaux, Paris.

Ore Dressers & Metal Extractors.

Minner, Otto, & Co., Arnstadt-i.-Th., Germany.

Patent Solicitors & Experts.

F.—Avocats de brevets et experts.
G.—Patent Anwalte und Sachsverständige.

Wangemann, P., A.M.I.E.E., Waterlooufer 15, Berlin, S.W. 61.

Patents & Trade Marks Registration Agents.

F.—Brevets et Marques de fabrique—Agents de.
G.—Agenten für Registrirung der Patente Handelsmarken.

Armengaud, Aîné, 21, boul. Poissonnière, Paris.
Armengaud, Jeune, 23, boul. de Strasbourg, Paris.
Assi, Ch., & L. Genès, 41 & 47, rue des Martyrs, Paris.
Banti, Prof. Dr. Angelo, Ufficio Brevetti, 224, via Cavour, Rome, Italy.
Bardorf, E., & Co., 32, passage Popoff, Moscow, Russia.
Bergl, Alex., VI. Váczi körút 21, Budapest, Hungary.
Bert, Emile, 7, boul. Saint-Denis, Paris.
Betche, P., Neue Ross-str. 1, Berlin, S.
Biebuyck, R., rue de la Charité 17, Brussels, Belgium.
Blétry Frères, 37, rue de l'Abbé Gergovie, Paris.
Bois-Reymond, A. du, 29A, Schiffbauerdamm, Berlin, N.W.
Bonnet-Thirion, J., 95, boul. Beaumarchais, Paris.
Brandt, J., & G. W. v. Nawrocki, 233, Friedrich-str., Berlin, S.W. 48.
Brockhues & Co., Zülpicherplatz, Cologne.
Brydges & Co., 107, Gitschinerstr., Berlin, S.W. 61.
Budde, Schon & Co., Kjöbenhavns Patent Bureau, St. Kirkestrade 3, Copenhagen K., Denmark.
Casalonga, D. A., 15, rue des Halles, Paris I°.
Chassevent, C., 11, boul. Magenta, Paris.
Clarke, H. E. C., Zorilla 25, Madrid.
Comptoir Industriel et Technique, 14, rue du Trone, Brussels.
Dedreux, G., Brunnstr. 8 & 2, Munich, Germany.
De Benedetti, Comm. I., 46, via del Tritone, Rome.
Desguin, P., 46, rue Bara, Brussels.
Deutsches Kaiserliches-Patentamt, 97–103, Gitschinerstr., Berlin, S.W. 61.
Deutsches Reichs-Patent-Amt (Imperial Patent Office), 33 & 34, Louisenstrasse, Berlin, N.W.
Fayollet, J., 18, rue Mogador, Paris.
Federer & Nägeli, Spitalgasse 32, Bern.
Fehlert, C., 17, Belle Alliance Platz, Berlin, S.W.
Gerson & Sachse, Gitschinerstr. 110, Berlin, S.W.
Glaser, F. C., Lindenstrasse 80, Berlin, S.W.
Kaupe & Tschekaloff, Kirpitschny per. 7, St. Petersburg.
Kesseler, C., 17, Belle Alliance Platz, Berlin, S.W.
Knappe, Carlos, Clavel 2, Madrid, Spain.
Kuhnt, A., & R. Deissler, Gitschinerstr. 108, Berlin, S.W.
Lavoix & Mosès, 7, rue de Châteaudun, Paris.
Loubier, G., 17, Belle Alliance Platz, Berlin, S.W.
Lüders, R., Gorlitz & Berlin, Germany.
Marillier & Robelet, 42, boul. Bonne Nouvelle, Paris.
Mestral, G. de, & Harlé, 21, rue La Rochefoucauld, Paris.

Patents & Trade Marks Registration Agents—*continued.*

Milardi & Co., 25, S. Marco, Rome, Italy.
Mois Scientifique et Industriel, Institut du, 8, rue Nouvelle, Paris 9e.
Monath, Victor, I. Maximilianstr. 7, Vienna, Austria.
Mosenthal, Ch. de, 3 *bis*, rue Labruyère, Paris.
Nähler, H., & Fr. Seemann, Gitschinerstr. 3, Berlin, S.W.
Office pour Brevets d'Invention, 224, via Cavour, Rome.
Palm, H. (Michalecki & Co.), Bäckerstr. 1, Vienna I., Austria.
Pataky, H., Joachimsthalerstr. 10, Berlin.
Pieper, Carl, 3, Hindersenstrasse, Berlin, N.W.
Reichard & Co., III. Marxergasse 28c, Vienna.
Schmidt, Robert R., Blücherpl. 3, Berlin, S.W.
Schulz, O. R., Hedemannstr. 5, Berlin, S.W. 11.
Steiger, E., Office des Brevets d'Invention, Zurich III.
Ufficio Elettrotecnico Industriale con Ufficio Brevetti, 31, corso Magenta, Milan.
Voss & Steininger, 68, Gorokhowaya, St. Petersburg.
Weismann & Marx, 90, rue d'Amsterdamm, Paris.

Pentoxide of Phosphorus.

(*See* Anhydrous Phosphoric Acid.)

Phosphorized Bronze Manufacturers.

F.—Bronze Phosphoreux—Fab.
G.—Phosphor Bronze—Fabr.

Deutsche Phosphorbronce-Industrie, Kattowitz-o/S, Germany.
Muller et Roger, 108, ave. Philippe Auguste, Paris.
Otto, W. Gg., Darmstadt, Giesserei.

Photometers—Makers of.

F.—Photomètres—Fab. de.
G.—Photometer—Fab. von.

Krüss, A., Hamburg, Germany.
Velter & Cie., 44, ave. du Maine, Paris.
Zeller, Ludwig H., Leipzig, Saxony.

Platinum Factors.

F.—Platine—Manufacture de.
G.—Platin Händler.

Platinum Manufacturers & Refiners.

F.—Platine—Fab. et Raffineurs de.
G.—Platinum—Fabr. u. Laüterer.

Contenau, Godard & Collignon, 23, rue Croix des Petits Champs, Paris.
Eisenach, Franz, & Cie., Offenbach a. M.
Gillet et Personne, 32, rue Montmorency, Paris.
Hingue, Marret & Bonnin, 220, rue St. Martin, Paris.
Quennessen de Belmont, Legendre & Co., 56, rue Montmartre, Paris.
Tentelewsche Chemische Fabrik, Wosnessenstr. 6, St. Petersburg.

Platinum Merchants.

F.—Platine—Marchands.
G.—Platinum—Händler.

Siebert, G., Hanau-on-the-Main, Germany.

Platinum Retorts, Crucibles, Boilers & Bottles.

F.—Cornue en Platine—Fab. de.
G.—Platina-Kolben und Kessel.

Pole Finding Paper.

F.—Papier boussole.
G.—Polreagenz Papier.

May, Dr. Oscar, Hermannstr. 30, Frankfort-on-Main, Germany.

Poles (Iron)—Manufacturers of.

F.—Poteaux en fer—Fab. de.
G.—Pfosten (Eisen)—Fab. von.

Beau & Cie., 20, rue de Paris, Puteaux, France.
Bourgeat, —, 11, rue Michel Charles, Paris.

Porcelain & China Fittings Makers.

F.—Porcelaine—Fab. de garnitures.
G.—Porzellantcile—Fab. von.

Bihl, G., & Co., vorm. R. Hanke's, Nachfolger, G. m. b. H., Ladowitz, Bohemia.
Bontet Frères, 28, rue de Tours, Vierzon, France.
Etablissément Céramique de Montreuil-sous-Bois, 64, rue François-Arago, Montreuil-sous-Bois (Seine), France.
Falco y Cia., Valdemorille, por El Escorial, Madrid, Spain.
Fighetti, Carlo, via Azzone Visconti, Lecco, Italy.
Gustafsburg Aktiebolag, Kungsträdgärdsg. 2A, Stockholm.
Karlsbader Kaolin-Industrie-Ges., Merkelsgrün bei Karlsbad.
Lamy & Barillet, Mehun sur Jèvre (Cher), France.
Lindner & Co., Jecha-Sondershausen, Germany.
Maehler & Kaege, Nieder Ingelheim, a. Rh., Germany.
Munzing, K., Jena, Germany.
Pillivuyt & Cie., Mehun-sur-Yèvre, Cher, France; & 44, rue de Paradis, Paris.
Porzellanfabrik Hentschel & Müller, Meuselwitz, Germany.
Porzellanfabrik Hermsdorf, Hermsdorf, Sachsen-Altenburgh, Germany.
Porzellan-und Tonwarenfab. G. m. b. H., Coburg, Germany.
Rauschert, Paul, Porcelain Works, Huettengrund-Huettensteinach, Thur., Germany. *See advts., under* Insulators, & Porcelain & China Fittings, British Section.
Società Ceramica Richard-Ginori, Milan, Doccia nr. Florence, Pisa, Mondovi & Vado Ligure, Italy. Apply for catalogues at Milan.
Société des Anciens Etablissements A. Hache & Cie., Vierzin-le-Vin (Cher), France.

Porcelain & China Fittings Makers—*continued.*

Villeroy & Boch, Schramberg, Württemberg.
Wolff, S. N., & Co., Beuel-Bonn, Rheinland, Germany. (Telegs.: "Wolff, Beuel-Bonn.")

Porous Cell Manufacturers.

F.—Vases Poreux—Fab. de.
G.—Poröse Töpfe für Batterien.

De Fuisseaux, F., Baudour, near Mons, Belgium.
Dewinter, Vve., et Fils, 63-69, rue Vautour, Brussels, Belgium.
Mallié, —, 155, Faubourg Poissonnière, Paris.
MERAN FRÈRES, 155, FAUB. POISSONNIÈRE, PARIS. USINES L'ISLE-ADAM (S. ET O.). MANUFACTURERS OF POROUS CELLS IN SPECIAL PORCELAIN. PATENTED FOR BATTERIES & ELECTROLYSIS. SEPARATION OF LIQUIDS OF LOW RESISTANCE. ACID & CAUSTIC PROOF.
Société Anonyme des Faienceries de Creil et de Montereau, 11, rue Bleue, Paris.
Trévert, H., 75, rue Vieille du Temple, Paris.

Portable Electric Lamps.

F.—Lampes electriques portatives.
G.—Tragbare elektrische Lampen.

Böttcher, Oskar, Berlin, W. 57. Works in Gebirge, Pobershau, Marterbüschel, Saxony.
Henry & Cie., 51, rue de Turenne, Paris.
Kramber, 138, rue Amelot, Paris.

Professors & Teachers of Science—including Electricity.

F.—Professeurs et Précepteurs des Sciences—l'Electricité comprie.
G.—Professoren und Lehrer der Wissenschaft—Elektricität einschliessend.

Alonso, Juan, Fabrica de Electricidad de Buenavista, Madrid.
Amicarelli, Cav. F., R. Scuola Industriale, Benevento, Italy.
Arnò, Prof. R., M.I.E.E., Instituto Tecnico Superiore, Milan.
Arnold, E., DR. ING., Technische Hochschule, Karlsruhe, Germany.
Arsonval, Dr. A. d', 12, rue Claude Bernard, Paris.
Battelli, Prof. Angelo, Royal University, Pisa, Italy.
Bazzi, Prof. E. R., Istituto Tecnico "Galileo Galilei," via Mandorlo, Florence.
Beghin, Prof. A. J. A., L'Ecole Nationale des Arts, Roubaix (Nord), France.
Bellati, Prof. Manfredo, School of Engineers, Padua University, Padua.
Benevides, Francisco da Fonseca, Industrial Institute, Lisbon.
Blaserna, Comm. P., Royal Institute of Physics, Rome.

Professors & Teachers of Science—including Electricity—*continued.*

Blondel, André E., Ecole Nationale des Ponts et Chaussées, 4, ave. de la Bourdonnais, Paris.
Borgmann, Prof. J. J., University of St. Petersburg, St. Petersburg.
Boucherot, P., L'Ecole de Physique et de Chimie Industrielles de la Ville de Paris & L'Ecole Supérieure d'Electricité, 64, boul. Auguste Blanqui, Paris.
Brunhes, Bernard, 37, rue Montlosier, Clermont Ferrand, France.
Cabrera, D. Blas, 112, Serrano, Madrid.
Chatelain, M., Polytechnicum Sosnowka, St. Petersburg.
Classen, Dr. J., Elektrische Prüfamt, Hamburg.
Cohen, Dr. E. J., University, Utrecht, Holland.
Cohn, Dr. E., The University, Strasburg, Germany.
Dietrich, Prof. Dr. W., Herdweg 67, Stuttgart.
Donati, Chev. Luigi, R. Engineering School, Fraz. S. Guiseppe, Bologna, Italy.
Duez, G., 19, boul. de Cambrai, Roubaix, France.
Engländer, R., VI. Kopernikusgasse 7, Vienna.
Eötvös, Loránd dr. br., 3, Esterhazy-utcza VIII., Budapest, Hungary.
Ettingshausen, Dr. A. v., the Technical High School, Graz, Austria.
Farini, Ing. Licinio, Ravenna, Italy.
Ferreira da Silva, Dr. Antonio J., rua de Sta. Catharina 846, Porto.
Finocchi, Dr., Ensebio, Ancona.
Formenti, Prof. Carlo, R. University, Pavia, Italy.
Foveau de Courmelles, Dr., 26, rue de Châteaudun, Paris.
Geitler, Dr. J. von, University, Czernowitz, Austria.
Graetz, Dr. L., The University, Munich.
Gueglio, G. B., R^a. Scuola Tecnica, Ravenna.
Haga, Dr. H., University of Groningen.
Hagenbach-Bischoff, The University, Basle, Switzerland.
Hauffe, Leop. Ritter v., Mayerhofgasse 14, Vienna IV.
Heim, Dr. C., Königl. Techn. Hochschule, Hanover.
Heinke, Dr. C., Kaulbachstr. 35/3 II. G. G., Munich.
Herrmann, I., 25, Hegelstr., Stuttgart.
Hesehus, N., Institut Technologique, St. Petersburg.
Hochenegg, Carl, Technische Hochschule, VI. Mariahilferstr. 1, Vienna.
Hoor-Tempis, Dr. Maurice, Ganz & Co., II. Zsigmond u. 9, Budapest.
Jaumann, Dr. G., The University, Prague.
Julius, Dr. W. H., The University, Utrecht.
Kalischer, Dr., Technische Hochschule, Konstanzerstr. 2, Berlin.
Kamerlingh Ormes, Dr. H., University of Leiden.
Kapoustine, Théodore, The University, Tomsk, Russia.
Kayser, Prof. Dr., The University, Bonn, Germany.
Kittler, Prof. Dr. Erasmas, Geheimerath, Grossh. Technische Hochschule, Darmstadt, Hessen.

Professors & Teachers of Science—including Electricity—*continued.*

Kübler, W., Kgl. Technische Hochschule Helmholtzstr. 9, Dresden.
Landry, Jean, The University, Lausanne, Switzerland.
Lang, Viktor von, University, Vienna, Austria.
Lehmann, Dr. Otto, Technische Hochschule, Karlsruhe, Germany.
Le Souhaitier, R. H. L., L'École Pratique d'Industrie, Montbéliard (Doubs), France.
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Thode, Albert, & Co., Sonninstr. 17, Hamburg, Germany.
Union Metalurgica, La (Soc. Anon.), calle Castillejos 143, Barcelona.
Usines Ragheno (Soc. Ane.), Malines, Belgium.

Railways (Electric)—Makers of & Contractors for.

F.—Chemins de fer électr.—Fab. & Entrepreneurs de.
G.—Eisenbahnen—Fab. & Unternehmer von.

Averly, G., 143, rue Garibaldi, Lyons, France.
Benrather Maschinenfabrik A. G., Benrath bei Dusseldorf.
Bertschinger, Th., Lenzburg, Switzerland.
Burgenstock Electric Railway, Burgenstock, near Lucerne, Switzerland.
Centralverwaltung für Sekundärbahnen Hermann Bachstein, Grossbeerenstr. 88/89, Berlin, S.W. 11.
Compagnie Mutuelle de Tramways, Société Anonyme, 31, rue de Marais, Brussels.
Compagnie Parisienne de Material & Travaux Electriques, 16, rue St. Paul, Paris.
Danziger Elektrische Strassenbahn Aktien Ges., Danzig-Langfuhr.
Dresdener Ges. für Elektrische Bahnen, Dresden.
Eisenbahnbau - Gesellschaft Becker & Co., G. m. b. H., Potsdamerstr. 28, Berlin, W.
Elektrické Podniky Král. hlav. mesta Prahy, Prague, Bohemia.
Elektrische Strassenbahn Valparaiso Akt. Ges., Berlin, W.
Frigerio, Ing. C., & Co., via Vignola 6, Milan.
Gesellschaft für Strassenbahn Bedarf, Schönhauser-Allee 62, Berlin, N.
Ibarra y Cia., Bilbao-Ortuella, Spain.
Obach, Th., 3, Pauluigasse, III., Vienna.
Oesterr-Alpine Montan-Gesellschaft, Karntnerstr. 55, Vienna I.
Officine Meccaniche (gia Miani Silvestri & C.—A. Grondona, Comi & Co.), Fuori Pa. Vigentina, Milan.
Pennock & Co., Binckhorstlaan, The Hague.
Société Anonyme d'Entreprise Général de Travaux, boul. de la Sauvenière 64, Liége, Belgium.
Société Anonyme de Construction les Ateliers Métallurgiques, 30, rue Montagne aux Herbes Potagères, Brussels, Belgium.
Sté. Ane. Impériale Ottomane de Tramways & d'Éclairage élec. de Damas, 54, rue de Namur, Brussels.
Société Parisienne pour l'Industrie des Chemins de Fer et des Tramways Électriques, 75, boul. Haussmann, Paris.
Société Versaillaise de Tramways Électriques et de Distribution de l'Energie, 22 bis, avenue de St. Cloud, Versailles.
Süddeutsche Eisenbahn Gesellschaft, Darmstadt.
Waggonfabrik A. G. vorm. P. Herbrand & Co., Cöln-a.-Rh., Ehrenfeld.

Railways & Tramways—Electric.

F.—Chemins de fer et Tramways—électriques.
G.—Eisenbahnen & Strassenwagen—Elektr.

Barcelona Electric Tramways, Barcelona, Spain.
Chemin de fer Electrique Rolle-Gimel, Rolle, Vaud, Switzerland.
Chemins de fer électriques de la Gruyère, Bulle.

Railways & Tramways—Electric—*contd.*

Christiania Electric Tramway, Christiania.
Compagnie des Tramways de Neuchâtel, Neuchâtel, Switzerland.
Compagnie du Chemin de fer Regional du Val de Ruz, Cernier, Switzerland.
Compagnie du Chemins de Fer Electrique du Val de Ruz, Cernier, Switzerland.
Compagnie du Genève-Veyrier, Geneva, Switzerland.
Compagnie Française des Tramways Electriques et Omnibus de Bordeaux, Bordeaux, France.
Copenhagen Tramway Co., Ltd., Copenhagen.
Grosse Berliner Strassenbahn, Leipzigerplatz 14, Berlin, W.
Lisbon Electric Tramways, Ltd., Lisbon, Portugal.
Schaffhauser Strassenbahn, Schaffhausen.
Società Anonima dei Tramways di Torino & Società Torinese di Tramways e Ferrovie Economiche, Turin, Italy.
Società Luganese Tramviè Elettriche, Lugano, Switzerland.
Società Tramway Elettrica, Florence.
Société Anon. des Tramways Bruxellois, Brussels.
Société du Tramway Electrique Aigle-Allon-Monthey, Aigle.
Société Hellenique des Tramways d'Athènes, Athens, Greece.
Städtische Strassenbahn, Cologne, Germany. (Director, J. Wattmann.)
Stockholms Södra Sparvägarnas, Bränkyrkag 82, Stockholm.
Tramways Provinciali, Naples, Italy.
Tuborg-Klampenborg Electric Tramway Co., Ltd., Copenhagen.
Vienna Municipal Tramways, IV. Favoritenstr. 9, Vienna.

Recording Instruments—Makers of.

F.—Instruments Enregistreurs—Fab. d'.
G.—Registrierende Instrumenten—Fab. von.

Habes, R., 25, Hubertusstr., Aachen, Germany.
Richard Frères, 8, impasse Fessart, Paris.

Reflector & Shade Manufacturers—Glass & Metal.

F.—Reflecteurs et abatjours—en Verre et en Métal.
G.—Reflectoren & Schirme—Glas u. Metall—Fab. von.

Acker, Ph., & Cie., quai Jemmappes 56, Paris.
Austruy, E. (silk), 21, rue du Caire, Paris.
Catel & Farcy, 40, rue Saint Merri, Paris.
Deutsche Elektricitäts Gesellschaft, 225–229, Neusserstr., Cologne-Nippes, Germany.
Eisenwerk Fraulautern A. G., Fraulautern-a.-Saar, Germany.
Emaillerie Lyonnaise, 189, rue du Temple, Paris.
Glasfabrik "Marienhütte" Carl Wolffhardt, VII/1 Andreasgasse 13, Vienna.
Griess, F., & Co., Elisenstr. 74 & 76, Leipzig, Germany.
Grimmeisen, Ch., 3, passage Biver (92, faub. du Temple), Paris.

Reflector & Shade Manufacturers—Glass & Metal—*continued.*

Guiet & Jamble, 39, rue des Trois-Bornes, Paris.
Hanel, A., 5, rue de Creusot, Paris.
Houbois, Jean, Oberdollendorf (Rhein), Germany.
Japy Frères & Cie., 4, rue du Château d'Eau, Paris.
Karfunkelstein, Carl, Alexandrinenstr. 36, Berlin, S. 42.
Katsch, Alex., 37A, Blücherstrasse, Berlin, S.
KLAAR & SCHULTZ, Waldemarstr. 14, Berlin, S.O. 26.
Le Guevellou, 52, rue Charlot, Paris.
Luc & Cie., Fourmies (Nord), France.
Luchaire, Henri, 27, rue Erard, Paris.
Maréchal, —, 61, rue des Archives, Paris.
Margaillan, —, 56, quai Jemmapes, Paris.
Moosbrunner Glasfabriks A. G., Kasernenq. 6, Vienna 6/1, Austria.
Ouvrard, C., 24, rue de la Douane, & 74, rue Championnet, Paris.
Perrolaz ainé, 314, rue Saint Martin, Paris.
Reinhold, Muller & Co., 11, Moritzburgerstr. 21, Dresden, N.
Remscheid-Vieringhausen, Germany.
Schimmang, E., Alexandrinenstr. 50, Berlin, S. 14.
Schulze, F. F. A., 47, Fehrbellinerstr., Berlin, N.
Wolff, S. N., & Co., Beuel-Bonn, Rheinland, Germany. (Telegs.: "Wolff, Beuel-Bonn.")

Regulators—Makers of.

F.—Régulateurs—Fab. de.
G.—Regulatoren—Fab. von.

Georgen, M. (tension), Munich X.
Zeller, Ludwig H., Leipzig, Saxony.

Resistance Coils & Frames—Makers of.

F.—Bobines et cadres de resistance—Fab. de.
G.—Wiederstands Spulen u. Gestelle—Fabr. von.

Schniewindt, C., Neuenrade, Westphalia, Germany.

Resistance Wires—Makers of.

F.—Fil de Resistance—Fab. de.
G.—Wiederstehende Drähte—Fab. von.

Fischer-Devillez, A., rue du Mérode 22, Brussels.
Schniewindt, C., Neuenrade, Westphalia, Germany.

Retort Carbon.

G.—Retortengrafit.

MINNER, OTTO, & CO., Arnstadt-i.-Th., Germany.

Rheostats.

F.—Rhéostats.
G.—Rheostate.

Schniewindt., C., Neuenrade, Westphalia, Germany.
Suter, Chas., 39, rue Popincourt, Paris.
Wissenschaftl. Institut für Laboratoriums-Bedarf, Ludwig H. Zeller, Leipzig, Saxony.
Zeller, Ludwig H., Leipzig, Saxony.

Rontgen Apparatus Makers & Dealers.

F.—Appareils Röntgen—Fabr. et Marchands d'.
G.—Röntgen Apparat—Fab. von und Händler in.

Burger & Co, Chausseestr. 8, Berlin, N. 4.
Ehrhardt, Myl., Ackerstr. 132, Berlin, N. 31.
Electricitätsges. Sanitas, Friedrichstr. 131D, Berlin 37.
Levy, Dr. Max, 2A, Müllerstr. 30, Berlin, N. 65.
Massiot, 44, rue du Château d'Eau, & 15, boul. des Filles du Calvaire, Paris.
Polyphos Electricitäts Gesellschaft, Schillerstr. 16, Munich, Germany.
Reiniger, Gebbert & Schall, S. A., rue Malaja Konjuschennaja 14, St. Petersburg.
Wolff, S. N., & Co., Beuel-Bonn, Rheinland, Germany. (Telegs.: "Wolff, Beuel-Bonn.")

Schools of Electrical Engineering, Telegraphy, &c.

F.—Écoles pour ingenieurs elec. et télég.
G.—Schulen für elek. und teleg. Ingenieure.

Budapest Royal Joseph Polytechnical University, Budapest.
Conservatoire National des Arts et Métiers, 292, rue St. Martin, Paris.
Cours d'Electricité Industrielle, 60, rue Desrenaude, Paris.
Cours d'Electricité Industrielle, Mairie du 4e Arrondissement, Paris.
École Bréguet, rue Falguières, Paris.
École de Physique et de Chimie Industrielles, 42, rue Lhomond, Paris.
École des Mines et Faculté Polytechnique du Hainaut, rue de Houdain, Mons, Belgium. (Professor of electricity & physics, A. Macquet.)
École du Génie Civil de Gand; cours d'électrotechnie, Gand, Belgium.
École Municipale de Physique et de Chemie Industrielles, 10, rue Vauquelin, Paris. M. Boucherot, professeur d'électrotechnique; M. Gasnier, chef des travaux pratiques d'électricité.
École Professionnelle de Mecanique de Précision d'Horlogerie et d'Electricité, Brussels. M. Nys, professor of electricity.
École Supérieure d'Electricite, 14, rue de Staël, Paris. Directeur, P. Janet; sous-directeur, H. Chaumat.
École Supérieure de Télégraphie, 99 à 103, rue de Grenelle, Paris.
Elektrotechnisches Institut der Technischen Hochschule, Helmholtzstr. 9, Dresden.
Fachschule für Elektrotechnik, 97 & 98, Lindenstr., Berlin.
Fachschule für Elektrotechnik und Maschinenbau, Prinzenstr., Berlin, S. 14.
Grossherzogliche Technische Hochschule, Darmstadt.
Herzogliche Technische Hochschule, Brunswick. Prof. D. W. Peukert, electricity; Prof. D. F. Zenneck, physics.
Imperial Royal Technical High School, Karlsplatz 13, Vienna.
Ingenieurschule, Zwickau, Saxony.

Schools of Electrical Engineering, Telegraphy, &c.—*continued.*

Institut Électrotechnique Montefiore, l'Université de Liége, rue St. Gilles 33, Liége, Belgium. Professor of electricity, Eric Gerard; electrochemistry, J. Krutwig.
Physikalisches Institut der Königlich-Technischen Hochschule, Dresden, Germany. Prof. Dr. Hallwachs, physics.
Scuola di Arti e Mestieri (electro-technical section), Siena, Italy.
Technische Akademie, Markgrafenstr. 100, Berlin, S.W. 68.
"Teehnikum 'Berlin," Königgrätzerstr. 90, Berlin, S.W. 11.
Technikum Mittweida, Saxony.
University of Louvain (H. Ponthiere, Professor of Applied Electricity), Louvain, Belgium.

Scientific Apparatus Makers.

F.—Appareils Scientifiques—Fab. d'.
G.—Wissenschaftliche Apparate—Fab. von.

Amado, Laguna, 14, Estabanes, Zaragoza, Spain
Arceri, Gaspare, Trapani, Italy.
Barbieri, Secondo, via St. Maria 13, Pisa.
Berry, A., via Roma 1, Turin.
Bisson, E., 39, boul. Bourbon, Paris.
Bourdon, Edouard, 74, faub. du Temple, Paris.
Cadet, Adr., 78, cours Lafayette, Toulon, France.
Calderoni & Co., 50, váczi utcza, Budapest IV.
Cognato, Antonio, via St. Biagio, Padua.
Edelmann, Prof. Dr. M. Th., Nymphenburgerstr. 82, Munich, Germany.
"Excelsiorwerk" Fabrik für Feinmechanik (m. b. H.), Köln-Nippes, Germany.
Hempel, O., et Cie., 55, quai des Grands-Augustins, Paris.
Houilliot, H., 60, rue Nôtre Dame de Nazareth, Paris.
Koristka, Francesco, via G. Revere 2, Milan, Italy.
Krüss, A., Hamburg, Germany.
Langbein Pfanhauser Werke A. G., Paunsdorferstr, Leipzig-Sellerhausen, Saxony.
Lisser & Benecke, Stiglitzerstr. 75, Berlin, W.
Lucco, Luigi, Piazza Angel 2, Turin, Italy.
Luizard, L., 14, rue du Cloître Nôtre Dame, Paris.
Mentechini, Giuseppe, via Vittorio Emmanuele 27, Leghorn, Italy.
Miller, H., Ltd., Hazebrouck, France. *See advt., page* 17.
Murer & Duroni, piazza S. Carlo, Milan, Italy.
Neuman, Henryk, Wloclawsk, Poland, Russia.
Officine Galileo, via le Regina Vittorio 46, Florence, Italy.
Pichi, Andrea, via del Martelli 1, Florence, Italy.
Platzbecker, Jos., Elberfelderstrasse, Düsseldorf, Germany.
Prince, F., 7, rue Réaumur, Paris.
Ruspini, G., 66, via Carlo Felice, Genoa, Italy.
Sartorius, Wilh., Goettingen, Germany.
Secrétant, —, 13, place du Pont Neuf, Paris.
Sommer & Runge, Bennigsenstr. 23/24, Friedenau-Berlin.

Scientific Apparatus Makers—*continued.*

Steflitschek, Franz, & Sohn, 8, Millergasse, VI., Vienna.
Velter, J., & Cie., 42, rue des Forneaux, Paris.
Vial, Jules, 55, rue Caulaincourt, Paris.
Wissenschaftl. Institut für Laboratoriums-Bedarf, Ludwig H. Zeller, Leipzig, Saxony.

Screw Plate, Stocks & Dies Makers.

F.—Vis, écrous et autres accessoires—Fab. de.
G.—Schrauben & Stempel Zapfen—Fabr. van.

Laubscher Frères & Cie., Tauffelen, Switzerland.

Screw, Terminal & small Detached Accessories Manufacturers.

F.—Vis, Bornes et petits accessoires detachés—Fab. de.
G.—Schrauben und Sonstige Artikel für Elektriker—Fabr. von.

Canda, Felice, 45, via Stella, Milan, Italy.
Cie. Industrielle des Anciens Etablissements Barrière, 22, rue Saint Sabin, Paris, XI.
Deberghe, A. G., & Lafaye, 14, rue Pelleport, Paris.
Druseidt, Paul, Remscheid H., Germany.
Freydier, Vve. H., rue St. Maur 204 (Passage Hebrand 9), Paris.
Goebel, Carl, Nürnberg, Bavaria.
Heyne Gebrüder, 136, Ludwigstr., Offenbach-on-the-Main, Germany.
Isaac, J., & Fils, Soc. Anon., Nyon, Switzerland.
Krimmel-Trautwein, Johs., Ebingen, Württ., Germany.
Luben & Buhse, Köpnickerstr. 153, Berlin, S.O.
Megeraud, F., et Co., rue Richemont, Geneva.
Michaelis & Wendtlandt, Luckenwalde, Germany.
Moller, Friedr., Offenbach-am-Main, Germany.
Naeser, H., Schönweiderstr. 11, Rixdorf, Berlin.
Neuhaus, L., & Cie., 1, rue Gerbier, Paris.
Rodet, 26, passage d'Angoulême, Paris.
Scherler, Emil, Krautstr. 18/19, Berlin, O.
Schultze, J. M., Melchiorstr. 6, Berlin, S.O.
Schwartzkopff, A., G. m. b. H., Hauptstr. 25–29, Berlin-Reinickendorf.
Staerke, C. F., 77, Blumenstrasse, Berlin, O.
Vuarchex, César, Scionzier, Haute-Savoie.
Wolff, S. N., & Co., Beuel-Bonn, Rheinland, Germany. (Telegrams : "Wolff, Beuel-Bonn.")

Search Lights (Projectors, &c.).

F.—Projecteurs—Lumière électr.
G.—Scheinwerfer.

Barbier, Bénard & Turenne, 82, rue Curial, Paris.
La Filotecnica Ing. Salmoiraghi & Co., Milan.

Secondhand Electrical Plant—Buyers of & Dealers in.

F.—Appareils électriques et d'occasion—acheteurs et vendeurs.
G.—Zweiter Hand Elektrische Anlagen—Kaüfer von & Händler in.

Shafting Manufacturers.

F.—Transmissions par arbres—Fab. de.
G.—Wellingleitung—Fab. von.

Pretzel, Franz & Co., Berlin, N.

Sign Makers—Electric.

F.—Signes électriques—Fab. de.
G.—Elektrische beleuchtete Firmenschilder—Fab. von.

Société Française de l'Autorupteur, 23, faub. St. Denis, Paris.
Société "Lumina," 12, rue Moscou, Paris.

Silicate Cotton & Slag Wool.

F.—Feutre—silicat et laine minérale.
G.—Silicat Filz & Schlackenwolle.

Silver Merchants.

F.—Marchands—Argent.
G.—Händler von Silber.

Lange, F. A., 1, boul. Voltaire, Paris.
Manufacture de l'Alfénide, 66, rue des Marais, Paris.

Slate Turners for Electrical Purposes.

F.—Ardoise—Tourneurs d'—pour l'électr.
G.—Schiefer Drechsler für Elektr. Zwecke.

Bouvy, —, Haybes (Ardennes), France.
Kölnische Schieferplatten und Schieferwaaren Fabrik J. Hegmanns, Köln-Ehrenfeld, Germany.

Smelters & Refiners.

F.—Fondeurs et Raffineurs.
G.—Smelzereien und Läuterer.

Eckelt, J. L. C., Chausseestr. 24, Berlin, N.

Societies—Learned, Scientific & Technical.

F.—Sociétés—Savantes, Scientifiques et Techniques.
G.—Vereine—Gelehrte, Wissenschaftliche u. Tech.

Académie des Sciences, Institut de France (G. Darboux & Ph. van Zieghem, secs.), 23, quai Conti, Paris.
Académie royale des Sciences des Lettres et des Beauxarts, Palais des Academies, Brussels.
Asociacion de Ingenieros Industriales, calle de Pelayo 9, Barcelona, Spain.
Association Amicale des Ingénieurs Électriciens, 11, rue St. Lazare, Paris.
Association des Communes du Val de Travers, Couvet (Neuchatel), Switzerland.
Association des Ingénieurs Electriciens sortis de l'Institut Electrotechnique Montefiore, rue Saint Gilles 31, Liége, Belgium.
Association des Ingenieurs & Mecaniciens de l'Industrie Electrique, 13, rue Marie Louise, Paris.
Association Française pour l'Avancement des Sciences, 28, rue Serpente, Paris.

Societies—Learned, Scientific & Technical—*continued.*

Association Philotechnique; Section des Électriciens, 42, rue Lhomond, Paris.
Association pour la Surveillance des Installations Electriques, 102, chaussée d'Etterbeek, Brussels.
Association Suisse des Électriciens, Hardturmstr. 20, Zurich III.
Associazione dei Concessionari Telefonici Italiani, via Nazionale 96, Rome.
Associazione Elettrotecnica Italiana, Bologna.
Associazione Elettrotecnica Italiana, via S. Paolo 10, Milan.
Associazione Elettrotecnica Italiana, Padua, Italy.
Associazione Elettrotecnica Italiana, 175, via Macqueda, Palermo, Italy.
Associazione Electrotechnica Italiana, Rome, Italy.
Associazione Elettrotecnica Italiana, Galleria Nazionale, Turin.
Associazione Elettrotecnica Italiana, Sezione Genovese, 2, via Davide Chiossone, Genoa, Italy.
Associazione Utenti Energia Elettrica, via Cernaia 11, Milan.
British Chamber of Commerce, 17, boul. de la Madeleine, Paris.
Chambre syndicale des Entrepreneurs et Constructeurs Électriciens, 3, rue de Lutèce, Paris.
Electrotechnic Society (Elektroteknische Forening), Copenhagen F.
Electrotechniker-Verein zu Hamburg, Hansaplatz, 9, Hamburg.
Elektrotechnische Lehr-und Untersuchungs-Anstalt des Physikalischen Vereins zu Frankfurt-am-Main, Germany.
Elektrotechnische Versuchsstation zu-Magdeburg, Westendstrasse 21 & 22, Magdeburg. (Dr. Martin Krieg, director.)
Electrotechnischer Verein der Studirenden der Königlich Technischen Hochschule, Berlin.
Elektrotechnischer Verein in Wien, 7, Nibelungengasse, Vienna I.
Elektrotechnisches Institut der Grossh. Hess. technisch. Hochschule, Darmstadt, Germany.
Elektrotechnisches Institut der k. k., Technische Hochschule, IV. Gusstrausstr. 25, Vienna.
Institut d'Electrothérapie de Brussels, 31, rue de Malines, Brussels, Belgium.
Institut Electrotechnique de Grenoble, Grenoble (Isère), France.
Nobel Institute of Physical Chemistry, Stockholm, Sweden.
Physik. Institut d'Universität, Halle, a/S, Germany.
Physikalische Verein, Kettenhofweg 136, Frankfort-on-the-Main. *See also* Elektrotechnische Lehr-und Untersuchungs-Anstalt.
St. Petersburg Company of Engineers, Petersb. stor Bolschoy pr. 21, St. Petersburg.
Schweizerischer Elektrotechnischer Verein, Zurich, Switzerland.

Societies—Learned, Scientific & Technical—*continued.*

Société Belge d'Electriciens, Hotel Ravenstein, Brussels.
Société Belge des Ingénieurs et des Industriels, Hotel Ravenstein, rue Ravenstein 11, Brussels.
Société des Ingénieurs Civils, of France, 10, cité Rougemont, Paris.
Société des Sciences, Christiania, Norway.
Société Française de Physique, 44, rue de Rennes, Paris.
Société Impériale Polytechnique de Russie, 2, rue Panteleimonskaja, St. Petersburg.
Société Internationale des Électriciens, 12 & 14, rue de Staël, Paris.
Société pour l'étude du Magnétisme, 5, rue des Petits-Champs, Paris.
Society "Electric," Nevsky 77, St. Petersburg.
Society of Electrical Engineers, Pessotschnaja 5, St. Petersburg.
Society of Electrical Work, 28, Liteiny, St. Petersburg.
Technische Akademie Berlin, Markgrafenstr. 100, Berlin, S.W.
Verein Beratender Ingenieure für Elektrotechnik (E.V.), Nachodstr. 12, Berlin, W. 50.

Solder Manufacturers & Merchants.

F.—Soudure—Fab. et March. de.
G.—Löth-blei—Fab. u. Händler von.

Barthel, Gustav, Dresden A. 19, Germany.
Classen & Co., G. m. b. H., Barbarossastr. 16, Berlin, W. 30.
Cochlovius & Thomssen, Kopenickerstr. 127, Berlin, S.O. 16/13.
Nicolai, Otto (aluminium), Boppard-a.-Rh., Germany.

Specialities Makers—Electrical.

F.—Spécialités électriques—Fab. de.
G.—Specialitäten—Elek.—Fab. von.

Feilchenfeld, H., Alexandrinenstr. 37A, Berlin.
Fressier, Ant. (electric lifts), Simmeringerstrasse, Elcahplatz, X., Vienna.
Hannemann, K., 17, Besselstr., Berlin, S.W. 48.
Hirsch, A., Friedrichstr. 248, Berlin, S.W.
Maisonneuve, —, 14, passage Gustave Lepeu, Paris.
Physikalisch-Technische Reichsanstalt, Abtheilung II. zu Charlottenburg, bei Berlin, Berlinerstrasse 151.
Schniewindt, C., Neuenrade, Westphalia, Germany.

Specialities—Electrical.

F.—Spécialités—électriques.
G.—Specialitäten—elektrische.

"Amberite." Schweiz Isola-Werke A.-G. Breitenbach, Breitenbach b. Basel, Switzerland.

Specialities—Electrical—*continued.*

"Antilithogonit." Ferd. Abraham, Berlin, S. 14.
"Diatomit" Insulating Material. Grünzweig & Hartmann G. m. b. H., Ludwigshafen a. Rh., Germany.
Fludor Solder. Ges. m. b. H. Classen & Co., Barbarossastr. 16, Berlin, W. 30.
Frosting Salt. G. Moderow, Kotbuserstr. 8, Berlin, S.O. 26.
"Kolben" Motors. E. A. G. vorm. Kolben & Co., Prague, Austria.
Pilit insulating material. Frankfurter Glimmerwarenfab. Landsberg & Ollendorff.

Speed Indicator Makers.

(*See also* Recording Instruments.)

F.—Indicateurs à Vitesse—Fab. d'.
G.—Tachometer—Fab. von.

Fonos Gesellschaft m. b. H., Berlin, S.W. 68.
Jaquet, James, Ltd., 26–8, St. Johannring, Bâle, Switzerland.
Klein, —, 86, faub. St. Denis, Paris.
Schaeffer et Budenberg, 105, boul. Richard Lenoir, Paris.

Spring Makers for Pushes.

F.—Ressorts pour Boutons de Sonneries—Fab. de.
G.—Federn für Druckknöpfe—Fab. von.

Guyard, 25, rue de Poitou, Paris.
Langer & Endler, G. m. b. H., Turnstr. 12, Chemnitz, Germany.
Langer, Gebr., Chemnitz-Altendorf, Germany.
Schnicke, H. F., Chemntiz, Germany.
Sorgue, C., 9, passage Corbeau, Paris.

Stampings for Armatures, Transformers, &c.

F.—Tôles découpées pour armatures, transformateurs, &c.
G.—Stanzen für Armaturen, Transformatoren, &c.

Gantois, J., & Co., St. Dié (Vosges); & 46, boul. Magenta, Paris.

Steam Gauge Makers.

F.—Manomètres—Fab. de.
G.—Manometer—Fabr. von.

Steam Packing Manufacturers.

F.—Garnitures de joints de machines à vapeur—Fab. de.
G.—Liederungsdeckel Fabrikanten.

Société du Verre Étiré, 10, rue Thimonnier, Paris.

Steel Armoured Cables.

F.—Cables armés d'acier.
G.—Stahl gepanzerte Kabel.

Deutsche Kabelwerke Akt. Ges., Berlin-Rummelsburg.

Steel Manufacturers, Converters & Refiners.

F.—Acier-Fabricants, Convertisseurs et Raffineurs.
G.—Stahl Umformer, Läuterer & Fabrikanten.

Gusstahlfabrik Essen a. d. Ruhr (Fried. Krupp Akt. Ges.), Essen a. d. Ruhr, Germany.
Léonard-Giot, Marchienne-au-Pont, Belgium.
Oeking & Co., Humboldtstr. 53, Düsseldorf.
Société d'Exploitation des Acieries Électriques, Forges et Fonderies de Bèze et de Rome, 26, rue Brunel, Paris.
Usines et Aciéries Léonard-Giot, Marchienne-au-Pont.
Westphalian Steelworks, Bochum, Westphalia.

Stranding Machine Manufacturers.

F.—Machines à toronner le fil—Fab. de.
G—Drahtlitzenmaschinen—Fabr.

Maschinenbauanstalt für Kabelfabrikation, Conrad Felsing, jun., Coepenick, nr. Berlin.

Submarine Cables—Makers of.

F.—Cables sousmarins—Fab. de.
G.—Unterseeische Kabel—Fabr. von.

NORDDEUTSCHE SEEKABELWERKE, AKTIENGESELLSCHAFT, manufacturers of submarine telegraph cables, layers & repairers of cables by own cable steamers, Nordenham o/Weser, Germany. (Telegs.: "Kabelwerke, Nordenham." Teleph. No. 11.)

Sulphate of Copper Manufacturers.

F.—Sulphate de Cuivre.
G.—Kupfer vitriol—Fab. von.

Sulphuric & Sulphurous Acid Manufacturers.

F.—Acide sulfurique et sulphureux—Fab.
G.—Schwefelige Säure u. Schwefelsäure—Fab. von.

Kroeber, W. (dealer), Königsberg, Germany.
Marinoni, F., & Co., Este (Prov. di Padova), Italy.

Sundriesmen—Electrical.

F.—Appareils divers—électr.
G.—Sortiments Geschäfte—Elektrische.

Boden, Marzahm & Co., Adalbertstr. 40, Berlin, S.O.
Brant-Graindorge, 3, rue de Recollets, Antwerp.
Busch, F. W., Com. Ges., Lüdenscheid, Germany.
Compagnie Anglaise, 76, faub. St. Denis, Paris.
Duchatel, G., 74 & 76, rue J. J. Rousseau, Paris.
Faure, A., fils, 88, rue Alexandre Dumas, Paris.
Kahle & Cless, Kattowitz.
Lapointe, G., & Cie., 100, rue Amelot, Paris.
Miller, H., Ltd., Hazebrouck, France. *See advt., page* 17.
Morand, A., 4, rue du Marché, La Chaux de Fonds, Neuchatel, Switzerland.

Sundriesmen—Electrical—*continued.*

Mougin, les Fils d'Adolphe, Hericourt, Haute-Saône, France.
Pascal, L., 117, rue du Temple, Paris.
Pirlet, F., rue de la Province, Antwerp.
Ruelle & Ladoire, 66, rue Chevallier, Levallois-Perret, France.
Ruiz, Sebastian, Luis Mitjans 2, Madrid.
Sclesische Zink-Ornamenten-Fabrik (L. Weiss), Breslau, Germany.
Seigneurie, 50, rue d'Angoulême, Paris.

Supplies (Electrical)—Dealers in.

F.—Fournitures élec.—March. de.
G.—Bedarfsartikel-Elek.—Händler.

Alhaique, Baldisserotto & Co., corso Umberto I. 80, Naples.
Arbeloa & Goya, Mercado del Ensanche, Bilbao.
Aymard & Cie., 12, rue Sainte Victoire, Marseilles, France.
Ayme, J., 4, rue de la Republique, St. Etienne (Loire).
Bahlo, E., & Cie., Dufourstr. 5, Zurich.
Barbieri, G., via Emilia, Modena.
Bauer, C., 18, Dornacherstr., Basle, Switzerland.
Bechman, —, Toula, Russia.
Beeson, Ch., rue de la Station 58, Louvain.
Beghe, Ottavio, Spezia, Italy.
Belli, Silvio, via de Lardarel 9, Leghorn, Italy.
Beringer, Leon, 31, Montagne aux Herbes Potagères, Brussels.
Béringer & De Vos, 18–20, rue des Comédiens, Brussels.
Berliner Elektrizitäts Lieferungs, G. m. b. H., Leipzigerstr. 119, Berlin, W.
Bermann, R. & G., Berlin-Rixdorf.
Beyer, Ed., Fontanka 137, St. Petersburg.
Blumenfeld, S., Oranienburgerstr. 32, Berlin, N.
Bonivert, E., rue du Pont-d'Ile, Liége, Belgium.
Borda & Vaccarino, via Robillant 3, Angolo via Alfieri, Turin.
Bork, A. K., Fontanka 47, St. Petersburg.
Born, Robt., Tonasstr. 1, Berlin, N.W.
Bougholtz, R., & Cie., Nadejdinskaya 18, St. Petersburg.
Brémant, —, Electrical Stores, 69, rue Caumartin, Paris.
Broeckaert, F., rue du Chemin de Fer 33, Brussels.
Brunner, I. L., & Co., V. Terézkörut 19, Budapest.
Brunswyk, Lelong, Blanc & Cie., 140, rue de Paris, Lille, France.
Buijs, J. C., Bergen op Zoom, Holland.
Calu, E., via Guicciardini, Florence, Italy.
Campos, Emilio d'Azevedo Filhos, 137, rua do Sta. Antonio, Oporto.
Champion, Paul, 54, rue St. Maur, Paris.
Chelli, Cesare, piazza Delmonte, Pesaro, Italy.
Claessen & Co., Kloveniersburgwal 68, Amsterdam.

Supplies (Electrical)—Dealers in—*contd.*

Cop, E., 52, rue des Archives, Paris.
Degner, J. E., Friedrichsgracht 42–15, Berlin, C.
Del-Grosso, G., Varese Lombardie.
Delpierre, H., & Co., 28–30, chaussée de Bruxelles (St. Antoine), nr. Charleroi, Belgium.
Depersin, O., 30, rue des Vieux Quartiers, Dunkerque (Nord), France.
Diener, Alf., & Co., 29, Mythenstr. 29, Zurich.
Dieskau & Co., Berlinerstr. 22, Charlottenburg, Berlin.
Dorner, C., Gr. Reichenstr. 63, Hamburg.
Dunkel, G., 11, Berlinerstr., Leipzig.
Eckart, P., Straussbergerstr. 14, Berlin.
Erk & Co., Winterfeldstr. 26, Berlin.
Fardella, V., via Cintorinai 23, Palermo, Italy.
Fenner, A., & Co., 32, Löwenstr., Zurich.
Ferrand, 75, ave. de la Republique, Paris.
Filagrana, C., via Cavour 52, Parma.
Floret Frères, 74, rue de Turbigo, Paris.
Frymann & Sundt, rue Verdi 17, Nice.
Gai, Fratelli, & Dina, Ospizio di S. Michele, Rome.
Gérard, Vve., rue de Fer 30, Namur.
Gibier, C., 37, boul. Longchamp, Marseille, France.
Giordano, Gro. & E^le^ Primicerio, S. Bartolomeo 13, Naples.
Grand Bazar de Lyon, 31, rue de la Republique, Lyon, France.
Gross, F., Stuttgart, Germany.
Hahne, Oscar, Alte Jakobstr. 167, Berlin.
Herz & Ehrlich, Blücherplatz, Breslau.
Heskia, N. A., VIII. Wickenburggasse, Vienna, Austria.
Hilbe, O., viale P. Magenta 12, Milan.
Invernizzi, Ernesta, via del Corso 49, Rome.
Kalinin, S. K., Newsky prosp. 114, St. Petersburg, Russia.
Kappert, M., & Co., Demidov per. 1, St. Petersburg.
Kardaschinsky, L., Tschistaya 8, Warsaw.
Karnell, W., Miasnitzkaya tschaste, 1th outcshastok, house Ermakoff, Moscow.
Kelpinsky, W., Novy Swet 23, Warsaw, Russia.
Knappe, Carlos, Clavel 2, Madrid.
Köhler, V., Lindenstr. 66, Berlin.
Koopmans, Frans, Keizerstraat 1, Rotterdam, Holland.
Laakmann, O., Kaiserstr. 40, Frankfurt-a.-M.
Lebevsinsky, P., Krakovskoe predmestie 65, Warsaw.
Levi, C., via Annunciata 4, Milan.
Leytens, Em., 64, avenue Plantin, Antwerp.
Liedtke & Wiele, Nicolaistr. 11, Hanover.
Lombardi, Angiolo, via Faenza 3, Florence, Italy.
Lootze, Otto, & Co., Brandenburgstr. 57, Berlin, S.
Louet, —, 11, rue Rolland, Bordeaux (Gironde), France.
Luck, R., Egelsstr., Tegel, nr. Berlin.
Maef, Carlo, 31, via A. Manzoni, Milan.
Mancheron, A., 106, rue Saint-Martin, Paris.
Mangon, B., 12–14, boul. de la Senne, Brussels.
Meichel & Trubert, 105, ave. Parmentier, Paris.

Supplies (Electrical)—Dealers in—*contd.*

Melder, K., Nevsky 40 & 42, St. Petersburg.
Messmer, A., 15, boul. Davont, Paris.
Mouton Fils & Grandjean, 15, cours du Chapitre, Marseilles.
Muller & Syrbe, 17, Emilienstr., Leipzig, Saxony, Germany.
Noodt, Val. Allut, Hamburg.
Oseulati & Carini, 62, viale Monza, Milan.
Panofsky, Siegm., 53, Kaiser Wilhelm-str., Hamburg.
Passy, J., 17, rue St. Maur, Paris.
Petsh, B., Smolnaya 5, Warsaw.
Pinheiro, A. C., 35 & 38, Pelourinho, Lisbon.
Pooek & Herrmann, 121, rue de Flandre, Brussels.
Queirolo, F., via Cavour 10, Parma.
Raduan, Franeiseo A., Alcoy, Alieante, Spain.
Ribeiro, J. A., & Co., 222, rua Aurea, Lisbon.
Rinaldi, Marco, Spezia.
Ritseher, P., Hohestr. 26, Leipzig.
Ritz, A., 34, rue de Godefroy, Cavaignae, Paris.
Rodellone-Aimardi-Faeetti, eorso V. Emanuele II. 73, Turin.
Roulph, Raffaele, via Carlo Piseane 12, Parma.
Rossi, Domenieo, via 11 Settembre, Pesaro, Italy.
Rudel, W., Nuremberg.
Saphy, P., 11, rue de la Course, Bordeaux.
Savelieff, W., & Co., 26-28, Oushakowsky st., St. Petersburg.
Sehaefer, C., 21, Sehweizergasse, Zurieh I.
Seheremetieff Bros., Fundukleevskaya 16, Kiew, Russia.
Schneeweis, A., & Co., Chausseestr. 93, Berlin, N.
Sehulz, C., G. m. b. H., Bismarkstr. 17, Cologne.
Sehwieger & Frankfurter, Mühlenstr. 75/77, Berlin, O.
Sckeyde, J., Ohlauerstr. 21, Breslau.
Selesinger, Aurel, 10, Zietenstr., Berlin, W.
Seppo Teknisk Byra, 48, Kaserngatan, Helsingfors, Russia.
Siedle Söhne, Hamburg.
Soeiedad Anglo Espanola de Motores Gasogenos y Maquinaria General (antes Julius G. Neville), Salon del Prado 14, Madrid.
Soeiété Anonyme de Construetion d'Appareils Industriels, rue de Belle Vue, Ghent, Belgium.
Sönniehsen, Hans, 3, Holstenplatz, Hamburg.
Sponheimer & Bosshart, Zurich I.
Steuerman, Vietor, Mochovaja 10, Moscow.
Stevezzoli, Avvo. Ennio, & C., via Lamarmora, Parma, Italy.
Storari & Lo Caseio, via Mareo Minghetti 36-41, Rome.
Sueeessori alla Soeietà Telefoniea Lombardo, via F. Ballarini, Como, Italy.
Suceessori Lhôte, via Nazionale 19, Florence.
Tager, N. M., Zagorodnij Prosp. 23, St. Petersburg.
Tart, G., 16, rue d'Amay, Liége, Belgium.
Thevenon, M., 1, rue de la Préfecture, St. Etienne, Loire, Franee.
Tiburtius, Ernst, & Co, Kinkenbergerstr. 29, Berlin, S.O.

Supplies (Electrical)—Dealers in—*contd.*

Vagt, H. G., 157, rue du Progrès, Brussels.
Viñas, Faustino, S. Juan 31, Sabadell (Barcelona), Spain.
Vincent, A., 59, rue de la Montagne, Brussels.
Voss, J. C., Berlin, N.W. 21.
Wiessner & Krossel, Ritterstr. 119, Berlin.
Wosidlo et Co., Troitzkaja 20, St. Petersburg.
Zimmermann, Carl, Alexanderstr. 25, Berlin.

Supplies (Electrical)—Makers.

F.—Fournitures électriques—Fabr. de.
G.—Bedarfsartikel—Elektrische—Fab. von.

Aehilles, E., 15, Matheikirehstr., Berlin, W.
Adt. Gebr., A. G., Ensheim i. d. Pfalz, Germany.
Aktien Gesellschaft für Elektrischen Bedarf, Neubaugasse 15, Vienna VII. (Teleph. No. 6446.)
Allgemeine Motorsehutz Elek. Ges. m. b. H., Tegelerweg 4, Charlottenburg, Berlin.
Areelin, Alfred, Lous-le-Saulnier, Juran, France.
Bouchery, —, 54, rue de Dunkerque, Paris.
Chemische Fabrik Germania, G. m. b. H., Rotherstr. 20/23, Berlin, O. 18.
Dal-Re, Carlos, Barquillo 5, Madrid.
Deutsehe Elemente Fabrik Hans Neumann, Sebastianstr. 2, Berlin, S. 14.
Diaz, M., Almendralejo, Badajoz, Spain.
Ellinger & Geissler, Dorfhain 24, Germany.
Fuehs, Carl, Lindenstr. 3, Berlin, S.W.
General Eleetric de España (S.A.), Fuencarral 134, Madrid.
Hussenot & Raynaud, 39, rue de la Boetie, Paris.
Imme & Lobner, 42, Wasserthorstr., Berlin, S., Germany.
Internationale Pressluft und Elek. Ges. m. b. H., Kaiser Wilhelmstr. 48, Berlin, C.
KLAAR & SCHULTZ, Waldemarstr. 14, Berlin, S.O. 26.
Looienga & Co., The Hague, Holland.
Messter, Ed., Schiffbauerdamm 18, Berlin, N.W.
Miller, H., Ltd., Hazebrouek, France. *See advt., page* 17.
Naumann & Gunther, Insterburgerstr. 6, Berlin, O.
Nédélec, G., 110, rue d'Angoulême, Paris.
Peschmann, Carl, Aekerstr. 68A, Berlin, N.
Pozzo, Ditta Attilio, & Co., piazza Fossatello 8, Genoa, Italy; & piazza Castello 1-3, Milan, Italy.
Purfürst, Bruno, Aegidiendamm 4, Hanover.
Rausehert, Paul, Porcelain Works, Huettengrund-Huettensteinach, Thur., Germany. *See advts., under* INSULATORS, & PORCELAIN & CHINA FITTINGS, BRITISH SECTION.
Soeiété Française d'Electricité & Maison Vacheron, 3, rue de la Gare, Tours, Franee.
Weinberger, Alexander, I. Habsburgerstrasse, 1, Vienna.
Wolff, S. N., & Co., Beuel-Bonn, Rheinland, Germany. (Telegrams: "Wolff, Beuel-Bonn.")
Zirs & Glenicke, Kottbuserstr. 26, Berlin, S.

Supplies for Cable Ships & Stations.

F.—Bateaux pour mise de câbles et stations—Fournitures pour.
G.—Schiffe zum Kabellegen—Materialen für.

Switch Makers—Electric.

F.—Commutateurs électriques—Fab. de.
G.—Schalter—Elektrische—Fabr. von.

Barguet, F., 9, rue Capron, Paris.
Delvaux, Henri, & Cie., 43, rue de la Poste, Brussels.
Hirss & Naimer, 53, Wattgasse, Vienna XVI.
Kramer & Löbl, Gablonz, Bohemia, Austria.
Mercadier, Regnier Lagrelle, Le Phenix Reidacrem, Louvres, France.
Société anon. des Allumeurs-extincteurs Automatiques, 162, Mühlebachstr., Zurich V.
Sonderburg, F., Geneva, Switzerland.
Wachsmuth, K., Aachenerstr. 62, Cologne.

Switchboards—Makers of.

F.—Socles—Fabr. de.
G.—Schalttafeln—Fab.

Geiss & Heimlich G. m. b. H., Sachsenhausen, Frankfort-ou-Main; & Erfurt, Germany.

Switchboards, Bases & Covers—Makers of.

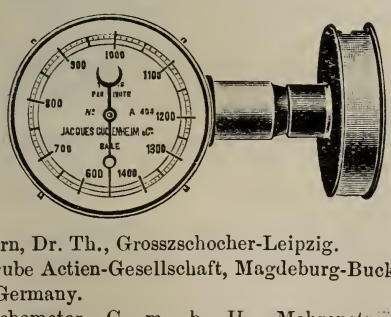
F.—Socles, Boites, &c., pour Commutateurs—Fabr. de.
G.—Schalttafeln, Brette & Deckel—Fab.

Bamberger Industrie Ges. m. b. H., Bamberg, Bavaria.
Bosse, Richard, & Co., Wienestr. 43, Berlin, S.O. 36.
Grune, Wilhelm, Ritterstrasse 88, Berlin, S., Germany.
Larivière, C. F., & Cie., 170, quai Jemmapes, Paris.

Tachometers & Tachographs.

F.—Tachomètres.
G.—Tachometer.

Bundschuh, J., Magdeburg-Wst.
GUGGENHEIM, J., & CO., Basel, Switzerland. (Telegs.: "Tachoscope, Basel.")



Horn, Dr. Th., Grosszschocher-Leipzig.
Strube Actien-Gesellschaft, Magdeburg-Buckau, Germany.
Tachometer G. m. b. H., Mohrenstr. 16, Berlin, W.

Tank & Cistern Makers—Iron & Slate.

F.—Reservoirs en fer et ardoise—Fabr.
G.—Behälter u. Cisternenfab.—Eisen u. Schiefer.

Telegraph Agents.

F.—Agentes de télégraphie.
G.—Telegraphen Agenten.

Aebli, Jacques, Western Union Telegraph Co., Seidengasse 5, Zurich.
Agence Fournier Co., Ltd., 1, rue de la Bourse, Paris.
Agence Havas, 8, place de la Bourse, Paris.
Agence Havas et Reuter, 8, place des Martyrs, Brussels.
Bos Janszen, J., 125, Prins Hendrikkade, Amsterdam.
Gatliff, P., Eastern Telegraph Co., 37, rue Caumartin, Paris.
Gevers, Marcel, 2, Courte rue de la Chapelle des Bateliers, Antwerp.
Honig, O., Neubaugasse 75, Vienna VII.
Sabater, Salvador, Eastern Telegraph Co., calle de la Puebla 14, Madrid.
Santos, Carlos, Eastern Telegraph Co., 120, rua dos Capellietas, Lisbon.
Thompson, D. J. G., Western Union Telegraph Co., Llauder 4 Ent°, Barcelona.

Telegraph Apparatus Makers.

F.—Télégraphes—Fab. d'Appareils de.
G.—Telegr. Apparate—Fab.

Beneke, Ed., jun., Forsterstr. 42, Berlin.
Berliner Haustelegraphen Fabrik. Grenadierstr. 24A, Berlin.
Beyersmann, Friedrich, Hagen, Westphalia, Germany.
Bracke, C. Inh. R. Abraham, 98, Charlottenstr., Berlin.
Brusten, C., Romintenerstr. 27, Berlin.
Carpentier, J., 20, rue Delambre, Paris.
Continental Telegraphen Co., A. G., Zimmerstr. 27, Berlin.
Cramer, Ferd., Dammstr. 12, Leipzig-Schleussig, Germany.
De Fries, C., Schmidstr. 15, Berlin, S.O. 16.
Delvaux, Henri, & Cie., 43, rue de la Poste, Brussels.
Deutsch Südamerikanische Telegraphenges. A. G., 16, Friesenplatz, Cologne.
Doege, Carl, Schlesischestr. 25, Berlin, S.O.
Doignon, 85, rue Nôtre Dame des Champs, Paris.
Doms, Franz, Prague I. 945.
Elflein, E., 1, Gneisenauplatz, Breslau.
Fabrique de Télégraphes et Appareils Electriques, Neuchâtel, Switzerland.
Fischer & Pöthig, Glashütte-i-Sachs., Germany.
Georg, Kanalgasse 22, Dresden.
Göhre, Emil, Weissenburgerstr. 18, Berlin, N., Germany.
Hannemann Gebr. & Co., G. m. b. H., Düren, Rheinland, Germany.

Telegraph Apparatus Makers—*continued.*

Hasler, Soc. Anon., Berne, Switzerland.
Hein, Lehmann & Co., Akt. Ges., Chausseestr. 120, Berlin.
Heisler, N. C., & Cie., 12, rue Griaznaya, St. Petersburg.
Herrmann, F. W. C., 1, Glatzstr., Glatz, Germany.
Herzberg, C., Salierring 15, Cöln.
Krehayn Nachf., Otto, Stromstr. 49, Berlin.
Kreissler, Wilh., Gerberstr. 26, Leipzig, Saxony.
Lorenz, C., A. G., 5-6, Elisabethuferstr., Berlin, S.O. 26.
Mix & Genest, Berlin-Schöneberg.
Monhardt, W., Schaffhausen, Switzerland.
Müller & Preussger, 1, Bergstrasse, Zittau, Germany.
Osteuropaische Telegraphenges., Cologne.
Ritter, Franz, Sebastianstr. 4, Berlin.
Sauerbrey & Kostorz, Polierstr. 21, Dresden, A., Germany.
Schuch, Julius, Köpenickerstr. 141, Berlin, S.O. 16.
Société Industrielle des Téléphones, 25, rue du 4 Septembre, Paris.
Stieberitz, Heinr. (Otto Brunn Nachfolger), Spenerstr. 6, Dresden, A. 19.
Telegraphen Werkstätte von G. Hasler, Berne.
Völker, W., Wallstr. 38, Charlottenburg, Berlin, Germany.
Wengler, Ernst, Bamberg, Bavaria.
Wetzer, H., Pfronten, Bavaria.

Telegraph Cable Making Machine Manufacturers.

F.—Machines à fabriquer les Câbles télégraphiques.
G.—Maschinen für Telegraphen-Kabel—Fabr.

Demuth Bros., Linzurstrasse, Vienna XIII., Austria.
Maschinenbauanstalt für Kabelfabrikation, Conrad Felsing, jun., Coepenick, nr. Berlin. *See advt., page* 14.

Telegraph Cables—Makers of.

F.—Câbles télégraphiques—Fab. de.
G.—Telegr. Kabel—Fabr. von.

Felten & Guilleaume Lahmeyerwerke Act. Ges., Carlswerk, Mulheim-am-Rhein, Germany.
Kabelwerk Duisburg, Duisburg-a-Rhein, Germany.

Telegraph & Cable Companies.

F.—Télégraphes et Câbles—Compagnies de.
G.—Telegraphen & Kabel Gesellschaften.

Anglo-American Telegraph Co., 37, rue Caumartin, Paris.
Bureau International de l'Union Telegraphique, Berne, Switzerland.

Telegraph & Cable Companies—*continued.*

Commercial Cable Co. (Mackay-Bennett Cables), 49, avenue de l'Opéra, Paris; & le Havre, France.
Compagnia Internazionale Marconi per le Communicazioni Marittime, 315, corso Vittorio Emanuele, Rome, Italy.
Compagnie de Télégraphie sans Fil (Soc. Anon.), 48, rue de Namur, Brussels.
Deutsch-Atlantische Telegraphengesellschaft, Stolkgasse 3/11, Cologne.
Deutsche See Telegraphen Gesellschaft, Cologne; & Winchester House, London, E.C.
Direct Spanish Telegraph Co., Ltd., Barcelona & Bilbao, Spain; & Marseilles, France.
Great Northern Telegraph Co. of Copenhagen, 26, Kongens Nytorv, Copenhagen.
Société Anon. des Etablissements Carel ainé, Touché & Cie., 61, rue Chanzy, Le Mans (Sarthe), France.
Store Nordiske Telegraf Selskab. *See* Great Northern Telegraph Co.
Telegraph Construction & Maintenance Co., 37, rue Caumartin, Paris.
Western Telegraph Co., 37, rue Caumartin, Paris.

Telegraph Engineers of Railway Companies.

F.—Ingenieurs télégraphiques de chemins de fer.
G.—Telegr. Ingenieure von Eisenbahnen.

Gerken, L., South-West Railway, Kiew, Russia.
Kapger, A., Moskow-Brest Railway, Moscow, Russia.

Telegraph Instrument Manufacturers.

F.—Instrumentes télégraphiques—Fab. de.
G.—Telegraphische Instrumente Fabr.

Boden, M., Zittau-i-Sachs., Germany.
Breguet, Maison, 19, rue Didot, Paris.
Electrizitäts Aktiengesellschaft vorm. Hermann Pœge, Chemnitz, Saxony.
Fortin, J. H., 27, rue de Varenne, Paris.
Germain, P., Capdenas, Aveyron, France.
Great Northern Telegraph Company of Copenhagen, 26, Kongens Nytorv, Copenhagen.
Guggemos, Marius, 73, rue St. Fuscien, Amiens, France.
Hempel, Alwin, Förstereistr. 13, Dresden, Germany.
Jacquemin, Raoul, 122, avenue de Neuilly, Paris.
Meyer, Bernard, 1, boul. St. Denis, Paris.
Sasserath, F. A., 98, Köpernickerstr., S.O., Berlin.
Schuchardt, F., 9, Rungestr., Berlin, S.O.
Wiesenthal & Co., Aachen, Germany.

Telegraph Instrument Ink Makers.

F.—Télégraphie—Fab. d'Encre pour instr. de.
G.—Telegr. Instrumenten Tinte—Fab. von.

Mörikofer, E., vorm. Brunnschweiler & Co., St. Gall, Switzerland.

Telegraph Iron & Steel Buoy Makers.

F.—Bouées en fer et acier pour la télégraphie.
G.—Bojen für Telegraphische Kabel—Fabr. von.

Indiarubber, Gutta-Percha & Telegraph Works Co., 97, boul. Sébastopol, Paris; & Persan-Beaumont, France.

Telegraph & Telephone Pole (Iron) Manufacturers.

F.—Poteaux Télégraphiques en fer.
G.—Eiserne Telegraph. u. Telephon-Pfosten.

Compagnie des Forges de Chatillon, Commentry & Neuves-Maison, 19, rue de La Rochefoucauld, Paris.
Eisenwerk-Aktienges. Bosshard & Co., Näfels, Switzerland.
Lenaerts, A. (wood), Turnhout, Belgium.
Opitz, G., Hartau bei Zittau, i. Sa., Germany.
Société Anonyme des Ateliers de Neuilly (Seine), France.
Société Anonyme des Poteaux Telegraphiques, Sclessin-les-Liége, Belgium.

Telegraph & Telephone Supplies.

F.—Telégraphes et Téléphones—Fournitures pour.
G.—Telegr. & Teleph. Materialen.

Ericsson, L. M., & Co., Stockholm; & Gr. Sampsonewsky Prosp. No. 70, St. Petersburg, Russia.
Schuleit, G., Luisenufer 11, Berlin, S.W. 42.

Telegraph Works & Stores.

F.—Usines Télégraphiques.
G.—Telegraphen Fabrik u. Laden.

Barrière, L., et Cie., 22, rue St. Sabin, Paris.
Boivin, A., 16, rue de l'Abbaye, Paris.
Debayeux, A., 41, Blancs Manteaux, Paris.
Deutsche Telegraphenwerke, G. m. b. H., Zeughofstr. 6–8, Berlin, S.O. 33, Germany.
Gras, J. J., 7, rue Montbrun, Paris.
Morseelektrische Werke, Ltd., Prinzenstr. 43, Berlin, S. 14.
Osnabrücker Kupfer und Drahtwerk, Osnabrück, Germany.
Sambourg, 31, avenue de Neuilly, Paris.

Telephone Apparatus Makers.

F.—Appareils téléphoniques—Fab. d'.
G.—Telephone-Apparate—Fab.

Aboilard, G., & Cie., 46, ave. de Breteuil, Paris.

Telephone Apparatus Makers—*continued.*

Ader, C., 68, rue de l'Assomption, Paris.
ANTWERP TELEPHONE & ELECTRICAL WORKS, LTD., Antwerp, Belgium. (Telegrams: "Electrical, Anvers.")
Bernel, C., 4, passage St. Pierre Amelot, Paris.
Compañia di Teléfonos, 52, Albareda, Seville, Spain.
Delvaux, Henri, & Cie., 43, rue de la Poste, Brussels.
Desbois, Hil., rue des Fours à Chaux, Angers, France.
Deutsche Privat Telephon Ges. H. Fuld & Co., Mainzer Landstr. 193, Frankfort-a.-M.
Fautrier, Pierre, Venice, Italy.
Friedlaender, Albert, & Co., Lindenstr. 16 & 17, Berlin.
Hardegen, Paul, & Co. (K. G.), Luisen Ufer 44, Berlin, S.
Hœfler, M., 25, Hortaleza, 4, y san Rafael, Madrid.
Jenische, P., & Bohmer, Krautstr. 4/5, Berlin, O.
Kohler & Braun, 56, Bülowstr., Berlin, W.
Kragl, Carl, & Sohn, Pazmanygasse 2, Pozsony, Hungary.
Krapp, H., 28, Morellstr., Augsburg.
Maiche, L., et Cie., 45, rue Jacob, Paris.
Mambret, G., & Cie., 25, rue de la Montagne Ste. Geneviève, Paris.
Masserati, G., via S. Antonio, Piacenza.
Mongin, J., Fils, 25 & 27, rue de Grignan, Marseilles.
Perego, Arturo, & Co., via F^lli Brouzettig, Milan, Italy.
Pœhlmann, Ch., Nuremberg, Germany.
Privat Telephon Gesellschaft, Rosenthalerstr. 40, Berlin, C.
Rattier, Usines. *See* Société Générale des Téléphones.
Riebe, Wilh., Söhne, 185, Brieteweg, Magdeburg.
Schwerd, L. E., telegraph & telephone apparatus, Karlsruhe, Baden, Germany.
Société de Matériel Téléphonique, 46, ave. de Breteuil, Paris.
Société Française de Telephonie, 12, rue du Mont Thabor, Paris.
Stöcker & Co., Wachsmuthstr. 10, Leipzig, Saxony.
Telefon Gesellschaft, Rosenthalerstr. 40, Berlin.
Telephon-Apparat-Fabrik, E. Zwietusch & Co., Salzufer 7, Charlottenburg, Berlin, S.O.
Telephon Fabrik A. G., vorm. J. Berliner, Charlottenstr. 18, Berlin.
Telephone & Telegraphenbau Anstalt, G.m.b.H., Mainzer Landstr. 193, Frankfort-a.-M.
Theiling, A., Magdeburg, Germany.
Vereinigte Telephon und Telegraphenfabriks-Aktien Ges., Kaiserstr. 89, Vienna VII.
Villette, Arthur & Albert, 28, rue de la Tonnellerie, Chartres, France.

Telephone Cables—Makers of.

F.—Câbles Téléphoniques—Fabr. de.
G.—Telephonkabel Fabrik.

Deutsche Kabelwerke Akt. Ges., Berlin-Rummelsburg.
Felten & Guilleaume Lahmeyerwerke Act. Ges., Carlswerk, Mulheim-am-Rhein, Germany.

Telephone Companies.

F.—Téléphones—Compagnies de.
G.—Telephon-Gesellschaften.

Anglo-Portuguese Telephone Co., Ltd., 14, rua de Ferreira Borges, Oporto, Portugal.
Bell Telephone Co., Bolchaya Koniuschennaya 29, St. Petersburg.
Compagnie du Théâtrophone, 23, rue Louis-le-Grand, Paris.
Drammens Telefon Aktieselskab, Drammen, Norway.
Fredriksstad Telephone Co., General Manager, Olaf M. Holwech, Fredriksstad, Norway.
General Telephone Co. (Allmänna Telefon-Aktiebolag), Stockholm, Sweden.
Impresa Telefonica di Ferrara Concessionaria (Società Telefonica di Zurigo), Ferrara, Italy.
International Bell Telephone Co., Ltd., of New York, 48, Rempart Kipdorp, Antwerp.
Kjobenhavns Telefon Aktieselskab, Copenhagen, Denmark.
Kölnische Privat Telephon Gesellschaft (m. b. H.), Köln, Germany.
Skiens Telephone Co., Skien, Norway.
Società Anonima Padovana dei Telefoni ed altre applicazionei Elettriche, St. Bernardino, Padua, Italy.
Società Anonima Telefonica Bresciana, Brescia, Italy.
Società Anonima Telefonica Trevigliese, Treviglio, Bergamo, Italy.
Società Co-operativa Telefonica, Rovigo, Italy.
Società Generale Italiana e Telefoni ed Applicazioni Elettriche, piazza della Borsa, Naples, Italy.
Società Generale Italiana di Telefoni ed Applicazioni Elettriche, via de Pecori 6, Florence, Italy.
Soc. Telefonica, via Roma 28, Turin.
Società Telefonica di Zurigo, via Tone, Modena, Italy.
Soc. Telefonica Piemontese, Biella, Italy.
Société Française de Téléphonie Privée, 12, rue du Mont Thabor, Paris.
Stockholmer Allgemeinen Telephon-Actiengesellschaft (Stockholms Allmänna Telefonaktiebolag), Stockholm.
Stockholms Bell-Telefon Aktiebolag, Stockholm, Sweden.
Telefonselskab Kristianssands, Christianssands, Norway.
Telephone Co. of Austria, Ltd., 1, Wipplingerstrasse 22, Vienna.
Telephone de l'Etat, Place de l'Université, Liége.

Telephone Companies—*continued.*

Telephoon Maatschappy Insulinde, The Hague, Holland.
Welles, Francis R., Antwerp, Belgium.

Telephones—Makers of.

F.—Téléphones—Fab. de.
G.—Telephonen—Fab. von.

Amberg, Carl, Pfalzburgerstr. 4, Berlin, W.
Benard, G., 12, rue Bridaine, Paris.
Berlie, C., & Cie., 2, rue Paul Chevanard, Lyon, France.
Böttcher, Oskar, Berlin, W. 57. Works in Gebirge, Pobershau, Marterbüschel, Saxony.
Boudin, —, 52, rue Elias Howe, Adamville (Seine), France.
Boudin, 103, ave. Parmentier, Paris.
Breslauer Privat Telefon Ges., 16, Kaiser Wilhelmstr., Breslau XIII.
Erfurth, C., Neuenburgerstr. 7, Berlin, S.W., Germany.
Fuerstenberger Telephonfabrik, Ltd., Fürstenberg (Mecklbg.) & Nostizstr. 30, Berlin, S.W.
Häberle, A., Ob. Graben 322, Augsberg, Bavaria.
Heitmann, Paul, Handjerystr. 81, Friedenau, nr. Berlin.
Hillmann & Ziegler, Friedenau, nr. Berlin.
Kayser, Franz, Camphansenstr. 18, Berlin.
Koch, Ed., Nachf M. Wegrich, Rheinstr. 55 Ecke Moselstr., Friedenau, Berlin, C.
Kreuchen, G., Lützowstr. 10, Berlin.
Lacourt, D., rue Houdain 30, Mons.
Mannheimer Privat Telefon Gesellschaft, Mannheim.
Misch Gebr., C. & F., 26, Chausseestr., Berlin, N. 4.
Moegling, L., Gitschinerstr. 82, Berlin, S. 42.
Naumann, Ernst, Gr. Frankfurterstr. 3, Berlin.
Oesterreichische Privat Telefon Gesellschaft m. b. H., Bandgasse 34, Vienna VII./1.
Società Cooperativa Telefonica Comense, Como, Italy.
Società Telefoni Italia Centrale, Florence, Italy.
Société Française des Téléphones, Système Berliner, 29, boul. des Italiens, Paris.
Stabernack, B., 102, Bulöwstr., Berlin, W.
Telephone Works, Ltd., late J. Berliner, Kniestr. 18, Hanover, Germany.
Van den Camp, Vve. C., Digue de Brabant 18, Ghent.
Wauzeele, Ch., rue d'Akkergem 54, Ghent, Belgium.
Yvonneau, J., 3, rue Martignac, Bordeaux, France.
Zanoli, J., ave. de Saxe 169, Lyons, France.
Zitzwitz, A., & Sohn, Schönhauserallee 99/100, Berlin, N.

Testing Instrument Makers—Electrical.

F.—Instruments électriques d'essai—Fabr. d'.
G.—Probierinstrumente für Elektricität.

Zeller, Ludwig H., Leipzig, Saxony.

Thermometers.

Leconte, Felix, rue Royale 25, Tournai, Belgium. Special thermometers, rapid & exact in action, for the temperature of collectors, rings & windings.

Traction Engineers—Electric.

F.—Traction électrique (Ingénieurs de).
G.—Elektrische Zugapparate—Ingenieure von.

Averly, G., 143, rue Garibaldi, Lyons, France.
Compagnie Industrielle de Traction pour la France et l'Etranger, 15, rue d'Argenteuil, Paris.
Gautier, J., 13, boul. du Pont d'Arve, Geneva, Switzerland.
Società per la Trazione Elettrica sulle Ferrovie, Rome, Italy.
Société d'Exploitation des Brevets Dolter, 50, rue Saint Ferdinand, Paris.
Traction Tangentielle, Soc. Anon., Charleroi, Belgium.
Van Vloten, P., ave. Louise 407, Brussels.

Tramways (Electric)—Makers of & Contractors for.

F.—Tramways élec.—Fabr. et entrepr. de.
G.—Strassenbahnen elek.—Fabr. und Unternehmer.

Aktieselskabet Bergens Elektriske Sporvei, Bergen, Norway.
Berlin-Charlottenburger Strassenbahn, Leipzigerplatz 14, Berlin, W.
Berliner Elektrische Strassenbahnen Aktiengesellschaft, Berlin.
Compagnie Générale des Tramways Suisses Boujean Berne, Switzerland.
Compagnie Genevoise des Tramways Electriques, La Jonction, Geneva.
Francaise Electrique, La, Société Anonyme, 99, rue de Crimée, Paris XIXème.
Società Chiavarese per la Costruzione e l'Esercizio di Tramvie e Ferrovie Economiche Complementaire, Chiavan, Italy.
Società delle Ferrovie e Tramvie Elettriche Varesine, Varese, Italy.
Società per le Tranvie Elettriche di Terni, Rome, Italy.
Società Romana-Tramways-Omnibus, Rome.
Société Anonyme des Tramways de Livourne, Leghorn, Italy.
Tornilleria del Nalon (Soc. Anon.), La Felguera (Asturias), Spain.
Unione Italiani Tramways Elettrici, Genoa, Italy.
Zürich-Oerlikon-Seebach Elektrische Strassenbahn, Oerlikon, Zürich. (R. Fürst, engineer.)

Tramcars.

F.—Voitures de tramways.
G.—Strassenbahn Wagen.

Transformers—Makers of.

F.—Transformeurs—Fabr. de.
G.—Transformatoren—Fabr. von.

Ateliers Electro-Mecaniques, 2, rue Sentou, Surcsnes (Seine), France.
Saarbrücker Elektrizitäts Aktien Ges., Saarbrücken 3, Germany.
Vignard & Dietz, Voiron (Isère), France.

Transmission of Power—Electric.

F.—Transmission de la force—électrique.
G.—Uebertragung der Kraft—Elektrische.

Carsi Mari y Cia., Pascual y Genis F. 2A, Valencia.
Compagnie Générale d'Electricité de Creil, 59, rue Saint Lazare, Paris.
Departementale Electrique, La, Valenciennes (Nord), France.
Ertzbischoff, G., Luxeuil-les-Bains, Haute-Saône, France.
Fölsche, R., 5, Hagenstr., Halle-a.-Saale, Germany.
Schweizerische Bindfadenfabrik Schaffhausen, Flurlingen, Schaffhausen.
Sociedad Anonima Hidro Electra, Najera, Logroño, Spain.
Società Italiana per l'Utilizzazione delle Forze Idrauliche del Veneto, Venice, Italy.
Société Française de matériel agricole, Vierzon (Cher); & 191, faub. St. Denis, Paris.
Société Anon. de St. Petersbourg pour la Transmission Electrique de la Force Motrice des Chutes d'Eau, 67, Chaussée de Peterhof, St. Petersburg.

Tube Makers—Copper.

F.—Tubes en Cuivre—Fab. de.
G.—Röhren—Kupfer—Fab.

Neue Berliner Messingwerke, 30, Kochstrasse, Berlin.

Tube Makers—Ebonite, Vulcanite & Vulcanized Fibre.

F.—Tubes—Ebonite, Vulcanite et fibre vulcanisé.
G.—Röhren—Ebonit, Vulcanit u. Vulcanfieber.

Schäfer, Gg., & Cie., Schweinfurt, Germany.
VEREINIGTE GUMMIWAAREN FABRIKEN HARBURG-WIEN, Wimpassing im Schwarzathale, Austria. Office: Mariahilfenstr. 115, Vienna VI.

Tube Makers—Glass.

F.—Tubes en Verre—Fab.
G.—Röhren Glas—Fabr. von.

Glasfabrik Sophienhütte, Ilmenau, Thuringia.
Grangé, H. D., 38, rue Notre-Dame-de-Nazareth, Paris.

Tube Makers—Iron.

F.—Tubes Fer—Fab. de.
G.—Röhren—Fab. von—Eisen.

Aselme, 9, rue Charlot, Paris.
Bouvier, E., & Dupas, Verrerie de la Briche, près St. Denis (Seine), France.
Deutsch-Oesterreichische Mannesmann-Röhren-Werke, 6, Pariserplatz, Berlin, N.W.
Elmore's Metall Aktien Gesellschaft, Köln-a-Rhein.

Turbine Water-Wheel Makers.

F.—Turbines Roues hydrauliques.
G.—Turbinen Wasserräder.

Ateliers de Constructions Mecaniques, Vevey, Switzerland.
Bouvier, A. H., Grenoble (Isère), France.
Bret Frères, Verneuil (Eure), France.
Briegleb, Hansen & Co., Gotha, Germany.
Calzoni, A. Ditta, Bologna, Italy.
Chaudel-Page, E., le Valdoie, près Belfort, France.
Darblay, père & fils, Essonnes (Seine-et-Oise), France.
Deutsche Wind Turbinen Werke, Dresden A., Germany.
Escher, Wyss & Co., Zürich, Switzerland.
Hartmann Gebrüder, Flums, St. Gallen, Switzerland.
Hoffmanswerk (G. m. b. H.), Leuben bei Dresden.
Laurent, Frères & Collet, Dijon, France.
Maschinenfabrik Geislingen, Geislingen, Wurttemberg.
Maschinen-Fabriks Actien Gesellschaft, vorm. Tanner, Laetsch & Co., Linzerstr. 150–156, Vienna 13/2.
Pache, E., Chambery (Savoie), France.
Piccard, Pictet & Co., 109, route de Lyon, Geneva, Switzerland.
Royer & Joly, Epinal, Vosges, France.
Sloan Cie., rue du Louvre 17, Paris.
Sociedad Española de Construcciones Metalicas, Zorroza, Bilbao.
Société des Etablissements Singrun, Epinal, France.
"Turbinia" Deutsche Parsons-Marine A. G., Leipzigerstr. 123A, Berlin.
Teisset, Chapron & Brault Frères, 14, rue du Ranelagh, Paris; & at Chartres (Eure-et-Loir), France.
Vialis, P., 11 & 13, rue Diderot, Grenoble, France.
Zander & Ingeström, Stockholm.

Vacuum Pumps.

F.—Pompes à vide.
G.—Vakuum pumpen.

Berrenberg, A., Paulinenstr. 13, Dusseldorf-Reisholz.

Voltmeters—Makers of.

F.—Voltmètres—Fabr. de.
G.—Voltmesser—Fab. von.

Bourgeois, P. & H., Damprichard (Doubs), France.
Kröner, Wilh., Bamberg, Bavaria.
Miller, H., Ltd., Hazebrouck, France. *See advt., page* 17.

Vulcanite Manufacturers.

F.—Vulcanite—Fab. de.
G.—Vulcanit—Fabrik.

Traun, Dr. Heinr., & Söhne, vorm. Harburger Gummi Kamm Co., Meyerstr. 59, Hamburg, Germany.
VEREINIGTE GUMMIWAAREN FABRIKEN HARBURG-WIEN, Wimpassing im Schwarzathale, Austria. Office: Mariahilfenstr. 115, Vienna VI.

Vulcanized Fibre Manufacturers.

F.—Fibre vulcanisé—Fab. de.
G.—Vulcanfieber—Fab.

Deutscher Vulcanfiber Gesellschaft, Cassel, Germany.
Franco Belge, La, 99, boul. du Hainaut, & 22, rue de la Caserne, Brussels.
Internationale Vulcanfibre Cie. G. m. b. H., Wilhelmsburg b. Hamburg, Germany.
Kathe, Julius, Ubierring 50, Köln, Germany.
Lembké, H., 24, rue Albouy, Paris.
Scheerbarth, W., Mühlenstr. 50, Hamburg 3.

Wall Plugs, Sockets or Connectors.

F.—Douilles, tampons ou connections.
G.—Steckkontakte u. Anschlussdosen.

Rohne & Baier, Tiefenbach b. Weidenau, Sieg., Germany.

Washers & Rivets.

F.—Rivets et Rondelles—Fab. de.
G.—Scheiben u. Niet Fabrikanten.

Laubscher Frères & Cie., Tauffelen, Switzerland.

Watch & Clock Makers—Non-Magnetizable.

F.—Montres et pendules—non-magnétisables.
G.—Nichtmagnetisirbare Uhren—Fab. von.

Felsing, Conrad, 20, Unter den Linden, Berlin, Germany.
Herz, M., & Sohn, 6, Stefansplatz, Vienna I., Austria.
Lévy, H., 139, boul. Sébastopol, Paris.
Reymond, Paul, Brassus, Vaud, Switzerland.
Schlesicky, F., 2, Rossmarkt, Frankfurt-am-Main, Germany.

Water Level Apparatus Makers—Electrical.

F.—Niveau d'eau électr.—Fab. d'.
G.—Apparate zur Bemessung des Wasserhöhestandes—Fab. von—Elektrische.

Lechner, J., & Co., Pfingstweidstr., Frankfort-on-Main.
Société du Verre Étiré, 10, rue Thimonnier, Paris.

Welding—Electric.

F.—Soudure—Électrique.
G.—Schweissen—Elektrische.

BOSSHARD, HENRI, & CO., Charleville (Ardennes), France.
Société Anonyme des Hauts-Fourneaux de Maubeuge, 10, rue Blanche, Paris.
Société pour le Travail Électrique des Métaux, 26, rue Laffitte, Paris.

Winches for Arc Lamps.

F.—Treuils pour lampes à arc—Fab. de.
G.—Winde für Bogenlampen.

Eisengiesserei Rödinghausen Comm.-Ges., Menden, bei Iserlohn, Westfalen.

Wire Cable Machine Makers.

F.—Machines à faire les Cables—Fab.
G.—Draht—Kabel—Maschinen—Fabr. von.

Wire Coverers—Cotton.

F.—Fil couvert—Coton—Fab. de.
G.—Drahtspinner (Baumwolle).

"Ariadne" Fabrik Isolierter Drahte (G. m. b. H.), 39, Wilmersdorferstr., Charlottenburg, Berlin.
Cassirer, Dr., & Co., Keplerstr. 3/6, Charlottenburg, Berlin.
Cochius, Max, Alexandrinenstr. 35, Berlin.
Debièvre, H. A., 17, rue Faidherbe, Lille, France.
De la Mathe, G., Gravelle St. Maurice (Seine), France.
Fabrik Isolierter Drähte zu Elektrischen Zwecken, Ltd., Adlershof, nr. Berlin.
Faraut, L., & Co., Galleria Natta, Turin.
Geoffry et Delore, 28, rue des Chasses, Clichy (Seine), France.
Hohnholz, Adolph, Rheydt bei Düsseldorf, Germany.
Jarriant, A. M., jeune, 233, rue Croix Nivert, Paris.
Kluge, Emil, Oranienstr. 119, Berlin.
Kreidler's Metallwerk, Mörikestr. 69, Stuttgart.
Malkiell, —, 23, Torgovaja, St. Petersburg, Russia.
Märkisch Metalldrahtumspinnerei Fried. Heermann, Hohenlimburg.
Murialdo, L., Pra (Prov. di Genova), Italy.
Naumann, W. & A., 11, Luisen Ufer, Berlin, S.

Wire Coverers—Cotton—*continued.*

Posselburg, Alexander, 9, Oberstr., Hamburg.
Riffelmacher & Engelhardt, Roth bei Nürnberg, Germany.
Riess & Schöneberg, Iserlohn, Germany.
Selve Fratelli, Donnaz (Valle Aosta), Italy.

Wire Coverers—Indiarubber & Gutta Percha.

F.—Fil couvert—Caoutchouc—Fab. de.
G.—Drahtspinner—Caoutchouc.

Kabel und Gummiwerk Eupen G. m. b. H., Eupen, bei Aachen, Germany.
Société Lyonnaise de Caoutchouc, 55, rue du Quatre-Août, Lyon, Villeurbanne, France.

Wire Coverers—Silk.

F.—Fils couvert—Soie—Fab. de.
G.—Drahtspinner—Seide.

"Ariadne" Fabrik Isolirter Drähte, G. m. b. H., Charlottenburg-Berlin.
Max Sieverts Fabriks Aktiebolag, Stockholm, Sweden.

Wire Covering Machine Manufacturers.

F.—Machines à recouvrir les fils—Fab.
G.—Maschinen zum Drahtumspinnen—Fab.

Maschinenbauanstalt für Kabelfabrikation, Conrad Felsing, jun., Coepenick, nr. Berlin. *See advt., page* 14.

Wire Drawers.

F.—Etireur de fil.
G.—Draht Zieher.

Felten & Guilleaume Lahmeyerwerke Actien Gesellschaft, Carlswerk, Mulheim-am-Rhein, Germany.
Houy, Fritz, Hanau a. M., Germany.
Lesjofors Aktiebolags Upplag, Kl. S. Kyrkog 5, Stockholm, Sweden.
Mandar, E. Chardin et Cie., Persan, France.
Moulhel, O., et Cie., 10, rue de Commines, Paris. Usines: Boistharel, France.

Wire Manufacturers—Braided.

F.—Fil tressé—Fab. de.
G.—Draht Fab.—Geflochten.

Chaudoir, G., & Co., XI. Rinnböckstrasse, 57, Vienna.
Cornides & Co., 1, Akademiestrasse 2, Vienna, Austria.
Établissements Français Aubert-Grenier (Soc. Ane.), 3, rue du Havre, Paris.
Demuth Bros., Kaiserstrasse 67 & 69, Vienna VII., Austria.
Goguel, J. Ch., & Cie., Montbeliard (Doubs), France.
Meng, V., & Lesieur, 80, rue Bolivar, Paris.
Soupart, Paul, avenue du Monlin, Forest, nr. Brussels.

Wire Manufacturers—Brass.

F.—Fils—Fab.—laiton.
G.—Draht—Fabr.—Messing.

Compagnie des Forges de Chatillon et Commentry et Neuves-Maisons, 19, rue de la Rochefoucauld, Paris.
Compagnie Française du Bi-Metal, 38, quai de Jemmapes, Paris.
Lange, F. A., Westbahnstrasse, 5, Vienna, VII.
Motteau, —, 20, rue de Rambuteau, Paris.
Schneider, Gebr., Hachenburg, Westerwald, Germany.
Werner, M., Neumarkt 1, Leipzig, Germany.
Westf. Kupfer und Messingwerke Act. Ges., vorm. Casp. Noell, Ludenschied, Germany.

Wire Manufacturers—Copper.

F.—Fil—Fab.—Cuivre.
G.—Draht—Fabr.—Kupfer.

Bertetti, E., & Co., via Francesco Soare, Milan, Italy.
Deutsche Kabelwerke Akt. Ges., Berlin-Rummelsburg.
Établissements Metallurgiques de Rai-Tillières (Anciens Établissements Mouchel) Cie. Gle. d'Electricite, 5, rue Boudreau, Paris.
Felten & Guilleaume Lahmeyerwerke Actien Gesellschaft, Carlswerk, Mulheim-am-Rhein, Germany.
Heddernheimer Kupferwerke und Süddeutsche Kabelwerke A. G., Heddernheim, nr. Frankfort.
Hirchmann, Siegfr., Raupachstr. 9, Berlin, O.
Klüge, Emil, Oranienstr. 119, Berlin.
Long, E., & Cie., 2, rue du Rhône, Geneva.
Märkische Drahtwerke G. m. b. H., Oberrahmede, Westph.
Sundwiger Messingwerke, Sundwig, Westphalia.
Tobisch, G., Neustiftgasse 135, Vienna VII/3.
Vilbonnet, N., 8, rue Sedaine, Paris. Works: La Bonneville, Eure, France.
Vollmer, E., rue Van de Weyer 60 & 62, Brussels.

Wire Manufacturers — Galvanized Iron & Steel.

F.—Fils—fer galvanisé et acier—Fab. de.
G.—Drahtfabr.—Verzinktes Eisen u. Stahl.

Duvoisin et Cie., 17, rue de Lancry, Paris.
Felten & Guilleaume Lahmeyerwerke Actien Gesellschaft, Carlswerk, Mulheim-am-Rhein, Germany.
Ferro, G. & G., & Co., Stabilimento Metallurgico de Bussoleno (Prov. di Torino), Italy.
Flachet, A., 17 *bis*, rue Pavée, Paris.
Knipping, Gebrüder, G. m. b. H., Altena, Westphalia.
Robert, L., 4, ave. Richeraud, Paris.
Schniewindt, C., Neuenrade, Westphalia, Germany.
Société Anon. Acieries et Forges de Firminy, Firminy (Loire), France.
Sohier et Cie., 121, rue Lafayette, Paris.

Wire Manufacturers—German Silver.

F.—Fils—Fab.—Maillechort.
G.—Draht fabr.—Neusilber.

Desclercs, Favier & Cie., 75, rue Turbigo, Paris.
Wolff, S. N., & Co., Beuel-Bonn, Rheinland, Germany. (Telegs.: "Wolff, Beuel-Bonn.")

Wire Manufacturers—Platinum.

F.—Fils—Fab.—Platine.
G.—Draht—Fabr.—Platin.

Harnischmacher Nachf., B., Allerheiligenstr. 40, Frankfurt-am-Main, Germany.

Wire Manufacturers—Telegraph & Telephone.

F.—Fils télégraphiques et téléphoniques—Fab. de.
G.—Draht Fabriken für Telegraphie und Telefonie.

Tréfileries el Lamuinoirs du Hâvre (anciens Etablissements Lazare Weiller et Sté. Cooperative de Rugles réunis), 29, rue de Londres, Paris.
Fornara, Giov., & Co., via Garibaldi 43, Turin, Italy.
Gelsenkirchener Bergwerks Act. Ges. Abt. Aachener Hütten Verein, Aachen-Roth Erde, nr. Aix-la-Chapelle, Prussia.
Granaglia, P. & C., via S. Pietro in Vincolo 15, Turin.
Heckmann, C., Duisburg-Hochfield, Rhenish Prussia.
Hen, L., & Cie., 10, rue Stephenson, Brussels.
Huber, R. & E., Pfäffikon, Zurich, Switzerland.
Kabelfabrik, Landsberg, a.d. W., Germany.
Lesjofors Aktiebolags, Upplag, 12, Stora Wattugatan, Stockholm, Sweden.
Otto, Steiner, Schwechat, bei Vienna, Austria.
Perci & Schacherer, Ltd., Haüptpostfach. 4, Budapest, Hungary.
Schmidtgen, Emil, Dresden, Saxony.
Société des Forges & Visseries de Franche-Comté, St. Hippolyte (Doubs), France.
Tedeschi, V., & Co., via Monte Bianco, Turin, Italy.
Wagener & Co., Altena, Westphalia.

Wire Rope Machine Makers.

F.—Fil Métalliques—Fab. de Machines à.
G.—Drahtseil Masch.—Fabr. von.

Maschinenbauanstalt für Kabelfabrikation, Conrad Felsing, jun., Coepenick, nr. Berlin. *See advt., page* 14.
Obach, Th., Wienstr. 18, Vienna V., Austria.

Wire Rope Manufacturers.

F.—Fil Métalliques—Fab. de.
G.—Drahtseil—Fab. von.

Felten & Guilleaume Lahmeyerwerke Actien Gesellschaft, Carlswerk, Mulheim-am-Rhein, Germany.
Kabelfabrik, Landsberg, a.d. W., Germany.

Wireless Telegraph Apparatus.

F.—Télégraphie sans fil—Appareils pour.
G.—Apparate für Drahtlose Telegraphie.

Ancel, L., 91, boul. Péreire, Paris.
Campostano, G., via Cesare Cantu, Milan.
Cie. Française de Telegraphie sans fil et Applications Electriques, 21, place de la Madeleine, Paris.
Gesellschaft für Drahtlose Telegraphie m. b. H., Berlin, S.W.
Société Française de Telephonie sans fil, 4, rue de Calais, Paris.

Wood Casings & Cleats for Wire.

F.—Boites en bois et galoches pour fil.
G.—Leisten zum Bedecken von Drähten.

Arnoult, A., 11, rue Meslay, Paris.
Becker, Th., Skalitzerstr. 29A, Berlin, S.O. 26.
De Cunsel, Victor, rue de l'Independance 66-68, Brussels.
Gaertner, A., Dresdenerstr. 38, Berlin.
Jeanson, Veuve, 34, rue de Bondy, Paris.
Latécoére, G., works at Bagnères de Bigorre. D. Besse, representative, 32, boul. de l'Hôpital Paris.
Lemarchand, G., Fils, 83, boul. Felix Faure Aubervilliers (Seine), France.
Lexow, Ad., 40-43, Dresdenerstrasse, Berlin.
Santerne, G., fils, 55, rue Hennequin, Paris. Works: 12, quai de Seine, Courbevoie, Seine, France.
Schwarzwälder Holzwaren Fabrik (Kamitz & Stratz), Furtwangen, Bad. Schwarzwald, Germany.
Société Anonyme de la Foret du Flamand, rue Boudet 21, Bordeaux, France.
Société Anon. des Produits Forestiers des Landes du Sud Ouest, Villandraut (Gironde), France.
Wolff, S. N., & Co., Beuel-Bonn, Rheinland, Germany. (Telegs.: "Wolff, Beuel-Bonn.")

Wood Fittings for Electrical Purposes —Makers of.

F.—Fournitures en bois pour l'électricité—Fab. de.
G.—Holzgegenständen für Elektr. Zwecke.

Besse, D., 16, boul. de l'Hôpital, Paris.
Böttcher, Oskar, Berlin, W. 57. Works in Gebirge, Pobershau, Marterbüschel, Saxony.
Dar-Sanaï-Osmanié, M. Raïf & Cie., Akhour, Capou, Constantinople.
Koppermann, Aug., Wilkau i. Sa., Germany.
Himmelsbach, J., Friedrichstr., Freiburg, Baden, Germany.
Holzwerk Baumbach, Joh. Seibert, Baumbach i. Westerwald, Germany.

Wood Fittings for Electrical Purposes —Makers of—*continued.*

Wettig, Hartung & Co., Schleusingen, Thüringen Wald, Germany.
Wolff, S. N., & Co., Beuel-Bonn, Rheinland, Germany. (Telegrams: "Wolff, Beuel-Bonn.")
Zimmermann & Co., Deutsch Catharinenberg (Erzgebirge), Germany.

Wood Poles.

F.—Poteaux en bois.
G.—Holz Pfosten.

Beaumartin, Armand, 33, rue de St. Genés, Bordeaux, France.
Bouvet, M., Salins (Jura), France.
Brunias, C., 92, Grande rue, Fontainebleau (Seine-et-Marne), France.
Crouzet, F., Lit et Mixe (Landes), France.
Dalbusset Touche & Cie., 118, cours d'Alsace Lorraine, Bordeaux, France.
Gaillard, A., 1, rue Montmorency, Beziers, Hérault, France.
Himmelsbach Gebr., Fribourg, Baden, Germany.
Leglise & Cie., 69, rue Lifaurie de Monbadon, Bordeaux (Gironde), France.
Montmasson & Giguet, St. Sigismond, France.
Terrasse, F., & Cottave, Le Muy (Var), France.
Vetter & Fils, 16, quai de l'Industrie, Lyons, France.

Wood Working Machines.

F.—Bois—Machines pour le travail de.
G.—Holzarbeits Maschinen.

Kirchner Co., Leipzig, Germany.

Zinc Merchants.

F.—Zinc—March.
G.—Zinc—Händler.

Zinc Rod & Battery Plate Manufacturers.

F.—Zinc en crayons ou en Plaques pour pilos élec.—Fab.
G.—Zink Stäbe & Platten für Batterien—Fabt. von.

Bidault, Les Fils de V., & Cie., 13, 15 & 17, rue Lakanal, Paris.
Eschger, Ghesquière, et Cie, 28, rue St. Paul, Paris.
Franck, A. & J., Frères, 6, ave. de Versailles, Paris.
Société Anonyme des Mines et fond. de zinc de la Vieille Montagne, 19, rue Richer, Paris.

Zinc Rolling Mills.

F.—Laminoirs de Zinc.
G.—Zink Walzwerke.

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A. A. Automatic Manufacturing Co., mfrs. of electric household devices, 1945, Park-ave., New York.
A. B. Electric Co., electrical engineers, 1103, Pine-st., St. Louis, Mo.
A. & W. Electric Sign Co, cor. Michigan & Seneca-sts., Cleveland, Ohio.
Aaron Electric Co., manufacturing electricians, 140, S. Clinton-st., Chicago, Ill.
Abadie, E. H., A.AM.I.E E., consulting engineer, 3D, National Bank-bldg., St. Louis, Mo.
Abbe, Cleveland, professor of meteorology, The U.S. Weather Bureau, Washington, D.C. (Telegs.: "Cleveabbe, Washington.")
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Abbott, W. H., consulting engineer, Roberts & Abbott, Schofield-bldg., Cleveland, Ohio; & Maryland Trust-bldg., Baltimore, Md.
Abbott, William L., chief operating engineer, Commonwealth Edison Co., 139, Adams-st., Chicago, Ill. (Teleph. No. 1280, Randolph.)
Abbott Electric Co., dealers in dynamos, motors, gas & gasoline engines, 100, High-st., Boston, Mass. (Teleph. No. 3569, Main.)
Abbott Mfg. Co., automatic time switches, series-arc cut-outs, 2912–14, Central-ave., Cleveland, Ohio.
Abendroth & Root Manufacturing Co., manufacturers of Root's improved water-tube boilers, 50, Church-st., New York, N.Y. (Telegrams: "Dogpalace, New York." Telephone No. 135, John.)
Abilene Electric Light & Power Co., Abilene, Texas.
Abner Doble Co., tangential waterwheel makers, San Francisco, Cal.
Acheson, E. G., M.AM.I.E.E., electrician & electrical engineer, president of the International Acheson Graphite Co., Niagara Falls, N.Y.
Acker, C. E., A.AM.I.E.E., 97, Cedar-st., New York.
Acker Electrical Co., electrical engineers & contractors, 506, North 8th-st, Sheboygan, Wis. (Teleph. No. 214.)
Ackerman-Boland Telephone Co., interior telephones, 648–50, North Robey-st., Chicago, Ill. (Telegs.: "Allus, Chicago." Teleph. No. 7017, Humboldt.)
Ackley Electric Light, Power & Heating Co., Ackley, Iowa.
Acme Electric Co., installation contractors, Knoxville, Tenn.
Acme Electric Construction Co., electrical engineers, 350, Fulton-st., Brooklyn, N.Y.
Acme Electrical Supply Co., installation contractors, Ottumwa, Iowa.
Acme Telephone & Manufacturing Co., manufacturers of telephones & switchboards, Albia, Iowa.
Acme Wire Co., magnet manufacturers, 243, New Haven, Conn.
Adam, Frank, Electric Co., contractors, manufacturers of switch boards & knife switches, 904, Pine-st., St. Louis, Mo.
Adams, Alton G., M.AM.I.E.E., consulting engineer, State Mutual-bldg., Worcester, Mass.
Adams, C. A., M.AM.I.E.E., M.I.E.E., consulting electrical engineer, professor of electrical engineering, Harvard University, Cambridge, & 13, Farrar-st., Cambridge, Mass.
Adams, Ira, electrical engineer, 746, Euclid-ave., Cleveland, Ohio.
Adams, Leon, installation contractor, 412, Dryades-st., New Orleans, La. (Teleph. No. 100, Main.)
Adams Machine Co., W. T., manufacturers of engines, boilers, shafting & pulleys, Corinth, Miss.
Adams, S., & Son, manufacturers of turbine water wheels, Rome, N.Y.
Adams & Schwab, consulting electrical engineers, 859, Calvert-bldg., Baltimore, Md.; & 170, Mentor-bldg., Chicago, Ill.
Adams & Westlake Co., manufacturers of arc lamps & headlights, 110, Ontario-st., Chicago, Ill.
Adams-Bagnall Electric Co., arc lamps, Cleveland, Ohio (Telegrams: "Adamless, Cleveland"); & New York.
Addicks, Lawrence, A.AM.I.E.E., superintendent, U.S. Metals Refining Co., Chrome, N.J.

Addison Electric Light & Power Co., Addison, N.Y.
Adrian Street Railway Co., Adrian, Mich.
Adsit, C. G., A.AM.I.E.E., electrical engineer, Black Mountain Mining Co., Magdalena, Sonora, Mex.
Advance Electric Co., electric motor manufacturers, 22, Commercial-st., St. Louis, Mo.
Advance Manufacturing Co., gas & gasoline engines, Hamilton, Ohio.
Aermotor Co., manufacturers' towers & poles (galvanized steel), Chicago, Ill.
Aetna Electric Stage Lighting Co., installation contractors, 276, Sedgwick-st., Chicago, Ill.
Agnew, C. R., A.AM.I.E.E., electrical engineer, 16, William-st., New York, N.Y.
Agutter-Griswold Electric Co., installation contractors, Seattle, Wash.
Ahlm, C. E. F., M.AM.I.E.E., consulting engineer, 614, Caxton, Cleveland, Ohio.
Aiken & Co., electric light fixtures, 5th Floor, Century-bldg., Pittsburg, Pa.
Aiton Machine Co., wire & cable machinery, 126, Liberty-st., New York.
Ajax Line Material Co., arc lamp fittings, 12 & 14, South Jefferson-st., Chicago, Ill.
Akron Electrical Manufacturing Co., makers of dynamos, motors, knife switches, lightning arresters, electrical supplies, Ira-ave., Akron, Ohio. (Telegrams: "Akelectric, Akron." Western Union Edition. Telephone No. 512.)
Ala. Auto & Electric Co., manufacturers of electrical supplies & chandeliers, Coosa, Bibb & Court-sts., Montgomery, Ala.
Alabama City, Gadsden & Attalla Railway Co., Gadsden, Ala.
Alabama Electric Light & Power Co., Opelika, Ala.
Alabama Power Development Co., Talladega, Ala.
Alaska Electric Light & Power Co., Juneau, Alaska.
Alaska Water, Light & Telephone Co., Valdez, Alaska.
Albany Electric Illuminating Co., Albany, N.Y.
Albany Electric Supply Co., dealers in electrical supplies, Albany, N.Y.
Albany & Hudson Railway Co., Hudson, N.Y.
Albany Water & Light Plant, electric light contractors, Albany, Mo.
Alberger Condenser Co., 95, Liberty-st., New York.
Albert Gas Fixture Co., manufacturers of electric light fixtures, 1317, 3rd-ave., New York.
Albert Lea Light & Power Co., Albert Lea, Minn.
Albertson & Young Co., installation contractors, Atlantic City, N.J.
Albia Electric Light & Power Co., Albia, Iowa.
Albrecht & Heick, electrical contractors, 242, Jefferson-st., Louisville, Ky.
Albright, H. F., M.I.E.E., M.AM.I.E.E., M.A.S.M.E., general superintendent Western Electric Co., Hawthorne, Ill.
Albuquerque Gas, Electric Light & Power Co., Albuquerque, New Mexico.
Aldrich, Wm. S., M.AM.I.E.E., director Clarkson Memorial School of Technology, Potsdam, N.Y.
Alexander, Harry, M.AM.I.E.E., M.S.M.E., electrical engineer, 25, West 34th-st., New York. (Telegs.: "Andercourt, New York.")
Alexander Brothers, manufacturers of machine belting, 410 & 412, North 3rd-street, Philadelphia, Pa. (Telegrams: "Alexander, Philada." Telephone No. 2783.)
Alexandria City Electric Light & Water Works, Alexandria, La.
Algoma City Electric Light Plant, Algoma, Wis.
Algonac Village Electric Light & Water Works Plant, Algonac, Mich.
Allegan Light & Power Co., Allegan, Mich.
Allegheny County Light Co., Pittsburg, Pa.
Allen, Albert Mark, A.AM.I.E.E., consulting engineer, 1130, Schofield-bldg., Cleveland, Ohio. (Teleph. No. Bell-Main, 2652.)
Allen, E. W., M.AM.I.E.E., General Electric Co., Schenectady, N.Y.
Allen, G. C., M.AM.I.E.E., superintendent of construction, New York Telephone Co., 15, Dey-st., New York.
Allen, Thos. G., installation contractor, 128, South State-st., Salt Lake City, Utah.
Allen, Walter Cummings, A.M.AM.I.E.E., electrical engineer of the Government of District of Columbia, District-bldg., Washington, D.C.
Allen, Wyatt H., A.M.AM.I.E.E., consulting engineer, Hunt, Dillman, Meredith & Allen, Inc., 908–912, Union Trust-bldg., San Francisco, Cal.
Allen & Co., electrical supplies, Atlantic City, N.J.
Allen Electric Co., electrical supplies, Danville, Ill.
Allen, L. B., & Co., Inc., soldering stick, commutator lubricant, &c., 1329, Columbia-ave., Chicago, Ill. (Telegs.: "Allenflux," Chicago." Long Dist. Teleph. No. 121, Rogers Park); & 99, Warren-st., New York. (Teleph. No. 8136, Cortlandt.)
Allen, W. D., Manufacturing Co., dealers in belting & rubber goods, 151, Lake-st., Chicago, Ill.
Allen, Wm., Sons Co., manufacturers of steam boilers, 65, Green-st., Worcester, Mass. (Telegrams: "Boilers, Worcester.")
Allen-Bradley Electric Crane Controller, electrical fuse manufacturers, Chicago, Ill.
Allensworth, H. R., A.AM.I.E.E., superintendent of Fire & Police Telegraph, 89, N. Front-st., Columbus, O.

Allentow Electric Construction & Supply Co., electrical engineers & contractors, 15, North 6th-st., Allentown, Pa. (Teleph. Nos.: 1249, Consolidated; & 488B, Penna.)

Allentown Foundry & Machine Works, manufacturers of milling & general machinery & turbine water wheels, Allentown, Pa.

Alliance Gas & Electric Co., electric light contractors, Alliance, Ohio.

Allis-Chalmers Co. (Electrical Department, Bullock Electric Manufacturing Co.), direct & alternating current motors & dynamos of any capacity, Cincinnati, Ohio. Factory: Norwood, Hamilton County, Ohio. (Telegrams: "Bullock, Cincinnati." W. U. Code. Long Dist. Telephone No. 79, Elm.) British representatives: American Trading Co., 6, 7 & 8, Crutched Friars, London, E.C.

Allison, J. H., electrician & inventor, Elkhart, Ind.

Alloway Electric Co., installation contractors, Marquette-bldg., Chicago, Ill. (Teleph. Nos.: 1325, Market; & Automatic, 4294.)

Allspach, Harry, installation contractor, Belmar, N.J.

Almond, T. R., Manufacturing Co., manufacturers of flexible tubing for electric light brackets, Ashburnham, Mass.; & 8, White-st., Moorfields, London, E.C. W. P. Notcutt, manager.

Alpena Electric Light Co., Alpena, Mich.

Alphaduct Co., conduit systems of house wiring, 136, Cator-ave., Jersey City, N.J.

Alton Gas & Electric Co., Alton, Ill.

Alton Granite & St. Louis Traction Co., Alton, Ill.

Altoona Electrical Engineering & Supply Co., electric railways constructed & electric light plants installed, 1114, 12th-st., Altoona, Pa. (Bell Telephone No. 90R.)

Altoona & Logan Valley Electric Railway Co., Altoona, Pa.

Aluminium Co. of America, cable & wire manufacturers, Pittsburg, Pa.

Alverson, Harry Bartlett, A.AM.I.E.E., superintendent, Cataract Power & Conduit Co., 718, Fidelity-bldg., Buffalo, N.Y.

Amador Electric Railway & Light Co., Sutter Creek, Cal.

Amber Electric Manufacturing Co., manufacturing electricians, 60-62, West Monroe-st., Chicago, Ill.

Ambler, Wm., PH.B., M.E., E.E, electrical engineer, 161, The Arcade, Euclid-ave., Cleveland, Ohio.

American Arc Lamp Co., arc lamp manufacturers, Kalamazoo, Mich.

American Association for the Advancement of Science. Permanent secretary, L. O. Howard, Smithsonian Institution, Washington, D.C.

American Battery Co., manufacturers of storage batteries, 312-314, Fulton-st., Chicago, Ill. (Teleph. No. 3796, Monroe.)

American Bell Telephone Co., The, 125, Milk-st., Boston, Mass. (Telegs.: "Telephone, Boston." Teleph. No. 7620, Fort Hill.)

American Blower Co., makers of electric ventilating fans & steam engines, Detroit, Mich.

American Car & Foundry Co., manufacturers of electric cars, Wilmington, Del.

American Carbon & Battery Co., Signal Hill, East St. Louis, Ill.

American Carbon Co., arc lamp carbons, Noblesville, Indiana.

American Circular Loom Co., manufacturers of flexible conduits, Chelsea, Mass. (Telegrams: "Amloom, Boston." Telephone No. 148.2, Chelsea.)

American Clock Co., makers of electric clocks, Chicago, Ill.

American Coil Co., Incorp., makers of induction coils, spark plugs, &c., Foxboro, Mass. (Teleph. No. 18.)

American Conduit Co., 140, Nassau-st., New York.

American Conduit Manufacturing Co., conduits for electric wires, Pittsburgh, Pa.

American De Forest Wireless Telegraph Co., 520, Olive-st., St. Louis.

American Diesel Engine Co., gas engine makers, 11, Broadway, New York.

American District Steam Co., systems for heating by exhaust steams, Lockport, N.Y.

American District Telegraph Co., dealers in electrical supplies, 618, Gravier-st., New Orleans, La.

American District Telegraph Co., messenger service & electric work (H. J. Richmond, secretary & treasurer), Troy, N.Y.

American Electric Co., jobbers in electric light & telephone supplies, St. Joseph, Mo.

American Electric Co., installation contractors, Omaha, Neb.

American Electric Co., installation contractors & electrical supplies, Wheeling, W. Va.

American Electric Co., installation contractors, 595, Garfield-ave., Detroit, Mich.

American Electric Co., installation contractors, 118, 3rd-ave. South, Seattle, Wash.

American Electric Construction Co., 84, La Salle-st., Chicago, Ill. (Teleph. No. 811, Franklin.)

American Electric Fuse Co., manufacturers of telephone protectors, fuses, fuse wire, &c, Muskegon, Mich.

American Electric Lamp Co. of New York, 29, West 15th-st., New York.

American Electric Machine Co., electric cloth cutting machine manufacturers, 54 & 56, West 43rd-st., New York. (Telegs.: "Warelecut, New York." Teleph. No. 4435, Bryant.)

American Electric Sign Co., electric signs, Boston & Ellery-st. South, Boston, Mass. (Telegs.: "Aesco, Boston." Teleph. No. 5164, Main.)

American Electric Supply Co, dealers in electrical supplies, 211, Lake-st., Chicago, Ill.

American Electric Telephone Co., telephone manufacturers, State & 64th-sts., Chicago, Ill.

American Electric Works, wire coverers, Philipsdale, R.I.
American Electrical Heater Co., makers of electric heating appliances, 121-123, State-st., Detroit, Michigan. (Telegs.: "Amelheco, Detroit.")
American Electrical & Maintenance Co., electrical repairs & contractors, 325, Race-st., Philadelphia, Pa.
American Electrical Novelty & Manufacturing Co., manufacturers of the Ever-Ready lights, 304-322, Hudson-st., New York. (Telegs.: "Everready, New York." Lieber's Code.)
American Electrical Repair Co., installation contractors, South Main & West Carson-sts., Pittsburg, Pa.
American Electrical Supply Co., dealers in electrical supplies, 211, East Lake-st., Chicago, Ill.
American Electrochemical Society. Secretary, Dr. J. W. Richards, South Bethlehem, Pa.
American Electro-Therapeutic Association. Secretary, Dr. A. C. Geyser, 352, Willis-ave., New York.
American Elevator & Electric Co., installation contractors, 520. Camp-st., New Orleans, La.
American Enamel Co., makers of enamelled switch handles, &c., Providence, R.I.
American Endoscopic Co., electrical specialities, 212, Union-st., Providence, R.I.
American Engine Co., steam engines & electrical machinery, Bound Brook, N.J.
American Engineer & Railroad Journal (monthly), 140, Nassau-st., New York. (Price $2 per annum; 50 cents extra for postage to foreign parts.) R. M. Van Arsdale, proprietor.
American Engineering Co., installation contractors, Indianapolis, Ind.
American Falls Power Co., Pocatello, Idaho.
American Foundry Co., electric motor carriages, Leipsic, Ohio.
American Furniture Co., electric light & power contractors, Batesville, Ind.
American Gas & Electric Co., 30, Church-st., New York City.
American Hard Fibre Co., hard vulcanized fibre for electrical insulation, &c., Newark, Delaware. (Telegrams: "Fibre, Wilmington, Delaware.")
American Hard Rubber Co., manufacturers of hard rubber or vulcanite for electrical purposes, 9, Mercer-st., New York.
American Hardwood Manufacturing Co., electrical woodwork, Grottoes, Va.
American Hoist & Derrick Co., electric hoist makers, St. Paul, Minn. (Telegs.: "Derrick, Saintpaul.")
American Industries, 170, Broadway, New York.
American Injector Co., manufacturers of injectors, Detroit, Mich.
American Institute of the City of New York (Electrical Section), 21, West 44th-st., New York.
American Institute of Electrical Engineers (R. W. Pope, secretary), Engineers'-bldg., 33, West 39th-st., New York. (Teleph. No. 4600, Bryant.)
American Institute of Mining Engineers, 29, West 39th-st., New York. (Telegs.: "Aime, New York.")
American Insulated Wire & Cable Co., Chicago, Ill.
American Insulating Machinery Co., wire covering machine manufacturers, North-West cor. Hancock & Oxford-sts., Philadelphia, Pa.
American Insulating Material Manufacturing Co. Alexandria, Ind.
American Journal of Progressive Therapeutics, Downers-grove, Illinois; & 55, State-st., Chicago.
American Journal of Science (monthly), New Haven, Conn. (Ann. sub., $6·40 = 26*s.* 6*d.*)
American Lava Co., insulator manufacturers, Chattanooga, Tenn. (Telegs.: "Kruesi, Chattanooga.")
American Light & Traction Co., 40, Wall-st., New York City.
American Locomotive Co., electric locomotive builders, 30, Church-st., New York.
American Machine & Manufacturing Co., electric & hydraulic machinery makers, Charlotte, N.C.
American Machinery & Export Co., manufacturers & exporters of machinery & electric railway supplies, 50, Church-st., New York. (Telegs.: "Amayad, New York." Western Union, Lieber & A.B.C., 4th edition, Codes.)
American Machinist (weekly; ann. sub., U.S. & Mexico, $4; Canada, $5.50; Great Britain, 30*s.*; other countries, 35*s.*), 505, Pearl-st., New York (Telegs.: "Machinist, New York." Teleph. Worth 3460); & 6, Bouverie-st., London, E.C. (Telegs.: "Backlash, London." Teleph. Holborn 5158.)
American Mica Co., dealers in mica for electrical purposes, Newton Lower Falls, Mass.
American Platinum Works, platinum refiners, 251, N.J.R.R.-ave., Newark, N.J.
American Rail Joint & Manufacturing Co., 219, Superior-st., Cleveland, Ohio.
American Railway Supply Co., electric railway supplies dealers, 24, Park-pl., New York.
American Railways Co., 904, Witherspoon-bldg., Philadelphia, Pa.
American River Electric Co., Stockton, Cal.
American Roentgen Ray Society. Secretary, Dr. G. C. Johnson, 514, Bijou-bldg., Pittsburg, Pa.
American School of Correspondence, Chicago, Ill.
American Sewer Pipe Co., underground conduits & culverts, Pittsburg, Pa.
American Silk Manufacturing Co., electric machinery wipers, Orchard & Church-sts., Fkd., Philadelphia, Pa.; Trenton, N.J.; & Bay View, Cecil Co., Md.
American Slate Co., slate for electrical purposes, Board of Trade-bldg., Boston, Mass. (Long Distance Teleph. No. 287, Main.)
American Society of Civil Engineers, 220, West 57th-st., New York.
American Steam Gauge & Valve Manufacturing Co., boiler & steam engine fitting manufacturers, Boston, Mass.

American Steam Pump Co., manufacturers of pumping machinery & compressors, Battle Creek, Mich.
American Steel & Wire Co., manufacturers of iron & steel wire, 30, Church-st., New York; & 71, King William-st., London, E.C.
American Storage Battery Co., storage battery makers, Cambridge, Mass.
American Street & Interurban Railway Engineering Association. Secretary, J. W. Corning, E.E., Boston Elevated Railway Co., Boston, Mass.
American Street Railway Association. (Elmer M. White, secretary, Birmingham, Ala.)
American Street Railway Investments, an annual financial supplement to the *Electric Railway Journal* (ann. sub., P.U., $5), 239, West 39th-st., New York. (Telegs.: "Stryjourn, New York." Teleph. No. 4700, Bryant.)
American Telephone & Telegraph Co., 125, Milk-st., Boston, Mass. (Telegs.: "Telephone, Boston." Teleph. No. 7620, Fort Hill); & 15, Dey-st., New York. (Teleph. No. 12060, Cort.)
American Tool & Machine Co., manufacturers of belt controllers, 109, Beach-st., Boston, Mass.
American Trading Co., exporters of electrical supplies, 25, Broad-st., New York.
American Transformer Co., makers of transformers & electrical appliances, Newark, N.J. (Telegs.: "Transformer, Newark, N.J.")
American Tube & Stamping Co., manufacturers of steel gongs & electrical specialities, Bridgeport, Connecticut.
American Turbine Engine Co., turbo electric generators makers, Washington, D.C.
American Twist Drill Co., makers of friction clutches, pulleys, &c., Laconia, N.H.
American Vibrator Co., manufacturers of electro-portable vibrators, St. Louis, Mo. (Telegs.: "Amvibrator, St. Louis." Western Union Codes.)
American Vitrified Conduit Co., manufacturers of vitrified underground conduits, 170, Broadway, New York.
American Vulcanized Fibre Co., manufacturers of vulcanized fibre, Wilmington, Del. (Telegs.: "Fibre, Wilmington.")
American Watchman Time Detector Co., electric watchman's clocks, 235, Broadway, New York. (Telegrams: "Jaminmorse, New York." Telephone No. 600, Cort.)
American Wireless Telegraph Co., Milwaukee, Wis.
Americus Illuminating & Power Co., Americus, Ga. (Telephone Nos. 2 & 83.)
Ames Iron Works, makers of steam engines & boilers, Oswego, N.Y.
Amesbury Electric Light, Heat & Power Co., Amesbury, Mass.
Amherst Gas Co., Amherst, Mass.
Amherst & Sunderland Street Railway Co., Amherst, Mass.
Amityville Electric Light Co., Amityville, N.Y.
Anaconda Electric Light & Railway Department, Anaconda, Montana. Superintendent, F. H. Clinton.
Anacortes Water Co., Anacortes, Wash.
Anaheim City Electric Light Plant, Anaheim, Cal.
Anchor Lamp Co., electric lamp makers, 258, Broadway, New York.
Anderson, Douglas Smith, A.M.I.E.E., associate professor of electrical engineering, Tulane University, New Orleans, La.
Anderson, E. H., A.M.I.E.E., designing engineer, General Electric Co., Schenectady, N Y.
Anderson, Homer, magnet winders & wire meters, 353–355, South-st., Peekskill, N.Y.
Anderson, Albert & J. M., Manufacturing Co., manufacturers of electric railway supplies, South Boston, Mass.
Anderson Carriage Co., electric motor carriages, Clay & Riopelle-aves., Detroit, Mich.
Anderson Electric Machine Tool Co., specialty makers, St. Louis, Mo.
Anderson Electrical Works, installation contractors, San Francisco, Cal.
Anderson Porcelain Co., manufacturers of high-grade porcelain for electrical purposes, East Liverpool, Ohio.
Anderson & Sons Co., telephone & telegraph supplies, 21, Aubin-ave., Detroit, Mich.
Anderson Tool Co., makers of arc lamps & electrically driven tool grinders, Anderson, Ind. (Telegs.: "Engines, Anderson.")
Anderson Water, Light & Power Co., Anderson, South Carolina.
Andrae Herman Electrical Co., installation contractors, 221, West Water-st., Milwaukee, Wis.
Andrae, J., & Sons Co., switchboard & telephone makers, 118–120, Sycamore-st., Milwaukee, Wis.
Andreas, C., & Son, electric bell contractors, 116, North 3rd-st., St. Louis, Mo.
Andrews, F. E., electrical contractor, 46, Locust-st., Flushing, N.Y. (Telephone No. 251J.)
Andrews, Geo. E., electrical contractor, 40, Bridgham-st, Providence, R.I.
Andrews, Wm. S., M.A.M.I.E.E., General Electric Co., Schenectady, N.Y.
Aneshaensel & Co., C., electrolier manufacturers, Indianapolis, Ind.
Angier, G. M., Co., electrical engineers & contractors, 185, Franklin-st., Boston, Mass.
Anglo-American Telegraph Co., Ltd., Stock Exchange (Telegs.: "Anglo, New York." Teleph. No. 3635, Rector); Produce Exchange (Teleph. No. 870, Broad); 445, Broome-st. (Silk Exchange-bldg.) (Teleph. No. 691, Spring), New York.

Angola Railway & Power Co., Angola, Ind.
Animas Power & Water Co., Silverton, Col.
Annapolis Gas & Electric Co., Annapolis, Md.
Anniston Electric & Gas Co., Anniston, Ala.
Anoka Electric & Water Works, Electric Light & Power Co., Anoka, Minn.
Anson, F. R., M.AM.I.E.E., electrical engineer, 52, Broadway, New York.
Ansonia Brass & Copper Co., manufacturers of bare & insulated copper wire, &c., 99, John-st., New York, N.Y. Factories at Ansonia, Conn. (Telegrams: "Templanza, New York.")
Anthracite Electric Light & Power Co., Pottsville, Pa.
Antigo Edison Electric Light Co., Antigo, Wis.
Apple, Vincent G., consulting electrical engineer, 30, South St. Clair-st., Dayton, Ohio.
Appleton Electric Co., conduit system of house wiring, New York, N.Y.
Arapahoe Electric Light & Power Co., Littleton, Col.
Arcadia Electric Light, Ice & Telephone Co., Arcadia, Fla.
Archbold-Brady Co., electrical engineers & contractors, Syracuse, N.Y.
Archer, Geo. F., A.AM.I.E.E., mechanical & electrical engineer, 39, Courtland-st., & 17, Murray-st., New York. (Teleph. No. 8164, Cort.)
Archer & Pancoast Co., manufacturers of electric light fixtures, 507, West 24th-st., New York, N.Y.
Ardmore Ice, Light & Power Co., electric light contractors, Ardmore, Territory.
Arendt, Morton, M.AM.I.E.E., consulting engineer, lecturer on electrical engineering, Columbia University, New York. (Teleph. No. 1400, Morningside.)
Arkansas City Gas & Electric Light Co., Arkansas City, Kan.
Armature Winding & Ferrofix Brazing Co., 7, North Johnson-st., Charlotte, N.C.
Armour Institute of Technology, Chicago, Ill. (Dean of engineering studies, H. M. Raymond.)
Armstrong, Albert H., A.AM.I.E.E., electrical engineer, General Electric Co., Schenectady, N.Y.
Armstrong, Chas. G., M.AM.I.E.E., consulting electrical engineer, Singer-bldg., New York.
Armstrong, Fred. A., electrical fittings maker, 348, Court-st., Brooklyn, N.Y.
Armstrong, J. R. C., A.AM.I.E.E., transmission engineer, N.Y., C. & H. R.R. Co., Room 1232, 335, Madison-ave., New York.
Arnold, Bion J., M.AM.I.E.E., M.AM.S.C.E, consulting electrical engineer, 181, La Salle-st., Chicago, Ill.
Arnold Co., electrical, civil & mechanical engineers, 181, La Salle-st., Chicago, Ill.
Arnold, M. E., & Co., electrical contractors, 114, North 11th-st., Philadelphia, Pa.
Arnold & Wetherbee, installation contractors, Oklahoma, Okl.
Arny, C. W., & Sons, manufacturers of oak leather belting, 228–230, North 3rd-st., Philadelphia, Pa.
Arrow Electric Co., switch makers, 619, Capitol-ave., Hartford, Conn.
Ashe, S. W., A.AM.I.E.E., consulting electrical engineer, 1134, Pacific-st., Brooklyn, N.Y.
Asheville Electric Co., light, power & traction, Asheville, N.C.
Asheville Mica Co., mica, Asheville, N.C. (Telegrams: "Mica, Asheville.")
Ashland Electric Co., manufacturers of electric signs, fixture studs, &c., 195, West Division-st., Chicago, Ill. (Teleph. No. 3018, Monroe.)
Ashland Electric Power & Light Co., Ashland, Ore.
Ashland Light, Power & Street Railway Co., Ashland, Wis.
Ashtabula Rapid Transit Co., electric tramway, Ashtabula, Ohio.
Ashton Valve Co., manufacturers of pop-safety valves & steam-gauges, 271, Franklin-st., Boston, Mass. (Telegs.: "Ashton, Boston." Local Teleph. No. 1306, Main.)
Association of Edison Illuminating Cos. Secretary, D. L. Huntington, Washington Water Power Co., Spokane, Wash.
Association of Engineering Societies, 31, Milk-st., Boston, Mass. (Fred Brooks, secretary.)
Association of Railway Telegraph Superintendents, c/o M. St. Paud, S.S.M. Railway, Chicago, Ill. (P. W. Drew, secretary.)
Astoria Electric Co., Astoria, Ore.
Atchison Railway, Electric Light & Power Co., Atchison, Kan.
Athens Electric Railway Co., Athens, Ga.
Athol Gas & Electric Co., Athol, Mass.
Athol & Orange Street Railway Co., Athol, Mass.
Atkins, Charles Gilman, A.AM.I.E.E., consulting engineer, Pratt & Atkins, 1001, Monadnock-bldg., Chicago, Ill.
Atkins, E. C., & Co., dealers in machine belting, Memphis, Tenn.
Atkinson, A. A., A.M.AM.I.E.E., professor of physics & electrical engineering, Ohio University, Athens, O.
Atkinson, John E., electrical supplies, 300–302, East Walnut-st., Springfield, Mo.
Atkinson, T. W., A.AM.I.E.E., professor of physics & electrical engineering, Louisiana State University, Baton Rouge, La.
Atkinson, Willard S., M.AM.I.E.E., general superintendent, University Power Co., Princeton, N.J.
Atkinson, G. H., Co., installation contractors, 273, Washington-st., Jersey City, N.J. (Telegs.: "Kinson, Jersey City." W.U. & A.B.C, 4th edit.)

Atlantic City & Shore Railroad Co., Atlantic City, N.J.
Atlantic Coast Electric Light Co., Asbury Park, N.J.
Atlantic Coast Electric Railroad Co., Asbury Park, N.J.
Atlantic County Electric Co., Egg Harbour, N.J.
Atlantic Electric Co., installation contractors, Norfolk, Va.
Atlantic Electric Light & Power Co., Atlantic City, N.J.
Atlantic Electric Light Works, Atlantic, Iowa.
Atlantic Insulated Wire & Cable Co., 120, Liberty-st., New York. (Telegs.: "Atinwico, New York." W.U. Code.)
Atlantic Shore Line Railway Co., Kennebunkport, Maine.
Atlas Engine Works, builders of steam engines & boilers, Indianapolis, Ind.
Atmospheric Product Co., manufacturers of nitric acid, nitrates & nitrites by electric fixation of atmospheric nitrogen, Niagara Falls, N.Y. (Telegs.: "Atmos, Niagara." Local Teleph. Nos. 122 & 188.)
Attix Electrical Engineering Co., installation contractors, 283, Flatbush-ave., Brooklyn, N.Y.
Attleboro Steam & Electric Co., Attleboro, Mass.
Atwater Kent Manufacturing Works, makers of ignition specialities, 46, North 6th-st., Philadelphia, Pa.
Atwood Vacuum Cleaner Co., manufacturers of vacuum cleaners, Madison, Wis.
Aubrey, B. W., installation contractor, Malone, N.Y.
Auburn Button Works, insulating material & moulded composition manufacturers, Auburn, N.Y.
Auburn Light, Heat & Power Co., Auburn, N.Y.
Auburn Water & Electric Light Works, Auburn, Ind.
Audel, Theodore & Co., publishers of electrical & scientific books, &c., 63, 5th-ave., New York.
Auel, C. B., A.M.I.E.E., Westinghouse Electric & Manufacturing Co., Pittsburg, Pa.
Augusta & Aiken Railway Co., Augusta, Ga.
Augusta, Winthrop & Gardiner Railroad, Augusta, Maine.
Augusta Railway & Electric Co., Augusta, Ga.
Aultman Co., The, manufacturers of coal handling machinery, Canton, Ohio.
Aurora, Elgin & Chicago R.R. Co., Chicago, Ill.
Aurora Gas Light, Coal & Coke Co., Aurora, Ind.
Aurora Light, Power & Refrigerating Co., Aurora, Mo.
Austin, Chas. H., electrical engineer, Nashua, N.H. (Teleph. No. 56.)
Austin, Sydney H., M.E., A.M.I.E.E., president Austin Smith Engineering Co., Baltimore, Md.
Austin Electric Railway Co., Austin, Tex.
Austin Electrical Supply Co., installation contractors, Austin, Tex.
Austin, M. B., & Co., electric wires, cables & conduits, 133-141, West Jackson-boul., Chicago, Ill.
Austin Separator Co., makers of steam separators, 19-25, Woodbridge-st., Detroit, Mich.
Austin Water Works, Electric Light & Power Plant, City of Austin, Tex.
Auto-Car Equipment Co., commercial motor carriages, Buffalo, N.Y.
Automatic Electric Co., makers of automatic telephones & switchboards, Van Buren & Morgan-sts., Chicago, Ill.
Automatic Electric Washer Co., electric washing machines, Newton, Iowa.
Automatic Switch Co., makers of automatic motor controller & switches, 131, Liberty-st., New York. (Telegs.: "Controller, New York." Teleph. No. 6630, Cort.)
Automatic Time Stamp Co., makers of electric & mechanical automatic time stamps & registers, 160, Congress-st,, Boston, Mass. (Telegs.: "Time Stamp, Boston." Teleph. No. 2382-2, Main.)
Automatic Trolley Guard Co., 61-69, Carroll-st., Buffalo, N.Y.
Averrett, A. E., electrical engineer, General Electric Co., Schenectady, N.Y.
Axthelm Electric Co., dealers in electrical supplies, 246, 3rd-ave., Pittsburg, Pa.
Ayer, James I., M.AM.I.E.E., general manager Simplex Electric Heating Co., Cambridge, Mass.
Ayer Electric Light Co., Ayer, Mass.
Ayer & Lord Tie Co., railroad ties, Chicago, Ill.
Aylsworth, J. W., M.AM.I.E.E., Edison Laboratory, East Grange, N.J.
Azusa, City of, Electric Light & Power, Azusa, Cal. (Home Teleph. No. 11.)

B. & B. Apparatus Co., Inc., manufacturers of high frequency, electrotherapeutical & X-ray apparatus, &c., 27, Central-st., Salem, Mass. (Teleph. No. 1067.)
B. & C. Electric Construction Co., installation contractors & engineers, 207, Bleecker-st., Utica, N.Y. (Teleph. No. 27).
B. & R. Electric & Telephone Manufacturing Co, telephone & switchboard manufacturers, cor. 5th & Delaware-sts., Kansas City, Mo. (Telephone Nos. 2249 & 2250, Main.)
Babcock, A. H., electrical engineer, Southern Pacific Co., Flood-bldg., San Francisco, Cal.
Babcock Electric Carriage Co., makers of electric vehicles, Buffalo, N.Y. (Teleph. No. 1000, Bryant.)
Babcock, Hinds & Underwood, electrolier manufacturers & fitters, Binghamton, N.Y.
Babcock & Wilcox Co., manufacturers of boilers, 85, Liberty-st., New York, N.Y.

Babson, A. C., A.AM.I.E.E., Central Point, Oregon.
Babylon Electric Light Co., Babylon, N.Y.
Bachman, J. B., installation contractor, Provo City (opposite P.O.), Utah.
Bachrach & Co., jobbers of electrical supplies, 556, Market-st., San Francisco, Cal.
Backus Water Motor Co., manufacturers of water motors, 172, Pennsylvania-ave., Newark, N.J.
Badt, F. B., R.E., E.E., M.AM.I.E.E., consulting engineer, 1504, Monadnock-blk., Chicago, Ill. (Telegs.: "Badt, Chicago." Teleph. No. 745, Harrison.)
Badt, F. B., & Co., electrical & mechanical engineers & experts, 1504, Monadnock-block, Chicago, Ill.
Baehr, W. A., M.AM.I.E.E., engineer, Laclede Gas Light Co., St. Louis, Mo.
Baggot, E., Co., dealers in gas & electric fixtures, 45 & 47, East Lake-st., Chicago, Ill.
Bailey, J. A., & Co., installation contractors, Memphis, Tenn.
Bailey, Johnson & Saunders, installation contractors, Buffalo, N.Y.
Bailey Reflector Co., reflectors & shades, 547–549, 4th-ave., Pittsburg, Pa. (Teleph. No. 2162, Court.)
Bailey, S. R., & Co., electric motor carriages, Amesbury, Mass.
Bailey-Reynolds Gas Fixture Co., manufacturers of electric fixtures, Kansas City, Mo.
Baillard, E. V., M.AM.I.E.E., experimental work, models, &c., Fox-bldg., New York.
Bain, Forée, patent lawyer & solicitor & expert in electricity & mechanics, 947–949, Monadnock-blk., Chicago, Ill. (Telegrams: "Foreebain, Chicago." Telephone No. 792, Harrison.)
Bainbridge Electric Co., electrical construction & supplies, 26, North 7th-st., Philadelphia, Pa.
Baird Manufacturing Co., makers of telephone coin machine counters & time stamps, 3145, North Halsted-st., Chicago, Ill.
Baker, C. M., assistant general superintendent Postal Telegraph Cable Co., Chicago, Ill.
Baker, Joseph B., A.AM.I.E.E., Technical & Engineering Publicity, 170, Broadway, New York.
Baker, William C., manufacturer of car heaters, 143, Liberty-st., New York.
Baker, William Edgar, M.AM.S.C.E., M.AM.S.M.E., A.AM.I.E.E., W. E. Baker & Co., 27, William-st., New York. (Telegs.: "Webaker, New York." Teleph. No. 6545, Broad.)
Baker & Co., Inc., platinum manufacturers & refiners, 30, Church-st., New York.
Baker Motor Vehicle Co., makers of electric vehicles, Foot of 80th-st., Cleveland, Ohio.
Baker, W. E., & Co., engineers, 27, William-st., New York. (Telegs.: "Webaker, New York." Teleph. No. 6545, Broad.)
Bakersfield Power, Transit & Light Co., Bakersfield, Cal.
Baldinger & Kupferman, electrolier manufacturers & fitters, 59, Harsnay-st, Brooklyn, N.Y.
Baldwin, B. L., M.AM.I.E.E., mechanical engineer, Perin-bldg., Cincinnati, Ohio.
Baldwin, Ward, consulting electrical engineer, 528, Walnut-st., Cincinnati, Ohio.
Baldwin, William J., consulting, heating, ventilating & electrical engineer, World-bldg., New York. (Teleph. No. 316, Beekman.)
Ball, H. P., M.AM.I.E.E., electrical engineer, 524, West 57th-st., New York.
Ball Engine Co., manufacturers of steam engines, Erie, Pa.
Ball & Wood Co., builders of the Ball & Wood Steam Engines, 30, Church-st., New York, N.Y. (Telegrams: "Ballwood, New York.")
Ballantine & Taby, installation contractors, 517, North 2nd-st., Shamokin, Pa.
Ballard, F. W., M.AM.I.E.E., mechanical engineer, Sherwin-Williams Co., 601, Canal-rd. N.W., Cleveland, O.
Ballda Electric Co., installation contractors, 333, Columbia-st., Utica, N.Y.
Ballston Spa Electric Light & Power Co., Ballston Spa, N.Y.
Balsley, R. O., electrical contractor, 471, South Pine-st., Indianapolis, Ind. (New Teleph. No. 9811.)
Baltimore County Water & Electric Co., Baltimore, Md.
Baltimore Electrical Supply Co., dealers in electrical supplies, 215, North Calvert-st., Baltimore, Md.
Baltimore & Ohio Railroad. Office: Camden Station, Baltimore, Md.
Baltimore, Sparrows Point & Chesapeake Railway Co., Baltimore, Md.
Bamber, W. C., A.AM.I.E.E., electrical engineer, H. W. Johns-Manville Co., 50, Church-st, New York.
Bangor Electric Light, Heat & Power Co., Bangor, Pa.
Bangor Electrical Construction & Supply Co., electrical engineers, Bangor, Maine.
Bangor Railway & Electric Co., Bangor, Maine.
Bangs, Chas. R., A.AM.I.E.E., special agent American Telephone & Telegraph Co., 15, Dey-st., New York.
Bankers Electric Protection Co., manufacturers of burglar alarms, &c., Chicago, Ill.
Banner Electric Co., installation contractors, 1418, Chouteau-ave., St. Louis, Mo.
Banner Electric Co., incandescent lamp manufacturers, Youngstown, Ohio.
Bar Harbour & Union River Power Co., Bar Harbour, Maine.
Baraboo Light, Heat & Power Co., Baraboo, Wis.
Baragwanath, Wm., & Son, manufacturers of steam jacket feed water boiler heaters & condensers, 48–52, West Division-st., Chicago, Ill.
Barber & Ross, dealers in electric fixtures, 11th & G.-sts. N.W., Washington, D.C.
Barclay, John C., M.AM.I.E.E., assistant general manager & electrical engineer, Western Union Telegraph Co., 195, Broadway, New York.

Barden Electric & Machinery Co., electrical engineers, contractors & supply dealers, 109, Main-st., Houston, Tex.
Barfoot, Chas. G., installation contractor, Atlantic City, N.J.
Barkelew Electric Manufacturing Co., manufacturers of electric switches, Middletown, Ohio.
Barker, Prof. G. F., M.I.E.E., 3909, Locust-st., Philadelphia, Pa.
Barker, R. E., A.AM.I.E.E., electrical engineer, General Electric Co., West Lynn, Mass.
Barker, James, Iron Foundry & Machine Works, manufacturers of electric specialties, 6th & Cayuga-sts., Philadelphia, Pa.
Barnes, C. M., electrical contractor, 912, Myrtle-st., Scranton, Pa.
Barnes, Edward A., A.AM.I.E.E., superintendent of the Fort Wayne Electric Works, Fort Wayne, Indiana.
Barnes, H. H., jun., M.AM.I.E.E., engineer, General Electric Co., 30, Church-st., New York.
Barnes & Payton, electrical work, supplies, &c., 273, River-st., Troy, N.Y. (Telegrams: "Barnespayton, Troy." Long Distance Telephone No. 286.)
Barnes-Pope Electric Co., electrical engineers & contractors, 201, Sudbury-bldg., Boston, Mass.
Barnes Wallace Co., makers of steel springs, Bristol, Conn.
Barnes, W. F. & Jno., Co., manufacturers of lathes & drilling machines, Rockford, Ill.
Barnesville Gas & Electric Light Co., Barnesville, Ohio.
Barnett, H. C., & Co., installation contractors, 923, 6th-ave., New York.
Barney & Smith Car Co., builders of steam & electric cars, Dayton, Ohio.
Barr Electric Manufacturing Co., makers of heating apparatus, Cleveland, Ohio.
Barr, W. J., Manufacturing Co., telephone apparatus makers, Cleveland, Ohio.
Barré, Joseph, & Co., installation contractors, 25, Fulton-st., New York.
Barre & Montpelier Traction & Power Co., Barre, Vt.
Barres Electric Light & Power Co., Maquoketa, Iowa.
Barrett Manufactures Agency, electrical contractors, 408-10, Morrison-st., Portland, Ore.
Barriett Electric Manufacturing Co., 327, East 6th-st., Cincinnati, Ohio. (Telegs.: "Barriett, Cincinnati." Teleph. Main No. 2644.)
Barstow, W. S., & Co., Inc., engineers, 50-52, Pine-st., New York; & Portland, Ore.
Barth, Emanuel, brushes & globes for arc lamps, Pottsville, Pa.
Bartlett, H. N., & Co., insulating materials, 57, Warren-st., New York.
Bartlett Illuminating Co., Saginaw, Mich.
Barton, E. M., A.AM.I.E.E., chairman Western Electric Co., 259, South Clinton-st., Chicago, Ill.
Barton, Philip Price, M.AM.I.E.E., general manager The Niagara Falls Power Co., Niagara Falls, N.Y.; & general manager Canadian Niagara Power Co., Niagara Falls, Ont., Canada.
Barton Netting Co., electric light fixtures, 250, Woodward-ave., Detroit, Mich.
Bartz, Wygant & Brown, Inc., manufacturers of dynamos & motors, Hornellsville, N.Y.
Bass Foundry & Machine Works, builders of Corliss steam engines, Fort Wayne, Ind.
Bassett, N. Ch., A.AM.I.E.E., consulting engineer, Allis Chalmers Co., Milwaukee, Wis.
Batavia Electric Light & Water Works, Batavia, Ohio.
Batchelor, Chas., M.AM.I.E.E., electrical engineer, Exchange Court-bldg., 52, Broadway, New York.
Bateman & Miller, electrical engineers & contractors, 145, East 23rd-st., New York. (Telephone No. 3474, Gramercy.)
Bates, Francis Reed, A.AM.I.E.E., consulting engineer, Bates & Clark Co., 508, Pacific-blk., Seattle, Wash.
Bates, Frederick C., A.AM.I.E.E., sales engineer, General Electric Co., 30, Church-st, New York.
Bates, J. H., M.AM.I.E.E., mechanical engineer, N. Y. C. & H. R. R. Co., New York.
Bates, Putnam A., consulting electrical engineer, 2, Rector, New York.
Bates, D. L., & Bros. Co., makers of electric fans & power motors, Dayton, Ohio. (Telegrams: "Batesbro, Dayton.")
Bates, James A., & Co, installation contractors, Providence, R.I.
Bates Machine Co., mechanical engineers & engine makers, Joliet, Ill.
Batesville Water Works & Electric Light Plant, Batesville, Ark.
Bath Electric & Gas Light Co., Bath, N.Y.
Bath Iron Works, Ltd., contractors for marine electric & steam plants, Bath, Maine.
Batley, W. J., Electric Co., installation contractors, 207, Indiana-ave., Indianapolis, Ind.
Baton Rouge Electric Co., Baton Rouge, La.
Battery Power Co., makers of accumulators, Milwaukee, Wis.
Bauer, H. N., A.AM.I.E.E., Operating Department, Postal Telegraph Cable Co., 253, Broadway, New York.
Bauer & Black, Incorp., makers of electrical specialties, Chicago, Ill.
Bauer Lamp & Reflector Co., electrolier manufacturers & fitters, 529, Mission-st., San Francisco, Cal.
Baugher, A. L., electrical contractor, 553, West 10th-st., Erie, Pa. (Mutual Teleph. No. 1667.)
Baum, Frank George, A.AM.I.E.E., consulting electrical engineer, Cal. Gas & Electric Corp., 1405, Chronicle-bldg., San Francisco, Cal.
Baxter, A. C., electrical contractor, Newton, Mass.
Baxter & Brown, electric light fixtures, wiring, &c., 36, South Washington-st., Tiffin, Ohio.

Bay City Electric Department, Bay City, Mich.
Bay City Traction & Electric Co., Bay City, Mich.
Bay State Belting Co., manufacturers of leather belting, 43, High-st., Boston, Mass.
Bay State Electric Co., installation contractors, Boston, Mass. (Teleph. Main No. 457.)
Bay State Insulated Wire & Cable Co., wire coverers, indiarubber & gutta percha, Hyde Park, Mass.
Bay State Lamp Co., incandescent lamp manufacturers (electric), Danvers, Mass.
Baylis, R. N., M.AM.I.E.E., president The Baylis Co., Bloomfield, N.J.
Bayne, H., A.AM.I.E.E., assistant to Dr. M. I. Pupiri, 135, Broadway, New York, N.Y.
Beach Electrical Co., installation contractors, 2228, Mission-st., San Francisco, Cal.
Beacon Light Co., Chester, Pa.
Beacon Light Co., electrical supplies, 536, South Main-st., Los Angeles, Cal.
Bear Deem Porcelain Manufacturing Co., manufacturers of electrical insulators, Reading, Pa.
Beardslee Chandelier Manufacturing Co., electrolier manufacturers, 225–227, South Clinton-st., Chicago, Ill.
Beatrice Electric Co., Beatrice, Neb.
Beattie Electrical Co., manufacturing electricians, 334, West 4th-st., Cincinnati, Ohio.
Beaumont & Co., electrical engineers & contractors, 224, S. 40th-st., Philadelphia, Pa.
Beaumont Ice, Light & Refrigerating Co., Beaumont, Texas.
Beaumont Traction Co., Beaumont, Tex.
Beaver Dam Illuminating Co., Beaver Dam, Wis.
Beaver Valley Traction Co., Beaver Falls, Pa.
Bechtel, Ernest J., M.AM.I.E.E., consulting electrical engineer, Hodenphyl, Walbridge & Co., 7, Wall-st., New York.
Beck Electrical Repair Co., generator & motor repairing, Columbus, Ohio.
Beck Flaming Lamp Co., arc lamp manufacturers (electric), 30, Greenwich-ave., New York.
Becker Bros., electrical engineers & repairers, 68, West Washington-st., Chicago, Ill. (Long Distance Teleph. Nos. 607 & 608, Main.)
Becker Engraving Co., name plates, 34, Oliver-st., Boston, Mass.
Becker-Braniard Milling Machine Co., milling machines & automatic gear cutters, Hyde Park, Mass.
Beckford, E. S., electrical contractor, Quincy, Mass.
Bedell, Dr. F., M.AM.I.E.E., professor of applied electricity, Cornell University, Ithaca, N.Y.
Bedford Electric Light, Heat & Power Co., Bedford, Pa.
Bedford Heat, Light & Power Co., Bedford, Ind.
Bedford Telephone & Burglar Alarm Co., electrical supply dealers, 564, De Kalb-ave., Brooklyn, N.Y.
Bee, W. G., A.AM.I.E.E., Edison Storage Battery Co., Orange, N.J.
Beebe, M. C., A.AM.I.E.E., professor of electrical engineering, University of Wisconsin, Madison, Wis.
Beers Bros. Thermostat Co., thermostats, Culver-rd. at Eastern Widewaters, Rochester, N.Y.
Begole, J. F., A.AM.I.E.E., electrical engineer, Wagner Electrical Manufacturing Co., St. Louis, Mo.
Behan, T. W., A.AM.I.E.E., electrical engineer, Fort Wayne Electric Co., Fort Wayne, Ind.
Behrend, Bernard A., M.AM.I.E.E., engineer-in-charge, Power Dept., Westinghouse Electric & Manufacturing Co., Pittsburgh, Pa.
Beidleman, H. S., electrical contractor, 2382, Broadway, New York.
Beidler, Francis, & Co., electric light & telephone poles, 519, West 22nd-st., Chicago, Ill.
Beiluss, Hermann A., Electric Co., installation contractors, 3705, Armour-ave., Chicago, Ill.
Beinert, Geo. D., electrical contractor, 43, East 8th-st., New York. (Teleph. Nos. 90 & 91, Gramercy.)
Bel Air & Havre de Grace Rail Road & Power Co., Bel Air, Md.
Belcher & Loomis Hardware Co., electrical supply dealers, 89–91, Weybosset-st., Providence, R.I. (Telegs.: "Bellomis, Providence." A.B.C. Code.)
Belden Electrical Supply Co., installation contractors, 416, Joplin-st., Joplin, Mo. (Teleph. Nos.: 1205, Home; & Bell.)
Belden Manufacturing Co., wire coverers (silk), 192, Michigan-st., Chicago, Ill.
Belfast Gas & Electric Co., Belfast, Maine.
Belfield, A. Miller, patent lawyer, 1362, Monadnock-bldg., Chicago, Ill.
Bell, Alonzo C., A.AM.I.E.E., president & general manager, Bell Electric Motor Co., 123, Liberty-st., New York.
Bell, Dr. Louis, M.AM.I.E.E., consulting electrical engineer, 120, Boyleston-st., Boston, Mass.
Bell, Thomas H., installation contractor, 485, Hamilton-st., Albany, N.Y.
Bell Electric Co., installation contractors, Auburn, Cal.
Bell Electric Co., installation contractors, 2532, Nicolet-ave., Minneapolis, Minn.
Bell Electric Motor Co., electrical engineers & contractors & manufacturers of motors, 133, Liberty-st., New York. (Telephone No. 2374, Spring.)
Bell Telephone Co., of Buffalo (Henry M. Watson, president; T. T. Ramsdell, vice-president; J. S. Baecher, secretary & treasurer), 14, West Seneca-st., Buffalo, N.Y.
Bell Telephone Co. of Pennsylvania, N.W. cor. 17th & Filbert-sts., Philadelphia, Pa.
Bell, Vernon, & Son, electrical contractors, 56, South Third-st., Minneapolis, Minn.

Belle Plaine Electric Light Co., Belle Plaine, Iowa.
Belleaire Light & Power Co., Belleaire, Ohio.
Bellevue Electric Light & Water Plant, Bellevue, Iowa.
Bellevue Illuminating & Power Co., Bellevue, Ohio.
Bellman, John Jacob, A.AM.I.E.E., electrical engineer, 149, Broadway, New York.
Bellman & Sanford, engineers & contractors, 149, Broadway, New York. (Telegrams: "Drofsanbel, New York." Telephone No. 1790, Cort.)
Bellwood Electric Light Co., Bellwood, Pa.
Beloit Light & Water Co., Beloit, Kan.
Beloit Water, Gas & Electric Co., Beloit, Wis.
Bement, A., A.AM.I.E.E., consulting, mining & mechanical engineer, 2114, Fisher-bldg., Chicago, Ill. (Local Teleph. No. 5617, Harrison.)
Bemis Car Box Co., manufacturers of car trucks, 119, Liberty-st., Springfield, Mass.
Bender, George, electrical engineer, 82, Centre-st., New York.
Benecke, A. O., M.AM.I.E.E., consulting electrical engineer, 19, Vermont-ave., Newark, N.J.
Benedict & Burnham Manufacturing Co., manufacturers of bare & insulated copper wire, Waterbury, Connecticut.
Benjamin Electric Manufacturing Co., makers of wireless clusters & receptacles, 42, West Jackson-boul., Chicago, Ill. (Telegs.: "Benjalect, Chicago." Western Union Code); 27, Thames-st., New York; & 656, Howard-st, San Francisco.
Bennett, Edward E., A.AM.I.E.E., engineer, Telluride Power Co., Provo, Utah.
Bennett, John C., M.AM.I.E.E., with General Electric Co., Box 1763, New York, N.Y.
Bennett, Ralph, A.AM.I.E.E., power development, transmission & application, 136, Wilmer-st., Los Angeles, Cal.
Bennett, Willard S., A.AM.I.E.E., Engineering Department, The S. S. White Dental Manufacturing Co., 5, Union-sq. West, New York.
Bennington & North Adams Street Railway Co., Hoosick Falls, N.Y.
Benson, Wm. W., consulting electrical engineer, 900, Chestnut-st., Philadelphia, Pa.
Bentley, Edward M., electrical engineer & patent expert, 52, William-st., New York. (Telegs.: "Embel, New York." Teleph. No. 3980, John.)
Benton Harbor-St. Joe Railway & Light Co., Benton Harbor, Mich.
Benton, T. P., & Son, electrical machinery manufacturers, 200, South Front-st., La Crosse, Wis. (Telegs.: "Bentolect, La Crosse." W.U. & Private Code. Teleph. No. 178.)
Berea Water Works & Electric Light Plant, Berea, Ohio.
Berg, E. J., SC.D., M.AM.I.E.E., consulting engineer, General Electric Co., Schenectady, N.Y.
Berg, Eskil, A.AM.I.E.E., electrical engineer, General Electric Co., Schenectady, N.Y.
Berg & Co., electrical engineers & contractors, 39 & 41, Cortlandt-st., New York. (Teleph. No. 4674, Cort.)
Berkeley Electric Lighting Co., Berkeley, Cal.
Berkshire Street Railway Co, Beard-st., Pittsfield, Mass.
Berlin Electric Light Co., Berlin, N.H.
Bernard, E. G., Co., Incorporated, electrical engineers, manufacturers of dynamos, motors, &c., Troy, N.Y. (Long Dist. Telephone No. 212.)
Bernards Water Co., light & power, Bernardsville, N.J.
Bernet & Co., installation contractors & supplies, 3975, Cottage Grove-ave., Chicago, Ill. (Teleph. No. 1136, Douglas.)
Berresford, A. W., M.AM.I.E.E., general manager, Cutler Hammer Manufacturing Co, Milwaukee, Wis.
Berry, D. E., & Co., electrical supplies & contracting, 30, Main-st., Evansville, Ind. (Telephone No. 150); & 317, Fredericia-st., Owensboro, Ky.
Berwick Electric Light Co., Berwick, Pa.
Besly, C. H., & Co., brush copper, sheet brass, &c., 15-21, Clinton-st., Chicago, Ill.
Besseltric Lighter Co., electrical specialties makers, Scranton, Pa.
Bethel Electric & Power Co., Bethel, Vt.
Bethell, U. N., A.AM.I.E.E., first vice-president New York Telephone Co., 15, Dey-st., New York.
Bethlehem Electric Light Co., Bethlehem, N.H.
Bethlehem Electric Light Co., Bethlehem, Pa.
Bethlehem Steel Co., manufacturers of steel forgings, castings, &c., South Bethlehem, Pa.
Betts, Philander, M.S., E.E., local chairman & M.AM.I.E.E., consulting engineer, Metropolitan Bank-bldg., Washington, D.C.
Betz, Frank S., Co., makers of electro-therapeutic apparatus, 90, Wabash-ave., Chicago, Ill.
Beverly Gas & Electric Co., Beverly, Mass.
Bevis Bros. Manufacturing Co., manufacturers of electric gongs & bells, East Hampton, Conn.
Bibbins, J. R., A.AM.I.E.E., engineer, Westinghouse Machine Co., Pittsburg, Pa.
Bickford, J. H., consulting electrical engineer, 110, State-st., Boston, Mass.
Bickford & Francis Belting Co., manufacturers of machine belting, Buffalo, N.Y.

Biddeford & Saco Railroad Co., Biddeford, Maine.
Biddle, James G., A.AM.I.E.E., dealer in electrical instruments & storage batteries, 1144, Chestnut-st., Philapelphia, Pa. (Telegs.: "Jagabi, Philadelphia." W.U. Code.)
Bidstrup, J. F., & Co., installation contractors, 26, Frankfort-st., New York.
Big Creek Light & Power Co., Santa Cruz, Cal.
Bigelow, C. H., mechanical & electrical engineer on railway power stations, 8, Broad-st., Salem, Mass.
Bijur, Jos., A.AM.I.E E., electrical engineer, 42, Broadway, New York, N.Y (Telegs.: "Genstobat, New York." Teleph. No. 3405, Broad.)
Billberg, C., M.AM.I.E.E., electrical engineer, Narberth, Pa.
Billings & Spencer Co., manufacturers of commutator bars & line material, Hartford, Conn.
Binghamton Electrical Construction Co., electrical contractors, Binghamton, N.Y.
Binghamton Light, Heat & Power Co., Binghamton, N.Y.
Binghamton Railway Co., Binghamton, N.Y.
Binney & Smith Co., manufacturers of lamp black, carbons & chemicals, 81-83, Fulton-st., New York, N.Y. (Telegs.: "Epilogue, New York." Teleph. Nos. 3237 & 3238, Beekman. A.B.C., Western Union, Lieber's, Standard & Cosmopolitan Codes used.) London office: 63, Farringdon-st., E.C.
Birmingham Guild of Handicraft, Ltd., electric light fittings makers, Century-bldgs., Pittsburgh, Pa.
Birmingham Railway, Light & Power Co., 2100-2102, 1st-ave., Birmingham, Ala.
Bisbee Improvement Co., electric light contractors, Bisbee, Ariz.
Bishop, W. S., manufacturer of dynamos & motors, New Haven, Conn.
Bishop Gutta-Percha Co. (H. D. Reed, vice-president), manufacturers of telegraph cables, insulated wire & gutta-percha goods, 420-430, East 25th-st., New York, N.Y.
Bissell, F., Co., manufacturers of & dealers in electrical supplies, 226-228-230, Huron-st., Toledo, Ohio. (Telegrams: "Biselec, Toledo.")
Bissing, G. (Lyons & Bissing), 908, G-st., Washington, D.C.
Bissing, W. F., M.AM.I.E.E., electrical engineer, patent lawyer, 2, Rector-st., New York. (Telegs.: "Wifred, New York." Teleph. No. 4482, Rector.)
Black, C. N., A.AM.I.E.E., vice-president & general manager, United Roads of San Francisco, Cal.
Black, Howard D., A.AM.I.E.E., secretary & sales manager, Blackall & Baldwin Co., 39, Cortlandt-st., New York, N.Y. (Teleph. No. 7920, Cort.)
Black, S. D., A.AM.I.E.E., electrical engineer, The Rowland Telegraphic Co., Baltimore, Md. (Teleph. Nos.: 2345, St. Paul; & 2011, W.)
Black & Boyd Manufacturing Co., electric light fixtures, 23, East 22nd-st., New York.
Black, Geo. E., Electric Co., electrical contractors, 271-285, East Madison-st., Chicago, Ill. (Teleph. No. 1271, Main.)
Black River Traction Co., Watertown, N.Y.
Blackall, Frederick S., M.AM.I.E.E., 39, Cortlandt-st., New York.
Blackall & Baldwin Co., contracting engineers, 39, Cortlandt-st., New York. (Telegs.: "Blackall, New York." Teleph. No. 7920, Cort.)
Blackduck Electric & Telephone Co., Blackduck, Minn.
Blackwell, F. O., consulting electrical engineer, Viele Blackwall & Buck, 49, Wall-st., New York.
Blades, H. H., M.AM.I.E.E., electrical engineer, Alexandria, Minn.
Blair Electric Light & Power Co., Blair, Neb.
Blake, Francis, M.AM.I.E.E., electrical engineer, Auburndale, Mass.
Blake, H. W., A.AM.I.E.E., editor *Street Railway Journal*, 259, West 39th-st., New York.
Blake, Prof. Lucien I., chief engineer, Submarine Signal Co., Boston, Mass.
Blake Electric Co., motor & dynamo manufacturers, 88, Purchase-st., Boston, Mass.
Blake & Knowles, pumping machinery manufacturers, 115, Broadway, New York.
Blake Signal & Manufacturing Co., manufacturing electricians, 246, Summer-st., Boston, Mass. (Telegs.: "Instaple, Boston." A.B.C. Code.)
Blanchard, F. G., electrical engineer, 222, East 17th-st., Brooklyn, N.Y. (Teleph. No. 540, Flatbush.)
Blanchester Electric Light & Water Works, Blanchester, Ohio.
Blevney, John C., manufacturer of friction clutches, 216, High-st., Newark, N.J.
Bleyle Electric Co., installation contractors, 84, Cortlandt-st., New York. (Teleph. No. 4356, Cort.)
Bliss, Donald M., consulting engineer, Engineering Specialty Co., Stamford, Conn.
Bliss, E. F., A.AM.I.E.E., engineer, Railway Signal Department, General Electric Co., Schenectady, N.Y.
Bliss, Geo. E., electrical supply dealers & contractors, Malden, Mass.
Bliss, L. D., A.AM.I.E.E., principal Bliss Electrical School, Takoma Park, Washington, D.C.
Bliss, Wm. L., A.AM.I.E.E., president Bliss Electric Car Lighting Co., 527, 5th-ave., New York (Teleph. No. 8445, Cort); & 1301, St. Paul-ave., Milwaukee, Wis.
Bliss-Chester Co., incandescent lamp top & socket makers, Providence, R.I. (Telegrams: "Blischster, Providence." Lieber's Code.)
Bliss, E. W., Co., manufacturers of presses, dies & special tools for the manufacture of electrical appliances, 12, Adams-st., Brooklyn, N.Y. (Telegs.: "Bliss, Brooklyn"); & 100, boul. Victor Hugo, St. Ouen, Paris. (Telegs.: "Blissco, St. Ouen sur Seine.")

Bliss Electric Car Lighting Co., Milwaukee, Wis.; & New York.
Bliss Electrical School, L. D. Bliss, president, Takoma Park, Washington, D.C. (Teleph. No. 150.)
Blizard, Chas., A.M.AM.I.E.E., third vice-president, Electric Storage Battery Co., Allegheny-ave. & 19th-st., Philadelphia, Pa. (Telegs.: "Chloride, Philadelphia." Teleph. No. 23-16, Tioga.)
Blodgett Clock Co., electric clocks, 141, Franklin-st., Boston, Mass. (Telephone No. 2010, Main.)
Blomkun Electric Co., installation contractors, 151, Reed-st., Milwaukee, Wis.
Blonck, W. A., A.AM.I.E.E., consulting electrical engineer, 404, Fisher-bldg., Chicago, Ill.
Blood, John Balch, M.AM.I.E.E., Blood & Hale, consulting engineers, 10, Post Office-sq., Boston.
Blood & Hale, consulting engineers, Post Office-sq., Boston, Mass.
Bloomington & Normal Railway Electric & Heating Co., Bloomington, Ill.
Blue Earth Electric Light & Water Works, Blue Earth, Minn.
Blue Grass Traction Co., Lexington, Ky.
Bluffton City Electric Light Plant, Bluffton, Ind.
Bluffton City Electric Light Plant, Bluffton, Ohio.
Blum, B., electrical contractor, 141, Broadway, New York. (Telegs.: "Federalmo, New York.")
Blumberg, M. S., electrical engineer, 112, West 42nd-st., New York.
Blumenthal Sons & Co., installation contractors, 172, Washington-st., Chicago, Ill. (Telephone No. 3410, Main.)
Blundin, L. C., & Co., electrical engineers & contractors, 40, South 16th-st., Philadelphia, Pa.
Boardman River Electric Light & Power Co., Traverse City, Mich.
Bodine Electric Co., electric motor manufacturers, 426, West Madison-st., Chicago, Ill.
Bodwell Water Power Co., Bangor, Maine.
Boehm, W. D., installation contractor, Sterling, Ill.
Boehm, H., & Co., manufacturers of incandescent lamps, Youngstown, Ohio.
Boeri, A. P., A.AM.I.E.E., Engineering Department, New York Telephone Co., 26, Cortlandt-st., New York.
Bogart, A. L., patent expert, 123, Liberty-st., New York.
Bogart, John, consulting electrical engineer, 141, Broadway, New York. (Telegs.: "Tragob, New York." Teleph. No. 3675, Cort.)
Bogen, L. E., A.AM.I.E.E., Engineering Department, Bullock Electrical Manufacturing Co., 171, 21st-st., Milwaukee, Wis.
Boggs, L. S., M.AM.I.E.E., Westinghouse Electric & Manufacturing Co., Room 7, Burlington Arcade, Stamford, Conn. (Teleph. No. 385.)
Bogia Regulating Socket Co., regulating socket maker, Philadelphia, Pa.
Bogue, Chas. J., Electric Co., manufacturers of search lights, projectors & focusing lamps, 513-515, West 29th-st., New York, N.Y. (Cable address: "Machelect, New York." Teleph. No. 581, Chelsea.)
Böhm, L. K., PH.D., consulting electrical expert & patent solicitor, 280, Broadway, Stewart-bldg., New York. (Teleph. No. 1089, Worth.)
Bohn, C. C., Electric Co., manufacturers of & dealers in electric supplies & general electrical construction, 780, 6th-ave., New York. (Teleph. No. 3317, Bryant.)
Boissier Electric Co., makers of dynamos for electrotypers & electroplaters, 478, Pearl-st., New York City, N.Y.
Bolton, Reginald Pelham, consulting electrical engineer, 527, 5th-ave., New York.
Bonar, James, & Co., Inc., steam appliances, 516, Frick-bldg., Pittsburg, Pa. (Telephone No. 1593, Court.)
Bonny Ray Co., electrolier manufacturers, 206, East 29th-st., New York.
Bonville, Edward, maker of switches & switchboards, Fair Haven, Vt.
Boone Electric Co., Boone, Iowa.
Boonville Electric Light & Power Co., Boonville, Ind.
Bordo, Geo. U., consulting electrician, Hibernia-bldg., New Orleans, La.
Bordentown Electric Light & Motor Co., Bordentown, N.J.
Borne, Chas. A., Co., manufacturing electricians, 62, Grand-st., New York, N.Y.
Bornemard & Sons, installation contractors, 230, South Main-st., Elkhart, Ind.
Borough Electric Light Plant, Groton, Conn.
Borough Electric Light Plant, Sharpsburg, Pa.
Bosch, Adam, M.AM.I.E.E., electrical engineer, superintendent fire alarm telegraph, Newark, N.J.
Bossert Electric Construction Co., manufacturers of steel junction & outlet boxes, Utica, N.Y.
Boston Automatic Fire Alarm Co., 104, Milk-st., Boston, Mass.
Boston Belting Co., manufacturers of & dealers in mechanical rubber goods, 256, Devonshire-st., Boston, Mass. (Telegrams: "Belting, Boston.")
Boston Electric Co., manufacturers of & dealers in electrical supplies, 29, Harrison-ave., Boston, Mass.
Boston Electric Co., installation contractors, 123, Dorrance-st., Providence, R.I.
Boston Elevated Railway Co., Boston, Mass.
Boston Gear Works, gear cutting of all kinds, Norfolk Downs, Mass. (Teleph. No. 400, Quincy.)
Boston & Great Falls Electric Light & Power Co., Great Falls, Montana. (Teleph. No. 73.)
Boston Incandescent Lamp Co., incandescent lamp manufacturers (electric), Danvers, Mass.

Boston Insulated Wire & Cable Co., 182, Freeport-st., Boston, Mass.
Boston & Northern Street Railway, Boston, Mass.
Boston & Worcester Street Railway Co., Boston, Mass.
Boston Woven Hose & Rubber Co., insulating rubber & tape. Boston, Mass.
Bottomley, H., M.AM.I.E.E., superintendent of construction P. H., Detroit Edison Co., Detroit, Mich.
Boulder Electric Light & Power Co., Boulder, Col.
Bourne, T. F., expert & patent solicitor, 220, Broadway, New York, N.Y. (Teleph. No. 1694, Cort.)
Bowie, A. J., jun., A.AM.I.E.E., electrical & mechanical engineer, 432, Lick-bldg., San Francisco, Cal.
Bowie & Love, electrical supplies, Tacoma, Wash.
Bowling Green Gas Light Co., Bowling Green, Ky.
Bowling Green Railway Co., Bowling Green, Ky.
Bowman & Gregg Co., electrical engineers, 531, Main-st., Springfield, Mass.
Bowsher, N. P., Co , Incorporated, makers of balancing ways for armatures, pulleys, & other rotary parts, South Bend, Ind.
Boyce, Geo. R., dealer in electrical supplies, 295, Main-st., Orange, N.J.
Boyer, Elmer E , M.AM.I.E.E., electrical superintendent, Lynn Works, General Electric Co., Lynn, Mass.
Boyle, R. C., & Co., electrical contractors & dealers in supplies, 4603, Frankford-ave., Philadelphia, Pennsylvania.
Brack, Chas. E., electrical contractor, 122, Erie County Bank-bldg., Buffalo, N.Y.
Brackett, Byron B., A.M., PH.D., M.AM.I.E.E., professor of electrical engineering, Clarkson School of Technology, Potsdam, N.Y.
Brackett, C. F., A.M., M.D., LL.D., consulting electrician, Princeton University, Princeton, N.J.
Braddell, Alfred E., A.AM.I.E.E., Sprague Electric Co., Fisher-bldg., Chicago, Ill.
Braden Plb'g & Electric Co., installation contractors, San Antonio, Tex.
Bradford Electric Light & Power Co., Bradford, Pa.
Bradford & Hood, patent lawyers & solicitors, Suite 1235, State Life-bldg., Indianapolis, Ind. (Telegrams: "Bradod, Indianapolis." Long Distance Telephone No. 168.)
Bradford, Kyle & Co., manufacturers of insulated wire, Plymouth, Mass.
Bradford, Thomas, & Son, manufacturing electricians, Danielson, Conn.
Bradley, Charles S., M.AM.I.E.E., electrical engineer, president Atmospheric Products Co., 41, Park-row, New York. (Telegrams: "Forecabin, New York." Telephone No. 2594, Cort.)
Bradley, Chas. S., & Sons, consulting engineers, Room 711, 41, Park-row, New York. (Telegs.: "Forecabin, New York.")
Bradley, E. C., & Co., manufacturers of electric alarm clocks, 15 & 17, Stone-st., Rochester, N.Y.
Bradley & Hubbard Manufacturing Co., manufacturers of electric fixtures, Meriden, Conn.
Brady, Frank W., M.AM.I.E.E., International Correspondence Schools, Scranton, Pa.
Brady, P. T., A.AM.I.E.E., representative, Westinghouse Electric & Manufacturing Co., New York, N,Y. (Telegs: "Paul T. Brady, New York," Cables: "Peetebrady, New York." Long Distance Teleph.); & 165, Broadway, New York. (Teleph. No. 8607, Cort.)
Brady, Thos. H., manufacturer of electric light mast arms, &c., New Britain, Conn.
Bragstad, O. S., electrical engineer & professor, Westinghouse Electric Manufacturing Co., Pittsburg, Pa.
Braid, Harold Reade, A.M.I.E.E., 219, 7th-st., San Bernardino, Cal.
Braid Electrical Co., electrical supplies, 234, N. Market-st., Nashville, Tenn.
Braun, David J., Manufacturing Co., manufacturers of electroliers, Washington & Union-st., Chicago, Ill. (Teleph. No. 1228, Monroe.)
Brayton Electric Co., installation contractors, Utica, N.Y.
Brazil Electric Co., Brazil, Ind.
Breed, G., consulting electrician, 714, Witherspoon-bldg., Philadelphia, Pa. (Bell Teleph. No. 3085, Walnut.)
Breedon, Jacob, electrical contractor, 41, West Maumee-st., Adrian, Mich.
Brennan Electric Construction, installation contractors, 330, Dearborn-st., Chicago, Ill.
Brenner Bros. Manufacturing Co., electrolier manufacturers, Waterbury, Conn.
Bridegam, W. E., electrical contractor, 240, Penn-st., Reading, Pa.
Bridgeport Brass Co., "phono-electric" wire manufacturers & rollers, Bridgeport, Conn. (Telegrams; "Brassport, Bridgeport." Directory & Lieber Codes); & 253, Broadway, New York.
Bridgeport De-Oxidized Bronze & Metal Co., manufacturers of bronze & copper bars, Bridgeport, Connecticut.
Bridgeport Electric Light & Power Co., Bridgeport. Ohio.
Bridges & Holly Electric Light Co., Navasota, Tex.
Bridgeton Electric Co., Bridgeton, N.J.
Bridgton Water & Electric Co., electric light contractors, Bridgton, Maine.
Briggs, Marvin, dealer in dynamos & machinery, 154, Nassau-st., New York, N.Y.
Briggs, Wm. P., electrical supplies, New Bedford, Mass.
Brigham City Electric Light & Power Plant, Brigham City, Utah. (Teleph. Nos. 63, Ind. & Bell.)
Bright, Graham, A.AM.I E.E., engineer, Ruth Apartments, Dunbar-st , Pittsburg, Pa.

Brill Electric Co., 647, Broad-st., Augusta, Ga.

Brill, J. G., Co., electric cable & steam cars, trucks, &c., 62nd-st., & Woodland-ave., Philadelphia, Pa. (Telegs.: "Brill, Philadelphia." Teleph. Nos.: Bell, 100, Woodland; & Keystone, 100, West.)

Brilliant Electric Co., incandescent lamp makers, Cleveland, Ohio.

Brilliant Sign Co., 420, North 8th-st., St. Louis, Mo.

Brinckerhoff, H. M., M.AM.I.E.E., construction engineer, 60, Wall-st., New York.

Briner, C. J. & F. E., electrical engineers & contractors, 204, 206 & 208, Franklin-ave., St. Louis, Mo.

Bristol, W. H., M.AM.I.E.E., president, Bristol Co., Waterbury, Conn.

Bristol Co., recording instrument makers, Waterbury, Conn.

Bristol County Gas & Electric Co., Bristol, R.I.

Bristol Gas & Electric Co., Bristol, Tenn.; & Bristol, Va.

Bristol & Plainville Tramway Co., Bristol, Conn.

Brittain, D. A., Electric Co., installation contractors, 177, Grand River-ave, Detroit, Mich.

Brittingham, A. D., & Co., installation contractors, 39, Prospect-ave., Mount Vernon, N.Y.

Britton, John A., M.AM.SOC.M.E., A.M.AM.I.E.E., vice-president & general manager, Pacific Gas & Electric Co., 445, Sutter-st., San Francisco, Cal. (Teleph. No. Sutter 140.)

Brixey, W. R., A.AM.I.E.E., manufacturer of Kerite insulated wires & cables, 203, Broadway, New York. Factory: Seymour, Conn. (Telegs.: "Dayhewit, New York." Teleph. No. 238, Cortlandt.)

Broc Carriage & Wagon Co., motor carriages, Payne-ave. & East 40th-st., Cleveland, Ohio.

Brock, Beeken & Smith, patent lawyers & mechanical experts, 900, F-st., Washington, D.C.; & 38, Park-row, New York.

Brockport Electric Co., Brockport, N.Y.

Brode Electric Co., Inc., supply dealers, 258–260, S. Los Angeles-st., Los Angeles, Cal. (Teleph. Nos.: A4933, Home; & 1722, Main.)

Brodie Electric Co., manufacturers of insulators, 42–48, Pleasant-st., Manchester, N.H.

Brofas, Emar, A.AM.I.E.E., engineering equipment, American Electrical Telephone Co., Chicago, Ill.

Broiles Electric Co., installation contractors, Fort Worth, Tex.

Bromich, Joseph, manufacturer of steam boilers, 119, Jefferson-street, Topeka, Kan.

Bronson, E. B., & Co., manufacturing electricians, Blue Island, Ill.

Brookfield Electric Light Co., Brookfield, Mo.

Brookfield Glass Co., manufacturers of glass insulators & battery jars, 2, Rector-st., New York. (Telegs.: "Brookfield, New York." Teleph. Nos. 1175 & 1176, Rector.)

Brooklyn Dry Cell Battery Co., makers of electro-medical instruments, &c., 991, Madison-st., Brooklyn, N.Y. (Teleph. No. 826, L—Bushwick.)

Brooklyn Electric Equipment Co., electrical engineers, 12, Clifton-st., Brooklyn, N.Y.

Brooklyn Electric Lamp & Novelty Co., miniature lamps, 278, Fulton-st., Brooklyn, N.Y.

Brooklyn Electric Supply Co., electrical supplies, 56, Myrtle-ave., Brooklyn, N.Y. (Teleph. No. 3264, Main.)

Brooklyn Rapid Transit Co., 85, Clinton-st., Brooklyn, N.Y.

Brooklyn Repair Co., electrical repairs, &c., 1452, Atlantic-ave., Brooklyn, N.Y.

Brooks, Frank A., consulting electrical & mechanical engineer, Charleston, Illinois. (Long Distance Telephone No. 500.)

Brooks, F. R., electrical contractor, Brookline, Mass.

Brooks, Morgan, M.AM.I.E.E., professor of electrical engineering, University of Illinois, Urbana, Ill.

Brooks, E. F., & Co., makers of & dealers in gas & electrical fixtures, 531, 15th-st., Washington, D.C. (Teleph. No. 941–942, Main.)

Brooks-Follis Electric Corporation, electrical contractors & supply dealers, 44–46, 2nd-st., San Francisco, Cal.

Brophy, W., A.AM.I.E.E., consulting electrical engineer, 17, Egleston-st., Jamaica Plain, Mass. (Teleph. No. 250, Jamaica.)

Brower, H. C., & Son, dealers in electric bells, &c., 317, East Genesee-street, Syracuse, N.Y.

Brown, Chas. F., electrical & mechanical contracting engineer, 515, East 78th-st., New York. (Telegs.: "Brobrown, New York." Teleph. No. 3236, Lennox.)

Brown, Fred. S., electrical supplies, 57, Temple-st., Waterville, Maine. (Teleph. No. 316–12.)

Brown, Gilman W., consulting electrical engineer, West Newbury, Mass.

Brown, G. M., installation contractor, Woonsocket, R.I.

Brown, Harold P., electrical engineer, manufacturer of Plastic Rail Bonds, 120, Liberty-st., New York. (Telegs.: "Lorah, New York." A1, W.V., Business & Lieber Codes used.)

Brown, J. Stanford, M.AM.I.E.E., consulting electrical & mechanical engineer, 489, 5th-ave., New York, N.Y. (Teleph. No. 1342, Murray Hill.)

Brown, W. E., A.AM.I.E.E., engineer, New York & New Jersey Telephone Co., Brooklyn, N.Y.

Brown, William S., electrical materials, 3, West 29th-st., New York. (Teleph. No. 1022, Madison-sq.)

Brown, Addison W., Electric Co., electrical contractors, 195, Montague-st., Brooklyn, N.Y. (Teleph. No. 2086, Main.)

Brown & Borum, electric light fixtures, 52, 2nd-st., Memphis, Tenn.

Brown, C. H., Engine Co., Inc., manufacturers of automatic cut-off steam engines, Fitchburg, Mass.
Brown Electric Co., installation contractors, 101, Cleveland-ave., Columbus, Ohio.
Brown Engineering Co., electrical & contracting engineers, 123, North 3rd-st., Reading, Pa.
Brown, Frank P., & Co., electrolier manufacturers & fitters, 43, North 6th-st., Philadelphia, Pa.
Brown Hoisting Machinery Co., makers of electric elevators, Cleveland, Ohio.
Brown, James, & Son, electrical engineers & contractors, experimental work, 5126, Penn-ave., Pittsburgh, Pa.
Brown, S. Arthur, & Co., installation contractors, 126, Liberty-st., New York.
Brown & Sharpe Manufacturing Co., machinery & tools, Providence, R.I.
Browne, Sidney Hand, M.AM.I.E.E., American Telegraph & Telephone Co., 125, Milk-st., Boston, Mass.
Browne, W. H., M.AM.I.E.E., 86, South 10th-st., Brooklyn, N.Y.
Browne, Wm. Hand, jun., professor of physics & electrical engineering, N.C. College of Agriculture & Mechanic Arts, West Raleigh, N.C.
Browne, Wm. L., electrical contractor, 545, Main-st., Worcester, Mass. (Telegs.: "Brownelec, Worcester." Teleph. No. 2630–2631.)
Browne & Woodworth, patent attorneys, 60, Congress-st., Boston, Mass. (Telegs.: "Causten, Boston." Teleph. No. 1111, Fort Hill.)
Brownell, H. G., consulting engineer, 247, West Main-st., Louisville, Ky.
Brownell & Co., engine makers (steam), high speed, Dayton, Ohio.
Browning Manufacturing Co., manufacturers of dynamos & motors, Clinton-st., Mikwaukee, Wis.
Brownsville Electric Light Co., Brownsville, Pa.
Bruce-Hibbard Electric Co., electrical engineers & installation contractors, Fitchburg, Mass. (Teleph. No. 784, Fitchburg.)
Bruce-Macbeth Engine Co., gas engines for power purposes, 2111, Center-st., Cleveland, Ohio.
Brueggeman Hardware Co., dealers in electrical supplies, 12th & Pine-sts., St. Louis, Mo.
Brunner Chemical Works, lamp colouring compounds, 17, East 3rd-st., Cincinnati, Ohio.
Brunns Carriage Manufacturers, electric motor carriages, 1140, Main-st., Buffalo, N.Y.
Brunswick Electric Light & Power Co., Brunswick, Maine.
Brunt, G. F., Porcelain Works, manufacturers of porcelain for electrical purposes & brunt regulating sockets, East Liverpool, Ohio.
Brush, C. F., M.E., M.S., PH.D., LL.D., M.AM.I.E.E., electrical engineer & inventor, 481, The Arcade, Cleveland, Ohio.
Brush Electric Illuminating Co., of N.Y., 1170, Broadway, New York.
Brush Electric Light & Power Co., Galveston, Texas. (Teleph. No. 713.)
Brush Electrical Engineering Co., Ltd., electrical & mechanical engineers, 21, State-st., New York.
Brussel, Dennis G., electrical contractor, 15, West 29th-st., New York. (Telephone No. 3060, Madison-sq.)
Bryan, James, consulting electrician, Park-bldg., Pittsburg, Pa.
Bryan, Wm. H., consulting electrical & mechanical engineer, 315 & 316, Lincoln Trust-bldg., St. Louis, Mo. (Bell Teleph. Main No. 2182.)
Bryan-Marsh Co., manufacturers of incandescent lamps, Metropolitan-bldg., 1, Madison-ave., New York.
Bryan Water, Ice, Light & Power Co., Bryan, Tex.
Bryant, E. M., & Co., dealers in electrical supplies, electrical construction, 28, Hanover-st., Manchester, New Hampshire.
Bryant Electric Co., manufacturers of switches, &c., Bridgeport, Conn.
Bryant, F., & Co., electrical engineers & contractors, 728, Mass-ave., Cambridge, Mass.
Bryant, George W., & Co., electrolier manufacturers, 35, Hartford-st., Boston, Mass.
Bryant Zinc Co., manufacturers of electrical supplies, 158, West Van Buren-st., Chicago, Ill.
Bryder Electric Auto Co., electric motor carriages, 1948, East 55th-st., Cleveland, Ohio.
Bubeck & Guerin, makers of polished hard wood bases & boxes for electrical apparatus, 161–163, West 18th-st., New York, N.Y. (Teleph. No. 4119, Chelsea.)
Buchanan, J. F., & Co., electrical engineers & contractors, 1228, Race-st., Philadelphia, Pa.
Buchs County Electric Railway Co., Newton, Pa.
Buck, A. M., A.AM.I.E.E., assistant professor of electrical engineering, New Hampshire College, Durham, N.H.
Buck, H. W., M.AM.I.E.E., electrical engineer, 49, Wall-st., New York.
Buckeye Electric & Gas Appliance Co., 5242, Broadway, Cleveland, Ohio.
Buckeye Engine Co., builders of slow, medium & high speed automatic cut-off steam engines, 5, Franklin-ave., Salem, Ohio. (Telegrams: "Buckeye, Salem, Ohio.")
Buckhannon Light & Water Co., Buckhannon, West Virginia.
Buckingham, Charles L., A.AM.I.E.E., patent attorney, 38, Park-row, New York.
Buckminster, Geo. H., Co., dealers in electrical supplies, 155, Milk-st., Boston, Mass.
Bucyrus Gas & Electric Light Co., Bucyrus, Ohio.
Buehler, Joseph, electrical contractor, 571–573, 5th-ave., New York, N.Y. (Teleph. Nos. 6317 & 6318, Murray Hill.)
Buena Vista Electric Light & Power Plant, Buena Vista, Col.

Buffalo Electric Co. (E. P. McCormick), dealers in electric goods & electrical supplies, 17, West Mohawk-st., Buffalo, N.Y.

Buffalo Electric Contracting Co., installation contractors, 62, Niagara-st., Buffalo, N.Y.

Buffalo Electrical Laboratory, Erie Co. Bank-bldg., Buffalo, N.Y.

Buffalo Forge Co., makers of engines for electric lighting, Buffalo, N.Y. Branches at New York: Chicago, Ill.; & London. (Telegrams: "Forge, Buffalo;" & "Buffaloes, London.")

Buffalo Foundry & Machine Co., vacuum drying apparatus, 52, Winchester-ave., Buffalo, N.Y.

Buffalo General Electric Co., distributors of electricity, Buffalo, N.Y.

Buffalo & Lake Erie Traction Co., Buffalo, N.Y.

Buffalo & Niagara Falls Electric Light & Power Co., Niagara Falls, New York. (Telephone Nos. 175 & 275.)

Buker, C. W., electrical engineer & supplies, 1166, 5th-st., San Diego, Cal. (Teleph. No. 1657, Home.)

Bull, Storm, M.E., professor of steam engineering, Wisconsin University, Madison, Wis.

Bullard Machine Tool Co., makers of machinery, Bridgeport, Conn.

Bullock, George, M.AM.I.E.E., president, Susquehanna Railway, Light & Power Co., Howell-st., New York.

Bullock Electric Manufacturing Co. *See* Allis-Chalmers Co.

Bullock Wait Co., consulting engineers, 86, Lake-st., Chicago, Ill.

Bunce, Theodore D., expert in batteries, Storage Battery Supply Co., 239, East 27th-st., New York.

Bunnell, J. H., & Co., manufacturers of & dealers in telegraphs & electrical instruments & supplies, 20, Park-pl., New York, N.Y.

Burch, E. P., M.AM.I.E.E., consulting electrical engineer, 1210, Guaranty-bldg., Minneapolis, Minn.

Burckard, Wm. A., & Co., Inc., installation contractors, Norfolk, Va.

Burdett-Rowntree Manufacturing Co., electric dumbwaiters, Chicago, Ill.

Burdick, Dr. Gordon G., X-Ray Laboratory, 74, Madison-st., Chicago, Ill.

Burgess, Chas. Frederick, E.E., M.AM.I.E.E., electro-chemist & professor of applied electrochemistry, University of Wisconsin, Chemical Engineering-bldg., Madison, Wis.

Burgess Electric Co., manufacturing electricians, 312, West 1st-st., Duluth, Minn.

Burgess-Granden Co., installation contractors, Omaha, Neb.

Burgess, J., & Sons, manufacturers of gasoline furnaces for electricians' use, Columbus, Ohio.

Burkart, Joseph, electrician, 1123, Broadway, New York. (Telephone No. 392, Madison-sq.)

Burkart Electrical Co., installation contractors, 1123, Broadway, New York.

Burke, Jas., M.AM.I.E.E., electrical engineer, Burke Electric Co., Erie, Pa.

Burke Electric Co., manufacturers of dynamo & electric machines, Erie, Pa.

Burke Electrical Works, installation contractors, New Orleans, La.

Burkett, C. W., E.E., A.AM.I.E.E., chief engineer, Pacific Telephone & Telegraph Co., San Francisco, Cal. (Teleph. No. 4100, Kearny.)

Burkholder, C. I., M.AM.I.E.E., electrical engineer, manager Operating Department, Southern Power Co., Charlotte, N.C.

Burleigh, Chas. B., M.AM.I.E.E., M.AM.S.M.E., &c., General Electric Co., 84, State-st., Boston, Mass.

Burleigh, H. W., electrical engineer, Main Street Station, Franklin, N.H. (Long Distance Teleph. No. 11-3, Franklin, N.H.)

Burlingame, A., Co., makers of high speed automatic engines & wood pulleys, &c., 22, Cypress-st., Worcester, Mass.

Burlington County Railway Co., Hainesport, N.J.

Burlington Electric Light & Power Co., Burlington, N.J.

Burlington Light & Power Co., Burlington, Wis.

Burlington Light & Power Co., Burlington, Vt.

Burlington Traction Co., Burlington, Vt.

Burnet Co., dealers in electrical supplies, 121, Maiden-lane, New York.

Burnett, Douglas, M.AM.I.E.E., manager, Electrical Dept., Consolidated Gas, Electric Light & Power Co., Continental-bldg., Baltimore, Md.

Burnham, Williams, & Co., makers of electric, steam & compressed air locomotives, Baldwin Locomotive Works, 500, North Broad-st., Philadelphia. Sanders & Co., agents, 110, Cannon-st., London, Eng. (Telegrams: "Sanders, London." Telephone Nos.: Nat. 5636, Bank; P.O. 8882, Central.)

Burnley Battery & Manufacturing Co., primary batteries, North-East, Pa.

Burns, D. J., dealer in electrical supplies, 46, Genesee-st., Auburn, N.Y.

Burns, Jas. F., electrical works, contractor & dealer in electrical supplies, 442, State-st., Schenectady, N.Y. (Teleph. No. 90.)

Burns, O. C., M.AM.I.E.E., electrical operator, Manhattan Railway Co., 74th-st. & East River, New York.

Burns, T. J., & Co., dealers in electrical supplies, Lynchburg, Va.

Burr, Clifford B., electrical contractor, 100, Main-st., Ansonia, Conn.

Burr, Garrett S., installation contractor, Hackensack, N.J. (Teleph. No. 294.)

Burrill, Elvyn, consulting electrical engineer, railway, lighting & power plants, 25, California-st., San Francisco, Cal.

Burroughs, Harris S., electrical engineer, 19, William-st., New York, N.Y.
Burry, J., printing telegraphs, 654, Hudson-st., New York. (Telegs.: "Burryjohn, New York." Teleph. No. 1537, Chelsea.)
Burt, Byron T., M.AM.I.E.E., general manager, Chattanooga Electric Co., Chattanooga, Tenn.
Burt Manufacturing Co., oil filters, exhaust heads & ventilators, Akron, Ohio.
Burtchaell, J. W., electrolier manufacturers, 778–780, Mission-st., San Francisco, Cal.
Buschmann, A. J., Co., electrical engineers & installation contractors, 72, West 38th-st., New York.
Bush, Charles S., Co., electrical supplies & construction, 17, 19 & 21, Richmond-st., Providence, R.I. (Telegrams: "Bush, Providence"); & 161, Milk-st., Boston, Mass. (Telegrams: "Claybush, Boston.")
Bushnell, A., telegraph poles & mast-arms, S.E. corner 9th & Broadway, Kansas City, Mo.
Butler, H. W., M.AM.I.E.E., engineer, Manhattan Railway Co., 56, East 50th-st., New York.
Butler Hard Rubber Co. *See* AMERICAN HARD RUBBER CO.
Butler Light, Heat & Motor Co., Butler, Pa.
Butler Passenger Railway Co., Butler, Pa.
Butte Electric & Power Co., Butte, Mont.
Butte Electric Railway Co., Butte, Mont.
Butte Electric Supply Co., jobbers & contractors, 44, East Broadway, Butte, Mont.
Butte Engineering & Electric Co., installation contractors, 683, Howard-st., San Francisco, Cal.
Buxbaum & Cooley, installation contractors, 64, West Columbia-st, Seattle, Wash.
Byesville Glass & Lamp Co., makers of arc light & incandescent globes & shades, Byesville, Ohio.
Byllesby, H. M., & Co., electrical engineers, Clark & Monroe-sts., Chicago, Ill.
Byrne, Thomas W., consulting electrical engineer, 8, Doane-st., Boston, Mass. (Telegs.: "Burnboston, Boston.")
Byromville Manufacturing Co., Byromville, Ga.

C. & C. Electric Co., dynamo manufacturers, 149, Broadway, New York.
C. O. D. Electric Works, installation contractors, 217½, West 1st-st., Los Angeles, Cal.
Cabot, F. E., A.AM.I.E.E., electrical inspector, Board of Underwriters, 55, Kilby-st., Boston, Mass.
Cahn Electric Co., medical electricians & instrument makers, 1430, Welton-st., Denver, Col. (Teleph. No. 3117, Main.)
Cahoon, J. B., M.AM.I.E.E., AM.S.M.E., consulting engineer, 42, Broadway, New York. (Telegs.: "Cahrae, New York." W.U. Code.)
Cairo Electric & Traction Co., Cairo, Ill.
Calais Street Railway Co., Calais, Maine.
Caldwell, Edward, A.AM.I.E.E., McGraw-Hill Book Co., 239, West 39th-st., New York.
Caldwell, E. W., M.D., A.AM.I.E.E., 480, Park-ave., New York. (Teleph. No. 5477, Plaza.)
Caldwell, F. C., M.AM.I.E.E., professor of electrical engineering, Ohio State University, Columbus, Ohio (Teleph. No. Cit. 99330); & chief engineer, Electrical Dept., National Engineering Co.
Caldwell, E. F., & Co., electrolier manufacturers & fitters, 39, West 15th-st., New York.
California Artistic Metal & Wire Co., electrolier manufacturers, San Francisco, Cal.
California Electric Co., dealers in electrical supplies, 117, East 7th-st., Los Angeles, Cal.
California Electric Construction Co., installation contractors, San Francisco, Cal.
California Electric Construction Co., installation contractors, 44, West San Fernando-st., San Jose, Cal.
California Electrical Works, jobbers of electrical supplies, 507, 16th-st., Oakland, Cal.
California Gas Fixture Co., manufacturers of gas & electric fixtures, 357-359, Ellis-st., San Francisco, Cal.
California Incandescent Lamp Co., factory agents, 671, Mission-st., San Francisco, Cal.
Calvert Water, Ice & Electric Light Co., Calvert, Tex.
Cambridge Electric Light Co., Cambridge, Mass.
Camden & Co., electrical contractors, 714, Market-st., Parkersburg, W. Va.
Camden Water, Light & Ice Co., Camden, S.C.
Camden Water Wheel Works, turbine manufacturers, Camden, N.Y.
Cameron, E. A., electrical contractor, 126, Smith-st., Dunmore, Pa.
Cameron, A. S., Steam Pump Works, 433, East 23rd-st., New York.
Cameron Appliance Co., telephone apparatus manufacturers, Bartlett-st., Everett, Mass.
Cameron & Co., manufacturing electricians, 294, Dearborn-st., Chicago, Ill.
Cameron Electric Manufacturing Co., manufacturing electricians, Ansonia, Conn.
Camp, H. B., Co., conduit manufacturers, Aultman, Ohio.
Campbell, John, A.AM.I.E.E., superintendent Special Service Department, Edison Electric Illuminating Co., 30, Boylston-st., Boston, Mass.
Campbell, W. L., A.AM.I.E.E., assistant superintendent, Automatic Electric Co., Chicago, Ill.
Campbell, William R., electrical contractor, 926, Sansom-st., Philadelphia, Pa.
Campbell Electric Co., installation contractors, 154, Court-pl., Denver, Col.
Campbell Electric Co., Roentgen apparatus makers & dealers, Lynn, Mass.

Campbell Electrical Co., Inc., installation contractors, 141, South Highland-ave., Pittsburgh, Pa.
Campbell, John, Co., electrolier manufacturers & fitters, 9, Bond-st., New York.
Campbell, W. A., & Co., electrical contractors, 193, 31st-st., Chicago, Ill.
Cann, George W., & Co., electrical supplies, 324, Broadway, Logansport, Ind. (Telephone No. 454.)
Cannell, Joseph J., & Co., electrical contractors, Everett-sq., Everett, Mass. (Teleph. Nos. 46-2 & 89-3.)
Canton Gas & Electric Co., Canton, Ill.
Canton General Electric Co., Canton, S.D.
Canton Glass Co., specialties in electric work, Marion, Ind.
Canton Light, Heat & Power Co., Canton, Ohio.
Cape Fear Power Co., Fayetteville, N.C.
Cape Girardeau & Jackson Rail Road Co., Cape Girardeau, Mo.
Cape Girardeau Water Works & Light Co., Cape Girardeau, Mo.
Cape May, Delaware Bay & Sewell's Point Railroad Co., Cape May City, N.J.
Cape May Light & Power Co., Cape May City, N.J.
Capital Electric Co., dealers in electrical supplies, Salt Lake City, Utah.
Capital Electric Co., installation contractors, 18, North 7th-st., Richmond, Va.
Capital Electric Light, Motor & Gas Co., Boise City, Idaho.
Capital Gas & Electric Light Co., Frankfort, Ky.
Capital Light & Power Co., Jackson, Miss.
Capitol Electric Co., installation contractors, 167, West Broad-st., St. Paul, Minn.
Capitol Electric Engineering Co., electrical contractors & supply dealers, Lansing, Mich.
Carbon Street Railway Co., Mauch Chunk, Pa.
Carborundum Co., Niagara Falls, N.Y. (Telegrams: "Carborundum, Niagara Falls.")
Carey, Geo. H., dealer in steel rails, steam & electric tramway supplies, 1, Broadway, New York. (Telegrams: "Torniscon, New York." A.B.C., A1 & Western Union Codes.)
Carhart, Henry S., LL.D., M.I.E.E., M.AM.I.E.E., professor of physics, & director of the Physical Laboratory, University of Michigan, Ann Arbor, Mich.
Carichoff, E. R., M.AM.I.E.E., Railway Engineering Dept., General Electric Co., Schenectady, N.Y.
Carlisle & Finch Co., manufacturers of electrical specialties, 229, East Clifton-ave., Cincinnati, Ohio.
Carlisle Gas & Water Co., Carlisle, Pa.
Carlisle & Mount Holly Railway Co., Carlisle, Pa.
Carlon Street Railway Co., Manch Chunk, Pa.
Carlton, Guy, electrical contractor, Hoblit-bldg., 528, North Main-st., Bloomington, Ill. (Teleph. Nos.: 620x, Bell; & 121, Kinloch.)
Carman & Fryer, installation contractors, Indianapolis, Ind.
Caro Light & Power Co., Caro, Mich.
Carolina Light & Power Co., Aiken, S.C.
Carolina Pole Co., P.O. Box 212, Wilmington, N. Ca.
Carondelet Electric Light & Power Co., St. Louis, Mo.
Carpenter, C. E., A.AM.I.E.E., Carpenter Elec. Res. Co., 136, Liberty-st., New York.
Carpenter, D. K., corporation electrical supplies, 37, Belmont-st., Brockton, Mass.
Carpenter, H. V., M.AM.I.E.E., professor of mechanical & electrical engineering, Wash. State College, Pullman, Wash.
Carpenter Electric Light & Power Co., Catlettsburg, Ky.
Carpenter, J. M., Tap & Die Co., manufacturers of screw-cutting tools, die stocks, &c., Pawtucket, R.I.
Carpenter, Walter D., Co., lubricant manufacturers, 39, Cortlandt-st., New York.
Carr, T. F., & Co., electricians & dealers in electrical supplies, 220, Columbus-ave., New York, N.Y.
Carrier, A. E., electric carbons & batteries, 220, Broadway, New York.
Carroll, Wm., city electrician, City Hall, Chicago, Ill.
Carroll Electric Co., engineers & installation contractors, 14th-st. & New York-ave., Washington, D.C.
Carroll Light & Heat Co., Carroll, Iowa.
Carrollton Electric Co., Carrollton, Ga.
Carson, David I., secretary & treasurer Southern Bell Telephone & Telegraph Co., 78, South Pryor-st., Atlanta, Ga.
Carson, Howard A., chief engineer, Boston Transit Commission, Boston, Mass.
Carstarphen Electric Co., supplies, 20, 22 & 24, West Colbox-ave., Denver, Col. (Teleph. No. 2818.)
Carter, A. S., dealers in electrical supplies, 531, 16th-st., Denver, Col. (Teleph. Main No. 3366.)
Carter Electric Co., electrical engineers & contractors, 229, Main-st., Springfield, Mass.
Carter Electric Co., installation contractors, Lewis-bldg., Pittsburgh, Pa.
Carter, F. C., & Co., installation contractors, 719, Walnut-st., Philadelphia, Pa. (Teleph. Nos.: Bell, 11-71D, Walnut; & Keystone, 57-79D, Main.)
Carter & Gillespie Electric Co., electrical contractors & engineers, 40, North Broad-st., Atlanta, Ga. (Telephone No. 5000.)
Carter, W. E., Electric Co., jobbers of electrical supplies, Atlanta, Ga.
Carteret Electric Light & Power Co., Carteret, N.J.

Carthage Electric Light & Heating Co., Carthage, Ill.
Carthage Electric Light & Power Co., Carthage, N.Y.
Carty, J. J., M.AM.I.E.E., chief engineer, American Telephone & Telegraph Co., 15, Dey-st., New York.
Cary, Edward E., Co., Inc., importers of electrical specialties, 59, Park-pl., New York, N.Y.
Cascade Gas & Electric Fixture Co., chandelier manufacturers, Seattle, Wash.
Cascade Light & Power Co., Berlin, N.H.
Case, Willard E., A.AM.I.E.E., electrical engineer, 196, Genesee-st., Auburn, N.Y.
Case Bros., manufacturers of insulating boards, Highland Park, Conn.
Case Manufacturing Co., makers of electric cranes, Columbus, Ohio.
Casey, A. C., Co., Incorporated, electric light fixtures, 894, Westminster-st., Providence, R.I. (Telephone No. 1303, Main.)
Casey & Hedges Manufacturing Co., manufacturers of automatic engines, Chattanooga, Tenn.
Cassidy & Son Manufacturing Co., manufacturers of electric & gas fixtures, 135, West 23rd-st., New York.
Cassier Magazine Co., 12, West 31st-st., New York; & 33, Bedford-st., Strand, London, W.C. (Telegs.: "Cassier, New York;" "Cassier, London.")
Castner Electrolytic Alkali Co., Niagara Falls, N.Y.
Cataract Construction Co., 35, Wall-st., New York; & Niagara Falls, N.Y. (Telegrams: "Poikilite, New York.")
Cataract Electric Supply Co., jobbers of electrical material & apparatus, sole agents for General Electric Co., 11 & 13, West Swan-st., Buffalo, N.Y.
Cataract Electrical School, Erie Co. Bank-bldg., Buffalo, N.Y.
Cataract Power & Conduit Co., 718, Fidelity-bldg., Buffalo, N.Y.
Catskill Electric Railway Co., Catskill, N.Y.
Catskill Foundry & Machine Works, manufacturers of motor gears & pinions, Catskill, N.Y. (Teleph. No. 153—L.)
Catskill Illuminating & Power Co., Catskill, N.Y.
Cawood Mica Co., Inc., mica merchants, 367, Ellicott-st., Buffalo, N.Y.
Cazenovia Electric Co., electric light contractors, Cazenovia, N.Y.
Cecil, Thomas, M.AM.I.E.E., chief electrician, 514, West 134th-st., New York.
Cedar Rapids & Iowa City Railway & Light Co., Cedar Rapids, Iowa.
Cedar Rapids Electric Supply Co., electrical contractors, Cedar Rapids, Iowa.
Cedar Rapids & Marion City Railway Co., Cedar Rapids, Iowa.
Celina Electric Light Plant, Celina, Ohio.
Centaur Motor Co., makers of electric vehicles, 59, Franklin-st., Buffalo, N.Y. (Telegs.: "Wilston, Buffalo.")
Centerville Light & Traction Co., Centerville, Iowa.
Central Arizona Electric Co., Octave, Ariz.
Central California Electric Co., Sacramento, Cal.
Central City Brass & Manufacturing Co., manufacturers of rail bonds, Syracuse, N.Y.
Central Colorado Power Co., Denver, Col.
Central Construction Co., manufacturers of electric signs, Oshkosh, Wis.
Central District & Printing Telegraph Co., The (M. H. Buehler, general manager), Telephone-bldg., 7th-ave., & Montour Way, Pittsburgh, Pa.
Central Electric Co., wholesale dealers in electrical machinery & supplies, Greensboro, N.C.
Central Electric Co., installation contractors, 124, Broadway, Detroit, Mich.
Central Electric Co., installation contractors, Colorado Springs, Col.
Central Electric Co., electrical contractors, 15, East Canal-st., Cincinnati, Ohio.
Central Electric Co., jobbers of electrical supplies, 264, 5th-ave., Chicago, Ill.
Central Electric Co., installation contractors, supplies & fixtures, South Bend, Ind.
Central Electric Co., installation contractors, Waco, Tex.
CENTRAL ELECTRIC LIGHTING, POWER & TRACTION STATIONS. See LIGHT, POWER & TRACTION COMPANIES (ELECTRIC) IN CLASSIFIED SECTION.
Central Electrical Supply Co., installation contractors, 29, West 15th-st., New York.
Central Hudson Construction Co., electrical contractors, 50, Market-st., Poughkeepsie, N.Y.
Central Indiana Lighting Co. (Alexandria Division), Alexandria, Ind. (Teleph. Nos.: 7, Bell; & 8, D. & M.)
Central Indiana Lighting Co., Bloomington, Ind.
Central Iron Works, makers of electric elevators, Quincy, Ill.
Central Laboratory Supply Co., electrical, mechanical & physical laboratory apparatus manufacturers, Lafayette, Ind.
Central Light & Power Co., San Francisco, Cal.
Central Machine Co., manufacturing electricians, Niagara Falls, N.Y.
Central Manufacturing Co., manufacturers of insulator pins & cross-arms, Chattanooga, Tenn. (Telegs.: "Crossarms, Chattanooga.")

Central Pennsylvania Traction Co., 12, South Market-sq., Harrisburg, Pa.
Central & South American Telegraph Co. (J. A. Scrymser, president; J. R. Beard, secretary), 66, Broadway, New York.
Central Station, The (monthly; subscriptions, U.S. $1, Foreign $2), 220, Broadway, New York.
Central Station Improvement Co., electrical machinery dealers, Monadnock-blk., Chicago, Ill.
Centralia Gas & Electric Co., Centralia, Ill.
Centre & Clearfield Street Railway Co., Philipsburg, Pa.
Century Electric Co., manufacturers of electric motors, 19th & Olive-sts., St. Louis, Mo.
Century Electric Co. of San Jose, installation contractors, 20, South Market-st., San Jose, Cal.
Century Electric & Fixture Co., dealers in electrical supplies, 1375, Broadway, Oakland, Cal.
Century Glass Co., makers of globes & shades, Bellaire, Ohio.
Century Telephone Construction Co., equippers of telephone exchanges, 1738, Elmwood-ave., Buffalo, N.Y.
Chadbourn, Henry, solicitor of patents, 22, Congress-st., Boston, Mass. (Main Telephone No. 4635-1.)
Chadwick Boston Lead Co., electric cables & wires a specialty, Boston, Mass.
Chadwick & Trefather, electric light & power installations, Portsmouth, N.H. (Teleph. No. 328-12.)
Chambers Bros. & Co., railway appliance manufacturers, North 52nd-st., Philadelphia, Pa.
Chambersburg Electric Light Department, Chambersburg, Pa.
Chambersburg, Greencastle & Waynesboro' Street Railway Co., Waynesboro', Pa.
Champaign Gas & Electric Supply Co., installation contractors, Champaign, Ill.
Chandler, Charles F., M.AM.I.E.E., M.D., PH.D., D.SC., LL.D., professor of chemistry, Columbia University, 116th-st. & Amsterdam-ave., New York. (Teleph. No. 121, Morningside.)
Chandler & Taylor Co., makers of the Chandler & Taylor single cylinder & compound automatic cut-off engines for electric lighting, Indianapolis, Ind. (Telegrams: "Phœnix, Indianapolis.")
Chapin, Chas. E., manufacturer of woven wire dynamo brushes, 27, Thames-st., New York.
Chapman, F. A., electrical engineer, contractor & supply dealer, 126, S. Kentucky-ave., Atlantic City, N.J.
Chapman, P. E., electrical engineer, 17, North 10th-st., St. Louis, Mo. (Bell Teleph. Main No. 3836.)
Chapman, Geo. M., & Co., general electricians & contractors, 43, East Main-st., Waterbury, Conn.
Charleston Consolidated Railway, Gas & Electric Co., electrical contractors, 141, Meeting-st., Charleston, S.C.
Charleston Electrical Supply Co., 217, Hale-st., Charleston, W. Va.
Charleston Illuminating Co., Charleston, Ill.
Charlestown Gas & Electric Co., Boston, Mass.
Charlotte Electric Railway, Light & Power Co., Charlotte, N.C.
Charlottesville & Albermarle Railway Co., Charlottesville, Va.
Charm Electric Co., installation contractors, 115, Leverett-st., Boston, Mass.
Charter Gas Engine Co., makers of the Charter gas engine, &c., Sterling, Ill.
Chase, E. O., electrical engineer & manufacturer, 46-54, Lawrence-st., Newark, N.J. (Telephone No. 850-L.)
Chase, Walter H., electrical engineer, 17, Bromfield-st., Boston, Mass.
Chase Electric Sign Co., makers of electric signs, Franklin-st., Chicago, Ill.
Chase-Shawmut Co., electrical specialties, Newburyport, Mass.
Chase Turbine Manufacturing Co., makers of the "Chase" turbine water-wheel, Orange, Mass.
Chatfield Electric Light & Power Co., Chatfield, Minn.
Chatham Electric Light, Heat & Power Co., Chatham, N.Y.
Chattanooga Armature Works, manufacturing electricians, Chattanooga, Tenn. (Telegs.: "Chatarm, Chattanooga." Teleph. No. 14, Hemlock.)
Chattanooga Electric Railway Co., Chattanooga, Tenn.
Chattanooga Machinery Co., machinery for making electrical insulator pins, brackets & cross-arms, Chattanooga, Tenn. (Telegs.: "Radcliffe, Chattanooga." Teleph. No. 4700-4701.)
Chelsea Electric Light & Robbin Co., Chelsea, Vt.
Chelsea Gas Light Co., 8, Everett-ave., Chelsea, Mass. (Teleph. No. 19.)
Chemical & Electrical Co., electrozone manufacturers, 45, Broadway, New York.
Cherokee Electric Light & Power Co., Cherokee, Iowa.
Chesapeake & Potomac Telephone Co., The (A. P. Crenshaw, sec.), 722, 12th-st., Washington, D.C.
Chesapeake Supply Co., dealers in electrical supplies, 1009, 9th-st., N.W., Washington, D.C.
Chesney, C. C., M.AM.I.E.E., first vice-president & chief engineer, Stanley Electric Manufacturing Co., Pittsfield, Mass.
Chester, M. E., A.AM.I.E.E., telephone engineer, Western Electric Co., 463, West-st., New York.
Chester Light & Ice Plant, Chester, Ill.
Chester Traction Co., Chester, Pa.
Chester Valley Electric Light, Heat & Power Co., Downingtown, Pa.
Chester, Wm. S., Co., electricians, 43, East 8th-st., New York. (Teleph. Nos. 90 & 91, Gramercy.)
Cheyenne Light, Fuel & Power Co., Cheyenne, Wyoming.
Cheyne, F. H., Electric Co., electrical contractors & supply dealers, 115 117, East Ohio-st., Indianapolis, Ind. (Teleph. Nos.: Main, 94; & New, 654.)

Cheyney, W. Irwin, & Co., electrical contractors, 1305, Race-st., Philadelphia, Pa.
Chicago Battery Co., Duro storage batteries, 1400, Michigan-ave., Chicago, Ill. (Telegs.: "Duro, Chicago.")
Chicago Belting Co., manufacturers of leather belting, 67 & 69, South Canal-st., Chicago, Ill.
Chicago City Railway Co., First National Bank-bldg., Chicago, Ill.
Chicago Consolidated Traction Co., Chicago, Ill.
Chicago Department of Electricity, Chicago, Ill. Wm. Carroll, city electrician.
Chicago Electric Manufacturing Co., repair shops, 69, West Van Buren-st., Chicago, Ill.
Chicago Electric Meter Co., recording instrument makers, Chicago, Ill.
Chicago Electric Protective Co., burglar alarm & patrol service, 159, Lasalle-st., Chicago, Ill. (Teleph. No. 3183, Main.)
Chicago Electrical Equipment Co., installation contractors, 83, West Jackson-boul., Chicago, Ill.
Chicago Fuse-wire & Manufacturing Co., 64, North Jefferson-st., Chicago, Ill.
Chicago Gas & Electric Fixture Manufacturing Co., manufacturers of gas & electric fixtures, 19, South Jefferson-st., Chicago, Ill.
Chicago General Fixture Co., manufacturers of electric fixtures, 45 & 47, East Lake-st., Chicago, Ill.
Chicago, Harvard & Geneva Lake Railway Co., Walworth, Wis.
Chicago Insulated Wire Co., manufacturers of insulated wires, 152 & 154, Lake-st., Chicago, Ill.
Chicago & Joliet Electric Railway Co., Joliet, Ill.
Chicago Lamp & Reflector Co., 17, Blue Island-ave., Chicago, Ill.
Chicago Mica Co., mica supplies, Valparaiso, Ind.
Chicago Non-Magnetic Watch Co., watch makers (non-magnetizable), 156, Wabash-ave., Chicago, Ill.
Chicago & Oak Park Elevated R.R. Co., Chicago, Ill.
Chicago Pneumatic Tool Co., electric drills, New York, N.Y.
Chicago Railways Co., Chicago, Ill.
Chicago Rawhide Manufacturing Co., gears & pinions, 79, Ohio-st., Chicago, Ill.
Chicago Slate & Mantel Co., Chicago, Ill.
Chicago Solder Co., self-fluxing solder manufacturers & merchants, 44, North Union-st., Chicago, Ill.
Chicago, South Bend & Northern Indiana Railway Co., South Bend, Ind.
Chicago Suburban Water & Light Co., Oak Park, Ill.
Chicago Telephone Co. (C. E. Mosley, secretary & treasurer), Telephone-building, 203, Washington-street, Chicago, Ill.
Chicago Water, Motor & Fan Co., manufacturers of fans, motors & gas engines, 22, South Canal-st., Chicago, Ill.
Chico Gas & Electric Co., Chico, Cal.
Chicopee Municipal Electric Light Plant, Chicopee, Mass.
Childers & Waters Co., electrical contractors & supplies, 108, North 4th-st., Louisville, Ky. (Teleph. No. 135–M 589–A, Main.)
Childs, A. E., M.SC., president Massachusetts Lighting Cos., 131, State-st., Boston, Mass. (Telegs.: "Lihepowco, Boston." Teleph. No. 3089, Main.)
Chillicothe Electric Light & Water Works, Chillicothe, Ill.
Chillicothe Electric Railroad Light & Power Co., Chillicothe, Ohio.
Chipman, W. E., & Co., installation contractors, 62, Sudbury-st., Boston, Mass.
Chippewa Falls Water Works & Lighting Co., Chippewa Falls, Wis.
Chippewa Valley Electric R.R. Co., Eau Claire, Wis. (Teleph. No. 48, Black.)
Chloride of Silver Dry Battery Co., makers of medical & test batteries & accessories, 407 & 409, North Paca-st., Baltimore, Md. (Cable address: "Chloride, Baltimore." Long distance telephone.)
Christesen, C. A., electrician, 452, Amsterdam-ave., New York. (Telephone No. 2067, Riverside.)
Christiana Machine Co., makers of turbine water wheels, Christiana, Pa.
Christie, Wm. W., consulting electrical engineer, 140, Market-st., Paterson, N.J.
Chrome Steel Works, crucible castings, Chrome, N.J.
Chubbuck, H. E., M.AM.I.E.E., general manager, Western Railway & Light Co., Ottawa, Ill.
Churcher Electric & Manufacturing Co., manufacturers of specialties, 132, Opera-pl., Cincinnati, Ohio.
Churchward, Alex, M.AM.I.E.E., electrical engineer, General Electric Co., 30, Church-st., New York.
Chutes Electric Co., installation contractors, 1831, South Main-st., Los Angeles, Cal.
Cincinnati & Columbus Traction Co., Commercial Tribune-bldg., Cincinnati, Ohio.
Cincinnati Electric Construction Co., electrical contractors, 415, West 4th-st., Cincinnati, Ohio. (Teleph. No. 2040, Main.)
Cincinnati Electrical Tool Co., manufacturers of electrical tools, 650–652, Evans-st., Cincinnati, Ohio. (Telegs.: "Electool, Cincinnati." Teleph. No. W. 316.)
Cincinnati Elevator Works, makers of electric elevators, 216, West 2nd-st., Cincinnati, Ohio.
Cincinnati Gas & Electric Co., Cincinnati, Ohio.
Cincinnati, Georgetown & Portsmouth Railroad, Cincinnati, Ohio.
Cincinnati, Lawrenceburg & Aurora Electric Street Railroad Co., Cincinnati, Ohio.
Cincinnati, Milford & Loveland Traction Co., Cincinnati, Ohio.

Cincinnati Milling Machine Co., Cincinnati, Ohio.
Cincinnati, Newport & Covington Light & Traction Co., Covington, Ky.
Cincinnati Northern Traction Co., The, Cincinnati, Ohio.
Cincinnati & Suburban Bell Telephone Co., Telephone-bldg., Cincinnati, Ohio. (Telephone No. 85, Main.)
Cincinnati Tool Co., manufacturers of electricians' tools, &c., Norwood, Cincinnati, Ohio.
Circleville Light & Power Co., Circleville, Ohio.
Citizens' Electric Co., Battle Creek, Mich.
Citizens' Electric Co., installation contractors, Des Moines, Iowa.
Citizens' Electric Co., Eureka Springs, Ark.
Citizens' Electric Illuminating Co., Pittston, Pa.
Citizens' Electric Light Co., Shenandoah, Pa.
Citizens' Electric Light, Heat & Power Co., Altoona, Pa.
Citizens' Electric Light, Heat & Power Co., McDonald, Pa.
Citizens' Electric Light, Heating & Power Co., Slatington, Pa.
Citizens' Electric Light & Power Co., of Delaware Co., Clifton Heights, Pa.
Citizens' Electric Light & Power Co., Cordele, Ga.
Citizens' Electric Light & Power Co., East St. Louis, Ill.
Citizens' Electric Light & Power Co., Lebanon, Ind. (Teleph. Nos. 17, Bell & New.)
Citizens' Electric Street Railway Co., Newburyport, Mass.
Citizens' Gas & Electric Co., Council Bluffs, Iowa.
Citizens' Gas & Electric Co., Elyria, Ohio.
Citizens' Gas & Electric Co., Lorain, Ohio.
Citizens' Gas & Electric Co., Pekin, Ill.
Citizens' Gas & Electric Co., Trenton, Mo.
Citizens' Gas, Electric & Heating Co., Mount Vernon, Ill.
Citizens' Gas, Electric & Power Co. of Nantucket, Nantucket, Mass. (Teleph. No. 9-12.)
Citizens' Light, Heat & Power Co., Eagle Grove, Iowa.
Citizens' Light, Heat & Power Co., Johnstown, Pa.
Citizens' Light, Heat & Power Co., Montgomery, Ala.
Citizens' Light & Power Co., Adrian, Mich.
Citizens' Light & Power Co., Fort Worth, Tex.
Citizens' Light, Power & Water Co., Ketchikan, Alaska.
Citizens' Light & Transit Co., Pine Bluff, Ark.
Citizens' Lighting Co., La Salle, Ill.
Citizens' Railway & Light Co., Fort Worth, Tex.
Citizens' Railway Light Co., Muscatine, Iowa.
Citizens' Railway, Light & Power Co., Newport News, Va.
Citizens' Water & Light Co., Shelbyville, Ind.
Citizens' Water & Light Co., Winchester, Ind.
City Electric Light Plant, Alexandria, Minn.
City Electric Light Plant, Allegheny, Pa. (Telephone No. 421.)
City Electric Light Plant, Ames, Iowa.
City Electric Light Plant, Bloomfield, Iowa.
City Electric Light Plant, Blue Island, Ill.
City Electric Light Plant, Bowling Green, Ky.
City Electric Light Plant, Brainerd, Minn.
City Electric Light Plant, Chicago, Ill.
City Electric Light Plant, Coldwater, Mich.
City Electric Light Plant, Columbus, Ind.
City Electric Light Plant, Danvers, Mass.
City Electric Light Plant, Dover, Del.
City Electric Light Plant, Dunkirk, N.Y.
City Electric Light Plant, Easton, Pa.
City Electric Light Plant, Falls City, Neb.
City Electric Light Plant, Galion, Ohio. (Telephone Nos.: 14, Bell; & 160, Home.)
City Electric Light Plant, Galveston, Tex.
City Electric Light Plant, Goshen, Ind.
City Electric Light Plant, Greenfield, Ind.
City Electric Light Plant, Indianola, Iowa. (Telephone No. 75, Mutual.)
City Electric Light Plant, Jamestown, N.Y.
City Electric Light Plant, Kalamooza, Mich.
City Electric Light Plant, Lewiston, Maine.
City Electric Light Plant, Litchfield, Minn.
City Electric Light Plant, Little Rock, Ark.
City Electric Light Plant, Lyons, Iowa.

City Electric Light Plant, Madison, N.J.
City Electric Light Plant, Marquette, Mich.
City Electric Light Plant, Marshalltown, Iowa. Fred Deal, electrician.
City Electric Light Plant, Muncie, Ind.
City Electric Light Plant, North Attleboro, Mass.
City Electric Light Plant, Northfield, Vt.
City Electric Light Plant, Owensboro, Ky.
City Electric Light Plant, Paris, Ill.
City Electric Light Plant, St. Charles, Mo.
City Electric Light Plant, St. Joseph, Mo.
City Electric Light Plant, Savannah, Mo.
City Electric Light Plant, Stuart, Iowa.
City Electric Light Plant, Swanton, Vt.
City Electric Light Plant, Topeka, Kan.
City Electric Light Plant, Waseca, Minn.
City Electric Light Plant, Wheeling, W. Va.
City Electric Light Plant, Ypsilanti, Mich.
City Electric Light & Power Plant, Hannibal, Mo.
City Electric Light & Power Plant, Richmond, Ind.
City Electric Light & Power Plant, Seattle, Wash. (Teleph. No. 1457, Main.)
City Electric Light & Water Plant, Batavia, Ill.
City Electric Light & Water Plant, Holland, Mich.
City Electric Light & Water Plant, Troy, Ala.
City Electric Light & Water Works Plant, Lansing, Mich.
City Electric Lighting Co. of Vincennes, Vincennes, Ind. (Old Teleph. Nos. 214 & 213; New 56 & 120.)
City Electrical Co., installation contractors, 753, Main-st., Hartford, Conn.
City & Elm Grove Railway Co., Wheeling, W. Va.
City Gas & Electric Co., Paris, Ill.
City Gas & Electric Works, installation contractors, 607, South Olive-st., Los Angeles, Cal.
City Heat & Light Co., Fostoria, Ohio.
City of Austin Light & Power Plant, Austin, Minn.
City of Bloomington Water & Light Department, Bloomington, Ill.
City of Brookings Electric Light, Brookings, S. Dakota.
City of Hamilton Electric Lighting Plant, Hamilton, Ohio.
City Railroad Co., Dayton, Ohio.
City Water & Light Plant, Gainesville, Ga.
City Water & Light Plant, Rushville, Ind.
Claremont Power Co., Claremont, N.H.
Claremont Railway & Lighting Co., Claremont, N.H.
Clark, C. M., A.AM.I.E.E., Clark & MacMullen, 20–22, Broad-st., New York, N.Y.
Clark, Eugene Bradley, M.AM.I.E.E., American Sintering Co., Chicago, Ill.
Clark, Edward, electric motor carriage, 272, Freeport-st., Boston, Mass.
Clark, E. H., electric bell work, 19, Washington-st., Long Branch, N.J.
Clark, E. W., manufacturer of wire covering machinery, 31, Wells-st., Hartford, Conn.
Clark, Le Roy, jun., M.AM.I.E.E., vice-president Safety Insulated Wire & Cable Co., 114, Liberty-st., New York, N.Y.
Clark, Norman F., A.AM.I.E.E., W. E. Baker & Co., 27, William-st., New York.
Clark, Wm. J., A AM.I.E.E., general manager Foreign & Traction Department, General Electric Co., 30, Church-st., New York.
Clark, Wallace S., A.AM.I.E.E., engineer, Wire, Cable & Tube Department, General Electric Co., Schenectady, N.Y.
Clark Automatic Telephone Switchboard System, manufacturers of telephones & switchboards, 90, Weybosset-st., Providence, R.I.
Clark Bros., manufacturers of steam engines for electrical purposes, Belmont, N.Y.
Clark Electric Co., manufacturers of wireless telegraph, telephone instruments & electrical apparatus, 176, Jefferson-st., Detroit, Mich. (Teleph. No. 3101.)
Clark Electric & Manufacturing Co., manufacturers of insulator clamps, &c., 135, Broadway, New York.
Clark Electric Meter Co., makers of electric measuring instruments, 141, S. Clinton-st., Chicago, Ill.
Clark, J., jun., Electric Co., electrical supplies, dynamo, motor & electrically driven tool manufacturers, 526, W. Main-st. Factory: Bergmann, nr. Shelby & L. & N. R. R., Louisville, Ky. (Telegrams: "Clarque, Louisville." Telephone No. 726.)
Clark, L. P., & Co., electrical supply dealers, 144, N. 12-st., Philadelphia, Pa. (Long Distance Telephone No. 2240A, Market.)
Clark & MacMullen, consulting engineers, 20, Broad-st., New York.

Clark & Mills Electric Co., electrical engineers & contractors, 1444, Mass-ave., Cambridge, Mass. (Teleph. No. 1169, Cambridge); & 543, Boylston-st., Boston, Mass. (Teleph. No. 365, Back Bay.)
Clark, Thomas E., Wireless Telegraph & Telephone Co., Detroit, Mich.
Clarke, Chas. L., M.AM.I.E.E., electrical engineer & patent expert, 120, Broadway, New York, N.Y (Teleph. No. 5289, Cort.)
Clarksburg Electric Light Co., Clarksburg, W. Va.
Clarkson, Stewart Noel, A.M.I.E.E., 920, Ross-ave., Wilkinsburg, Pa.
Clarkson Memorial School of Technology, Potsdam, N.Y.
Clarksville Railway & Light Co., Clarksville, Tenn.
Clausen, H. P., M.AM.I.E.E., A.M.I.E.E., chief engineer, American Electric Telephone Co., Chicago, Ill.
Clausen, Oscar, electrical engineer, National German-American Bank-bldg., St. Paul, Minn.
Clearfield Light & Power Co., Clearfield, Pa.
Cleburne Gas & Electric Co., Cleburne, Tex. (Teleph. Nos. 36 & 1036.)
Cleland, H. W., electrolier manufacturers & fitters, Wilkinsburg, Pa.
Clement, Edward E., A.AM.I.E.E., patent attorney & electrical expert, McGill-bldg., 903, G-st., N.W., Washington, D.C. (Telegs.: "Clempat, Washington.")
Cleveland Armature Works, repairing & armature winding, 4732-34, St. Clair-ave., N.E., Cleveland, Ohio. (Telegs.: "Armature, Cleveland." Teleph. No. 666, East.)
Cleveland Construction Co., installation contractors, Citizens-bldg., Cleveland, Ohio.
Cleveland Electrical Supply Co., wholesale dealers in electrical supplies, 726, Prospect-ave., S.E., 703, Huron-rd., Cleveland, Ohio. (Teleph. Nos.: 139, Main; & 220, Erie, Private Exchange.)
Cleveland Engineering Co., New England-bldg., Cleveland, Ohio.
Cleveland, L. W., Co., electrical supplies, 414-416, Congress-st., Portland, Maine.
Cleveland Light & Power Co., Cleveland, Ohio.
Cleveland Meat Chopper Co., electric meat choppers, Cleveland, Ohio.
Cleveland & Ryan, electrical contractors, 26, Cortlandt-st., New York.
Cleveland, South-Western & Columbus Railway Co., 614, Garfield-bldg., Cleveland, Ohio.
Cleveland Telephone Co., cor. Seneca & Champlain-sts., Cleveland, Ohio.
Cleveland Twist Drill Co., makers of twist drills & reamers, Cleveland, Ohio.
Cleveland Window Glass & Door Co., makers of domes & shades for electric lighting, Cleveland, Ohio.
Clifford, H. E., A.AM.I.E.E., professor of theoretical electricity, Mass. Inst. of Technology, Boston, Mass.
Clinton Gas Light & Coke Co., Clinton, Iowa.
Clinton Mills Power Co., Cooperstown, N.Y.
Clinton Wire Cloth Co., manufacturers of lamp guards, Clinton, Mass.
Cloos, Jacob, consulting engineer, 201, Enterprise-bldg., Milwaukee, Wis. (Teleph. No. 4497, Grand.)
Cloquet Electric Co., electric light contractors, Cloquet, Minn.
Cloran, G. J., M.AM.I.E.E., electrical engineer, Interborough R. T. Co., 320, St. Nicholas-ave., New York.
Clough, Albert L., A.M.AM.I.E E., consulting engineer, 303, Kennard-bldg., Manchester, N.H. (Teleph. No. 920, Manchester.)
Clough, Dr. G. H., electrical contractor, Wolfboro, N.H.
Cloverdale Electric Light Co., Cloverdale, Cal.
Clower, W. M., contracting & consulting elec. engineer, 345, Commerce-st., Dallas, Tex. (Tel. Main 403.)
Clute Bros., Inc., dealers in electrical supplies, 49 & 51, Mohawk-st., Cohoes, N.Y.
Coal Belt Electric Railway Co., Marion, Ill.
Coast Counties Light & Power Co., Santa Cruz, Cal.
Coast Electric Co., installation contractors, 312, San Pablo-ave., Oakland, Cal.
Coatesville Electric Light, Heat & Power Co., Coatesville, Pa.
Cobb, H. E., insulating wire, insulators, &c., 1501, Monadnock-bldg., Chicago, Ill. (Teleph. Nos.: 3262, Harrison; & 3862, Automatic.)
Coburn Trolley Track Manufacturing Co., Holyoke, Mass.
Codman, J. S., A.AM.I.E.E., electrical & illuminating engineer, 93, Broad-st., Boston, Mass. (Teleph. No. 1753, Main.)
Cody, L. P., A.AM.I.E.E., manager & engineer, Grand Rapids Electric Co., 9, South Division-st., Grand Rapids, Mich. (Telephone No. 5505, Citizens.)
Coe Brass Manufacturing Co., manufacturers of brass goods, Torrington, Conn.
Coe, James A., & Co., iron & steel merchants, special brands re-rolled Norway iron, 106, Mulberry-st., Newark, N.J.
Cœur d'Alene Water & Light Co., Cœur d'Alene, Idaho.
Coffeyville Electric Light Plant, Coffeyville, Kan.
Coffin, C. A., A.AM.I.E.E., president General Electric Co., 44, Broad-st., New York.
Cogan, H. M., A.AM.I.E.E., electrical engineer, American Sugar Refinery Co., Kent-ave., Brooklyn, N.Y.
Coghlin Electric Co., electrical contractors & dealers in electrical supplies, 234, Main-st., Worcester, Mass.
Cohasset Electric Co., Cohasset, Mass.
Coho, H. B., electric light, heat & power machinery, 26, Cortland-st., New York.
Cohoes Gas Light Co., Cohoes, N.Y.

Colby, Ch. W., A.AM.I.E.E., manager, United Iron Works, Spokane, Wash.
Colby, E. A., M.AM.I.E.E., electrical engineer, Lock Box 113, Newark, N.J.
Cole, J. A., electrical engineer, Erickson Electric Equipment Co., Inc., 170, Purchase-st., Boston, Mass.
Cole, W. W., M.AM.I.E.E., Public Utilities Dept., Dodge & Day, Philadelphia, Pa.
Cole, Henry E., & Co., consulting electrical engineers, Park-bldg., Pittsburg, Pa.
Coles Manufacturing Co., electric coffee grinders, 1615, North 23rd-st., Philadelphia, Pa.
Colgan, Wm. H., Co., conduit system of house wiring, West Newton, Mass.
Coll Electric Co., installation contractors, 6810, Frankstown-ave., Pittsburg, Pa.
Colles, George Wetmore, consulting electrical engineer & patent expert, 404, Alhambra-bldg., Milwaukee, Wis. (Telegs.: "Colles, Milwaukee." Teleph. No. 3644, Grand.)
Collins, Archie Frederick, electrical engineer, Collins Wireless Telephone Co., 54 & 56, Clinton-st., Newark, N.J.
Collins, Frank, electrical contraetor, 7, Park-pl., Carbondale, Pa.
Collins Wireless Telegraph Co., 54 & 55, Clinton-st., Newark, N.J.
Collinwood Electric Light Plant, Collinwood, Ohio.
Collyer Insulated Wire Co., manufacturers of insulated wire, Pawtucket, R.I.
Colonial Electrie Co., manufacturers of incandescent lamps & electrical machinery, Warren, Ohio.
Colonial Fan & Motor Co., fan motor makers, Warren, Ohio.
Colonial Sign & Insulator Co., manufacturers of electric signs, Akron, Ohio.
Colorado Light & Power Co., The, Canon City, Col.
Colorado Springs & Cripple Creek District Railway Co., Colorado Springs, Col.
Colorado Springs Electric Co., Colorado Springs, Col.
Colorado Springs & Interurban Railway Co., Colorado Springs, Col.
Colt, J. B., & Co., manufacturers of electric focusing arc lamps, 23, Barclay-st., New York.
Columbia City Electric Light & Water Plant, Columbia, Mo.
Columbia Construction Co., Stephenson-bldg., Milwaukee, Wis.
Columbia Electric Co., installation contractors, Harrisburg, Pa.
Columbia Electrie Street Railway, Light & Power Co., Columbia, S.C.
Columbia Eleetrical Engineering Co., eleetrical engineers, 309, Washington-st., Boston, Mass.
Columbia Ineandescent Lamp Co., manufacturers of incandeseent eleetric lamps, 2115, Locust-st., St. Louis, Mo.; & New York; Chicago; Philadelphia; Memphis, Tenn.; & Monterey, Mexico.
Columbia Machine Works, manufacturers of electric railway supplies, 269, Chestnut-st., Brooklyn. Office: Chestnut-st. & Atlantic-ave., Brooklyn, N.Y.
Columbia Meter Co., makers of recording instruments, Indianapolis, Ind.
Columbia & Montour Electric Railway Co., Bloomsburg, Pa.
Columbia Smelting & Refining Works, 365, West-st., New York.
Columbia University (Schools of Mines, Chemistry, Engineering & Arehitecture), W. 116th-st., New York. For Professors, *see under* SCHOOLS.
Columbia University Electrical Engineering Department, Morningside Heights, New York. (Telegrams: "Columbia University, N.Y." Telephone Connection.)
Columbia Water & Light Co., Columbia, Tenn.
Columbian Electric Co., electrieal supplies, 113, South Rose-st., Kalamazoo, Mich.
Columbian Eleetrical Co., dealers in eleetric light & telephone supplies, 820, Frederick-ave., St. Joseph, Mo. (Teleph. No. 1191.)
Columbian University, Washington, D.C.
Columbus Buggy Co., electric motor carriages, Dublin-st., Columbus, Ohio.
Columbus Electric Light Plant, Columbus, Neb.
Columbus Electric Light & Power Co., Columbus, Miss.
Columbus Electrical Works, 197, North Front-st., Columbus, Ohio. (Bell Teleph. No. 1353.)
Columbus Insulated Wire & Brass Co., The, makers of magnet wire, Columbus, Ohio.
Columbus Light, Heat & Power Co., Columbus, Ohio.
Columbus Machine Co., makers of gas & gasoline engines, Columbus, Ohio.
Columbus Power Co., Columbus, Ga.
Columbus Railroad Co., Columbus, Ga.
Columbus Railway & Light Co., Columbus, Ohio. (Telephone No. 62.)
Columbus Street Railway & Light Co., Columbus, Ind. (Teleph. No. 216.)
Columbus, Urbana & Western Electric Railway Co., Columbus, Ohio.
Colwell Lead Co., manufacturers of sheet-lead, &c., Lafayette & Walker-sts., New York.
Comanche Light & Power Co., Lawton, Okl.
Commercial Cable Co. (Mackay-Bennett System), Postal Telegraph-bldg., 253, Broadway, New York. C. H. Mackay, president; Geo. G. Ward, chairman, vice-president & general manager; Albert Beck, secretary; J. O. Stevens, asst.-secretary.
Commercial Construction Co., installation contractors, 114, East 28th-st., New York, N.Y.
Commercial Electric Co., manufacturers of electric power & lighting machinery, North Western-ave. & 21st-st., Indianapolis, Ind. (Telegrams: "Commercial, Indianapolis." W.U. Code.)

Commercial Electric Co., installation contractors, New Orleans, La.
Commercial Electrical Supply Co., manufacturers of electrical supplies, 15th & Pine-sts., St. Louis, Mo.
Commercial Pacific Cable Co., Postal Telegraph-bldg., 253, Broadway, New York. C. H. Mackay, president; G. G. Ward, chairman, vice-president & general manager; Albert Beck, secretary.
Commercial Supply Co., electrical supplies, 47, Park-pl., Detroit, Mich.
Commercial Truck Co. of America, makers of electric trucks (vehicles), 1222, Arcade-bldg., Philadelphia, Pa.
Commonwealth Edison Co., central station supply company & contractors for electric construction, 139, Adams-st., Chicago. (Teleph. No. 1280, Main.)
Commonwealth Power Co., Jackson, Mich.
Commutator Co., manufacturers of hard drawn commutator segments, 119–121, 1st-st. North, Minneapolis, Minn. (Telegrams: "Comco.")
Como Electrical Co., manufacturers of alternating current rectifiers, Spring Lake, N.J.
Compagnie Française des Câbles Telegraphiques, 25, Broad-st. (Teleph. No. 452, Broad); 65, 5th-ave. (Teleph. No. 1004, Stuyvesant); 1, Worth-st., cor. Hudson-st. (Teleph. No. 394, Franklin); 1, Mercer-st. (Teleph. No. 1236, Spring); Pulitzer-bldg., Park Row (Teleph. No. 2069, Beckman); 581, Broadway (Teleph. No. 1238, Spring); & 281, 5th-ave., New York (Teleph. No. 397, Madison-sq.). (Telegs.: "Francab, New York.")
Compressed Fibre Co., insulating material manufacturers, 6, Beacon-st., Boston, Mass.
Comstock, C. W., A.AM.I.E.E., consulting engineer, 213, Boston-bldg., Denver, Col.
Comstock, Louis K., M.AM.I.E.E., president, L. K. Comstock & Co., Inc., 50, Church-st., New York City. (Telegs.: "Comesta, New York." Teleph. No. 7726, Cort.)
Concord Electric Co., Concord, N.H. (Teleph. No. 99.)
Concord Electric Light Plant, Concord, Mass.
Concord, Maynard & Hudson Street Railway Co., Maynard, Mass.
Concord Street Railway Co., Concord & Manchester Branch, Concord, N.H.
Concordia Electric Light Co., Concordia, Kansas. (Telephone No. 160.)
Condict, G. Herbert, M.AM.I.E.E., electrical engineer, 115, Broadway, New York.
Condit Electrical Manufacturing Co., manufacturers of circuit breakers & switches, 67, Batterymarch-st., Boston, Mass.
Conduit Wiring Co., electrical wiring & machinery, 14, West 29th-street, New York, N.Y. (Telephone No. 3318–3319, Madison-sq.)
Conestoga Traction Co., Lancaster, Pa.
Coney Island & Brooklyn Railroad Co., Brooklyn, N.Y.
Conkling, W. C. de, A.AM.I.E.E., inventor, 1215, Washington-st., Hoboken, N.J.
Conley Tin Foil Co., The, makers of tin foil for electrical uses, 521, West 25th-st., New York.
Conneaut Municipal Electric Light Plant, Conneaut, Ohio.
Connecticut Co., New Britain, Conn.
Connecticut Dynamo & Motor Co., manufacturers of generators, motors & special machinery, 516, West 25th-st., New York.
Connecticut Electrical Equipment Co., installation contractors, Meriden, Conn. (Telephone No. 63–3.)
Connecticut Railway & Lighting Co., Bridgeport, Conn. (Telephone No. 679.)
Connecticut Railway & Lighting Co., New Britain, Conn.
Connecticut Telephone & Electric Co., telephone apparatus makers & automobile accessories, Meriden, Conn. (Telegs.: "Telephone, Meriden." Long Distance Teleph. No. 14.)
Connecticut Valley Street Railway Co., Greenfield, Mass.
Connelly, John D., dynamo & motor manufacturer, San Antonio, Tex.
Conover, Geo. W., telegraph & telephone supplies, Suite 1112, 135, Adams-st., Chicago, Ill.
Conrad, Frank, A.AM.I.E.E., electrical engineer, Westinghouse Electric & Manufacturing Co., Pittsburg, Pa.
Conrad, H. J., electrical supplies & construction, 819, Iberville-st., New Orleans, La.
Conroy, Philip F., installation contractor, Newport, R.I.
Conshohocken Electric Light & Power Co., Conshohocken, Pa.
Consolidated Canal Co., Mesa, Ariz.
Consolidated Car Fender Co., Providence, R.I. (Telegs.: "Carfender, Providence.")
Consolidated Car Heating Co., manufacturers of electric heaters, Albany, N.Y.
Consolidated Chandelier Co., manufacturers of electric fixtures, 231–233, Broadway, New York.
Consolidated Electric Co., Greenwich, N.Y.
Consolidated Electric Co., installation contractors, Byrne-bldg., Los Angeles, Cal.
Consolidated Electric Co., installation contractors, Nashville, Tenn.
Consolidated Electric Lamp Co., incandescent lamp makers, Danvers, Mass.
Consolidated Electric Light Co. of Maine, Portland, Maine.
Consolidated Gas Co., Long Branch, N.J.
Consolidated Gas, Electric Light & Power Co., 302, Continental-bldgs., Baltimore, Md.
Consolidated Gas & Light Co., Tiffin, Ohio.
Consolidated Heat, Light & Power Co., Tulare, Cal.

Consolidated Light & Power Co., Whitehall, N.Y.
Consolidated Light, Power & Ice Co., Joplin, Mo.
Consolidated Lighting Co., Montpelier, Vt.
Consolidated Mining & Milling Co., Wadsworth, Nev.
Consolidated Power & Light Co., Deadwood, South Dakota.
Consolidated Railway Co., Norwich, Conn.
Consolidated Railway Co., Putnam, Conn.
Consolidated Railway, Electric Lighting & Equipment Co., Nassau & Pine-st., New York. (Telegs.: "Crelec, New York." Teleph. No. 20, Rector.)
Consolidated Railways, Light & Power Co., Wilmington, N.C.
Consolidated Trading Co., engineers, contractors & agents, Hudson-bldg., 26, Stone-st., New York. (Teleph. No. 2776, Broad.)
Consolidated Water & Light Co., Marseilles, Ill.
Consumers' & Electric Light & Power Co., De Soto, Mo. (Telephone Nos. 28 & 29.)
Consumers' Heat, Light, Water & Power Co., Belington, W. Va.
Consumers' Supply Co., Incorp., electrical supplies, Los Angeles, Cal.
Contoocook Electric Light Co., Contoocook, N.H.
Contra Costa Electric Light & Power Co., Martinez, Cal.
Contractors' Electrical Co., installation contractors, 7, East 42nd-st., New York.
Cook, Arthur E., installation contractor, Morse & Cook-bldg., Meriden, Conn.
Cook, Frank B., telephone protective apparatus, material & supplies, 250, West Lake-st., Chicago, Ill. (Telegs.: "Cookpro, Chicago." Teleph. No. 44, Haymarket.)
Cook Electric Co., installation contractors, 342, Vernon-ave., Long Island City, N.Y.
Cook Pottery Co., insulators (electrical) manufacturers, Trenton, N.J. (Teleph. No. 3813, Bell.)
Cooke, A., electrical contractor, 1414, Swetland-st., Scranton, Pa.
Cooke-Wilson Electric Supply Co., installation contractors, Imperial Pr.-bldg., Pittsburg, Pa.
Cooper, J. W., general dealer in electrical goods, Medina, N.Y.
Cooper, William, M.AM.I.E.E., consulting electrical & mechanical engineer, 548, Oakwood-st., Wilkinsburg, Pa.
Cooper, C. & G., Co., builders of steam & gas engines, Mount Vernon, Ohio.
Cooper Hewitt Electric Co., manufacturers of mercury vapour lamps, 220, West 29th-st., New York. (Telegs.: "Hewitlight, New York.")
Cooper & Powelson, consulting engineers & managers, 60, Wall-st., New York. (Telegs.: "Coopowel, New York.")
Co-operative Electrical Development Association, Cleveland, Ohio.
Coos Bay Gas & Electric Co., Marshfield, Ore.
Copeland, Clem. A., consulting engineer, Union Trust-bldg., Los Angeles, Cal.
Copenhagen Automatic Fire Alarm Co., Sheboygan, Wis.
Coraopolis City Electric Light Plant, Coraopolis, Pa.
Corbit, W. H., electrical contractor, 258, 4th-ave., New York, N.Y.
Corey, F. B., M.AM.I.E.E., M.AM.S.M.E., engineer of Railway Signal Department, General Electric Co., Schenectady, N.Y.
Corey, R. B., Co., agents for conduit, wire, &c., 39, Cortlandt-st., New York. (Teleph. No. 3569, Cort.)
Corn Palace Electric Construction Co., electrical contractors, 414, Jackson-st., Sioux City, Iowa.
Cornell, Chas. L., M.AM.I.E.E., Niles-Bement-Pond Co., 111, Broadway, New York.
Cornell University, Ithaca, N.Y. *See* SCHOOLS.
Corning, John Woodside, A.M.AM.I.E.E., electrical engineer, Boston Elevated Railway Co., 439, Albany-st., Boston, Mass.
Corning Gas & Electric Co., Corning, N.Y.
Corning Light, Heat & Power Co., Corning, Iowa.
Corning & Painted Post Street Railway Co., Corning, N.Y.
Cornwell, R. M., Co., gasoline engine, dynamo & motor makers, Syracuse, N.Y.
Corona Gas & Electric Light Co., Corona, Cal.
Corrao, Wm. A., Electric Co., electrical engineers & contractors, 1414, Chestnut-st., St. Louis, Mo.
Correll Electric Co., electrical contractors, 205, Eberly-blk., Columbus, Ohio. (Teleph. No. 6280, Auto.)
Corsicana Gas & Electric Co., Corsicana, Tex.
Cortland County Traction Co., electric light contractors, Cortland, N.Y.
Corvallis Electric Light & Power Co., Corvallis, Ore.
Cory, Clarence L., M.AM.I.E.E., M.I.E.E., consulting electrical engineer & professor of electrical engineering, University of California, Berkeley, Cal.
Cory, Russell G., A.AM.I.E.E., consulting engineer, 122, East 25th-st., New York.
Coshocton Light & Heating Co., Coshocton, Ohio.
Cotton, C. A., electrical machinery, Boston, Mass.
Couch & Seeley Co., telephone apparatus manufacturers, 24, Binford-st., Boston, Mass.
Couch, S. H., Co., telephone apparatus makers, 156, Pearl-st., Boston, Mass.
Couple-Gear Freight Wheel Co., manufacturers of electric trucks, Grand Rapids, Mich.

Courtis, W. M., A.M., mining engineer & metallurgist, 449, 4th-ave., Detroit, Mich. (Telegs.: "Ilex, Detroit." Teleph. No. 1221, Mich. Grand.)
Covington Light & Water Co., Covington, Ind.
Cowie Electric Co., installation contractors, 1613, Grand-ave., Kansas City, Mo. (Teleph. Nos.: Bell, 834, Grand; & Home, 3834, Main.)
Cowles, Alfred H., M.AM.I.E.E., electrical engineer, president Electric Smelting & Aluminium Co., 656, Prospect-st., Cleveland, Ohio.
Cowles, J. W., M.AM.I.E.E., electrical engineer, Edison Electric Illuminating Co., 39, Boylston-st., Boston, Mass.
Cox, Frank Powell, M.AM.I.E.E., electrical engineer, General Electric Co., Lynn, Mass.
Cracroft-Leich Electric Co., telephone instrument makers, Genoa, Ill.
Craig & Craig, electrolier manufacturers & fitters, Springfield, Mass.
Crain, L. D., A.AM.I.E.E., professor of mechanical engineering, State College, Fort Collins, Col.
Cram, Wm. E., electrical engineer, 227, Tremont-st., Boston, Mass.
Cramer & Rosenthal, electrical engineers, Houston, Tex.
Crane, J., jun., consulting electrician, 1122, Tremont-bldg., Boston, Mass.
Crane Co., manufacturers of valves, fittings, steam specialties & wrought pipe, Chicago, Ill. (Telegs.: "Cranecoy, Chicago." Private Code, A.B.C. 4th edition, Lieber's & Western Union.)
Cravath, James Raley, A.AM.I.E.E., Western editor, *Electrical World*, & consulting illuminating engineer, 590, Old Colony-bldg., Chicago, Ill.
Crawford, David F., A.AM.I.E.E., general superintendent Motive Power Pennsylvania Lines, Pittsburgh, Pennsylvania.
Crawfordsville Electric Light & Power Co., Crawfordsville, Ind.
Crawfordsville Wire & Nail Co., telephone & telegraph wire, Monadnock-bldg., Chicago, Ill.
Crawley Electric Co., manufacturers & dealers in electric light supplies, Peoria, Ill. (Teleph. No. 720.)
Creaghead, Thomas J., B.S., A.AM.I.E.E., electrical engineer, president & general manager Creaghead Engineering Co., 340-342, Main-st., Cincinnati, Ohio.
Creaghead Engineering Co., manufacturers of railway supplies, 340-342, Main-st., Cincinnati, Ohio. (Telegs.: "Creaghead, Cincinnati." Lieber Code & W.U. Code. Teleph. No. 2068, Main.)
Crehore, Albert C., PH.D., A.AM.I.E.E., electrical engineer, Yonkers, N.Y.
Creighton, E. E. F., A.AM.I.E.E., General Electric Co., Schenectady, N.Y.
Crescent City Light, Water & Power Co., Crescent City, Cal.
Crescent Co., electrical fittings makers, 103, West Adams-st., Chicago, Ill.
Crescent Co., electric speciality makers, Valparaiso, Ind.
Crescent Electric Co., electrical supplies, Oakland, Cal. (Teleph. No. 4570, Oakland.)
Crescent Electric & Manufacturing Co., 24th & Liberty-sts., Pittsburgh, Pa.
Crescent Electrical Manufacturing Co., switches, sockets & cut-outs, 5, Prospect-st., Rochester, N.Y.
Crescent Insulated Wire & Cable Co., wire coverers, indiarubber & gutta percha, Trenton, N.J.
Crescent Iron Works, electrical contractors, Springfield, Mo.
Crest Manufacturing Co., makers of induction coils, Cambridgeport, Mass.
Crested Butte Light & Water Co., electric light contractors, Crested Butte, Col.
Crestline Illuminating Co., Crestline, Ohio.
Crocker, Francis B., PAST PRES.AM.I.E.E., M.I.E.E., consulting engineer, professor of electrical engineering, Columbia University, New York. (Telephone No. 1400, Morningside.)
Crocker-Wheeler Co., manufacturers & electrical engineers, Ampere, N.J.; New York; Chicago; Pittsburg; Boston; Philadelphia, Pa.; Baltimore; Cleveland, Ohio; Denver; Birmingham, Ala., &c. (Telegs.: "Crockwheel, Ampere." Teleph. No. 500, Branchbrook, Newark.)
Cronen, J. J., electrical supplies, 2825, St. Xavier-st., Louisville, Ky.
Crook Electric Co., electrical contractors, 60, State-st., Detroit, Mich.
Crook, Howard E., & Co., electrolier manufacturers, 320, West Mulberry-st., Baltimore, Md.
Crooker Co., electrolier manufacturers & fitters, 230, Weybosset-st., Providence, R.I. (Teleph. Nos. 9 & 10, Union.)
Crookston Water Works, Power & Light Co., Crookston, Minn.
Crosby, O. T., LL.D., F.R.G.S., president Cahill Teltharmonic Co., c/o J. G. White & Co., Inc., 43-49, Exchange-pl., New York.
Crosby Co., installation contractors, Virginia City, Nev.
Crosby Steam Gauge & Valve Co., manufacturers of steam valves, 95, Oliver-st., Boston, Mass.
Croselmire & Ackor Co., platinum manufacturers & refiners, 42, Walnut-st., Newark, N.J. (Telegs.: "Ackmire, Newark." Long Distance Teleph. No. 1078, Markt.)
Cross, Chas. R., M.AM.I.E.E., Thayer professor of physics & director of the Rogers laboratory, Massachusetts Institute of Technology, Boston, Mass.
Crossman, Gilbert, M.E., A.AM.I.E.E., telephone engineer, Western Electric Co., 463, West-st., New York.
Crouse-Hinds Co., makers of switches, switchboards, commutators, &c., Syracuse, N.Y.
Crouse-Hinds Electric Co., electrical contractors, 26, Corlandt-st., New York.
Crowell, Robinson, A.AM.I.E.E., 1629, 8th-ave., Oakland, Cal.

Crown Electrical Co., installation contractors, 310, North Gay-st., Baltimore, Md.
Crown Woven Wire Brush Co., makers of dynamo brushes, Salem, Mass.
Crumb, W. H., & Co., engineers & contractors, 835, Monadnock-bldg., Chicago, Ill.
Cuero Light & Power Co., electric light & power contractors, Cuero, Tex.
Culbert, E. H., installation contractor, 1412, West Susquehanna-ave., Philadelphia, Pa.
Culin, F. A., general electrical contractor, Provident Life-bldg., Philadelphia, Pa.
Cullman City Electric Light Plant, Cullman, Ala.
Cumberland Electric Railway Co., Cumberland, Md.
Cumberland & Westernport Electric Railway Co., Cumberland, Md.
Cummings, E. W., consulting electrical engineer, Seattle, Wash.
Cunningham, E. R., B.S., PH.B., M.AM.I.E.E., Des Moines City Railway Co., Des Moines, Iowa.
Curran, Jas., Elevator Co., manufacturing electricians, 114, West 2nd-st., Cincinnati, Ohio.
Current Electric Co., telephone apparatus makers, 52, State-st., Chicago, Ill. (Teleph. No. 4279, Central.)
Currie, H. A., M.AM.I.E.E., assistant elec. engineer N.Y., C. & H. R.R. Co., 335, Madison-ave., New York.
Currier, Eugene, electrical contractor, 8519, Germantown-ave., Philadelphia, Pa.
Curtis & Co. Manufacturing Co., belting & supplies, 42, South Canal-st., Chicago, Ill.
Cushing, Arthur P., Mexican & South American patents & trade marks, 43, Tremont-st., Boston, Mass. (Cable address: "Apcush, Boston." Telephone No. 2210, Haymarket.)
Cushing, Harry Cooke, Jun., M.AM.I.E.E., electrical consulting engineer, 220, Broadway, New York.
Cushman Electric Co., manufacturers of dynamos & motors, Concord, N.H.
Cuthbert City Electric Light & Water Plant, Cuthbert, Ga.
Cutler, E. H., A.AM I.E.E., manager, Elektron Manufacturing Co., Springfield, Mass.
Cutler-Hammer Manufacturing Co., rheostats, &c., Milwaukee, Wis. (Telegrams: "Cutler, Milwaukee, Wis.")
Cutter Co., automatic magnetic circuit breakers & rheostats & flush switches, Philadelphia, Pa.
Cutter, George, Co., manufacturers of electric light specialities, South Bend, Ind.
Cynthiana Electric Light Co., Cynthiana, Ky.

D. K. Electric Co., magnet manufacturers, 106–8–10, Locust-st., St. Louis, Mo.
D & W Fuse Co., makers of non-arcing fuses, Providence, R.I.
Dadmun, C. W., electrical construction & repair work, 20, Warren-st., Concord, N.H.
Daft, Leo, M.AM.I.E.E., consulting electrical engineer, Rutherford, N.J.
Dale, John F., installation contractor, Elmira, N.Y.
Dale Co., manufacturers of electric lighting fixtures & specialities, 9th-ave., 13th & Hudson-sts., New York, N.Y. (Telegs.: "Dalames, New York." Teleph. No. 1516, Chelsea.)
Dallas Consolidated Electric Street Railway Co., Dallas, Tex.
Dallas Electric Light Co., Dallas, Ore.
Dallas Electric Light & Power Co., Dallas, Texas.
Dallas Electric Sign Manufacturing Co., Dallas, Tex.
Dallas Ice Factory, Light & Power Co., Dallas, Tex. (Teleph. No. 62, Main.)
Dallett, Thos. H., & Co., manufacturers of electric motors & generators, York-street & Sedgley-avenue, Philadelphia, Pa.
Dalton, E. C., installation contractor, Oakland, Cal.
Dalton Electrical Co., installation contractors, Meridian, Miss.
Daly, Thos. I., electrical contractor, Cambridge, Mass.
Damon, Geo. A., A.M.AM.I.E.E., managing engineer, The Arnold Co., Borland-bldg., Chicago, Ill.
Danbury & Bethel Gas & Electric Light Co., Danbury, Conn.
Danbury & Bethel Street Railway Co., Danbury, Conn.
Danforth, R. E., A.AM.I.E.E., general manager, Public Service Rly. Co. of N.J., 7, Central-ave., Newark, N.J.
Daniels, H. P., M.AM.I.E.E., engineer, 73, East 127th-st., New York.
Dansville Gas & Electric Light Co., Dansville, N.Y.
Danville Railway & Electric Co., Danville, Va.
Danville Street Railway & Light Co., Danville, Ill.
Darby, Edw., & Sons, wire guards for incandescent lamps, 233, Arch-st., Philadelphia, Pa.
Darche Manufacturing Co., manufacturers of electric alarm clocks, 2117, South Halsted-st., Chicago, Ill.
Darling, C. H., dealer in electrical supplies, 151, Main-st., Woonsocket, R.I.
Darlington, Frederick, M.AM.I.E.E., electrical engineer, Stanley Electric Manufacturing Co., Great Barrington, Mass.
Darlington, Wayne, PH.D., M.E., consulting mining engineer, 1139, Real Estate Trust-bldg., Philadelphia, Pa.
Darlington Electric Fountain & Supply Co., Real Estate Trust-bldg., Philadelphia, Pa. (Telegrams: "Wildarfred, Philadelphia.")
Darlington Electric Light & Water Power Co., Darlington, Wis.
Darlington Light & Water Co., Darlington, S.C.

Dartmouth & Westport Street Railway Co., New Bedford, Mass.

Dates, H. B. S. B., A.AM.I.E.E., professor of electrical engineering, Case School of Applied Science, Cleveland, Ohio.

Daubert & Schrecker, electrical contractor, 906, 3rd-st., Louisville, Ky.

Dauphin Electrical Supplies Co., installation contractors, Harrisburg, Pa.

Davenport, F. St. J., A.AM.I.E.E., electrician, Atlanta Telegraph & Telephone Co., Atlanta, Ga.

Davenport Foundry & Machine Co., engineers, founders & machinists, cor. 4th & Division-sts., Davenport, Iowa. (Telephone No. 3.)

Davenport Gas & Electric Co., Davenport, Iowa.

Davids, Richard W., consulting electrical engineer & expert, 202, Bullit-bldg., Philadelphia, Pa.

Davidson, Edward C., A.AM.I.E.E., patent lawyer, 141, Broadway, New York. (Telegs.: "Delodav, New York." Teleph. No. 1446, Cort.)

Davidson, J. C., M.AM.I.E.E., electrician & chief engineer, SS. White Dental Manufacturing Co., Prince's Bay, S. Id., N.Y.

Davidson, M. T., maker of electrical plant, pumps, &c., 43-53, Keap-street, Brooklyn, N.Y.

Davidson, C. Y., Co., electric light fixtures, 10, South Howard-st., Baltimore, Md.

Davis, A. G., S.B., M.L., M.AM.I.E.E., manager Patent Department, General Electric Co., Schenectady, N.Y.

Davis, Chas. Henry, C.E., M.I.E.E., M.AM.I.E.E., civil engineer, South Yarmouth, Mass.

Davis, H. P., M.AM.I.E.E., Westinghouse Electric & Manufacturing Co., Pittsburg, Pa.

Davis, Joseph P., M.I.E.E., M.AM.I.E.E., engineer, 332, Palisade-ave., Yonkers, N.Y.

Davis, Lewis S., installation contractor, 221, West 116th-st., New York.

Davis, Minor M., M.AM.I.E.E., traffic manager & assistant electrical engineer, Postal Telegraph Cable Co., 253, Broadway, New York.

Davis, Ph. W., A.AM.I.E.E., Electric Storage Battery Co., Boston, Mass.

Davis, S., electrical contractor, 14, West 29th-st., New York.

Davis, W. J., jun., A.AM.I.E.E., electrical engineer, General Electric Co., San Francisco, Cal.

Davis, I. B., & Son, manufacturers of feed water heaters, Hartford, Conn.

Davis, M., & Sons, manufacturers of switch cut-outs, Salem, Ohio.

Davis-Brown Electric Co., Inc., engineers, contractors & jobbers, 115, South Cayuga-st., Ithaca, N.Y.

Dawes, F. B., electrical contractor, Hudson, Mass.

Dawes Manufacturing Co., manufacturers of electric signs, Pittsburg, Pa.

Day, W. J., A.AM.I.E.E., General Electric Co., Schenectady, N.Y.

Day, Thomas, Co., Incorp., manufacturers of electric light fixtures, 725, Mission-st., San Francisco, Cal. (Telegrams: "Dayco, San Francisco.")

Dayton Autoelectric Co., manufacturers of electrical advertising specialities, Dayton, Ohio.

Dayton Citizens' Electric Co., Dayton, Ohio.

Dayton Electric Light & Power Co., Dayton, Wash.

Dayton Electrical Manufacturing Co., gas engine ignition dynamo, storage batteries & switches, 32, S. St. Clair-st., Dayton, Ohio. (Telegs.: "Demco, Dayton." Western Union Code. Teleph. No. 193.)

Dayton Fan & Motor Co., manufacturers of belt & electric ventilating fans, 611, East 3rd-st., Dayton, Ohio. (Telegrams: "Ventilator, Dayton, Ohio.")

Dayton Globe Iron Works Co., manufacturers of the new American turbine water wheel, Dayton, Ohio. (Telegrams: "Globe, Dayton." Telephone No. 653.)

Dayton Hardware Co., dealers in electric supplies, 194, 1st-st., corner Taylor-st., Portland, Ore.

Dayton Lighting Co., Dayton, Ohio.

Dayton Manufacturing Co., manufacturers of Silvey storage batteries, Dayton, O. (Telegs.: "Vapor.")

Dayton & Troy Electric Railway Co., Dayton, Ohio.

Dayton & Xenia Transit Co., electric railway (C. J. Ferneding, president), Dayton, Ohio.

Dean, Thos. A., installation contractor, Lancaster, Pa.

Dean, W. C., A.AM.I.E.E., electrical & mechanical engineer, U.S. Navy Yard, Norfolk, Va.

Dean, W. T., M.AM.I.E.E., manager Power & Mining Department, General Electric Co., Chicago, Ill.

Dean, Wm. W., A.AM.I.E.E., vice-president Dean Electric Co., Elyria, Ohio.

Dean Bros. Steam Pump Works, manufacturers of steam pumps, Indianapolis, Ind.

Dean Electric Co., manufacturers of telephones, switchboards & telephone apparatus, Elyria, Ohio. (Telegs.: "Dean, Elyria." A.B.C. Code, 5th edit.)

Dean, S., & Co., electrical contractors, 4, Province-st., Boston, Mass.

Deane & Lobdell, electrical engineers, 113, Devonshire-st., Boston, Mass.

Deane Steam Pump Co., manufacturers of pumps, Holyoke, Mass. (Telegrams: "Deane, Holyoke.")

Dearborn Electric Co., electric light & telephone supplies, 122-124, West Jackson-boul., Chicago, Ill.

Deavitt, H. M., practical & consulting chemist, 1126, National Life-bldg., 159, La Salle-st., Chicago, Ill. (Telephone No. 4640, Central.)

Decatur Railway & Light Co., Decatur, Ill.

Decker, Delbert H., attorney & electrical patent expert, 141, Broadway, New York.

Decker, Edward P., M.AM.I.E.E., electrical engineer, Westinghouse, Church, Kerr & Co., 8, Bridge-st., New York.

Decker Electrical Co., engineers & contractors, 115, New Montgomery-st., San Francisco, Cal.
De Coster, H. F., electrical contractor, 321, East 56th-st., New York. (Teleph. No. 116, Gramercy.)
De Crow, Charles Edward, A.AM.I.E.E., Addressograph Co., 901, Van Buren-st., Chicago, Ill.
Deer Lodge Electric Co., Deer Lodge, Mont.
Defiance Gas & Electric Co., Defiance, Ohio.
de Forest, Lee, PH.D., A.AM.I.E.E., wireless telephony specialist, 315, West 97th-st., New York.
De Kalb-Sycamore Electric Co., De Kalb, Ill.
De Land, Fred, agent, American Telephone & Telegraph Co., Pittsburgh, Pa.
Delany, P. B., M.AM.I.E.E., electrical engineer, Nantucket, Mass.
Delaval, Jules Leon, A.AM.I.E.E., electrical engineer, Westinghouse Electric & Manufacturing Co., Pittsburg, Pa.
De Laval Steam Turbine Co., Trenton, N.J.
De La Vergne Machine Co., engine makers (gas), Foot East 138th-st., New York.
Delaware & Atlantic Telegraph & Telephone Co., N.W. cor. 17th & Filbert-sts., Philadelphia, Pa. (Telephone No. 2790, Filbert.)
Delaware County & Philadelphia Electric Railway Co., Clifton Heights, Pa.
Delaware Electric Light, Heat & Power Co., Delaware, Ohio.
Delaware Hard Fibre Co., manufacturers of hard fibre for electrical purposes, Wilmington, Del.
Del Mar, Wm. A., A.I.E.E., electrical engineer, N.Y.C. & H.R.R.R. Co., 557, West 141st-st., New York.
Delphos Electric Light & Power Co., Delphos, Ohio.
Del Sales Co., manufacturers of electric heating apparatus, 250, Dearborn-st., Chicago, Ill.
Delta Electric Light, Power & Manufacturing Co., Greenville, Miss.
Delta Electric Power Co., Delta, Pa.
Delta Manufacturing Co., dry batteries & spark plugs, Bloomfield, N.J.
Demara & Classon, electrical contractors, Addison, N.Y.
Deming Co., electric pumps, Salem, Ohio.
Dempster, Thomas, A.AM.I.E.E., electrical engineer, General Electric Co., Schenectady, N.Y.
Denison Light & Power Co., Denison, Texas.
Denison & Sherman Railway Co., Denison, Tex.
Densmore & Lawton, manufacturers of electric signs, Chicago, Ill.
Densmore & Le Clear, consulting electrical engineers, 15, Exchange, Boston, Mass.
Denton, City of, Water & Light Department, Denton, Tex.
Denver City Tramway Co., Denver, Col. (Teleph. No. 990, Main.)
Denver Electric Wiring Co., installation contractors, Denver, Col.
Denver Electrical Co., installation contractors, Denver, Col.
Denver Engineering Works Co., manufacturers of electric mine hoists, 30th & Blake-sts., Denver, Col. (Telegs.: "Shepring, Denver.")
Denver Gas & Electric Co., Denver, Col.
Denver Highlands Electric Co., Denver, Col.
Denver Novelty Works & Manufacturing Co., manufacturers of electrical supplies, 1520, Lawrence-st., Denver, Col.
De Pere Electric Light & Power Co., De Pere, Wis.
Depew & Lancaster Light, Power & Conduit Co., Lancaster, N.Y.
Deposit Electric Co., electric light contractors, Deposit, N.Y.
Derby Gas Co., Derby, Conn.
Derby & Morse, electrical supplies, Lowell, Mass.
Derry Electric Light Co., Derry, N.H.
Des Moines City Railway Co., 607, Mulberry-st., Des Moines, Ia.
Des Moines Edison Light Co., Des Moines, Ia. (Teleph. Nos.: 596, Iowa; & 1326, Mutual.)
Detroit City Electric Light Plant, Detroit, Mich.
Detroit Copper & Brass Rolling Mills, rollers of copper & brass, sheet wire & bar, Detroit, Mich. (Telegrams: "Copper, Detroit." Long Distance Telephone No. 2, West.)
Detroit Edison Co., owns the Edison Illuminating Co., Detroit, Mich.
Detroit Electric Co., electrical engineers & contractors, Shelby & Larned-sts., Detroit, Mich. (Teleph. No. 1406.)
Detroit Fuse & Manufacturing Co., manufacturers of electric fuse wire, Detroit, Mich.
Detroit Gas & Electric Fixture Co., electrolier manufacturers & fitters, 68, Grand River-ave., Detroit, Mich.
Detroit Insulated Wire Co., wire coverers (rubber), Detroit, Mich.
Detroit Lubricator Co., manufacturers of sight feed lubricators, oilers, &c., Detroit, Mich.
Detroit, Monroe & Toledo Short Line Railway Co., Monroe, Mich.
Detroit Steel Casting Co., castings for dynamos, Detroit, Mich.
Detroit United Railway Co., Detroit, Mich.
De Veau Telephone Manufacturing Co., 27, Rose-st., New York.
Devere Electric Co., dealers in electrical supplies, 234, West 4th-st., Cincinnati, Ohio. (Teleph. No. 2083.)

Devine Co., J. P., vacuum drying apparatus, Buffalo, N.Y.
Devoe, F. W., & Co., manufacturers of varnishes & japans, 101, Fulton-st., New York, N.Y.
Dewhurst, R. M., A.AM.I.E.E., electrical engineer, Standard Underground Cable Co., Westinghouse-bldg., Pittsburg, Pa.
Dewson, John A., installation contractor, Easton, Pa.
Dexter, J. Boyd, installation contractor, Annapolis, Md.
D'Humy, F. E., A.AM.I.E.E., Postal Telegraph Cable Co., 253, Broadway, New York.
Di-El-Ite Manufacturing Co., makers of rheostats, insulating joints & dimalites, 4901, Stenton-ave., Philadelphia, Pa.
Diamond Glass Co., manufacturers of insulators & battery jars, Royersford, Pa.
Diamond Meter Co., electrical meters, Peoria, Ill.
Diamond Porcelain Co., insulators (electrical) manufacturers, Trenton, N.J.
Diamond Rubber Co., insulating material manufacturers, Akron, Ohio.
Diamond State Fibre Co., Elsmere, Del. (Telegs.: "Drymnfybre, Elsmere." Cables: "Drymnfybre, Wilmington, Del.")
Dick, William Amzi, M.AM.I.E.E., designing electrical engineer, Westinghouse Electric & Manufacturing Co., Pittsburg, Pa.
Dicke Tool Co., telephone & telegraph construction tools, Downer's Grove, Ill. (Teleph Nos. 291–293.)
Dickens, James, electrical engineer & contractor, 40, Pleasant-st., Newburyport, Mass.
Dickenson, S. S., M.I.E.E., M.AM.I.E.E., general superintendent, Commercial Cable Co., 253, Broadway, New York.
Dickerson, E. N., A.AM.I.E.E., attorney-at-law, 141, Broadway, New York.
Dickerson, Van Dusen, & Co., manufacturers of bare & insulated wire, 32, Cliff-st., New York.
Dickinson, A. T., electrical contractor, 55, Prospect-st., Rockville, Conn.
Dickinson, E. D., M.AM.I.E.E., Steam Turbine Eng. Dept., General Electric Co., Schenectady, N.Y.
Dickinson Mfg. Co., manufacturers of insulating compositions for electrical purposes, Springfield, Mass.
Dickson, J. D., electrical engineer, Newport, R.I.
Didwalis, John, electrical contractor, 507, South Main-st., Wilkes Barre, Pa.
Diehl, Philip, M.AM.I.E.E., electrical engineer & inventor, Singer Sewing Machine Co., 528, Morris-ave., Elizabeth, N.J.
Diehl Manufacturing Co., electrical apparatus, &c., Elizabeth, N.J. (Telegs.: "Diehl, Elizabeth." Teleph. No. 203, Elizabeth. Lieber's, A1, A.B.C., 5th edit., & Private Codes used.)
Dielectric Co. of America, conduit makers, Belleville, N.J.; & 324, Dearborn-st., Chicago, Ill.
Dielectric Manufacturing Co., insulating material manufacturers, St. Louis, Mo.
Dieterich, Fred. G., A.AM.I.E.E., solicitor of patents & mechanical expert, Ouray-bldg., Washington, D.C.
Dietz, R. E., Co., trolley signal lamp makers, 60, Laight-st., New York.
Dillon, D. M., manufacturer of steam boilers, Fitchburg, Mass.
Dillon, E. P., A.AM.I.E.E., Pikes Peak Hydro Electric Co., 319, Hogerman-bldg., Colorado Springs, Col.
Dillon, T. L., installation contractor, 11, West 28th-st., New York.
Dillon Electric Light & Power Co., Dillon, Mont.
Dinkey, Alva C., A.AM.I.E.E., president, Carnegie Steel Co., Pittsburg, Pa.
Dinn, P. J., & Co., manufacturers of lamp hoods & posts, 278, Dover-st., Boston, Mass.
Direct U.S. Cable Co., 61, New-st. (Teleph. Nos. 1610–1612, Broad); 444, Broome-st (Teleph. No. 975, Spring); & 20, Spruce-st., New York. (Teleph. No. 2485, Beekman.)
Dixie Electro-Magnet Co., makers of magnetic separators for grain, &c., Memphis, Tenn.
Dixon Electric Power & Water Co., Dixon, Cal.
Dixon, Joseph, Crucible Co., manufacturers & miners of graphite, plumbago & black lead, Wayne-st., cor. Monmouth-st., Jersey City, N.J.
Doane, S. Everett, M.AM.I.E.E., chief engineer, National Electric Lamp Association, 4411, Hough-ave., Cleveland, Ohio.
Doble, Robert McF., consulting & supervising engineer, 417, Centre-bldg., Denver, Col.
Dodd, Samuel Thomson, A.AM.I.E.E., Railway Department, General Electric Co., Schenectady, N.Y.
Dodge, Prof. Omenzo G., M.AM.I.E.E., U.S. Naval Academy, Annapolis, Md.
Dodge & Day, electrical, mechanical & consulting engineers, Washington-bldg., Philadelphia, Pa.
Dodge Manufacturing Co., makers of Dodge Special Dynamo Pulleys & friction clutches, Mishawaka, Ind. (Telegs.: "Dodge, Mishawaka.")
Doerr-Mitchell Electric Co., dealers in electrical supplies, Spokane, Wash.
Doherty, H. L., M.AM.I.E.E., 60, Wall-st., New York.
Dole, Charles E., dealer in electrical supplies, Bangor, Maine. (Telephone No. 74, Bangor.)
D'Olier Engineering Co., mechanical & electrical engineers & contractors, 119–121, South 11th-st., Philadelphia, Pa. (Bell Teleph. No.: 32–19; Filbert Keystone 111, Main.)
D'Olier, Henry, Jun., Co., makers of metal reflectors, Philadelphia, Pa.
Domestic Engineering, Chicago, Ill. (Weekly; ann. sub., $1.00.)
Dommerque, Franz J., M.AM.I.E.E., secretary Kellogg Switchboard & Supply Co., cor. Congress & Greene-sts., Chicago, Ill.

Donahoe & Shoebottom, electrical engineers, 84, Griswold-st., Detroit, Mich.
Donahoo, J. F., installation contractor, Bond-bldg., Washington, D.C.
Donat, W., electric house work, 990, 6th-ave., New York, N.Y.
Doncourt, A., installation contractor, Flushing, N.Y.
Dongan Instrument Co., makers of electric instruments, Albany, N.Y.
Donley, W. E., Electric Light & Power Co., Big Rapids, Mich.
Doolittle, Clarence E., A.AM.I.E.E., manager Roaring Fork Electric Light & Power Co., Aspen, Col.
Doran, W. S., electrical engineer, Allis Chalmers Co., Milwaukee, Ill.
Doss Bros. Electric Construction Co., electrical engineers, 1731, Champa-st., Denver, Col.
Dossert & Co., makers of solderless connectors for wires & cables, 242, West 41st-st., New York.
Dothan City Electric Light Plant, Dothan, Ala.
Doty, C. E., & Co., electrical contractors, 88, Washington-st., Chicago, Ill. (Teleph. Nos.: 4122, Central; & 6122, Auto.)
Dotzert, Jas. H., dealer in electrical supplies, Newburg, N.Y.
Doubleday-Hill Electric Co, general electrical supplies, 919, Liberty-ave., Pittsburg, Pa. (Telegs.: "Double Hill, Pittsburgh." Teleph. Nos.: Bell, 1577, 1578, 1579, Grant; P. & A., 1542, Main.)
Dougherty, C. J., A.AM.I.E.E., electrical engineer, Wm. Cramp & Sons, Ship & Engine Building Co., Philadelphia, Pa.
Dougherty, Proctor L., A.AM.I.E.E., electrical engineer, Treasury Department, Washington, D.C.
Dougherty Electric & Mch. Co., repair shops & wiring contractors, North-East cor. 10th & Walnut-sts., St. Louis, Mo.
Douglas Improvement Co, electric light, Douglas, Ariz.
Dover Electric Light Co., Dover, N.J.
Dover & Foxcroft Light & Heat Co., Dover, Maine.
Dover Gas Light Co., Dover, N.H.
Dow, Alex, M.AM.I.E.E., general manager Edison Illuminating Co., Detroit, Mich.
Dow, Geo. E., Pumping Engine Co., makers of steam power pumping machinery, San Francisco, Cal.
Dow, H. W., assistant professor of mechanical engineering, Iowa Street College, Ames, Iowa.
Dow Portable Electric Co., manufacturers of magnetos, ammeters, plugs, &c., 218, Fremont-st., Boston, Mass.
Dowagiac Municipal Electric Light Department, Dowagiac, Mich.
Dowie, Horace, A.AM.I.E.E., with Westinghouse, Church, Kerr & Co., 8, Bridge-st., New York.
Dowling, Wm., & Co., turbine waterwheel makers, Logansport, Ind.
Downes, L. W., A.AM.I.E.E., D & W Fuse Co., Providence, R.I.
Downing, P. M., M.AM.I.E.E., engineer, California Gas & Electric Corporation, 925, Franklin-st., San Francisco, Cal.
Downs, E. S., PH.D., M.AM.I.E.E., Southington, Conn.
Downward Light Electric Co., makers of Downward Light incandescent lamps, 341, 5th-ave., New York. (Teleph. No. 6157, Madison.)
Doylestown Electric Co., electric light contractors, Doylestown, Pa.
Drake, John I., electrical engineer, Providence, R.I.
Drendell Electrical & Manufacturing Co., switch boards, controllers, &c., Mission & Erie-sts., San Francisco, Cal. (Telegs.: "Demco, San Francisco.")
Dressel Railway Lamp Works, manufacturers of head lights for electric cars, 3876, Park-ave., New York.
Dressler, Charles E., & Co., scientific & electrical apparatus makers, 1, Madison-ave., New York. (Long Distance Teleph. No. 1728, Gramercy.)
Drew, Stanton H., electrical engineer, 540, Main-st., Cincinnati, Ohio.
Driver-Harris Wire Co., resistance wire manufacturers, Harrison, N.J. (Telegs.: "Driver-Newark.")
Drohan, T. E., A.AM.I.E.E., district sales manager, Northern Electric Manufacturing Co., St. Paul, Minn.
Drummond, M. J., & Co., underground conduits & culverts, 182, Broadway, New York.
Drysdale, Dr. W. A., A.M.AM.I.E.E., M.AM.S.M.E., consulting electrical & mechanical engineer, 414–418, Hale-building, Philadelphia, Pa. (Telegrams: "Drysdale, Philadelphia." Long Distance Telephone.)
Dublin Water Works & Electric Light Plant, Dublin, Ga.
Du Bois Electric Traction Co., Du Bois, Pa.
Du Bois Iron Works, gas engine manufacturers, 804, Brady-st., Du Bois, Pa.
Dubuque Turbine & Roller Mill Co., manufacturers of turbines, Dubuque, Iowa. (Telegrams: "Turbine, Dubuque.")
Duck, J. J., electrical engineer, Toledo, Ohio.
Dudley, Chas. B., M.AM.I.E.E., chemist, Pennsylvania R. R. Co., Altoona, Pa.
Duff Manufacturing Co., makers of lifting jacks, Allegheny, Pa. (Telegrams: "Leverjack, Allegheny.")
Duffy Bros., electrical supplies, 16, East-ave., Pawtucket, R.I.
Duffy, W. F., & Co., installation contractors, 96, Warren-st., New York, N.Y.
Duluth Edison Electric Co., 216, West Superior-st., Duluth, Minn.
Duluth Engineering Co., electrical engineers, Duluth, Minn.
Duluth Street Railway Co., Duluth, Minn.

Duluth Telephone Co., Duluth, Minn.
Dunbar, F. W., M.AM.I.E.E., engineer, 5109, Kimbark-ave., Chicago, Ill.
Duncan, John D. E., A.AM.I.E.E., Sanderson & Porter, 52, William-st., New York.
Duncan, Louis, M.AM.I.E.E., consulting electrical engineer, 56, Pine-st., New York.
Duncan, T., A.AM.I.E.E., electrical engineer & managing director, Duncan Electric Manufacturing Co., Lafayette, Ind.
Duncan Electric Manufacturing Co., La Fayette, Ind.
Duncan & Lyndon, consulting electrical engineers, 56, Pine-st., New York.
Dunham, Carrigan, & Hayden Co., jobbers in electrical supplies, 131, Kansas-st., San Francisco, Cal.
Dunlap, Will Knox, M.AM.I.E.E., assistant to first vice-president Westinghouse Electric & Manufacturing Co., Pittsburg, Pa.
Dunmore Electric Light, Heat & Power Co., Dunmore, Pa.
Dunn, Gano, M.S., E.E, M.AM.I.E.E., vice-president & chief engineer Crocker-Wheeler Co., Ampere, N.J. (Telegs.: "Crockwheel, Ampere." Teleph. No. 500, Branch Brook, Newark.)
Dunshee Electric Co., electrical contractors, McKeesport, Pa.
Dunstan, A., A.AM.I.E.E., professor of electrical engineering, Alabama Polytechnic Institute, Auburn, Ala.
Du Perow, M., jobber in electrical supplies, 518, 10th-st. N.W., Washington, D.C. (Teleph. No. 4035, Main.)
Duplex Metals Co., wire manufacturers, 207, 5th-ave., New York; & at Chester, Pa.
Duquesne Light Co., 6302, Penn-ave., Pittsburgh, Pa.
Durand Light & Power Co., Durand, Wis.
Durango Railway & Realty Co., Durango, Col.
Duranoid Manufacturing Co., battery jar covers, switch handles, insulations, &c., 213–221, Chestnut-st., Newark, N.J.
Durant, Ed., M.AM.I.E.E., 115, East 26th-st., New York.
Durant Electric Supplies Co., dealers in telephone supplies, Chicago, Ill.
Durbin, Vernon, A.AM.I.E.E., telephone engineer, Holtzer-Cabot Electric Co., Brookline, Mass.
Durbrow & Hearne Manufacturing Co., electrical contractors & supply dealers, 12, Wooster-st., New York, N.Y. (Telegs.: "Ortogonio, New York." Teleph. No. 6125, Spring.)
Durham Traction Co, Durham, N.C.
Durling Electric Co., installation contractors & repairs, Baltimore, Md.
Dusinberre, G. B., M.E., M.AM.I.E.E., consulting electrical engineer, 517–518, Electric-bldg., Cleveland, Ohio.
Dutchess Light, Heat & Power Co., Rhinebeck, N.Y.
Duvall, E. S., patent attorney, Loan & Trust-bldg., Washington, D.C.
Du Vivier, E. H., agent for Jules Richard, 30, Church-st., New York.
Dwight, Theodore, electrical engineer, 15, Broad-st., New York, N.Y.
Dwyer Machine Co., machinery for electric lamp making, Lynn, Mass.
Dyer, R. N., M.AM.I.E.E., patent attorney, 31, Nassau-st., New York.
Dyer & Dyer, patent solicitors, 31, Nassau-st., New York, N.Y.
Dyersburg City Electric, Water & Light Plant, Dyersburg, Tenn.
Dyott, G. M., A.AM.I.E.E., consulting engineer, 50, Church-st., New York.

E. J. Electric Installation Co., electrical engineers, 209, West 33rd-st., New York. (Teleph. No. 3964, Mad.)
Eager Electric Co., dynamo & motor manufacturers, Watertown, N.Y.
Eagle Electric Works, dynamos, 124, S. Jeffersen-ave., Peoria, Ill.
Eagle Electric Works, light & power, Washington, Ill.
Eagle Paint & Varnish Co., makers of insulating varnish, Pittsburg, Pa.
Eagle River Electric Power Co., Baker City, Ore.
East Aurora Electric Light Co., East Aurora, N.Y.
East Coast Electric Light, Power & Ice Co., West Palm Beach, Fla.
East Creek Electric Light & Power Co., East Creek, N.Y.
East Hampton Electric Light Co., East Hampton, Conn.
East Liverpool Light & Traction Co., The, East Liverpool, Ohio.
East Palestine Electric Light Works, East Palestine, Ohio.
East Shore & Suburban Railway, Richmond, Cal.
Easterbrook, J. F., M.AM.I.E.E., electrical engineer, 82, York-sq., New Haven, Conn.
Eastern Carbon Works, carbon makers for electrical purposes, Jersey City, N.J.
Eastern District Messenger Co., electrical contractors, 153, Broadway, Brooklyn, N.Y.
Eastern Electric Construction Co., installation contractors, 281, Franklin-st., Boston, Mass.
Eastern Electrical Equipment Co., installation contractors, 43, West 27th-st., New York.
Eastern Ohio Traction Co., Cleveland, Ohio.
Eastern Oregon Light & Power Co., Baker City, Ore. (Teleph. Main No. 75.)
Eastern Pennsylvania Rlys. Co., Pottsville, Pa.

Eastern Wisconsin Railway & Light Co., Fond du Lac, Wis.
Eastman, George Nial, A.AM.I.E.E., in charge of Testing Laboratory, Chicago Edison Co., 139, Adams-st., Chicago, Ill. (Telephone No. 1280, Main.)
Eastman Machine Co., makers of electric cloth cutting machines, Buffalo, N.Y.
Easton Power Co., Easton, Pa.
Easton Transit Co., Easton, Pa.
Eastport Electric Lighting Co., Eastport, Maine.
Eastwood, A. C., M.AM.I.E.E., president, Electric Controller & Manufacturing Co., Cleveland, Ohio.
Eaton Chase Co., contractors, constructors & dealers in electrical supplies, 129, Main-st., Norwich, Conn. (Teleph. No. 174.)
Eaton Electric Light, Power & Ice Manufacturing Co., Eaton, Ohio.
Eaton Electric Manufacturing Co., makers of switchboards, 144, East Erie-st., Chicago, Ill.
Eaton, S. Edw., & Co., electrical construction & repairing, 660, Hudson-st., New York. (Telephone No. 17–18–19, Chelsea.)
Eck Dynamo & Motor Co., manufacturers of electric fans, motors & dynamos, Belleville, N.J.
Eclipse Electrical Co., electrical engineers & electric supplies, 1124, Pine-st., St. Louis, Mo.
Eco Magneto Clock Co., watchman's recorders, Boston, Mass.
Economical Electric Lamp Co., manufacturers of regulating incandescent lamps, 96, Warren-st., New York.
Economy Electric Co., electrical contractors, 1825, West 25th-st., Cleveland, Ohio.
Economy Electric Co., incandescent lamp manufacturers, Warren, Ohio.
Economy Electric Corporation, electrical manufacturers, South Bend, Ind.
Economy Electrical Co., electrical construction & repairs, 1118, Chestnut-st., St. Louis, Mo. (Teleph. Nos.: 3590, Bell, Main; & 4438, Kin., Central.)
Economy Light, Fuel & Power Co., Lockport, N.Y.
Economy Light & Power Co., Joliet, Ill.
Eddy, C. M., electrical engineer & contractor, 819, Madison-ave., Toledo, Ohio. (Teleph. No. 1032.)
Eddy, H. T., A.M.AM.I.E.E., professor of electrical engineering, University of Cincinnati, Cincinnati, Ohio.
Edelkamp, John, electrical contractor, 266, West 41st-st., New York.
Eden, R. C., electrical inspector, Underwriters' Association of the Middle Department, 22, Clinton-st., Newark, N.J.
Edes Manufacturing Co., manufacturers of battery zincs & coppers, Plymouth, Mass.
Edgar, C. L., M.AM.I.E.E., general manager & chief engineer Edison Electric Illuminating Co., 70, State-st., Boston, Mass.
Edgar, Wm. B., electrical construction work, Fall River, Mass.
Edinburg Electric Light Plant, Edinburg, Ill.
Edison, Thos. A., M.I.E.E., M.AM.I.E.E., electrician & inventor, Llewellyn Park, Orange, N.J.
Edison Electric Construction Co., installation contractors, San Francisco, Cal.
Edison Electric Illuminating Co., Altoona, Pa.
Edison Electric Illuminating Co., Ashland, Pa.
Edison Electric Illuminating Co., 48, Franklin-st., Boston, Mass. (Telegs.: "Ragde, Boston." Teleph. No. 3300, Oxford.)
Edison Electric Illuminating Co. of Brockton, Brockton, Mass. (Teleph. No. 254.)
Edison Electric Illuminating Co. of Brooklyn, Edison-bldg., 360, Pearl-st., Brooklyn, N.Y. (Teleph. No. 4640, Main.)
Edison Electric Illuminating Co., Cumberland, Md.
Edison Electric Illuminating Co., Lancaster, Pa.
Edison Electric Illuminating Co., Mount Carmel, Pa.
Edison Electric Illuminating Co., Pottsville, Pa.
Edison Electric Illuminating Co., Sunbury, Pa.
Edison Electric Illuminating Co., Tamaqua, Pa.
Edison Electric Illuminating Co., West Chester, Pa. (Telephone No. 164.)
Edison Electric Illuminating Co., Williamsport, Pa.
Edison Electric Light Co., York, Pa.
Edison Electric Light & Power Co., Amsterdam, N.Y.
Edison Illuminating Co., Detroit, Mich.
Edison Lamp Works (General Electric Co.'s Incandescent Lamp Factory), Harrison, N.J.
Edison Light & Power Co., 233–239, South Main-st., Wichita, Kan.
Edison Manufacturing Co., makers of Edison Lalande batteries, medical appliances, & battery motors, 31, Union-sq., New York. (Telegs.: "Kurilian, New York.") Factory: Orange, New Jersey.
Edison Sault Electric Co., Sault Ste. Marie, Mich.
Edison Storage Battery Co., storage batteries, Orange, N.J.
Edmands, Samuel Sumner, A.AM.I.E.E., head instructor in applied electricity, department of science & technology, Pratt Institute, Brooklyn, N.Y.
Edmonds, Samuel Owen, A.AM.I.E.E., patent lawyer, 32, Liberty-st., New York.

Edmunds Electric Construction Co., electrical engineers & contractors, Schmitz-blk., 1019, Calhoun-st., Fort Wayne, Ind.
Edwards, Clifton V., A.AM.I.E.E., solicitor of patents, 2, Rector-st., New York.
Edwards, Jas. P., A.AM.I.E.E., division electrical engineer, Postal Telegraph Cable Co., Atlanta, Ga.
Edwards & Co., manufacturers of electric house furnishings, &c., 467, Broadway, New York. (Telegs.: "Buzzers, New York." Lieber Code. Teleph. Nos.: 8, Melrose; & 3175, Harlem.)
Edwards Manufacturing Co., manufacturers & dealers of electric light fixtures, 21, East Lake-st., Chicago, Ill.
Efandem Co., incandescent lamp manufacturers, 201, East 16th-st., New York.
Egan Electric Massage Vibratory Co., medical manufacturing electricians, Petersbury, Ill.
Egbert, F. W., marine electrical engineer & contractor & dealer in electrical supplies, 50, 1st-ave., Tompkinsville, New York, N.Y.
Eglin, James Meikle, A.AM.I.E.E., chief of electric department, Edison Electric Light Co. of Philadelphia, 10th & Sansom-sts., Philadelphia, Pa.
Eglin, Wm. C. L., M.AM.I.E.E., electrical engineer, Philadelphia Electric Co., 1000, Chestnut-st., Philadelphia, Pa. (Teleph. No. 2626, Walnut.)
Ehrenreich, J. J., M.AM.I.E.E.. contracting electrical engineer, 209, West 33rd-st., New York.
Eidlitz, Chas. L., electrical engineer & contractor, 1168, Broadway, New York.
Eimer & Amend, manufacturers & importers of chemical apparatus & chemicals, cor. 18th-st. & 3rd-ave., New York.
Einbigler & Adler, electricians, 316, West 113th-st., New York, N.Y. (Teleph. No. 3519, Morningside.)
Einstein, A. O., electrical manufacturers' agent, 103, West Adam-st., Chicago, Ill.
Ekstrand, C., A.AM.I.E.E., manager, Lowell M. Palmer's Plants, York, Pa.
Ekström, Axel, A.M.I.E.E., consulting electrical engineer, Delaware & Hudson Co., Albany, N.Y.
El Reno Gas & Electric Co., El Reno, Okl.
Elblight Co. of America, Elblight System, 36, East 23rd-st., New York. (Telegs.: "Elblight, New York." Teleph. No. 4524, Gramercy.)
Elbridge Electrical Manufacturing Co., makers of the "Elbridge" line of ignition apparatus, Elbridge, N.Y. (Telegs.: "Electelb, Skaneatelesjunction.")
Eldenbel Construction Co., contracting engineers, 42, Broadway, New York.
Eldredge Electric Manufacturing Co., makers of electrical specialties, Springfield, Mass.
Eldridge, Albert E., electrical contractor, 136, 9th-st., Pittsburg, Pa. (Both Telephones No. 602.)
Electra Press Mfg. Co., electric printing presses, 140, Nassau-st., New York. (Telegs.: "Elecpress, New York." A.B.C. Code, 5th edit., & W.U. Code. Teleph. Nos. 4740 & 4741, Beekman.)
Electric Appliance Co., dealers in electrical supplies, 726-728-730, Mission-st., San Francisco, Cal. (Telegs.: "Appliance, San Francisco." Teleph. No. 2871, Kearny.)
Electric Appliance Co., general electrical supplies, 134, West Jackson-boul., Chicago, Ill.
Electric Appliance Manufacturing Co., manufacturing electricians, Easton, Pa.
Electric Auditing Co., consulting electrical engineers, Old South-bldg., Boston, Mass.
Electric Blower Co., 111, Clark-st., Newton Centre, Mass.
Electric Boat Co., 11, Pine-st., New York.
Electric Cable Co., wire coverers (indiarubber & gutta percha), Bridgeport, Conn.; & 17, Battery-pl., New York.
Electric Cleaner Co., vacuum cleaners manufacturers, 1654, Monadnock-blk., Chicago, Ill.
Electric Club of Pittsburg, Pittsburg, Pa.
Electric Construction Co., installation contractors, Old South-bldg., Boston, Mass.
Electric Construction Co., electrical engineers & contractors, 117, West 4th-st., Little Rock, Ark.
Electric Construction Co., installation contractors, 263, East Colorado-st., Pasadena, Cal.
Electric Construction Co., dealers in electrical supplies, 111, Seneca-st., Seattle, Wash.
Electric Construction Co., installation contractors, 713, 14th-st., N.W., Washington, D.C.
Electric Construction & Insulating Co., consulting electrical engineers, 2125, Colerain-ave., Cincinnati, Ohio.
Electric Construction & Machinery Co., Rock Island, Ill. (Long Distance Teleph. No. 280, West.)
Electric Construction & Supply Co., installation contractors, Oswego, N.Y.
Electric Construction & Supply Co., dealers in arc lamps, &c., 237, Broadway, New York, N.Y.
Electric Contract Co., electrical engineers, Richmond, Va.
Electric Contracting & Repairing Co., electrical engineers, 391, Myrtle-ave., Brooklyn, N.Y. (Teleph. No. 3907 L., Prospect.)
Electric Controller & Manufacturing Co., manufacturers of electric crane controllers, Cleveland, Ohio.
Electric Equipment Co., electrical contractors, 526, Court-st., Reading, Pa.
Electric Fountain Co. of America, manufacturers of electric fountains, Philadelphia, Pa.
Electric Gas & Steam Brokerage Co., installation contractors, Chicago, Ill.
Electric Goods Manufacturing Co., manufacturers of electrical supplies, 115, Purchase-st., Boston, Mass.
Electric Heat Regulator Co., Minneapolis, Minn.

Electric Heating & Manufacturing Co., 317–319, Fay-bldg., Los Angeles, Cal.
Electric Home Supply Co., domestic electric appliance makers, 45, West 34th-st., New York.
Electric Installation & Equipment Co., installation contractors, 218, Grand-st., New York.
Electric Journal (ann. sub., United States & Mexico, $1.50; Canada, $1.75: Foreign countries, $2.00 a year, payable in advance), Box 911, Pittsburg, Pa.
Electric Launch Co., electric launch builders, Bayonne, N.J. (Telegrams: "Elecclaunch.")
Electric Light Co., Manitowoc, Wis.
Electric Light Co., Ottawa, Ohio. (Teleph. No. 157.)
Electric Light Plant, Tomah, Wis.
Electric Light & Power Co., Hightstown, N.J.
Electric Light & Power Co., North Abington, Mass.
Electric Light & Water Works (Municipal), Chelsea, Mich.
Electric & Machine Construction Co., installation contractors, 6014, Center-ave., Pittsburg, Pa.
Electric Machinery Co., makers of dynamos, &c., 13th & 14th-aves., & Polk & Tyler-sts. N.E., Minneapolis, Minn. (Jas. T. Boustead, president & general superintendent; Chas. H. Chalmers, vice-president & general manager.)
Electric Maintenance Co., repair shops, 32, Clifford-st., Detroit, Mich.
Electric Manufacturing Co., fittings makers, 926, Lafayette-st., New Orleans, La.
Electric Motor & Construction Co., installation contractors, 1306, Clay-st., Oakland, Cal.
Electric Motor & Equipment Co., manufacturing electricians, Newark, N.J.
Electric Motor Inspection & Repair Co., installation contractors, 1, Beekman-st., New York.
Electric Novelty Co., installation contractors, 125, Monroe-st., Memphis, Tenn.
Electric Operating Construction Co., installation contractors, 49, Wall-st., New York, N.Y.
Electric Power Co., Boise, Idaho.
Electric Railway Equipment Co., manufacturers of wrought iron & steel tubular poles, 1938, West 8th-st., Cincinnati, Ohio. (Telegrams: "Equipment, Cincinnati." Telephone No. 2169, Main.)
Electric Railway Journal (weekly; ann. sub., North America, $3.00; Canada, $4.50; other countries, $6 = £1 5s.), 239, West 39th-st., New York (Telegs.: "Stryjourn, New York." Teleph. No. 4700, Bryant); & Hastings House, Norfolk-st., Strand, London, W.C. (Telegs.: "Stryjourn, London.")
Electric Railway, Light & Ice Co., Junction City, Kan.
Electric Railway & Manufacturers' Supply Co., Inc., dealers in electrical supplies, 84, 2nd-st., San Francisco, Cal. (Telegs.: "Ermsco, Francisco." Teleph. No. 1299, Kearny.)
Electric Railway & Power Co. of Tiffin, Tiffin, Ohio.
Electric Repair & Construction Co., installation contractors, Altoona, Pa.
Electric Sad Iron Co., electric heating apparatus makers, Detroit, Mich.
Electric Service Co., installation contractors, 208, North Main-st., South Bend, Ind. (Teleph. Nos.: 539, Bell; & 6092, Automatic.)
Electric Service Supplies Co., dealers in electrical supplies, 107, South Forsyth-st., Atlanta, Ga.
Electric Service Supplies Co., dealers in electric street railway supplies, 1020, Filbert-st., Philadelphia (Telegs.: "Maylundt"); 303, Dearborn-st., Chicago (Telegs.: "Wilmax"); & Keokuk, Iowa. (Telegs.: "Gardaric.")
Electric Service Supplies Co., dealers in electrical supplies, 316, North 2nd-st., St. Louis, Mo.
Electric Smelting & Aluminium Co., aluminium, silicon & manganese alloys, Lockport, N.Y.
Electric Speciality Co., telephone condenser makers, Cresco, Iowa.
Electric & Steam Engineering Co., consulting electrical engineers, Chemical-bldg., St. Louis, Mo.
Electric Storage Battery Co., The, makers of the Chloride Accumulator, 19th-st. & Allegheny-ave., Philadelphia, Pa. (Telegrams: "Chloride, Philadelphia.")
Electric Storage Supply Co., storage battery renting, installing & repairing, 78, Stanhope & Trinity-pl., Boston, Mass.
Electric Suction Sweeper Co., vacuum cleaners manufacturers, New Berlin, Ohio.
Electric Supply & Battery Co., manufacturers of storage batteries, electric supply dealers & contractors, 7510, Woodland-ave., S.E., Cleveland, Ohio.
Electric Supply Co., installation contractors, Charleston, S.C.
Electric Supply Co., dealers in electrical apparatus & supplies, Memphis, Tenn. (Teleph. No. 1600.)
Electric Supply Co., dealers in electrical supplies, 40, Drayton-st., Savannah, Ga.
Electric Supply Co., manufacturers of & dealers in electrical supplies, 410, Neb.-st., Sioux City, Iowa. (Teleph. No. 1700.)
Electric Supply Co., 50, North 3rd-st., Columbus, Ohio. (Teleph. Nos.: 3183, City; & 1183, Bell.)
Electric Supply & Construction Co., installation contractors, West Park-st., Franklin, Pa.
Electric Therapeutic Appliance Co., Cleveland, Ohio.
Electric Traction Supply Co., dealers in electrical supplies, 310, Market-st., St. Louis, Mo.
Electric Traction Weekly, Manhattan-bldg., 315, Dearborn-st., Chicago, Ill.
Electric Vehicle Co., makers of electric vehicles, Hartford, Conn.
Electric & Water Co., Grand Rapids, Wis.
Electric Wiring Co., installation contractors, 552, Main-st., Kansas City, Mo.

Electric Works, municipal electric light plant, South Norwalk, Conn. (Telephone No. 24.) J. A. Volk, president; C. N. Smith, secretary; A. E. Winchester, general superintendent.
Electrical Accessories Co., incandescent lamp manufacturers, 1135, Broadway, New York.
Electrical Age, The (monthly; Foreign, P.U., $2.50 per annum; U.S., $1.00), 45, East 42nd-st., New York.
Electrical Alloy Co., manufacturers of resistance wires, Morristown, N.J.
Electrical Apparatus Co., manufacturing electricians, Elbridge, N.Y.
Electrical Appliance Co., manufacturing electricians, Cincinnati, Ohio.
Electrical Appliance Co., installation contractors, Portland, Ore.
Electrical Appliance Manufacturing Co., manufacturers of electrical devices, 19, Buckingham-avenue, Waterbury, Conn. (Teleph. No. 2173.)
Electrical Construction Co., electric automobiles, 1126-30, South Main-st., Los Angeles, Cal.
Electrical Construction Co., installation contractors, 423, Richmond-ter., New Brighton, N.Y.
Electrical Construction Co., electrical contractors, 120, Broadway, Detroit, Mich.
Electrical Construction Co., electrolier manufacturers & fitters, Y. M. C. A.-blk., 322, 6th-st., Racine, Wis. (Telegs.: "Electroconstruct, Racine." Bell Teleph. No. 16.)
Electrical Construction Co., repair shops & wiring contractors, 406, 10th-st., Oakland, Cal.
Electrical Construction & Manufacturing Co., installation contractors, 25, 3rd-ave., New York.
Electrical Construction & Supply Co., installation contractors, Alton, Ill.
Electrical Contractors' Association of N.Y. Secretary, G. W. Russell, junr., 25, West 42nd-st, New York.
Electrical Contractors' Association of Rochester, N.Y., 316, Wilder-bldg., Rochester, N.Y. Secretary, Fred Fish, 123, Mill-st., Rochester, N.Y.
Electrical Engineer Institute of Correspondence Instruction, 240-242, West 23rd-st., New York. Joseph Wetzler, M.E., E.E., president.
Electrical Engineering Co., dealers in incandescent lamps, supplies, &c., 21, North 6th-st., Minneapolis, Minn. (Teleph. No. 2982.)
Electrical Engineering Co., 112, Marion-st., Seattle, Wash. (Telephone Nos. 38, Sunset Union & Independent.)
Electrical Engineering Co., installation contractors, 75, Niagara-sq., Buffalo, N.Y.
Electrical Engineering Co., installation contractors, 11, East Lexington-ave., Baltimore, Md.
Electrical Engineering & Construction Co., installation contractors, 433, Judge-bldg., Salt Lake City, Utah.
Electrical Engineering Society, University of Illinois, Champaign, Ill.
Electrical Equipment Co., contractors & electrical supplies, 1039, N.-st., Lincoln, Neb. (Teleph. No. 3811, Aut.)
Electrical Equipment & Inspection Co., 176, Grand-st., New York, N.Y.
Electrical Installation Co., electric railway construction & equipment, 1517, Monadnock-bldg., Chicago, Ill. (Telegrams: "Plant, Chicago." Telephone No. 1219, Harrison.)
Electrical Machinery & Specialty Co., dealers in electric machinery, 204, 206 & 208, Franklin-ave., St. Louis, Mo. (Telephone Nos.: 1828, Bell, Main; Kinloch A 743.)
Electrical Maintenance & Repair Co., storage battery manufacturers, engineers & jobbers, 200-202, Market-st., Newark, N.J. (Teleph. No. 3494.)
Electrical Manufacturing Co., Incorp., manufacturers & dealers in electrical supplies, 1363, West 2nd-st., Cleveland, Ohio.
Electrical Record (monthly; $2 per ann.), 114, Liberty-st., New York.
Electrical Repair Co., manufacturers, 136, Liberty-st., New York, N.Y.
Electrical Repair & Construction Co., manufacturers of dynamos, motors, fans & plating machines, 2060, 4th-st., Cleveland, Ohio.
Electrical Repair & Manufacturing Co., installation contractors, 619, Champlain-ave., Cincinnati, Ohio.
Electrical Review Publishing Co. (Chas. W. Price, president), publishers of the *Electrical Review & Western Electrician* & electrical books, Suite 507, Marquette-bldg., Chicago, Ill. (Teleph. No. 2375, Randolph.)
Electrical Review & Western Electrician (weekly; ann. sub., U.S., $3; Canada, $4; foreign, $6), Marquette-bldg., Chicago, Ill. (Telegs.: "Electview, New York." Teleph. No. 21, Cort.)
Electrical Shop, installation contractors, 242, North Pork-ave., Chicago, Ill.
Electrical Supply Co., installation contractors, Sacramento, Cal.
Electrical Supply Co., installation contractors, 714, Union-st., New Orleans, La.
Electrical Supply Co., dealers in electrical supplies, 120, South Pickney-st., Madison, Wis.
Electrical Supply & Construction Co., electrical supplies, 1522, Stout-st., Denver, Col.
Electrical Supply & Construction Co., electrical supplies & fixtures, 287 & 291, West Federal-st., Youngstown, Ohio.
Electrical Supply & Salvage Co., second-hand electric plant, 66, West Van Buren-st., Chicago, Ill.
Electrical Testing Laboratories, electrical testing engineers, 80th-st. & East End-ave., New York. (Teleph. No. 5513, Lenox.)
Electrical Testing & Maintenance Co., installation contractors, 145, West 42nd-st, New York, N.Y.

Electrical World (weekly; ann. sub., U.S. $3, P.U. $6), 239, West 39th-st., New York, N.Y. (Telegs.: "Electrical, New York." Teleph. No. 4700, Bryant.) J. H. McGraw, president; J. M. Wakeman, vice-president; T. C. Martin & W. D. Weaver, editors. A. C. Shaw, Hastings House, London, European manager.

Electrically Driven Machine Co., manufacturers of electric dumb waiters, 140, Nassau-st., New York. (Telegs.: "Eldrimaco, New York." Teleph. Nos. 4740 & 4741, Beekman.)

Electrochemical & Metallurgical Industry (monthly), 239, West 39th-st., New York (E. F. Roeber, PH.D., editor). (Ann sub., P.U. 10*s.*)

Electro-Construction Co., installation contractors, Arcade-bldg., Philadelphia, Pa.

Electrocraft (ann. sub., $1; foreign, $1.50), Electrocraft Publishing Co., Detroit, Mich.

Electro-Ad Co., makers of motorless electric sign flashers, Detroit, Mich. (Telegs.: "Shedoodle, Detroit.")

Electro-Dynamic Co., manufacturers of motors, Bayonne, N.J. (Telegs.: "Edco-Bayonne.")

Electrose Manufacturing Co., manufacturers of hard rubber substitutes & other insulating materials, 127, North 10th-st., Brooklyn, N.Y.

Electro Surgical Instrument Co., makers of electrically lighted surgical instruments & electro-therapeutic appliances, Rochester, N.Y. (Telegs.: "Esico, Rochester.")

Electro-Therapeutic Manufacturing Co., electro-medical apparatus, 26, West Maryland-st., Indianapolis, Ind.

Electro-Therapeutist (ann. sub., U.S., $1.00; Foreign, $1.25), Lima, Ohio. (H. C. Bennett, M.D., M.E., editor.)

Elektron Manufacturing Co., manufacturers of electric elevators, electric motors, dynamos, &c., 60, Wilbraham-rd., Springfield, Mass. (Telephone No. 216); & 156, 5th-ave., New York.

Elevator Supply & Repair Co. (S. D. Collett, vice-president & Eastern manager), 114-118, Liberty-st., New York; & 76, West Monroe-st., Chicago, Ill.

Eline, J. Frank, & Co., dealers in electrical supplies, 110, East Baltimore-st., Baltimore, Md.

Elizabeth City Electric Light & Power Co., Elizabeth City, N.C.

Elizabethtown & Marietta Electric Light Co., Marietta, Pa.

Ellensburgh City Electric Plant, Ellensburgh, Wash.

Ellinger, Edgar, A.AM.I.E.E., electrical engineer, Comstock, L. A., & Co., 50, Church-st., New York.

Elliott, G. W., A.AM.I.E.E., *Electrical World*, New York, N.Y.

Elliott, R. H., A.AM.I.E.E., transformer engineer, General Electric Co., Pittsfield, Mass.

Elliott Bros. Electric Co., manufacturers of armature & field coils, dynamo repairing, 3864, Hamilton-st., Cleveland, Ohio.

Elliott, S. K., Electric Co., electrical machinery supplies & repairs, 322-328, Champlain-ave. N.W., Cleveland, Ohio.

Elliott Telephone & Electric Co., The, manufacturers of telephones, supplies, &c., 518-520, Mass-ave., Indianapolis, Ind. (New Telephone No. 1026.)

Ellis Manufacturing Co., installation contractors, 263, Ogden-ave., Chicago, Ill.

Ellsworth Heat, Light & Power Co., Ellsworth, Wis.

Ellwood Ivins Tube Works, platinum merchants, 487, Broadway, New York.

Elm City Engineering Co., manufacturers of electric metal separators, New Haven, Conn.

Elmer, Wm., jun., A.AM.I.E.E., 28th-st., Pittsburg, Pa.

Elmhurst Electric Light & Power Co., Elmhurst, Ill.

Elmira Electric Works, manufacturing electricians, Elmira, N.Y.

Elmira Water, Light & Railroad Co., Elmira, N.Y.

Elmwood Electric Light Co., Elmwood, Ill.

El Paso Electric Co., El Paso, Tex.

El Paso Electric Railway Co., El Paso, Tex.

El Paso Electrical Supply Co., electrical contractors, El Paso, Tex. (Telephone No. 335.)

El Paso Gas & Electric Co., El Paso, Tex.

Elwell, W. P., installation contractor, 36, Main-st., Peabody, Mass. (Teleph. No. 35-2, Con.)

Elwell-Parker Electric Co. of America, dynamo & motor makers, 4300, St. Clair-ave., Cleveland, Ohio. (Telegrams: "Lwellparker, Cleveland.")

Elwood Electric Light Co., Elwood, Ind.

Ely, Wm. Grosvenor, A.AM.I.E.E., superintendent of construction, General Electric Co., Schenectady, N.Y.

Emergency Electrical Contracting Co., installation contractors, 235, Duffield-st., Brooklyn, N.Y.

Emergency Heater Co., Napoleon, Ohio.

Emerick, Louis W., A.AM.I.E.E., general manager, Fulton Light, Heat & Power Co., Fulton, N.Y.

Emerson, Harrington, counselling engineer, 1522-30, Church-st., New York. (Telegs.: "Harrimer, New York." Teleph. No. 1704, Cort.)

Emerson Electric Light Co., Encampment, Wyo.

Emerson Electric Manufacturing Co., manufacturers of direct & alternating current motors & fans, 21st-st. & Washington-ave., St. Louis, Mo. (Telegs.: "Emelec, St. Louis.")

Emmet, W. L. R., electrical engineer, General Electric Co., Schenectady, New York.

Emmetsburg Electric Light, Heat & Power Co., Emmetsburg, Iowa.
Emmous Electric Construction Co., installation contractors, 84, La Salle-st., Chicago, Ill.
Empire China Works, electrical specialties, 156, Green-st., Brooklyn, N.Y.
Empire Electric Co., installation contractors, 1308, 2nd-ave., New York. (Teleph. No. 3327, Plaza.)
Empire Electric Co., installation contractors, Spokane, Wash.
Empire Electric Manufacturing Co., electric switches, Plainville, Conn.
Empire Electric Sign Co. (W. N. McComb, manager), electric sign manufacturers, 162–164, East 118th-st., New York, N.Y.
Empire Electric Works, dealers in electrical supplies, Bridgeport, Conn.
Empire Manufacturing Co., vulcanized fibre, Wilmington, Del.
Empire State Dry Battery Co., dry batteries makers, 55, Dey-st., New York.
Empire State Power Co., Amsterdam, N.Y.
Empire State Telephone & Telegraph Co., Auburn, N.Y.
Emporia City Electric Light & Power Plant, Emporia, Kan.
Engberg's Electric & Mechanical Works, manufacturers of generating sets, search lights & valves, St. Joseph, Mich.
Engelhardt Electric Co., installation contractors, 172, Fox-st., Buffalo, N.Y.
Engineering Digest (monthly; 20 c. per copy), 220, Broadway, New York.
Engineering & Equipment Co., electric conveying machinery & specialties, Fulton-bldg., Pittsburg, Pa.
Engineering Magazine, 140, 142, Nassau-st., New York; & Kean-st., Aldwych, London, W.C.
Engineering & Mining Journal (weekly; price $5; P.U., $8.00 per annum), & "The Mineral Industry" (annually), 505, Pearl-st., New York; & 20, Bucklersbury, London, E.C.
Engineering Record (weekly), 239, West 39th-st., New York. (Ann. sub., $3.00; P.U., $6.00.)
Engineering Specialty Co., motor manufacturers, Stamford, Conn.
Engineers' Club of Philadelphia, 1317, Spruce-st., Philadelphia, Pa.
Engstrom, Axel H., consulting engineer, Bullitt-bldg., Philadelphia, Pa.
Enid Electric & Gas Co., Enid, Okla.
Enos Co., electric & gas fixtures, 5, West 39th-st., New York, N.Y. (Teleph. No. 1533, Chelsea)
Ensign, O. H., M.AM.I.E.E., chief electrical engineer, U.S. Reclamation Service, Los Angeles, Cal.
Enterprise Electric Co., installation contractors, 194, West Broadway, New York.
Enterprise Electric Light, Heat & Power Co., Garner, Iowa.
Enterprise Electrical Co., electrical contractors, 5307, Euclid-ave., Cleveland, Ohio.
Enterprise Electrical Co., installation contractors, Middletown, N.Y.
Enterprise Power Co., Clifton, Ariz.
Entrekin, S. W., installation contractor, 1554, North 13th-st., Philadelphia, Pa.
Entz, Justus B., A.AM.I.E.E., consulting electrical engineer, Electric Vehicle Co., Hartford, Conn.
Equitable Electric Inspection Co., installation contractors, St. Louis, Mo.
Erben, H. F. T., A.AM.I.E.E., designing engineer, General Electric Co., Schenectady, N.Y.
Erickson-Wyman Co., electric lift makers, Seattle, Wash. (Teleph. No. 3813, Ind.)
Erie City Iron Works, builders of steam engines & boilers for electrical purposes, Erie, Pa. (Telegrams: "Selden, Erie.")
Erie Clutch & Pulley Co., manufacturers of pulleys, clutches & power transmission machinery, Erie, Pa. (Telegs.: "Pulley, Erie." Teleph. Nos.: 1374B, Bell; & 176, Mutual.)
Erie County Electric Co., The, electric light contractors, Erie, Pa.
Erie Electric Motor Co., electric machinery makers, Erie, Pa.
Erie Manufacturing & Supply Co., engine makers (steam), high speed, 1213, Peach-st., Erie, Pa.
Erie Traction Co., Erie, Pa.
Erner Electric Co., electrical supplies dealers, 18, St. Clair-ave., Cleveland, Ohio.
Erner & Hopkins Co., dealers in electrical supplies, 55, East Chestnut-st., Columbus, Ohio.
Escanaba Electric Street Railway Co., Escanaba, Mich.
Esterline, J. W., A.AM.I.E.E., associate prof. of electrical engineering, Purdue University, Lafayette, Ind.
Esty, William, M.AM.I.E.E., professor of electrical engineering, Lehigh University, South Bethlehem, Pa.
Etna Electric Works, makers of electric measuring instruments, 145, East 23rd-st., New York, N.Y.
Ettrup, L., A.AM.I.E.E., constructing engineer, Sacramento, Cal.
Euclid Avenue Electrical Co., dealers in electrical supplies, 5215, Euclid-ave., Cleveland, Ohio.
Eufaula Gas, Electric Light & Power Co., Eufaula, Ala.
Eureka Electric Co., electrical contractors & supplies, Pittsfield, Mass.
Eureka Lighting Co., Eureka, Cal.
Eureka Tempered Copper Works, manufacturers of commutators, commutator segments, North East, Pa.
Eureka Vibrator Co., medical manufacturing electricians, 800, Majestic-bldg., Detroit, Mich.
Eutaw Water Works, Electric & Power Co., Eutaw, Ala.
Evans, Prof. Herbert S., A.AM.I.E.E., University of Colorado, Boulder, Col.
Evans, Almirall & Co., contractors for electric light plants, 281, Water-st., New York, N.Y.
Evans, G. T., & Co., electrical contractors, 115, 9th-st., Pittsburg, Pa. (Teleph. No. 2102, Grant.)
Evans, George W., & Co., dealers in electrical supplies, 1009, Alaska-bldg., Seattle, Wash.

Evans Marble Co., slate for switchboards, Baltimore, Md.
Evans, Wm., Co., electrical engineers & contractors & dealers in electrical supplies, Phœnix, Arizona.
Evanston Electric Light Co., Evanston, Wyo.
Evansville Gas & Electric Light Co., Evansville, Ind.
Evansville Railways Co., Evansville, Ind.
Evansville & Southern Indiana Traction Co., 324, Upper 2nd-st., Evansville, Ind.
Eveleth Electric Co., Eveleth, Minn. (Teleph. Nos. 31-1 & 31-2.)
Everett Railway, Light & Water Co., Everett, Wash.
Everit, Edward Hotchkiss, A.AM.I.E.E., engineer, So. N. E. Telephone Co., New Haven, Conn.
Excel Electric Heating Co., electric heating apparatus makers, 54, Vesey-st., New York, N.Y.
Excello Arc Lamp Co., The, arc lamp manufacturers, 24, East 21st-st., New York. (Telegs.: "Excellamp, New York." Teleph. Nos. 1595-1596, Gramercy.)
Excelsior Electric Co., electrical engineers, Cleveland, Ohio.
Excelsior Electric Maintenance Co., installation contractors, 162, West 29th-st., New York.
Exeter Machine Works, makers of armature coil forms, Pittston, Pa.
Eyanson, George T., Co., Inc., manufacturers of switches, fuses, &c., Commerce-st., cor. 7th-st., Philadelphia, Pa.
Eyre, M. K., A.AM.I.E.E., consulting engineer, 290, Ridgewood-ave., Glen Ridge, N.J.

Faccioli, Ing. G., electrical engineer, 18, Rugby-rd., Schenectady, N.Y,
Fahn & McJunkin, lamp engineers, 201, East 16th-st., New York.
Fahnestock Electric Co., makers of telephone transmitters & apparatus, 129, Patchen-ave., Brooklyn, N.Y.
Fairbanks, Morse & Co., dynamos, motors, steam-engines, gas & gasoline engines, steam pumps, friction clutches, &c., Chicago, Ill. (Telegrams: "Eclipse, Chicago.")
Fairchild, Chas. B., jun., M.AM.I.E.E., *Electric Traction Weekly*, 1109, Manhattan-bldg., Chicago, Ill.
Fairchild, W. L., A.AM.I.E.E., consulting engineer, Room 503, 71, Broadway, New York.
Fairfield Gas & Electric Co., Fairfield, Iowa.
Fairhaven Electric Co., Fairhaven, Vt.
Fairhaven Marble & Marbleized Slate Co., electric slate, Fairhaven, Vt.
Fairmont & Clarksburg Traction Co., Fairmont, W. Va.
Fairmount Electric & Manufacturing Co., Inc., 2320, Market-st., Philadelphia, Pa.
Fairmount Park Transportation Co., Philadelphia, Pa.
Fajans, Isidor, electrical contractor, 54, Lexington-ave., New York. (Teleph. No. 586, Mad.-sq.)
Falkenau Electrical Construction Co., general contractors, Suite 201-203, Stock Exchange-bldg., Chicago, Ill. (Teleph. No. 2549, Main.)
Fall Mountain Electric Light & Power Co., Bellows Falls, Vt.
Fall River Electric Light Co., Fall River, Mass.
Fallek, Henry, electrical contractor, 247, Atlantic-ave., Brooklyn, N.Y. (Teleph. No. 2474, Main.)
Faller Automatic Telephone Exchange Co. of New York, makers of telephone apparatus, 48, Exchange, New York.
Falvy-Wilson Co., electrolier manufacturers & fitters, New Orleans, La.
Fancleve Specialty Co., makers of electrical fittings, Jamaica Plain, Mass.
Fargo & Moorhead Street Railway Co., Fargo, N.D.
Faribault Gas & Electric Co., Faribault, Minn.
Faries Manufacturing Co., electrolier manufacturers & fitters, Decatur, Ill.
Farmer, F. M., A.AM.I.E.E., Lamp Testing Bureau, 556, East 80th-st., New York.
Farmer, I. V. T., A.AM.I.E.E., engineer, Consolidated Car-Heating Co., 42, Broadway, New York.
Farmington Electric Co., Farmington, Maine.
Farmington Street Railway Co., The, Hartford, Conn.
Farnsworth Electrical Works, manufacturing electricians, 132-138, 2nd-st., San Francisco, Cal.
Farr Telephone & Construction Supply Co., manufacturers of telephones & telephone supplies, 33-35, South Clinton-st., Chicago, Ill.
Farrand, Dudley, A.AM.I.E.E., general manager Electric Department, Public Service Corporation of N.J., 763, Broad-st., Newark, N.J.
Farrell, John, electrician, 8, Lawton-st., New Rochelle, N.Y.
Farrell Bros., installation contractors, 1143, Penn-ave., Pittsburg, Pa.
Farrell, J. S., & Co., electrolier manufacturers & fitters, 332, North Illinois-st., Indianapolis, Ind.
Farrell Light, Heat & Water Co., Brinkley, Ark.
Fastnacht, W. A., installation contractor & city electrician, 276, West Market-st., York, Pa.
Favor, Sidney S., electrical contractor & supply dealer, Gloucester, Mass.
Fawcett, C. E., electrical engineer & contractor, dealer in apparatus & supplies, Cedar Rapids, Iowa.
Fay, J. T., electrical engineer & contractor, Louisville, Ky.

Fay, J. A., & Egan Co., builders of improved wood working machinery for all kinds of work, Cincinnati, Ohio. (Telegrams: "Egan, Cincinnati.")
Federal Electric Co., electric signs, fixtures & specialities, Lake & Desplaines-sts., Chicago, Ill.
Federal Electric Co., makers of electrical supplies, 141-145, Broadway, New York. (Telegrams: "Federalmo, New York." Teleph. Nos. 1881 & 1882, Cort.)
Federal Electric Co., manufacturers of generators & motors, North Girard, Pa.
Federal Signal Co., electric signalling apparatus makers, Albany, N.Y.
Feger Electric Co., electrical supplies, Peoria, Ill.
Felch, E. P., electrical engineer, Madison, N.J.
Fergus Electric Co., dealers in electrical supplies, Zanesville, Ohio.
Fergus, W. L., & Co., consulting electrical engineers, Fisher-bldg., Chicago, Ill.
Ferguson, John, A.M.I.E.E., Westinghouse Electric & Manufacturing Co., Room 1428, New York Life-bldg., Chicago, Ill.
Ferguson, J. E., A.AM.I.E.E., assistant engineer, Louisville Lighting Co., 14th & Magazine-sts., Louisville, Ky.
Ferguson, Samuel, A.AM.I.E.E., engineer, General Electric Co., Schenectady, N.Y.
Fernandina City Electric Light Plant, Fernandina, Fla.
Ferracute Machine Co., manufacturers of Presses, Dies & other sheet metal tools, Bridgeton, N.J. (Telegs.: "Ferracute, Bridgeton." Long Distance Teleph. No. 234. Lieber's Code used.)
Ferris, R. M., jun., M.AM.I.E.E., New York & New Jersey Telephone Co., 15, Dey-st., New York City.
Ferris & Salisbury, electricians, 54, North Main-st., Providence, R.I.
Fessenden, Reginald A., M.AM.I.E.E., 1737, Riggs-pl., Washington, D.C.
Fewkes-Whalen Co., Inc., installation contractors, 48, North 11th-st., Philadelphia, Pa.
Fidelity Electric Co., dynamo & motor makers, Lancaster, Pa.
Field, A. B., A.I.E.E., P.O. Box 274, East Liberty Station, Pittsburg, Pa.
Field, C. J., electrical engineer & contractor, 141, Broadway, New York.
Field, Henry George, M.AM.I.E.E., consulting electrical engineer, 89, Algier-ave., Detroit, Mich.
Field, S. D., M.I.E.E., M.AM.I.E.E., electrical engineer, Stockbridge, Mass.
Field Electric Light Co., Morris, Ill.
Fielding, Frank E., A.AM.I.E.E., electrician, chemist & assayer, Virginia City, Nev.
Filer & Stowell Co., engines for electric work, Milwaukee, Wisconsin.
Finch, H. I., M.AM.I.E.E., superintendent, Emerson Electric Manufacturing Co., St. Louis, Mo. (Telegs.: "Emelec, St. Louis." Teleph. No. 2580, Bomont.)
Finch & Hahn, electrical jobbers & manufacturers' agents, 504, State-st., Schenectady, N.Y.
Findlay, Robert, Manufacturing Co., electrolier manufacturers & fitters, 349, Adams-st., Brooklyn, N.Y.
Finkelstein, M. F., electrical contractor, 101, Walker-st., New York. (Teleph. No. 1760, Franklin.)
Finn, John J., electrician, 1326, Broadway, New York.
Finsen Light Institute of America, Washington-boul. & Hamlin-ave., Chicago, Ill.
Firth, Wm. Edg., A.AM.I.E.E., chief engineer, Midvale Steel Co., Nicetown, Philadelphia, Pa.
Fischer Special Manufacturing Co., jump spark coils & plugs, Cincinnati, Ohio.
Fish, F. A., M.AM.I.E.E., consulting electrical engineer, professor of electrical engineering, Iowa State College, Ames, Iowa.
Fish, Frederick P., A.AM.I.E.E., patent lawyer, 84, State-st., Boston, Mass.
Fish, W. C., M.AM.I.E.E., A.I.E.E., c/o General Electric Co., Lynn, Mass.
Fish & Horton Co., electrical engineers & contractors, 123, Mill-st., Rochester, N.Y. (Teleph. No. 951.)
Fisher, Henry W., M.AM.I.E.E., chief engineer, Standard Underground Cable Co., Pittsburg, Pa. (Teleph. No. 2115, Grant.)
Fisher Electrical Works, dynamos & motors, 183, 185 & 187, West Larned-st., Detroit, Mich.
Fisher's Island Electric Light, Heat & Power Co., Fisher's Island, N.Y.
Fishkill Landing Machine Co., builders of improved Fishkill-Corliss steam engines, Fishkill-on-Hudson, N.Y. (Teleph. No. 165.)
Fitchburg Gas & Electric Light Co., Fitchburg, Mass.
Fitchburg & Leominster Street Railway Co., Fitchburg, Mass.
Fitchburg Steam Engine Co., manufacturers of high & low speed engines, Fitchburg, Mass.
Fitzhugh, Wm. H., superintendent Bay City Electric Plant, Bay City, Mich.
Fitzpatrick, P. C., dealers in electrical supplies, 137, Bridge-st., Springfield, Mass.
Flack, J. Day, M.AM.I.E.E., engineer, Crooker Wheeler Hunt Co., West New Brighton, N.Y.
Flagg, Stanley G., & Co., manufacturers of electrical insulators, Philadelphia, Pa. (Telegrams: "Fittings, Philadelphia.")
Flather, John J., A.AM.I.E.E., professor of mechanical engineering, University of Minnesota, Minneapolis, Minn.
Fleck, M. F., Co., electrical engineers, 101, Beekman-st., New York.
Fleming, Henry S., consulting electrical engineer, 1, Broadway, New York. (Telegs.: "Opilativo.")
Fleming, Richard, A.AM.I.E.E., engineer, General Electric Co., Lynn, Mass.
Fleming Slate Co., slate manufacturers, Poultney, Vt.

Flemington Electric Light, Heat & Power Co., Flemington, N.J.
Flemming, Otto, manufacturer of electro-medical instruments, 1028, Arch-st., Philadelphia, Pa.
Fleron, C. A., installation contractor, 107, Broadway, Paterson, N.J.
Fleron, M. M., & Son, installation contractors, Taylor Opera House-bldg., Trenton, N.J.
Fletcher, G. W., A.AM.I.E.E., Morse Chain Co., Ithaca, N.Y.
Fletcher Manufacturing Co., manufacturers of J. R. Fletcher's electrical specialties, Dayton, Ohio. (Telegs.: "Fletcher, Dayton, Ohio.")
Fletcher, P. M., Co., dealers in electrical supplies, 32, Frankfort-st., New York.
Fletcher Stanley Co., dealers in electrical supplies, 32, Frankfort-st., New York.
Fliess, R. A., M.AM.I.E.E., electrical engineer, 44, Chestnut-st., East Orange, N.J.
Flint-Lomax Electric & Manufacturing Co., manufacturers of electrical supplies, 1400–1412, Delgany-st., Denver, Col. (Telegrams: "Flintlo, Denver, Colo." Western Union Code. Telephone No. 519, Main.)
Flitner, S. E., superintendent Cooper-Hewitt Electric Co., 220, West 29th-st., New York.
Flood, J. F., electrician, general manager Tri-State Traction Co., Steubenville, Ohio. (Teleph. Bell No. 24, Follansbee.)
Florida Electric Co., electrical supplies, repair & construction, Jacksonville, Fla. (G. L. Drew, president.) (Teleph. Nos. 674 & 2674.)
Floy, Henry, A.AM.I.E.E., installation contractor, 165, Broadway, New York.
Flucker & Keedwell, installation contractors, 503, 5th-ave., New York, N.Y. (Teleph. No. 387, Murray Hill.)
Flushing Electric Light & Water Works, Flushing, Mich.
Fobes Supply Co., wholesale jobbers in electrical supplies, Seattle, Wash.
Fonda, Johnstown & Gloversville Rail Road Co., Gloversville, N.Y.
Foote, Pierson & Co., manufacturers of telegraph, electrical & scientific apparatus, 160–162, Duane-st., New York. (Telegs.: "Footpirson, New York." Teleph. No. 1520, Worth.)
Force Contracting Co., installation contractors, 402, Washington-st., Hoboken, N.J. (Teleph. No. 1064w, Hoboken.)
Ford, A. H., E.E., M.AM.I.E.E., professor of electrical engineering, University of Iowa, Iowa City, Iowa.
Ford, Owen, consulting & supervising engineer, 712, Clara-ave., St. Louis, Mo.
Ford, Wm. S., A.AM.I.E.E., Cornell University, Ithaca, New York.
Ford, Bacon & Davis, consulting electrical engineers, 24, Broad-st., New York.
Ford Gas Regulator & Electric Co., electrolier manufacturers & fitters, 334, 17th-st., Denver, Col.
Foreman Bros. Electric Co., installation contractors, Paducah, Ky.
Forest City Electric Co., manufacturers of commutator bars & rail bonds, 111, Windsor-ave., Cleveland, Ohio. (Telegrams: "Rolldrop, Cleveland.")
Forest City Electric Light & Power Co., Forest City, Iowa.
Forsberg Motor Works, installation contractors, 402, Bleeker-st., New York, N.Y.
Forsyth, J. C., M.AM.I.E.E., chief inspector, Electrical Department, 32, Nassau-st., New York.
Fort Atkinson Water & Light Commission, Fort Atkinson, Wis.
Fort Dodge Light & Power Co., Fort Dodge, Iowa. (Teleph No. 23.)
Fort Fairfield Light & Power Co., Fort Fairfield, Maine.
Fort Madison Electric Light Co., Fort Madison, Iowa.
Fort Madison Street Railway Co., Fort Madison, Iowa.
Fort Plain Gas & Electric Light, Heat & Power Co., Fort Plain, N.Y.
Fort Scott Gas & Electric Co., Fort Scott, Kan.
Fort Smith Light & Traction Co., Fort Smith, Ark.
Fort Wayne Electric Works, manufacturers of generators, motors & general electric supplies, &c., Fort Wayne, Ind. (Telegs.: "Woodare, Fort Wayne.") Branches: Philadelphia & Pittsburg, Pa.; Chicago, Ill.; Boston, Mass.; Syracuse, N.Y.; Cincinnati, Ohio; St. Louis, Mo.; New York, N.Y., &c.
Fort Wayne & Wabash Valley Traction Co., Fort Wayne, Ind.
Fort Worth City Electric Light Works, Fort Worth, Tex.
Fort Worth Light & Power Co., Fort Worth, Tex.
Fortenbaugh, S. B., M.AM.I.E.E., electrical engineer, Railway & Traction Engineering Dept., General Electric Co., Schenectady, N.Y.
Fortescue, C. Le G., M.AM.I.E.E., electrical designer, Westinghouse Electric & Manufacturing Co., Pittsburg, Pa.
Forve-Pettibone Co., electrolier manufacturers & fitters, 514, South Broadway, Los Angeles, Cal.
Foster, Horatio A., M.AM.I.E.E., electrical engineer, 32, West 40th-st., New York.
Foster, J. A., installation contractor, San Mateo, Cal. (Teleph. No. 412.)
Foster, S. L., M.AM.I.E.E., chief electrician, United Railroads of San Francisco, San Francisco, Cal. (Telephone No. 612, Private.)
Foster, V. A., electrical engineer, 28, Broadway, Taunton, Mass. (Teleph. No. 203-2.)
Foster, M. B., Electric Co., installation contractors, Fuller-bldg., New York (Teleph. No. 6117, Gramercy); & 54, Batterymarch-st., Boston, Mass. (Teleph. No. 926, Main.)

Foster Engineering Co., manufacturers of steam specialities, 107–113, Monroe-st., Newark, N.J.
Fostoria Glass Specialty Co., makers of globes for electric lighting, Fostoria, Ohio.
Foulkes Gaylord Co., Inc., installation contractors, 931, Security-bldg., Los Angeles, Cal. (Teleph. No. 2034.)
Fowle, F. F., A.AM.I.E.E., consulting telephone engineer, 204, Dearborn-st., Chicago, Ill.
Fowler, Fred. C., instrument maker to the department of physics, Cornell University, Ithaca, N.Y.
Fowler, Geo. L., consulting engineer, 53, Broadway, New York, N.Y.
Fowler, George W., electric power expert, 30, Broad-st., New York.
Fowler, H. R., electrical engineer, Toledo, Ohio.
Fox Bros. & Co., arc lamp makers, 126–130, Lafayette-st., New York.
Fox, John M., & Co., electrical supply house, 64–66, Union-st., Portland, Maine.
Fox River Valley Gas & Electric Co., Appleton, Wis.
Fox Manufacturing Co., 346, Broadway, Milwaukee, Wis.
Franchetti, Ing. Alessandro, mechanical engineer & electrician, c/o De La Vergne Co., East 138th-st., New York.
Francis Bros. & Jellett, Incorporated, consulting & contracting engineers, Broad & Wallace-sts., Philadelphia, Pa.; & 156, 5th-ave., New York.
Frankel, Arthur M., installation contractor, Rockaway Beach, N.Y.
Frankel Display Fixture Co., 733-735, Broadway, New York.
Frankfort City Light & Power Plant, Frankfort, Ind.
Franklin, W. S., M.AM.I.E.E., professor of physics, Lehigh University, Bethlehem, Pa.
Franklin Electric Co., Franklin, Pa.
Franklin Electric Light Co., Franklin, Ohio.
Franklin Electric Manufacturing Co., incandescent lamp makers, Hartford, Conn.
Franklin Institute of the State of Pennsylvania for the Promotion of Mechanical Arts; T. Spencer, president of Electrical Section; R. L. Binder, secretary, 15, South 7th-st., Philadelphia, Pa.
Franklin Light & Power Co., Franklin, N.H.
Franklin Portable Crane & Hoist Co., manufacturers of portable cranes, Franklin, Pa.
Franklin Water, Light & Power Co., Franklin, Ind.
Franks, A. L., & Co., electrical supplies, 1196, Elm-st., Manchester, N.H.
Frantzen, Arthur, Co., electrical contractors & manufacturers, 92, West Van Buren-st., Chicago, Ill. (Telephone No. 333, Harrison.)
Fraser, W. J., superintendent Direct U.S. Cable Co., Ltd., Devonshire-bldg., 31, Devonshire-st., Boston, Mass.
Frederick Gas & Electric Co., Frederick, Md.
Frederick & Middletown Railway Co., Frederick, Md.
Fredonia Electric Light Plant, Fredonia, N.Y.
Freeborn Engineering & Construction Co., installation contractors, Scarritt-bldg., Kansas City, Mo.
Freedman, William H., C.E., E.E., M.AM.I.E.E., professor of electrical engineering, University of Vt., Burlington, Vt.
Freeman, C. E., A.AM.I.E.E., professor of electrical engineering, Armour Institute of Technology, Chicago, Ill.
Freeman, E. H., Electric Co., electrical fittings makers, 20, Chambers, Trenton, N.J.
Freeman-Sweet Co., electrical contractors, 356, Dearborn-st., Chicago, Ill. (Teleph. No. 4191, Harrison.)
Freeport Railway, Light & Power Co., Stephenson-bldg., Freeport, Ill.
Fremont, City of, electric light contractors, Fremont, Neb.
Fremont Gas, Electric Light & Power Co., Fremont, Ohio.
Fremont Yaryan Co., heat, light & power plant, Fremont, Ohio.
French, E. L., A.AM.I.E.E., electrical superintendent, Union Carbide Co., Sault Ste. Marie, Mich.
French, Prof. Thomas, jun., PH.D., A.AM.I.E.E., 40, Brantford-pl., Buffalo, N.Y. (Bell Teleph. No. 809, North.)
French, Hollis, & Allen Hubbard, consulting engineers, Albany-bldg., Boston, Mass. (Telegrams: "Frenchub, Boston.")
French Telegraph Cable Co., 25, Broad-st. (Teleph. Nos. 451 & 452, Broad); 1, Mercer-st. (Teleph. No. 1236, Spring); Pulitzer-bldg., Park-row (Teleph. No. 2069, Beekman); 1, Worth-st. (Teleph. No. 394, Franklin); 581, Broadway (Teleph. No. 1238, Spring); 65, 5th-ave. (Teleph. No. 1004, Gramercy); & 281, 5th-ave., New York. (Teleph. No. 397, Mad.-sq.)
Frey, F. A., installation contractor, 52, West Broadway, New York.
Frick, Fred., Clock Co., manufacturers of electric program self-winding & secondary clocks, Waynesboro, Pa.
Friedlaender, Eugene, A.AM.I.E.E., superintendent of Electrical Department, Carnegie Steel Co., Braddock, Pa. (Teleph. No. 87.)
Friedlander Co., manufacturers of X-ray tubes & appliances, 149, East Huron-st., Chicago, Ill. (Telegs.: "Freelectra, Chicago.")
Frierson's, Norton, Sons, electricians, 40, Drayton-st., Savannah, Ga. (Teleph. No. 400.)

Fries, William H., electrical contractor, 213, Lackawanna-ave., Scranton, Pa.
Fries Manufacturing & Power Co., light, power & traction, Winston-Salem, North Carolina.
Friez, Julien P., manufacturer of meteorological instruments, Belfort Meteorological Observatory, East Baltimore-st. & Central-ave., Baltimore, Md.
Frink, I. P., reflectors for electric light, 551, Pearl-street, New York. (Telegs.: "Frink, New York." Teleph. Nos. 82 & 83, Worth.)
Fritchle, O., A.AM.I.E.E., electric automobile & storage battery manufactnrer, 1449, Clarkson-st., Denver, Col.
Frodsham, Harold, A.I.E.E., Research Laboratory, General Electric Co., Schenectady, N.Y.
Froelich, F. H., M.AM.I.E.E., consulting engineer, 944, Ohio-bldg., Toledo, Ohio.
Fromholz, A. J., A.AM.I.E.E., electrician in charge, United States Navy Yard, Brooklyn, N.Y.
Frorup, L. E., electric light carbons & electrical appliances, 232, Greenwich-st., New York, N.Y. (Telegs.: "Arcarbon, New York." Teleph. No. 4803, Cort.)
Frosch, Henry F., & Co., dealers in electrical supplies, 656, Howard-st., San Francisco, Cal.
Frost & Sheldon, electrical engineers & contractors, 47, Hudson-ave., Albany, N.Y. (Telephone Nos.: 2050, Main; & 441, Home.)
Frost Veneer Seating Co., manufacturers of steam & street railroad car seats, backs, & ceilings, 208, Canal-street, New York, N.Y.
Frostburg Illuminating & Manufacturing Co., Frostburg, Md.
Fruin-Bambrick Construction Co., builders of railroads, 905, Chemical-bldgs., St. Louis, Mo. (Telephone No. 1900, Main.)
Fry, Donald H., A.AM.I.E.E., consulting electrician, 909, Kohl-bldg., San Francisco, Cal.
Fuller Co., The, manufacturers of electrical & ventilating apparatus, cor. Russell-st. & Grand Boulevard, Detroit, Mich. (Telephone North 151.)
Fuller, Geo. A., Construction Co., installation contractors, 949, Broadway, New York.
Fuller, Seth W., Co., manufacturers of electrical apparatus, 185, Devonshire-st., Boston, Mass.
Fullerton-Case Co., dealers in electrical supplies, 109, West 26th-st., New York, N.Y.
Fulton County Gas & Electric Co., Gloversville, N.Y.
Fulton Electric Light & Power Co., Fulton, Ky.
Fulton Electric Light & Power Co., Fulton, Ill.
Fulton Electric Repair & Supply Co., dealers in electrical supplies, 1400, Fulton-st., Brooklyn, N.Y.
Fulton Light, Heat & Power Co., Fulton, N.Y.

G & W Electric Specialty Co., conduit systems, 128, West Jackson-boul., Chicago, Ill.
Gaertner, Wm., & Co., scientific instrument makers, 5345, Lake-ave., Chicago, Ill.
Gage Publishing Co., Inc., 114, Liberty-st., New York.
Gagebic Electric Light Co., Bessemer, Mich.
Gainesville Gas & Electric Power Co., Gainesville, Fla.
Gainesville Traction Co., Gainesville, Tex.
Gaites, Peace & Co., electrolier manufacturers & fitters, 665, Manhattan-ave., Brooklyn, N.Y. (Teleph. No. 137, Greenpoint.)
Gale, Horace B., M.AM.I.E.E., chief engineer, Simplex Electric Heating Co., 85, Sidney-st., Cambridge, Mass. (Teleph. No. 2730.)
Gale Electric Co., Inc., electrical contractors & supplies, Bridgeport, Conn.
Galena Light & Power Co., Galena, Kan. (Local Teleph. Nos. 6 & 36.)
Galesburg Railway & Light Co., Galesburg, Ill.
Gallatan Light, Power & Railway Co., Bozeman, Montana.
Gallatin Light & Water Works, Penn Love Mang, Gallatin, Mo.
Galloway, John R., electrical engineer, 529, 10th-st. N.W., Washington, D.C.
Gallup Electric Light Co., Gallup, N. Mex.
Galveston Electric Co., Galveston, Tex.
Gamewell Auxiliary Fire Alarm Co., makers of electric fire alarm apparatus, 178, Devonshire-st., Boston, Mass. (Teleph. No. 2730.)
Gamewell Fire Alarm Telegraph Co., manufacturers of fire & police telegraphs, 19, Barclay-street, New York, N.Y.
Gannett Electrical Co., dealers in electrical supplies, 90, Weybosset-st., Providence, R.I.
Gans Bros., electrical contractors, 155, North Main-st., Los Angeles, Cal.
Ganz, A. F., M.AM.I.E.E., professor of electrical engineering, Stevens Institute of Technology, Hoboken, N.J. (Telephone No. 484, Hoboken.)
Gardam, Wm., & Son, Inc., expert machinists, model makers, drilling machines, electrical apparatus, 221, Fulton-st., New York. (Cable addresses: "Gardam, New York.")
Garden City Chandelier Co., dealers in electric fixtures, 162 & 164, South Clinton-st., Chicago, Ill.
Garden City Electric Co., installation contractors, 125, South Clark-st., Chicago, Ill.
Gardener, F. F., A.AM.I.E.E., general manager, Seabright Electric Light Co., Red Bank, N.J.

Gardiner, H. A., A.AM.I.E.E., electrical engineer, C. B. & Q. R. R., 209, East Adams-st., Chicago, Ill.
Gardner, T. M., A.AM.I.E.E., professor of electrical engineering, Oregon Agricultural College, Corvallis, Ore.
Gardner Electric Light Co., Gardner, Mass.
Gardner, Westminster & Fitchburg Street Railway Co. (C. A. Jefts, superintendent), Gardner, Mass.
Garl Electric Co., manufacturers of electrical annunciators, portable & stationary railroad telephones, Akron, Ohio.
Garlock Packing Co., manufacturers of fibrous & metal steam packing for all purposes, Palmyra, N.Y.
Garnet, W. J., A.M.AM.I.E.E., electrician, Artillery U.S., Engineering Depôt, Newport, R.I.
Garratt, Allan V., M.AM.I.E.E., chief engineer & sales agent, Lombard Governor Co., Ashland, Mass. (Telegs.: "Lomgov, Boston." Long Dist. Teleph. No. 199, South Framingham.)
Garrett, Miller, & Co., manufacturers of & dealers in electrical supplies; construction work, S.E. cor. 4th & Orange-sts., Wilmington, Del. (Telephone No. 805.)
Garton, W. R., Co., dealers in electric railway & mine supplies, 118-132, West Jackson-boul., Chicago, Ill.
Garvin Machine Co., manufacturers of machine tools, Spring & Varick-sts., New York, N.Y. (Telegs.: "Needful, New York.")
Garwood Electric Co., dynamo & electric machine manufacturers, Garwood, N.J.
Gas City Municipal Electric Light Plant, Gas City, Ind.
Gas, Electric Light & Power Co., Van Wert, Ohio.
Gastonia Electric & Water Works, Gastonia, N.C.
Gaumer, John L., Co., electric light fixtures, 22nd & Wood-sts., Philadelphia, Pa.
Gaylord, T. P., A.AM.I.E.E., manager, Chicago Office, Westinghouse Electric & Manufacturing Co., 171, La Salle-st., Chicago, Ill.
Gaylord & Vore, installation contractors, Pasadena, Cal.
Gaytes, Herbert, A.AM.I.E.E., M.S., electrical engineer, 395, Vernon-st., Oakland, Cal.
Gee, Edwin C., electrical contractor, 2, Wall-st., New York. (Teleph. No. 2035, Cort.)
Gee Electric Co., electrical supply dealers, Wheeling, W. Va.
Geen Electric Manufacturing Co., dealers in electrical supplies, 180, East Lake-st., Chicago, Ill.
Geibel, F. E., A.AM.I.E.E., consulting engineer, Brown & Geibel, James-bldg., Chattanooga, Tenn.
Geiser, J. F., A.AM.I.L.E., consulting engineer, 127, North Church-st., Waynesboro, Pa.
General Electric Co. General office: Schenectady, N.Y. New York office: 30, Church-st. (Cable address: "Genetric." A1, A.B.C., Lieber's, Western Union, Business Telegraph & Private Codes.) London office: 83, Cannon-st., E.C. (Cable address: "Hypsometer.") Sales offices: Chicago, Philadelphia, Boston, San Francisco, &c.
General Electric Co, Edison Lamp, Harrison, N.J.
General Electric Inspection Co., electrical contractors & consulting engineers, 237, Fulton-st., New York.
General Incandescent Lamp Co., makers of incandescent lamps, Cleveland, Ohio.
General Insulate & Machine Co., manufacturers of composition telephone receivers, &c., 108-14, Atlantic-ave., Brooklyn, N.Y.
General Light Improvement Co., makers of the Midget arc lamp, Land Title-bldg., Philadelphia, Pa.
General Railway Signal Co., makers of electric railway signalling & interlocking apparatus, Rochester, N.Y. (Telegs.: "Taysig, Rochester." Western Union Code.)
General Railway Supply Co., electric tramway supplies dealers, Pittsburg, Pa.
General Storage Battery Co., makers of Bijur "High Duty" accumulators, 42, Broadway, New York. (Telegs.: "Genstobat, New York." Teleph. No. 3405, Broad.) Works: Boonton, N.J. (Teleph. No. 62.)
General Vehicle Co., makers of electrical vehicles, Borden & Review-aves., Long Island City, N.Y.
General Watchmen's Time Detector Co., electrical time detector makers, 12, Chambers-st., New York.
Geneseo Electric Light Co., Geneseo, Ill.
Geneva, City of, Electric Light & Water Works, Geneva, Ill.
Geneva-Seneca Electric Co., Geneva, N.Y.
Geneva, Waterloo Falls & Cayuga Lake Traction Co., Seneca Falls, N.Y.
Gentel, Albert, electrical work, 1503, Columbia-ave., Philadelphia, Pa.
Gentis, E. L., A.AM.I.E.E., electrical designer & tester, Newport News Shipbuilding & Dry Dock Co., Newport News, Va.
George Washington University, Washington, D.C.
Georgetown Electric Co., Georgetown, S.C.
Georgetown Water, Gas, Electric & Power Co., Georgetown, Ky.
Georgetown Water, Light & Power Co., Georgetown, Tex.
Georgia, C. A., Electric Co., dealers in electrical supplies, 120, Lake-st., Elmira, N.Y.
Georgia Railway & Electric Co., Atlanta, Ga.
Gerdes, T. R. N., A.AM.I.E.E., consulting engineer, 5, Van Nest-pl., New York.
German-American Electric Co., electric arc lamp manufacturers, 110, West 14th-st., New York.
Germantown Electric Works, Germantown, Ohio.
Gerry, E. M., A M.AM.I.E.E., engineer, Milwaukee, Wis.

Gerry, M. H., jun., M.AM.I.E.E., M.AM.S.C.E., chief engineer & general manager United Missouri River Power Co. & Capital City Power Co., Helena, Montana.
Gest, G. M., contractor for underground conduits, 277, Broadway, New York.
Gherardi, B., M.AM.I.E.E., engineer of plant, American Teleph. & Telegraph Co., 15, Dey-st., New York.
Gherky, William D., M.AM.I.E.E., electrical engineer & contractor, Heed-bldg., Philadelphia, Pa.
Giannini, G. W., dealer in electrical supplies, 437, West 42nd-st., New York, N.Y.
Gibbs, George, A.AM.I.E.E., chief engineer of electric traction, P.N.Y. & L.I.R.R.C., New York.
Gibbs & Goebel, electrical contractors, West Lackawanna-ave., Scranton, Pa.
Gibson, Arthur H., A.I.E.E., Ingersoll-Rand Co., Easton, Pa.
Gibson, G. H., B.S., A.AM.I.E.E., G. H. Gibson Co., Tribune-bldg., New York.
Gibson, Hugo, A.M.I.E.E., c/o R. Beardsworth, 194, Broadway, New York.
Gibson Gas Fixture Works, manufacturers of electric fixtures, 1426, Callowhill-st., Philadelphia, Pa. (Telegs.: "Gibson, Philadelphia." Lieber, Western Union & A.B.C. 4th & 5th ed. Codes.)
Gifford, C. E., M.AM.I.E.E., General Electric Co., Buffalo, N.Y. (Frontier Teleph. No. 35633.)
Gilchrist Jar Co., battery jars, 524, Drexel-bldg., Philadelphia, Pa.
Giles, A. F., district manager, General Electric Co., Empire-bldg., Atlanta, Ga. (Teleph. No. 1916.)
Gill-Alexander Electric Manufacturing Co., mfrs. of elec. signals, 213, East 15th-st., Kansas, Mo.
Gillen Electric Co., installation contractors, 1121–22, Williamson-bldg., Cleveland, Ohio. (Teleph. Main Nos.: 2208, Bell; & 460, Cuyhoga Cent.)
Gillespie & Co., electrical engineers & contractors, 221, East 4th-st., Marion, Ind.
Gillespie-Maxson Co., electric appliances, 1833, Polk-st., San Francisco, Cal.
Gillinder & Sons, Inc., glass for lighting purposes, 135, Oxford-st., Philadelphia, Pa.
Gilman, F. L., M.AM.I.E.E., telephone engineer, Western Electric Co., 463, West-st., New York.
Gilmore Electric Co., manufacturers of series, multiple & miniature incandescent lamps, rosettes & receptacles, 625, East 1st-st., Boston, Mass.
Gilpin, Richard, consulting engineer, 502–3, Philadelphia Bank-bldg., Philadelphia, Pa.
Girard Gas & Electric Light Co., Girard, Kansas.
Gladson, Wm. N., M.S.E.E., PH.D., M.AM.I.E.E., professor of electrical engineering, University of Arkansas, Fayetteville, Ark.
Glaister, Jas. W., Co., electrical engineers, Montclair, N.J.
Glasgow, C. L., M.AM.I.E.E., engineer, W. C. K. & Co., 8, Bridge-st., New York.
Gleason, E. P., Manufacturing Co., manufacturers & dealers in electric light supplies, glassware, &c., 37, Murray-st., New York, N.Y.
Glens Falls Gas & Electric Light Co., Glens Falls, N.Y.
Glenwood Electric Light & Power Co., Glenwood, Iowa.
Glenwood Light & Water Co., Glenwood Springs, Col.
Gliddon, Burton, installation contractor, 168, East 94th-st., New York.
Globe Brass Works, manufacturers of torches, &c., for electricians, 13 & 15, Macomb-st., Detroit, Mich.
Globe Electric Co., installation contractors, 6340, Jackson Park-ave., Chicago, Ill.
Globe Electric Light & Gas Co., Globe, Alaska.
Globe Electric Light & Gas Co., Globe, Ariz.
Globe Electric Specialty Co., Inc., theatre lighting apparatus & electric signs, &c., 363, West 42nd-st., New York.
Globe Electrical Co., dealers in electrical supplies, 139, East 3rd-st., Dayton, Ohio.
Gloucester Electric Co., Gloucester, Mass.
Goddard, C. M., M.AM.I.E.E., electrician, New England Insurance-exchange, 141, Milk-st., Boston, Mass.
Goepel & Goepel, patent solicitors & experts, 290, Broadway, New York. (Telegs.: "Techniker, New York." Teleph. No. 3760, Worth.)
Goettmann, O. J., electrical supplies, 525, Ohio-st. East, Pittsburg, Pa.
Gold Belt Consolidated Electric Co., Cripple Creek, Col.
Gold Car Heating & Lighting Co., makers of electric car heaters, Whitehall-bldg., 17, Battery-pl., New York.
Gold & Stock Telegraph Co. (A. R. Brewer, secretary), 195, Broadway, New York, N.Y.
Golden Illuminating Co., Golden, Col. (Teleph. No. 11, Black.)
Goldmark, Charles J., A.AM.I.E.E., consulting electrical engineer, Terminal-bldg., 41st-st., & Park-ave., New York.
Goldmark, Jas., direct & alternating current oscillating fans, "Shedd," 83, Warren-st., New York. (Teleph. Nos. 8895–8896, Cortlandt.)
Goldsboro Electric Light & Power Co., Goldsboro, N.C.
Goldsborough, W. E., M.AM.I.E.E., vice-president Denver Reservoir Irrigation Co., Denver, Col.
Goldschmidt Thermit Co., 90, West-st., New York.
Goltz, Wm., M.AM.I.E.E., consulting electrical engineer, 319, South Clinton-st., Chicago, Ill.
Gong Bell Manufacturing Co., manufacturers of unmounted gongs for electrical purposes, East Hampton, Conn.
Gonzales Electric Light & Power Plant, Gonzales, Tex.

Gonzenbach, Ernest, M.AM.I.E.E., M.W.S.E., general manager, Sheboygan Light, Power & Railway Co., Sheboygan, Wis.
Goodell, J. M., A.AM.I.E.E., editor *Engineering Record*, 239, West 39th-st., New York.
Goodhue Co., Wells, specialties in alternating transformers & meters, 1564, Monadnock-bldg., Chicago, Ill.
Goodman Manufacturing Co., manufacturers of electric coal mining machinery, Chicago, Ill.
Goodrich, Chas. E., installation contractor, 1509, West Lafayette-ave., Baltimore, Md.
Goodrich, B. F., Co., indiarubber & gutta-percha manufacturers, 1625, Broadway, New York. (Telephone No. 2339, Franklin.)
Goodrich Falls Electric Co., Intervale, N.H.
Goodwin & Kintz Co., electrolier manufacturers & fitters, Winsted, Conn.
Gordon, Minthorne T., installation contractor, Stapleton, N.Y.
Gordon Battery Co., manufacturers of primary batteries, 39, Cortlandt-st., New York, N.Y. (Telegs.: "Batteries, New York." Teleph. Connection.)
Gorke, H. J., electrical supply store, 214 & 216, West Washington-st., Syracuse, N.Y. (Teleph. Nos.: Old, 5046; New, 1028.)
Gorman Electric Co., electrical contractors, 313–315, Minnesota-st., St. Paul, Minn.
Gossler, Philip Green, M.AM.I.E.E., A. B. Leach & Co., 149, Broadway, New York.
Gotham, Ward P., electrical contractor & supplies, 9, West Chippewa-st., Buffalo, N.Y. (Teleph. No. 1087-R., Tupper.)
Gotshall, Wm. C., M.AM.I.E.E., consulting engineer, 76, William-st., New York.
Goubert Manufacturing Co., manufacturers of feed-water heaters & steam separators, 85, Liberty-st., New York, N.Y. (Telegrams: "Goubert, New York." Telephone No. 4728, Cortlandt.)
Goudey-McLean Co., dealers in electrical supplies, 120, Liberty-st., New York.
Gough, Harry Eugene, A.AM.I.E.E., Penn. R.R. Co., Altoona, Pa.
Gough, W. H., & Bros., dynamo & motor brush manufacturers, 116, North Warren-st., Syracuse, N.Y.
Gould, W. S., A.AM.I.E.E., vice-president Gould Storage Battery Co., 347, 5th-ave., New York.
Gould Bros., installation contractors, 183, Freeport-st., Boston, Mass.
Gould Coupler Co., electrical contractors, 1, West 34th-ave., New York.
Gould & Eberhardt, automatic machine tools, 95 & 113, New Jersey Railroad-ave., Newark, N.J.
Gould Packing Co., steam & water packing, East Cambridge, Mass.
Gould Storage Battery Co., makers of storage batteries, 347, 5th-ave., New York.
Gould's Manufacturing Co., manufacturers of electric pumps, 16, Murray-st., New York. Works: Seneca Falls, N.Y.
Gradolph Electric Co., engineers, 800, Chestnut-st., St. Louis, Mo. (Teleph. C. 5548 Kinloch, & Bell Olive 3643.)
Grafton Electric Co., Grafton, Mass.
Grafton Gas & Electric Co., Grafton, W. Va.
Grah, Emil, dealer in electrical supplies, 1310, Adams-st., Toledo, Ohio. (Teleph. No. 630.)
Graham, James A., buyer of second-hand electrical plant, 39, Cortlandt-st., New York.
Graham, William P., PH.D. (Berlin), A.AM.I.E.E., professor of electrical engineering, Syracuse University, 1205, Harrison-st., Syracuse, N.Y.
Graham Bros. Co., electrical repairs, 660–664, Hudson-st., New York, N.Y. (Teleph. Nos. 17, 18 & 19, Chelsea.)
Graham Water & Electric Co., Graham, N.C.
Grand Electric Co., installation contractors, 795, Woodward-ave., Detroit, Mich.
Grand Forks City Electric Light Plant, Grand Forks, N.D.
Grand Forks Gas & Electric Co., Grand Forks, North Dakota.
Grand Island Electric Co., Grand Island, Neb.
Grand Rapids, Belding & Ionia Railway Co., Grand Rapids, Mich.
Grand Rapids City Electric Light Plant, Grand Rapids, Mich.
Grand Rapids Edison Co., Grand Rapids, Mich.
Grand Rapids Electric Co., electrical supply dealers, Grand Rapids, Mich.
Grand Rapids, Grand Haven & Muskegon Railway Co., Grand Rapids, Mich.
Grand Rapids, Holland & Chicago Railway, Holland, Mich.
Grand Rapids Muskegon Power Co., Grand Rapids, Mich.
Grand Rapids Railway Co., Grand Rapids, Mich.
Grand Rapids Village Electric Light Plant, Grand Rapids, Minn.
Grande-Ronde Electric Co., La Grande, Ore.
Granger, A. D., Co., contracting electrical & mechanical engineers, 95, Liberty-st., New York. (Telephone No. 277, Cortlandt.)
Grant, R. R., A.AM.I.E.E., consulting engineer, Stanbrough & Grant, Low-bldg., Norfolk, Va.
Grant, G. H., Co., installation contractors, Marion, Ind.
Grant Gear Works, gear wheel & gear cutting, 6, Portland-st., Boston, Mass.
Granville Electric Light & Gas Co., Granville, N.Y.
Graphite Lubricating Co., manufacturers of graphite & bronze self-lubricating bearings, Bound Brook, N.J.

Grassler & Gezelschap, electric light fixtures, 214, Grand-ave., Milwaukee, Wis. (Teleph. No. 932, Grand.)
Graton & Knight Manufacturing Co., manufacturers of leather belts, Worcester, Mass. (Telegrams: "Spaulding, Worcester.")
Gray, A. A., M.AM.I.E.E., managing editor, *Electrical Review & Western Electrician*, 204, Dearborn-st., Chicago, Ill.
Gray, O. H., A.AM.I.E.E., consulting electrical engineer, 421, Dooly-blk., Salt Lake City, Utah.
Gray Bros. Electric Co., installation contractors, 160, Cass-ave., Detroit, Mich.
Gray & Co., manufacturing electricians, 505, Elm-st., Cincinnati, Ohio.
Gray Electric Co., makers of telautographs, 75, Fulton-st., New York. (Telephone No. 2301, John.)
Gray, G. R., & Co., electrical contractors, 39, Vesey-st., New York.
Gray Telephone Pay Station Co., Hartford, Conn.
Gray, W. I., & Co., contracting engineers, 704, 5th-st., Minneapolis, Minn. (N.W. Teleph. No. 900-2; T.C. Teleph. No. 802.)
Gray's Harbor Electric Co., electric light & power contractors, Aberdeen, Wash.
Graybill, John E., & Co., electrical contractors & dealers in electrical supplies, York, Pa.
Great Barrington Electric Light Co., Great Barrington, Mass.
Great Southern Mica Co., mica merchants, 227–235, Williamson-bldg., Cleveland, Ohio.
Great Western Power Co., 25, Broad-st., San Francisco, Cal.
Green, Charles Maxwell, electrical engineer, General Electric Co., Lynn, Mass.
Green & Bauer, makers of X-ray tubes, 33, Wells-st., Hartford, Conn.
Green Bay Gas & Electric Co., Green Bay, Wis.
Green Fuel Economizer Co., fuel economizers, Matteawan, N.Y. (Telegs.: "Economizer, Matteawan, N.Y.")
Green Insulation Co., insulating material manufacturers, 235, Arcade, Cleveland, Ohio.
Green Mountain Electric Co., electrical contractors, 199, North Main-st., Barre, Vt.
Greenfield Electric Light & Power Co., Greenfield, Mass.
Greenfield Water & Electric Light Plant, Greenfield, Ohio.
Greenlaw Electric Co., electrical engineers & contractors, Beverly, Mass.
Greenleaf, Lewis S., A.AM.I.E.E., general manager Hudson River Telephone Co., Albany, N.Y. (Teleph. No. 5400, Main.)
Greenport Electric Light & Power Co., Greenport, N.Y.
Greensboro Electric Co., Greensboro, N.C.
Greensboro Water & Light Co., Greensboro, Ala.
Greensburg Gas & Electric Co., Greensburg, Ind.
Greenville Electric Light, Heat & Power Co., Greenville, Pa. (Teleph. Nos.: 26, Bell; & 106, Union.)
Greenville Electric Light & Power Co., Greenville, Ohio.
Greenville Municipal Electric Light Plant, contractors, Greenville, Tex.
Greenville Gas & Electric Light & Power Co., Greenville, S.C.
Greenville Traction Co., Greenville, S.C.
Greenwood Electric Light & Water Plant, Greenwood, Miss.
Greenwood Water & Electric Light Plant, Greenwood, S.C.
Greer Electric Co., telephone specialties, 1421, Michigan-ave., Chicago, Ill.
Gregg, T. H., M.AM.I.E.E., superintendent construction, U.S. Light House Service, North Eastern, Mass.
Gregory Electric Co., second-hand electrical machinery, 16th- & Lincoln-sts., Chicago, Ill. (Cable address: "Gregco, Chicago.")
Greiner, Emil, Co., manufacturers & importers of chemical glass apparatus & technical instruments, 45, Cliff-st., New York.
Griffen, John D., A.AM.I.E.E, inventor, electric conduit & electric signalling apparatus, 82, Wall-st., New York.
Griffes, V. Eugene, A.AM.I.E.E., general manager, Oceanside Electric & Gas Co., Oceanside, Cal.
Griffin, W. A., installation contractor, 1524, Glenarm-st., Denver, Col.
Griffin & Co., installation contractors, 356, Hudson-st., New York. (Teleph. No. 5398, Beekman.)
Griggs Manufacturing Co., makers of telephone specialties, 81, 5th-ave., Chicago, Ill.
Grinnell Electric & Heating Co., Grinnell, Iowa.
Grip Nut Co., 500, 5th-ave., New York; & Chicago, Ill.
Grissinger, Elwood, A.AM.I.E.E., consulting engineer, 924, White-bldg., Buffalo, N.Y. (Telegs.: "Grissinger, Buffalo, N.Y." Bell Teleph. No. 1219, Seneca.)
Groswith Electric Co., installation contractors, 52nd & Lancaster-ave., Philadelphia, Pa.
Grove, Geo. F., dealer in electrical supplies, Dayton, Ohio.
Grower, G. G., M.AM.I.E.E., electrical engineer, Coe Brass Manufacturing Co., Ansonia, Conn.
Guarantee Electric Co., electrical supplies, 159, South Clinton-st., Chicago, Ill.
Guarantee Electric Co., installation contractors, 1630, Park-ave., New York. (Teleph. No. 2131, Harlem.)
Guarantee Electric Co., dynamos & motors, 71, West Jackson-boul., Chicago, Ill.
Guarantee Electric Works, installation contractors, Peoria, Ill.
Guarantee Electric Works, installation contractors, San Francisco, Cal.

Guinan, P., & Co., electricians, 329, Cumberland-st., Brooklyn, N.Y.
Gump, W. B., A.AM.I.E.E., consulting electrical engineer, 606, San Fernando-bldg., Los Angeles, Cal.
Gunther Hardware Co., electrical contractors, 505, Hampshire-st., Quincy, Ill.
Gurley, W. & L. E., manufacturers of electrical testing instruments, Troy, N.Y.
Gutbrod, F. W., A.AM.I.E.E., 11, Broadway, New York.
Guthe, K. E., PH.D., professor of physics, University of Michigan, Ann Arbor, Mich.
Guthrie, Edwin, patents solicited, 97, Corcoran-bldg., Washington, D.C.
Guthrie Light & Power Co., Guthrie, Okla.
Gutmann, Ludwig, M.AM.I.E.E., electrical engineer, 5645, Cates-ave., St. Louis, Mo.
Gutta-Percha & Rubber Manufacturing Co., manufacturers of gutta-percha, 98, Lake-st., Chicago, Ill.
Guy, George Heli, A.I.E.E., electrical & industrial investments, 29, West 39th-st., New York. (Telegs.: "Lengineer, New York." Teleph. No. 4600, Bryant.)
Guyton, C., Electric Co., electrical contractors & supplies, 125, East 4th-st., Dayton, Ohio. (Teleph. Nos.: 79, Bell; & 2070, Home.)
Gwilliam Supply Co, manufacturers of pipe couplings, 1339, Ridge-ave., Philadelphia, Pa.

H.B. Camp Co., underground electrical conduit makers, Flatiron-bldg., New York. (Telegs.: "Campduct, New York.")
H.C.K. Co., makers of electric heaters, 30, Greenwich-ave., New York.
H. S. Electric Machinery Co., installation contractors, Portland, Maine.
Haas, R., Electric & Manufacturing Co., electrical engineers & contractors, 305–307, East Monroe-st., Springfield, Ill.
Haas & Son, installation contractors, 57, Grand-st., New York.
Habirshaw Wire Co., wire coverers, rubber, 253, Broadway, New York.
Hackettstown Electric Light Co., Hackettstown, N.J.
Hadaway, W. S., jun., M.AM.I.E.E., electric heating engineer, 228, West Broadway, New York, N.Y.
Hadaway Electric Heating & Engineering Co., 228, West Broadway, New York.
Hadley, Arthur L., S.B., M.AM.I.E.E., electrical engineer & designer, Fort Wayne Electric Works, 2330, Hoagland-ave., Fort Wayne, Ind. (Home Telephone No. 6688.)
Hadley, F. W., M.AM.I.E.E., electrical engineer, Empire-bldg., Atlanta, Ga.
Hafer, Geo., jun., M.AM.I.E.E., Meadows & Hafer, Lenox Hotel, Buffalo, N.Y.
Hagerstown Electric Light Plant, Hagerstown, Md.
Hagerstown Railway Co., Hagerstown, Md.
Hagstedt, Chas., electrical contractor & arc lamp manufacturer, 77, East 52nd-st., New York. (Telegs.: "Chahagstet, New York." Teleph. No. 413, Plaza.)
Hague, Charles A., consulting electrical engineer, 52, Broadway, New York.
Haines, Jones & Cadbury Co., manufacturers of gasoline furnaces for linemen, 1136, Ridge-ave., Philadelphia, Pa. (Telegs.: "Hajoca, Philadelphia." Teleph. Nos.: 21–73, Bell-Poplar; & 800 Keystone, Race); Congress & Montgomery-sts., Savannah, Ga.; & 846, Bryant-st., San Francisco, Cal.
Hale & Kilburn Manufacturing Co., makers of street car seats, reversible & stationary, 48–50, North 6th-street, Philadelphia, Pa.
Hall, C. M., A.AM.I.E.E., teacher of physics & electricity, Central High School, Springfield, Mass.
Hall, E. J., M.I.E.E., vice-president American Telephone & Telegraph Co., 15, Dey-st., New York.
Hall, John L., M.AM.I.E.E., electrical engineer, sales manager Eck Dynamo & Motor Co., 19, Murray-st., New York.
Hall, Joseph P., electrical contractor, 73, Warren-st., New York.
Hall, Leon M., consulting electrician, Kohl-bldg., San Francisco, Cal.
Hall, W. A., M.AM.I.E.E., designing engineer, General Electric Co., Pittsfield, Mass.
Hall Signal Co., manufacturers of electric railway signals, 25, Broad-st., New York, N.Y.
Hall, Wm., Electric Co., supplies & construction, Dayton, Ohio.
Hallberg, J. Henry, A.AM.I.E.E., consulting engineer, 30, Greenwich-ave., New York.
Haller Sign Works, steel electric signs, 319, South Clinton-st., Chicago, Ill; & Moorgate Station-chbrs., London, E.C.
Halliday, W. H., installation contractor, 131, Front-st., Hartford, Conn.
Halloran, A. H., A.AM.I.E.E., managing editor *Journal of Electricity, Power & Gas*, San Francisco, Cal.
Hallowell, Eli B., & Co., manufacturers of yellow pine octagon poles, ties, &c., 910, Harrison-bldg., Philadelphia, Pa.
Halstead, D., consulting engineer, 3233, Frankfort-ave., Philadelphia, Pa.
Ham Manufacturing Co., C. T., manufacturers of motor head-lights, Rochester, N.Y.
Hamburger, Felix, electric arc lamp manufacturer, 78, 5th-ave., New York.
Hamilton, George A., M.I.E.E., M.AM.I.E.E., 532, Morris-ave., Elizabeth, N.J.
Hamilton, J., M.AM.S.M.E., A.AM.I.E.E., patent law specialist, 31, Nassau-st., New York City; & Loan & Trust-bldg., Washington, D.C.

Hamilton Electric Light Co., Hamilton, Ohio.
Hamilton Supply Co., electrical supplies, Hamilton, Ohio.
Hamilton Water & Light Plant, Hamilton, N.Y.
Hammacher, Schlemmer & Co., dealers in small box catches & agents for Felten & Guilleaume, 133, 4th-ave., New York.
Hammatt, Clarence S., A.AM.I.E.E., president Hammatt Dickey Co., Jacksonville, Fla.
Hammer, Edwin W., M.AM.I.E.E., electrical engineer, 120, Broadway, New York. (Teleph. No. 5289, Cort.)
Hammer, Wm. J., M.AM.I.E.E., consulting electrical engineer, 153, West 46th-st., New York, N.Y. (Telegs.: "Remmah, New York.")
Hammer & Moody, electrical engineers, 25, Broad-st., New York.
Hampton Electric Light & Power Co., Hampton, Iowa.
Hance Electric Co., electrical dealers & contractors, 1232, Olive-st., St. Louis, Mo.
Hanchett, Geo. T., M.AM.I.E.E., electrical & mechanical engineer, 237, Fulton-st., New York. (Teleph. No. 8035, Cort.)
Handlan-Buck Manufacturing Co., dealers in street railway supplies, 210, 212 & 214, North 3rd-st., St. Louis, Mo.
Hanks, Marshall Wilfred, A.AM.I.E.E., engineer, 216, Langdon-st., Madison, Wis.
Hanlon & Murphy, installation contractors, 280, Asylum-st., Hartford, Conn.
Hannibal Railway & Electric Co., Hannibal, Mo.
Hanover Light, Heat & Power Co., Hanover, Pa.
Hanscom, Wm. W., A.AM.I.E.E., general superintendent, Century Electric Con. Co., 848, Clayton-st., San Franscisco, Cal.
Hansen, J. P., A.AM.I.E.E., wire chief, Chicago Telephone Co., 700, 2nd-ave., Joliet, Ill.
Hansen, M. W., electrical engineer, Toledo, Ohio.
Hanson, Boydon J., electrical patent expert, 510, McGill-bldg., Washington, D.C.
Hanson Electric Co., installation contractors, Jamestown, N.Y.
Hanson & Van Winkle Co., manufacturers of dynamo-electric machines & supplies, 92, William-st., New York, N.Y.; Newark, N.J.; & Chicago, Ill.
Harbin, George F., professor of electrical engineering, Catholic University of America, Washington, D.C.
Harbor Springs Village Electric Light Plant, Harbor Springs, Mich.
Harding, C. F., A.AM.I.E.E., professor of electrical engineering, Purdue University, Lafayette, Ind.
Harding, H. McL., A.AM.I.E.E., president United Telpherage Co., 20, Broad-st., New York.
Hardwick Village Electric Light Plant, Hardwick, Vt.
Hardy, Carl Earnest, A.AM.I.E.E., master electrician, U.S. Navy Yard, Norfolk, Va.
Harloe Insulator Co., manufacturers of insulators, Hawley, Pa.
Harloff, Paul F., installation contractor & engineer, 301, 303 & 305, State-st., Madison, Wis. (Telephone No. 1313, Bell.)
Harrington, D. A., consulting & supervising engineer, 20, Pemberton-sq., Boston, Mass.
Harrington, Walter E., M.AM.I.E.E., consulting engineer, Pottsville, Pa.
Harrington, Edwin, Son & Co., engineers & electric crane builders, 1514, Pennsylvania-ave., Philadelphia, Pa.
Harrington, Ephraim, & Co., consulting & advisory engineers, 60, State-st., Boston, Mass.
Harrington & King Perforating Co., perforated sheet metal for electrical purposes, 224, North Union-st., Chicago, Ill.
Harrington, Robinson & Co., manufacturers of electric railway appliances, 276, Franklin-st., Boston, Mass.
Harris, Grenville A., A.AM.I.E.E., electrical & mechanical engineer, Takata & Co., 60, Wall-st., New York.
Harris, G. H., A.AM.I.E.E., superintendent Birmingham Railway, Light & Power Co., Birmingham, Alabama.
Harris Oil Co., A. W., manufacturers of valve engine & automobile oils, 326 & 328, S. Water-st., Providence, R.I. (Telegrams: "Harrisoil, Providence.")
Harrisburg Foundry & Machine Works, steam engine makers for electrical purposes, Harrisburg, Pa.
Harrisburg Light, Heat & Power Co., Harrisburg, Pa.
Harrison Electric Light & Ice Co., Harrison, Ark.
Harrison Electric Manufacturing Co., manufacturing electricians, 169, South-st., New York.
Harrison Light & Water Co., Harrison, Ohio.
Harrison Safety Boiler Works, makers of feed-water heaters, &c., N. Philadelphia Station, Philadelphia, Pa. (Telegs.: "Wharhall, Philadelphia.")
Hart & Co., Inc., manufacturers of "Red Cross" lubricant for commutators, Monadnock-bldg., Chicago, Ill.
Hart Electric Co., dealers in electrical supplies, Altoona, Pa.
Hart & Hegeman Manufacturing Co., manufacturers of electric switches, 342, Capitol-ave., Hartford, Conn. (Telegrams: "Harthegeman, Hartford." Telephone No. 1765, Main.)
Hart Manufacturing Co., makers of switches, &c., Hartford, Conn.
Hartford Electric Light Co., Hartford, Conn.
Hartford Electrical Machine & Repair Co., manufacturers, Hartford, Conn.

Hartford Engine Works (H. K. Lee, proprietor), automatic cut-off engines & automobile engines, 223, State-st., Hartford, Conn. (Telegs.: "Engine Works, Hartford." Teleph. No. 9163. W.U. Code.)
Hartford-Faience Co., makers of electric porcelain, Hartford, Conn.
Hartford Machine Screw Co., manufacturers of binding posts, &c., 476, Capitol-ave., Hartford, Conn.
Hartford Steam Boiler Inspection & Insurance Co., Hartford, Conn.
Hartford Time Switch Co., manufacturers of electric switches, 97-99-101, Warren-st., New York. (Telegs.: "Hallberry, New York." Lieber's Code.)
Hartig, W. O, Electric Co., electrical contractors, Century-bldg., Minneapolis, Minn.
Hartman, H. F., electrical contractor, 1109, Jackson-st., Scranton, Pa.
Hartman, H. T., M.AM.I.E.E., vice-president & general manager, American Gas & Electric Co., Philadelphia, Pa.
Hartman Circuit Breaker Co., oil switches & circuit breakers, Mansfield, Ohio.
Hartman Electric Co., general electrical contractors, 32, West Maple-st., Columbus, Ohio.
Hartmann, F. M., M.AM.I.E.E., professor of physics & electrical engineering, Cooper Union, New York.
Hartshorn, J. F. A., installation contractor, Walpole, Mass.
Hartshorn Stewart Co., manufacturers of railway & tramway fittings, East Newark, N.J.; & at New York & Chicago, Ill.
Hartwell, A., M.AM.I.E.E., electrical engineer, secretary-treasurer, Detroit Insulated Wire Co., Detroit, Mich.
Hartwell Electric Co., electrical supplies & construction, 955, 6th-st., San Diego, Cal. (Teleph. Nos.: 318, Pacific; & 1318, Home.)
Hartwig, Wm., Jun., Co., dealers in electrical supplies, 205, Jefferson-ave., Detroit, Mich.
Harvard Co., electro dental appliances, Canton, Ohio.
Harvard Electric Co., electrical apparatus manufacturers, 525, West Van Buren-st., Chicago, Ill. (Teleph. No. 3198, Harrison.)
Harve de Grace Electric Co., Harve-de-Grace, Md.
Harvey, Robert R., A.AM.I.E.E., electrical engineer, 20, S. Franklin-st., Wilkesbarre, Pa.
Harvey, Wm. A., electrical engineer, Scranton, Pa.
Harvey Hubbell, Inc., fittings makers, Bridgeport, Conn.
Harwood Electric Heating Co., electrical heating apparatus makers, Hutchinson, Kan.
Haschke, J. E., electrical engineer, 598, West Monroe-st., Chicago, Ill. (Teleph. No. 1476, West.)
Haschke Storage Battery Co., storage batteries, 271-273, Michigan-ave., Chicago. (Teleph. No. 7354, Harrison.)
Haselden, H. A., A.AM.I.E.E., electrical engineer, Whitin Machinery Works, Whitinsville, Mass.
Haskell, H. F., electrical engineer, Holyoke, Mass.
Haskins, Caryl D., E.E. (Vt.), M.AM.I.E.E., M.AM.S.M.E., &c., manager Lighting Department, General Electric Co., Schenectady, N.Y.
Haskins, William Edgar, A.AM.I.E.E., superintendent Willimantic Gas & Electric Light Co., Willimantic, Conn.
Haskins Glass Co., illuminating glassware, Wheeling, W. Va.
Hastings City Electric Light Plant, Hastings, Neb. Supt., C. R. Morey. (Teleph. Nos.: Red, 88; & Auto. 1403.)
Hatch, S. R., electrical contractor, Brockton, Mass.
Hatch & Wood, electrical supplies, 56, Central-sq., Lynn, Mass. (Teleph. No. 1035.)
Hatfield Electric Co., electrical contractors, 36, South Meridian-st., Indianapolis, Ind. (Teleph. No. 123.),
Hathaway, Alfred G., & Co., iron & steel & railway supplies, 815, Cuyahoga-bldg., Cleveland, Ohio.
Hattersley, A., & Sons, electrical contractors & supply dealers, 208, East Main-st., Fort Wayne, Ind.
Hattiesburg Electric Light & Power Co., Hattiesburg, Miss.
Hatzel, J. C., A.AM.I.E.E., electrical contractor, 571-573, 5th-ave., New York. (Teleph. No. 6317, 38th-st.)
Hatzel & Buehler, electrical engineers & contractors, 571-573, 5th-ave., New York. (Telephone No. 6317, 38th-st.)
Haubrich, Alex. Michael, A.AM.I.E.E., electrical engineer, with Stromberg-Carlson Telephone Manufacturing Co., Chicago, Ill.
Hausburg, E. O., manufacturer of electric & watchmen's clocks, 45, Maiden-lane, New York. (Telegs.: "Hausburg, New York." Teleph. No. 646, John.)
Hauss, D. J., electrical engineer & contractor, Mitchell-bldg., Cincinnati, Ohio.
Havana Electric Railway Co., 52, Broadway, New York.
Havens, Morton H., jun., dealer in electrical supplies, 79, Chapel-st., Albany, N.Y.
Haverhill & Amesbury Street Railway Co., Merrimac, Mass.
Haverhill Electric Co., Haverhill, Mass.
Hawes & Gray, electrical engineers & installation contractors, 37 & 39, Dwight-st., Springfield, Mass.
Hawks, H. D., A.AM.I.E.E., engineer, with General Electric Co., New Haven, Conn.
Hawks Electric Co., electrical engineers & contractors, 156, Pearl-st., Boston, Mass. (Telephone No. 78.)

Hawley Down Draft Furnace Co., manufacturers of smokeless furnaces & heaters & purifiers; general offices: 714, Monadnock-bldg., Chicago, Ill. (Telegrams: "Downdraft, Chicago." Telephone No. Long Distance, Harrison, 626); works: cor. West Lake-st. & Peoria-st., Chicago; & at New York, Boston, Cincinnati, Pittsburgh, St. Louis, Detroit, Baltimore, Paris & Tokyo.

Hayes, Chas. E., electrical engineer, Springfield, Mass.

Hayes, Hammond V., M.AM.I.E.E., 6, Channing-st., Cambridge, Mass.

Hayes, Harry E., M.AM.I.E.E., 43, Summit-ave., Brighton, Mass.

Hays, Geo., M.AM.I.E.E., 190, Belleville-ave., Bloomfield, N.J.

Hayward, Nathan, A.AM.I.E.E., chief engineer, Bell Telephone Co., Philadelphia, Pa.

Hazard Manufacturing Co., manufacturers of wire rope & insulating wires, Wilkes Barre, Pa.; & 50, Dey-st., New York.

Hazazer, E. W., installation contractor, 8, Dover-st., New York.

Hazlehurst Electric Light Plant, Hazlehurst, Miss.

Hazleton Electric Light & Power Co., Hazleton, Pa.

Hazleton Machinery & Supply Co., dealers in electrical supplies, West Broad & Vine-sts., Hazleton, Pa.

Healdsburg Electric Light & Water Works, Healdsburg, Cal.

Heany Fire Proof Wire Co., 25, Broad-st., New York.

Heany Lamp Co., incandescent lamp manufacturers, 25, Broad-st., New York.

Hearn, G., superintendent, Commercial Cable Co., Rockport, nr. Boston, Mass.

Heath, Harry E., M.AM.I.E.E., Baker Electric Co., 438, Asylum-st., Hartford, Conn.

Heath Electric Co., manufacturers of Ideal automatic annunciators, 336, Grand River-ave., Detroit, Mich.

Heath Electric Co., electrical engineers, contractors & general repairs, 120, W. 13th-st., Kansas City, Mo.

Heck, Louis, electrical repairs, 35, N.J. Railroad-ave., Newark, N.J.

Hedenberg, Wm. L., A.AM.I.E.E., publisher of electrical books, 136, Liberty-st., New York City.

Hedrick, Chas. J., expert & patent solicitor, 606, F.-st., Washington, D.C.

Heine, William A., maker of electric condensers, Corcoran-bldg., Washington, D.C.

Heinel, Chas., & Co., manufacturers of the Heinel electric motor & electrical appliances, Laurel-st., nr. Delaware-ave., Wilmington, Del.

Heineman, Geo., & Co., switch board & switch manufacturers, 500–08, Girard-ave., Philadelphia, Pa.

Heinz-Wandner X-Ray Tube Co., glass-blowers, Chicago, Ill.

Heitmann, Edw., jun., A.AM.I.E.E., electrical engineer, Crocker-Wheeler Co., Ampere, N.J.

Helena Gas Co., Helena, Ark.

Helena Light & Railway Co., Helena, Mont.

Helfer, Paul, electrician, 1557, 3rd-ave., New York.

Helios Manufacturing Co., arc lamp manufacturers, storage batteries & knife switches & switchboards, Bridesburg, Philadelphia, Pa.

Hellmund-Collbohm Electric Co., installation contractors, 150, Nassau-st., New York.

Hemingray Glass Co., glass insulators, Covington, Ky. (Telegrams: "Hemingray, Covington.")

Hemmel Electric Co., A. E., electrical construction & repairing, 703, Columbus-ave., New York, N.Y.

Hempel, Frederik, electrical engineer, Yonkers, N.Y.

Hendrie & Bolthoff Manufacturing & Supply Co., makers of electric hoists, 1621–1639, 17th-st., Denver, Col. (Telegrams: "Hendrie, Denver." Telephone No. 75.)

Hendy Electrical Co., mining & electrical machinery, 73, Fremont-st., San Francisco, Cal.

Henricks Novelty Co., makers of sparking dynamos for gas engines, 124–128, Capitol-ave. S., Indianapolis, Ind.

Henry, Geo. J., jun., A.AM.I.E.E., M.AM.S.M.E., chief engineer, Pelton Water Wheel Co., 19th & Harrison-sts., San Francisco, Cal.; & 90, West-st., New York.

Henshaw, A. W., M.AM.I.E.E., manager, Induction Motor Dept., General Electric Co., Schenectady, N.Y.

Henshaw, Frederick V., M.AM.I.E.E., M.AM.S.M.E., consulting electrical & mechanical engineer, 24, Broad-st., New York. (Teleph. No. 1420, Rector.)

Henzel, G. L., Electric Co., dealers in electrical supplies, Bush & Stiner-sts., San Francisco, Cal.

Heppner Light & Water Co., Heppner, Ore.

Herbert, Geo. W., & Co., installation contractors, 75, Westminster-st., Providence, R.I.

Herbrick & Lawrence, installation contractors, 607, Church-st., Nashville, Tenn.

Herdman, Frank E., M.AM.I.E.E., mechanical & electrical engineer, Otis Elevator Co., Chicago, Ill.

Hering, Carl, Past Pres. AM.I.E.E., consulting electrical engineer, 929, Chestnut-st., Philadelphia, Pa.

Herkimer City Electric Light Plant, Herkimer, N.Y.

Herkimer County Lighting & Power Co., Little Falls, N.Y.

Herrick, Albert B., M.AM.I.E.E., consulting & testing electrical engineer, 120, Liberty-st., New York.

Herrick, C. H., M.AM.I.E.E., National Meter Co., 159, Franklin-st., Boston, Mass. (Teleph. No. 580, Fort Hill.)

Hersh, E. W., Electric Co., installation contractors, 54, West 28th-st., New York.

Herstein, L. A., & Co., installation contractors, 321, North Eutaw-st., Baltimore, Md.

Hertner Electric & Manufacturing Co., installation contractors, 713, Frankfort-ave., Cleveland, Ohio.

Herzog, F. Benedict, PH.D., M.AM.I.E.E., electrician, 137, West 23rd-st., New York.

Herzog, Sigmund, M.E., E.E., patent solicitor & expert, 116, Nassau-st., New York. (Cable address: "Sigherzog, New York." Teleph. No. 5267, Beekman.)
Herzog Teleseme Co. (F. Benedict Herzog, PH.D., president), makers of annunciators, 51, West 24th-st., New York, N.Y.
Hetty Bros., electrical contractors & supply dealers, 326, Ellis-st., San Francisco, Cal. (Teleph. No. 952, Franklin.)
Heuel, Dr. Emil, electrical engineer & medical electrician, 144, West 79th-st., New York. (Telegs.: "Bovenadura, New York." Telephone Connections.)
Hevener-Mier Co., electrolier manufacturers & fitters, Sacramento, Cal.
Hewitt, Charles B., M.AM.I.E.E., electrical engineer, 428, West Stafford-st., Germantown, Philadelphia, Pa.
Hewitt, Peter Cooper, M.AM.I.E.E., 11, Lexington-ave., New York.
Hewitt, W. R., A.AM.I.E.E., electrical engineer, chief of Department of Electricity, 55, Fullin-st., San Francisco, Cal.
Hewitt, E. A., & Co., manufacturers of electrical specialties, 49, Wood-st., Cleveland, Ohio.
Hewitt & Warden, electrical engineers & contractors, Newburgh, N.Y.
Hewlett, Edward M., M.AM.S.M.E., A.AM.I.E.E., engineer of Switchboard Department, General Electric Co., Schenectady, N.Y.
Hiawatha Electric Light Co., Hiawatha, Kansas.
Hibbard, Angus S., M.AM.I.E.E., 203, Washington-st., Chicago, Ill.
Hibbard, W. H., manufacturer of electrical specialties, 79, Washington-st., Brooklyn, N.Y.
Hickman Municipal Light & Water Plant, Hickman, Ky.
Hicks Locomotive & Car Works, gasoline electric railway cars, 277, Dearborn-st., Chicago, Ill.
Hide Leather & Belting Co., manufacturers, 227, South Meridian-street, Indianapolis, Ind.
Higgins, A. M., electrician, 116, Liberty-st., Plainfield, N.J.
Higgins, Edward E., M.AM.I.E.E., treasurer McGraw Marden Co., 32, Waverley-pl., New York, N.Y. (Telegrams: "Higginsee, New York.")
High Point Electric Power Co., High Point, N.C.
High Tension Electrical Specialty Co., manufacturers of electric switches, Newton, Mass.
Highland Electro-Chemical Manufacturing Co., manufacturers of insulating soldering paste, stick & salts, Connellsville, Pa.
Highland Park College, Des Moines, Iowa.
Higley & Co., installation contractors, Salt Lake City, Utah.
Hildreth & Co., consulting & inspecting engineers, 135, Broadway, New York. (Telegs.: "Drethil, New York.")
Hill, A. F., electrical contractor, 6658, Wabash-ave., Chicago, Ill.
Hill, C. B., A.AM.I.E.E., vice-president, Cooper-Hewitt Electric Co., 165, Broadway, New York.
Hill, George, M.AM.I.E.E., consulting electrical engineer, 12, West 40th-st., New York.
Hill, G. E., electrical supplies & construction, Post Office-bldg., Bethlehem, Pa.
Hill, Geo. Henry, E.E., A.M.AM.I.E.E., engineer, General Electric Co., Schenectady, N.Y.
Hill, Geo. O., manufacturer of screw, terminal & small detached accessories, Boston, Mass.
Hill, W. A., A.AM.I.E.E., electrician, Pope Motor Car Co., Toledo, Ohio.
Hill Clutch Co., manufacturers of transmission machinery, Cleveland, Ohio.
Hill Electrical Co., dealers in electrical supplies, 221, 12th-st., Columbus, Ga.
Hill, Malcolm W., Co., installation contractors, 405, Courtland-st., Baltimore, Md. (Teleph. No. 4714); New York; & Washington, D.C.
Hill, N. N., Brass Co., manufacturers of electric bells, East Hampton, Conn. (Telegrams: "Hill, East Hampton, Conn.")
Hill-Wright Electric Co., incandescent lamp manufacturers (electric), 105, Reade-st., New York.
Hills, Jr., Electric Co., Sam W., installation contractors, 225, East 4th-st., Cincinnati, Ohio. (Teleph. No. 2500, Main.)
Hillsboro Electric & Gas Co., Hillsboro, Tex.
Hillsboro Electric Light & Power Co., Hillsboro, Ill.
Hillsboro Electric Light & Power Co., Hillsboro, N.H.
Hillsboro Light & Fuel Co., Hillsboro, Ohio.
Hillsboro Water, Light & Power Co., Hillsboro, Ore.
Hillsdale, City of, electric light contractors, Hillsdale, Mich.
Hinman Telephone & Electric Co., installation contractors, 9, Merritt-ave., Oshkosh, Wis.
Hinsdale City Electric Light Plant, Hinsdale, Ill.
Hinsdale Electric Light & Power Co., Lake City, Col.
Hinton Water, Light & Supply Co., Hinton, W. Va.
Hipwell Manufacturing Co., telephone makers, Allegheny, Pa.
Hirlemann, Chas. J., manufacturer of the Hirlemann batteries, 17, Laight-st., New York, N.Y.
Hirtenstein, Louis, electrical engineer, 114, Reid-ave., Brooklyn, N.Y.
Hisey-Wolf Machine Co., electric drills, &c., Spring Grove-ave., Cincinnati, Ohio.
Hitzeroth, L. D., A.AM.I.E.E., superintendent, Power Stations, Nevada California Power Co., Bishop, Cal.

Hoag, P. L., electrical engineer & contractor, 8, Dover-st., New York, N.Y. (Telegs.: "Cymric, New York." Teleph. No. 2390, Beekman.)
Hobart Electric Manufacturing Co., The, dynamo & electric machine manufacturers, Troy, Ohio.
Hobson Electric Co., dealers in electrical supplies, Dallas, Tex.
Hodge Electric & Manufacturing Co., 705, Delaware-st., Kansas City, Mo. (Teleph. No. 113, Main.)
Hodges, G. H., M.AM.I.E.E., electrical engineer, 15, Dey-st., New York.
Hodges, W. L., A.AM.I.E E., engineer, Eng. Dept., Southern Bell T. & T. Co., Atlanta, Ga.
Hodgson, Cecil, A.I.E.E., electrical engineer, 106, East 75th-st., Chicago, Ill.
Hoeftman, A. O., M.AM.I.E.E., superintendent Electric Cable Works, American Steel & Wire Co., Worcester, Mass.
Hoeschen Manufacturing Co., manufacturers of electrical instruments, 1304, Douglas-st., Omaha, Neb.
Hoffman & Godfrey, electrical & mechanical engineers, 1005, A-st., Tacoma, Wash. (Teleph. Nos.: 3017, Main; & 2812 A.)
Hoit's Electrical Works, electricians & machinists, 1009, K.-st., Sacramento, Cal.
Holabird-Reynolds Electric Co., installation contractors, 116, East 5th-st., Los Angeles, Cal.
Holberton, Geo. C., A.AM.I.E.E., engineer Electric Distribution, Pacific Gas & Electric Co., 445, Sutter-st., San Francisco, Cal.
Holcomb, D. S., installation contractor, repairing, &c., 60, Centre-st., New York. (Teleph. No. 4296, Cort.)
Holcomb-Lobb Co., oak & cedar railway ties, &c., 746–748, Marquette-bldg., Chicago, Ill. (Long Distance Telephone No. 3328, Central.)
Holder, H. A., electrical contractor, 122, Dudley-st., Boston, Mass. (Teleph. No. 411, Roxbury.)
Holding, E. G., electrical construction & supplies, P. O. Box 1218, 53, West First South-street, Salt Lake City, Utah. (Both Teleph. Nos. 1664.)
Holland, C. A., installation contractor, 2401, Downay-ave., Los Angeles, Cal.
Holland, N. H., A.AM.I.E.E., telephone engineer, Western Electric Co., New York.
Holland Machine Co., electric pump manufacturers, 51, Cliff-st., New York. (Teleph. No. 3791, Bkmn.)
Hollings, R., & Co., manufacturers of electrical apparatus, 39, Bedford-st., Boston, Mass.
Hollingsworth & Vase Co., insulating material manufacturers, 141, Milk-st., Boston, Mass.
Hollis Electric Co., installation contractors, 311, 2nd-ave. South, Minneapolis, Minn.
Hollister Light & Power Co., Hollister, Cal.
Holloway, Bentz & Co., electrical supply dealers, 80, Cortlandt-st., New York.
Holman & Laird, consulting electrical engineers, 1324, Chemical-bldg., St. Louis, Mo.
Holmes, Franklin S., M.AM.I.E.E., electrical engineer, 26, Cortlandt-st., New York.
Holmes, Booth & Haydens Co., manufacturers of insulated wire, 99, John-st., New York, N.Y. Factories: Waterbury, Conn.
Holmes Electric Protective Co., electric protection against burglary, 26, Cortlandt-st., New York; 812, Chestnut-st., Philadelphia, Pa.; 244, 5th-ave., Pittsburg, Pa.; & 110, West Fayette-st., Baltimore, Md.
Holmes Fibre Graphite Manufacturing Co., dynamo brush makers, 5155, Wakefield-st., Germantown, Philadelphia, Pa.
Holmesburg, Tacony & Frankford Electric Railway Co., Tacony, Pa.
Holophane Co., glass globes for electric lighting, 227, Fulton-st., New York.
Holt, Marmaduke Burrell, A.AM.I.E.E., mining & electrical engineer, Silverton, Col.
Holt Electric Co., manufacturing electricians, 285, Virginia-st., Milwaukee, Wis.
Holt & Schober, consulting & electrical engineers, Provident-bldg., Philadelphia, Pa.
Holton Electric Light & Water Works, Holton, Kansas.
Holton Power Co., Holtville, Cal.
Holtzer, Chas. W., president, Holtzer-Cabot Electric Co., Boston (Brookline), Mass. (Telegs.: "Holtzer, Boston." Teleph. No. 40, Brookline.)
Holtzer-Cabot Electric Co., The, manufacturers & dealers in electrical machinery & supplies, Boston (Brookline), Mass. (Telegrams: "Holtzer, Boston.")
Holyoke, City of, Gas & Electric Department, Holyoke, Mass.
Holyoke Machine Co., manufacturers of turbine water wheels, Main-street, Holyoke, & 95, Thomas-street, Worcester, Mass.
Holyoke Street Railway Co., Holyoke, Mass.
Home Electric Co., installation contractors, 205, West Market-st., Louisville, Ky.
Home Electric Light & Steam Heat Co., Tyrone, Pa.
Home Electrical Co., installation contractors, Seattle, Wash.
Home Gas & Electric Co., Redlands, Cal.
Home Light, Heat & Power Co., The, Pittsburg, Kan.
Home Lighting, Power & Heating Co., Springfield, Ohio.
Homer Commutator Co., makers of commutators, 4748, Hough-ave., Cleveland, Ohio.
Homesdale Cons. Light, Water & Power Co., Homesdale, Pa.
Hommel, Ludwig, & Co., manufacturers' agents, Lewis Block, Pittsburg, Pa. (Bell Teleph. No. 2878, Grant.)

Hood River Electric Light, Power & Water Co., Hood River, Ore.
Hooper, W. L., M.AM.I.E.E., professor of electrical engineering, Tuffts College, Mass.
Hoopes, Maurice, M.AM.I.E.E., president Finch, Pruyn & Co., Inc., Glen Falls, N.Y.
Hoopeston Gas & Electric Co., Hoopeston, Ill
Hope, H. L., A.AM.I.E.E., telephone salesman, W. E. Co., 259, South Clinton-st., Chicago, Ill.
Hope City Electric Light Plant, Hope, Ark.
Hope Electric Construction Co., electrical supplies, Asbury Park, N.J.
Hope-Jones, Robert, M.I.E.E., 41, Union-sq., New York. (Teleph. No. 2836, Stuyvesant.)
Hopkins, Nevil Monroe, A.AM.I.E.E., George Washington University, Washington, D.C.
Hopkinsville Light Co., Hopkinsville, Ky.
Hoppes Manufacturing Co., manufacturers of the Hoppes live steam feed water purifier & exhaust steam feed water heater, Belmont-avenue & Big 4 RR., Springfield, Ohio.
Horn, M. T., Co., manufacturers of hard rubber specialties, 82, Park-pl., New York.
Horn & Brannen Manufacturing Co., manufacturers of gas & electric light fixtures, 427–433, North Broad-st., Philadelphia, Pa.
Hornberger Transformer Co., makers of transformers, Lafayette, Ind.
Hornellsville Electric Railway Co., Hornellsville, N.Y.
Horning Co., Walter R., dealers in electrical supplies, 337, Frankfort-ave., Cleveland, Ohio.
Horton Electric Obtunding Co., manufacturers of electro-therapeutic apparatus, 364, Colonial Arcade, Cleveland, Ohio.
Hoskins Co., manufacturers of electric furnaces, pyometers & heating appliances, 447, Lawton-ave., Detroit, Mich. (Telegs.: "Thermo, Detroit.")
Hosmer, Sidney, M.AM.I.E.E., superintendent of Installation, Edison Electric Illuminating Co., 39, Boylston-st., Boston, Mass.
Hot Springs Street Railroad Co., Hot Springs, Ark.
Hot Springs Water, Gas & Electric Light Works, Hot Springs, Ark.
Hot Springs Water, Light & Power Co., Hot Springs, South Dakota.
Hotchkiss, Homer J., professor of physics, Drexel Institute, Philadelphia, Pa.
Houghtaling, W. A., A.AM.I.E.E., engineer, Rowland Telegraphic Co., Baltimore, Md.
Houghton County Street Railway Co., Hancock, Mich.
Houghton County Traction Co., Houghton, Mich.
Housatonic Manufacturing Co., manufacturers of lamp shade holders, New Haven, Conn.
Household Electric Appliance Co., electric specialties makers, Real Estate Trust-bldg., Philadelphia, Pa.
Houston, Prof. Edwin J., M.AM.I.E.E., consulting electrical engineer & patent expert, late president American Institute of Electrical Engineers, 1809, Spring Garden-st., Philadelphia, Pa.; & 501, Rozer William-bldg., Philadelphia. (Telegs.: "Volta, Philadelphia." Bell Teleph. No. 27–12, Spruce.)
Houston Electric Co., Houston, Tex.
Houston Lighting & Power Co.—1905, Houston, Tex.
How, John K., Co., electrical contractors, 306, St. Paul-st., Baltimore, Md. (Teleph. Nos.: 1664, C. & P.; & 1076, Md.)
Howard, B. F., F.R.P.S., A.M.I.E.E., Colorado Telephone Co., Denver, Col.
Howard Miniature Lamp Co., Inc., incandescent lamp makers, 327, Academy-st., Newark, N.J. (Telegs.: "Howminco, Newark." Teleph. No. 5259.)
Howard & Morse, manufacturers of ventilating fans, 45, Fulton-st., New York, N.Y.
Howe, J. C., A.AM.I.E.E., manager Mo. & K. Tel. Co., St. Joseph, Mo.
Howe Electric Co., installation contractors, Monadnock-blk., Chicago, Ill.
Howe Engineering Co., installation contractors, 150, Nassau-st., New York, N.Y.
Howell, John W., M.AM.I.E.E., engineer, General Electric Co.'s Lamp Works, Harrison, N.J.
Howell, Wilson S., M.AM.I.E.E., secretary & manager Electrical Testing Laboratories, 80th-st. & East End-ave., New York.
Howland, Lewis A., M.AM.I.E.E., Nassau Light & Power Co., Roslyn, N.Y.
Howson, Hubert, A.AM.I.E.E., patent lawyer, 38, Park-row, New York City.
Hoxie, Geo. L., electrical engineer, 50, Church-st., New York.
Hoyt Electrical Instrument Works, electrical instrument manufacturers, Penacook, N.H. (Telegs.: "Hoyt, Penacook.")
Hubbard, Albert S., A.AM.I.E.E., chief engineer, Gould Storage Battery Co., 341–347, 5th-avenue, New York.
Hubbard Brake Co., makers of electric brakes, Chester, Pa.
Hubbell, Harvey, Inc., electrical fitting makers, Bridgeport, Conn.
Huber, Otto, installation contractor, 303, Main-st., Cincinnati, Ohio.
Hubley, George Wilbur., M.AM.I.E.E., superintendent Louisville Lighting Co., Louisville, Ky. (Teleph. No. 503, Main.)
Huckins, P. S., & Co., dealers in electric light poles, 45, Kilby-street, Boston, Mass.
Hudson, Wm., electrical contractor, 831, Elton-ave., New York, N.Y.

Hudson Counties Gas & Electric Co., Cornwall-on-Hudson, N.Y.
Hudson Electrical Construction Co., installation contractors, Jersey City, N.J. (Teleph. No. 4005, W.)
Hudson Electrical Supply Co., installation contractors, 54, Warren-st., New York, N.Y.
Hudson & Manhatton R.R. Co., 30, Church-st., New York.
Hudson Municipal Electric Light Plant, Hudson, Mich.
Hudson River Electric Co., Glens Falls, N.Y.
Hudson River Electric Power Co., Mechanicsville, N.Y.
Hudson River Electric Power Co., Utica, N.Y.
Hudson River Telephone Co., Albany, N.Y.
Hudson Valley Railway Co., Glens Falls, N.Y.
Hughes, Thomas, electric signs, 25, East 14th-st., New York.
Hughes Electric Co., Bismark, N.D.
Hulse, Wm. S., M.I.E.E., 30, Church-st., New York.
Humboldt Gas & Electric Co., Eureka, Cal.
Hummler, A., electrical contractor, Oakford-ct. & Spruce-st., Scranton, Pa.
Humphrey, C. W., A.AM.I.E.E., consulting engineer, The Rookery, Chicago, Ill.
Humphrey, Henry H., M.AM.I.E.E., consulting electrical engineer, Suite 1505, Chemical-bldg., St. Louis, Mo.
Humphrey, O. B., A.AM.I.E.E., consulting engineer, 96½, Exchange-st., Bangor, Maine. (Teleph. No. 1330.)
Hungerford Brass & Copper Co., wire manufacturers (brass), New York, N.Y.
Hunnicutt & Co., electrolier manufacturers & fitters, Atlanta, Ga.
Hunt, A. M., M.AM.I.E.E., electrical engineer, Union Trust-bldg., San Francisco, Cal.
Hunt, C. W., Co., engineers & contractors, 45, Broadway, New York, N.Y. (Telegrams: "Coalshovel, New York.")
Hunt, Dillman, Meredith & Allen, Inc., electrical engineers, 202, Californian-st., San Francisco, Cal.
Hunt, Henry C., Co., manufacturers of leather belting, 32, Oliver-st., near cor. Franklin-st., Boston, Mass. (Telephone No. 292, Main.)
Hunt, Rodney, Machine Co., manufacturers of clutches & turbines, Orange, Mass.
Hunt, W. T., & Co., electrical & scientific books, 150, Nassau-st., New York. (Teleph. No. 8210, Cortlandt.)
Hunter, R. M., M.AM.I.E.E., M.S.I.E., engineer & patent solicitor, 724–29, New York Mutual Life-bldg., 1011, Chestnut-st., Philadelphia, Pa. (Telegs.: "Venator, Philadelphia." Teleph. No. 3-37-08.)
Hunter Fan & Motor Co., electric & belt ventilating fans, Fulton, N.Y.
Hunter, James, Machine Co., manufacturers of friction clutches, North Adams, Mass.; & 70, Kilby-st., Boston, Mass.
Hunting, F. S., M.AM.I.E.E., Fort Wayne Electric Works, 1301, West Washington-st., Fort Wayne, Ind.
Huntingdon Electric Light & Water Works, Huntingdon, Tenn.
Huntington, David, M.AM.I.E.E., general manager & chief engineer, Washington Water Power Co., Spokane, Washington.
Huntington Light & Fuel Co., Huntington, Ind.
Huntington Light & Power Co., Huntington, N.Y.
Huntington Machinery & Supply Co., machinery merchants & agents, Wilkes-Barre, Pa.
Huntsville Railway, Light & Power Co., Huntsville, Ala.
Hurd & Haggin, consulting electrical engineers, 316, Hudson-st., New York.
Hurlburt-Still Electrical Co., general electrical supplies, contractors & repairers, Houston, Tex.
Hurley Machine Co., manufacturers of electric washing machines, 100, Clinton-st., Chicago, Ill.
Huron Automobile & Electrical Co. (G. E. Yokom, manager), dealers in electrical supplies & construction work, Port Huron, Mich. (Teleph. No. 154.)
Hussey, McCann & Co., peerless grease extractors & steam specialties, 87, Warren-st., New York. (Teleph. No. 5812, Cort.)
Hutchinson, Dr. Cary T., PH.D., M.AM.I.E.E., &c., consulting electrical engineer, 60, Wall-st., New York.
Hutchinson Water, Light & Gas Co., Hutchinson, Kan.
Hutchison, W. G., Co., manufacturers of electric & combination fixtures, 597, South Spring-st., Los Angeles, Cal.
Huth, Wm., installation contractor, 65, Granite-st., Brooklyn, N.Y. (Teleph. No. 2115, East New York.)
Hutton, C. W., M.AM.I.E.E., assistant manager, Central California Electric Co., & Sacramento Electric, Gas & Railway Co., Sacramento, Cal. (Teleph. No. Main, 869.)
Hutton, W. A., installation contractor, Center-st. & Oakford-ct., Scranton, Pa.
Hutton Engineering Co., installation contractors, Lexington, Va.
Hyde, E. H., installation contractor, Marietta, Ohio.
Hyde Park Electric Light Co., Hyde Park, Mass.
Hyer-Sheehan Electric Motor Co., motor, dynamo & switch manufacturers, Newburg, N.Y.
Hygrade Incandescent Lamp Co., incandescent lamp makers, 136, Liberty-st., New York.

Idaho Electric Supply Co., installation contractors, Y.M.C.A.-bldg., Boise, Idaho.
Idaho-Oregon Light & Power Co., Boise, Idaho.
Idaho Power & Transportation Co., Ltd., Idaho Falls, Idaho.
Idaho Washington Light & Power Co., Moscow, Idaho.
Ide, A. L., & Sons, engine makers (steam), high speed, Springfield, Ill.
Ideal Construction Co., telephone engineers & contractors, Harper-blk., Lima, Ohio.
Ideal Electric Contracting Co., installation contractors, 125, East 23rd-st., New York.
Ideal Electric & Manufacturing Co., electrical machinery manufacturers, Mansfield, Ohio.
Ideal Gas & Electric Fixture Co., electrolier manufacturers & fitters, 144, Worth-st., New York. (Telegs.: "Gasideal, New York.")
Idell, Frank E., A.AM.I.E.E., Havemeyer-bldg., 50, Church-st., New York City.
Iden & Co., electric light fixtures, 26, University-pl., New York.
Igniter Appliance Co., ignition apparatus manufacturers, Cleveland, Ohio.
Ihlder, John D., M.AM.I.E.E., consulting electrical engineer, Otis Elevator Co., New York, N.Y.
Ilg Electric Ventilating Co., engineers (ventilating), 253, East Kinzie-st., Chicago, Ill.
Ilion Village Electric Light Plant, Ilion, N.Y.
Illinois Electric Co., dealers in electrical supplies, 239, Madison-st., Chicago, Ill.
Illinois Electrical Manufacturing Co., electrical machinery & repairs, Peoria, Ill.
Illinois Engineering Co., electrical engineers, Manhattan-bldg., Chicago, Ill.
Illinois Light & Traction Co., Streator, Ill.
Illuminating Engineer, The (monthly; ann. sub., P.U. $2.50), 36, West 39th-st., New York. E. L. Elliott, editor. (Telegs.: "Ilumineer, New York.")
Illuminating Engineering Society. Secretary, P. S. Miller, 29, West 39th-st., New York.
Imhauser, E., manufacturer of watchman's clocks, 206, Broadway, New York.
Imlay, L. E., M.AM.I.E.E., superintendent, Niagara Falls Power Co., & Canadian Niagara Power Co., Niagara Falls, N.Y.
Imperial Electric Co., incandescent & arc lamp manufacturers' agents, 1022, Arch-st., Philadelphia, Pa.
Imperial Electrical Repair Co., manufacturing electricians, 1527, Pine-st., St. Louis, Mo.
Imperial Porcelain Works, manufacturers of porcelain, corner of Mulberry & Clagg-aves., Trenton N.J.
Inch, S. R., A.I.E.E., Missoula Light & Water Co., Missoula, Mont.
Independence & Monmouth Water & Electric Light Co., Independence, Ore.
Independent Electric Machinery Co., installation contractors, 448, Sheidley-bldg., Kansas City, Mo.
Independent Electrical Construction Co., installation contractors, 381, Fulton-st., San Francisco, Cal.
Independent Electrical Supply Co., installation contractors, 383, Canal-st., cor. West Broadway, New York. (Teleph. No. 1335, Spring.)
Independent Incandescent Lamp Co., makers of incandescent lamps, 2116–2118 & 2120, St. Charles-st., St. Louis, Mo.
Independent Telephone Manufacturing Co., telephone manufacturers, 131–141, Francis-st. Office: 323, East Wilson-st., Madison, Wis.
Indiana Fan Co., manufacturers of water-motor fans, water motors, exhaust fans, &c., 32–36, East South-st., Indianapolis, Ind. (Telegs.: "Fans, Indianapolis." Teleph. No. 843.)
Indiana Harbor & East Chicago Electric Co., East Chicago, Ind.
Indiana & Michigan Electric Co., Elkhart, Ind.
Indiana & Michigan Electric Co., South Bend, Ind.
Indiana Rubber & Insulated Wire Co., manufacturers of insulated wire & cables, Jonesboro, Ind.
Indiana Steel & Wire Co., telephone & telegraph wire, Muncie, Ind.
Indiana Union Traction Co., Anderson, Ind.
Indianapolis & Cincinnati Traction Co., Indianapolis, Ind.
Indianapolis, Columbus & Southern Traction Co., Columbus, Ind.
Indianapolis & Eastern Railway Co., Indianapolis, Ind.
Indianapolis Light & Heat Co., Indianapolis, Ind.
Indianapolis & Martinsville Rapid Transit Co., Indianapolis, Ind.
Indianapolis Traction & Terminal Co., Indianapolis, Ind.
India Rubber & Gutta-Percha Insulating Co., manufacturers of "Habirshaw" wires & cables, Glenwood Works, Yonkers, N.Y.
India Rubber World (monthly; ann. sub., U.S. and Mexico, $3; foreign, $3.50), 395, Broadway, New York. (Teleph. No. 1223, Franklin.)
Ingalls Electric Construction Co., installation contractors, 22, South Tennesse-ave., Atlantic City, N.J.
Ingersoll-Rand Co., makers of electric air rock drills, &c., 11, Broadway, New York; & 165, Queen Victoria-st., London, E.C.
Inglis Electric Co., dealers in electrical supplies, Providence, R.I.
Inglis, Wm., Wire & Iron Works, lamp guards, globe nets, fan-motor guards, 59–61, East Woodbridge-st., Detroit, Mich.
Inland Electric Co., installation contractors, Spokane, Wash.
Institute for Home Study of Engineering, Cleveland, Ohio.

Insull, J., A.AM.I.E.E., General Electric Co., Pittsfield, Mass.
Insull, Samuel, M.AM.I.E.E., M.I.E.E., electrical engineer, president Commonwealth Edison Co., 139, Adams-st., Chicago, Ill. (Telegrams: "Insull, Chicago.")
Insurance Engineering (monthly), 120, Liberty-st., New York. (Ann. sub., P.U., $4.)
Interborough Electric Service Corporation, installation contractors, 138, Liberty-st., New York.
Interborough Rapid Transit Co., 23, Nassau-st., New York.
Intermont Co., installation contractors, Bluefield, W. Va.
Inter-Mountain Electric Co., electrical supplies & construction, 13, South Main-st., Salt Lake City, Utah. (Telegs.: "Hawley, Salt Lake City." Teleph. No. 354.)
International Acheson Graphite Co., manufacturers of Acheson Graphite Electrodes, Plates, Rods, &c., Niagara Falls, N.Y. (Telegs.: "Graphite, Niagara Falls." A.B.C. Code, 4th & 5th editions.)
International Association of Municipal Electricians. Secretary, Frank P. Foster, Corning, N.Y.
International Brass & Electric Co., Incorporated, manufacturers of spark coils, &c., 76, Beekman-st., New York.
International Electric Meter Co., measuring instrument makers, 110–112, North Sheldon-st., Chicago, Ill.
International Independent Telephone Association, 339, Monadnock-blk., Chicago, Ill. (Teleph. No. 1785, Harrison.) Secretary, J. B. Ware.
International Instrument Co., electrical instrument makers, Cambridge, Mass. (Telegs.: "Interco, Boston.")
International Railway Co., Buffalo, N.Y.
International Telephone Manufacturing Co., telephone apparatus makers, Harrison & Clinton-sts., Chicago, Ill. (Telegs.: "Telephones, Chicago." Teleph. No. 1235, Harrison.)
International Trolley Controller Co., makers of trolley appliances, Buffalo, N.Y.
Interstate Electric Co., electrical engineers & contractors, Connellsville, Pa.
Interstate Electric Co., Ltd., wholesale jobbers in electrical supplies, Baronne & Perdido-sts., New Orleans, La. (Teleph. Nos. 706–707–731.)
Interstate Electric Manufacturing Co., telephone manufacturers, Sioux City, Iowa.
Interstate Railways Co., 515, Mariner & Merch.-bldg., Philadelphia, Pa.
Interstate Supply Co., dealers in electrical supplies, 517, 5th-ave., Sioux City, Iowa.
Interurban Construction Co., installation contractors, 1515, Tremont-pl., Denver, Col.
Interurban Electric Equipment Co., installation contractors, 147, Lawrence-st., Brooklyn, N.Y.
Iola Electric Railroad Co., Iola, Kan.
Ionia Water Power Electric Co., Ionia, Mich.
Iowa City Electric Light Co. (G. S. Carson, president; F. C. Carson, secretary), Iowa City, Iowa.
Iowa Electric Co., dealers in electrical supplies, 421, North 4th-st., Burlington, Iowa. (Teleph. No. 301.)
Iowa Electric Co., manufacturing electricians, Davenport, Iowa.
Iowa Gas & Electric Co., Washington, Iowa.
Ireland, R. D., & Co., electric light fixtures, 246, Borylston-st., Boston, Mass.
Irish, W. F., Electric Co., manufacturers & jobbers in electrical supplies, 60, Cortlandt-st., New York.
Iron Age (weekly; ann. sub., $5.00), 14 & 16, Park-pl., New York. (Telegs.: "Age, New York.")
Iron City Engineering Co., installation contractors, Frick-bldg. Annex, Pittsburg, Pa. (Teleph. Nos.: 1599 Bell, Court; & 1376 P. & A., Main.)
Iron Mountain Electric Light & Power Co. (superintendent, Geo. Irving), Iron Mountain, Mich.
Iron Trade Review (weekly; ann. sub., $3.00; P.U., $4.50), Cleveland, Ohio.
Irvin, Dan W., electrical contractor, electric flashlight signs, 309, South 6th-st., Cedar Rapids, Iowa.
Irwin, O. C., Co., transformer & generator makers, Berlin, Wis. (Teleph. No. 139–2, Bell.)
Israel, J., & Co., installation contractors, 14, Westchester-ave., New York.
Ithaca Electric Light & Power Co., Ithaca, N.Y.
Ithaca Street Railway Co., Ithaca, N.Y.
Ivins, Elwood, Tube Works, makers of seamless metal tubing, 487, Broadway, New York; & (works) Oak-lane Station, Philadelphia, Pa.

Jackson, Dugald C., M.AM.I.E.E., professor of electrical engineering, Mass. Institute of Technology, Boston, Mass.
Jackson, F. E., incandescent filament manufacturer, 197, Essex-ave., Orange, N.J.
Jackson, H. R., fine electrical work & electric light fixtures, 818, Prudential-bldg., Newark, N.J. (Teleph. No. 2526 J.)
Jackson, H. D., electrical engineer, 88, Broad-st., Boston, Mass.
Jackson, J. P., E.E., M.E., M.AM.I.E.E., consulting engineer & expert & Dean of the School of Engineering, Penn. State College, State College, Pa.
Jackson, T. F., installation contractor, 94, John-st., New York.
Jackson, D. C. & Wm. B., M.AM.I.E.E., Massachusetts Institute of Technology, Boston, Mass.
Jackson & Earle, electrical contractors, Stockton, Cal. (Teleph. No. 400, Main.)
Jackson Electric Light Plant, Jackson, Ohio.

Jackson Electric Railway, Light & Power Co., Jackson, Miss.
Jackson Railway & Light Co., Jackson, Tenn.
Jacksonville City Electric Light Plant, Jacksonville, Fla. (Teleph. No. 434.)
Jacksonville Electric Light Co., Jacksonville, Fla.
Jacksonville Railway & Light Co., Jacksonville, Ill.
Jacobs, J. C., installation contractor, Charleston, W. Va.
Jaeger Miniature Lamp Manufacturing Co., Bible House, New York City. (Cable address: "Decorative, New York.")
Jakobson, M., installation contractor, 1125, Lexington-ave., New York, N.Y.
Jalonick, Hartwell, consulting, electrical & mechanical engineer, 7, Pioneer Plaza, El Paso, Texas.
James, A., Spargo Wire Co., copper wire manufacturers, Rome, N.Y.
Jamestown Electric Co., installation contractors, Jamestown, N.Y.
Jamestown Lighting & Power Co., Jamestown, N.Y.
Jamestown Municipal Electric Light Plant, Jamestown, N.Y. (Bell & Home Telephone Nos. 218.)
Jamestown Street Railway Co., Jamestown, N.Y.
Jandous Electric Equipment Co., installation contractors, 510, 6th-ave., New York. (Teleph. No. 17 Mad.)
Jandus Electric Co., makers of arc lamps, electric fans & motors, Cleveland, Ohio.
Janesville Contracting Co., electric construction & supplies, Janesville, Wis.
Janesville Electric Co., Janesville, Wis.
Jansky, C. M., A.AM.I.E.E., professor of electrical engineering, University of Wisconsin, Madison, Wis.
Jantz & Leist Electric Co., South-East cor. Western-ave. & York-sts., Cincinnati, Ohio. (Telegs.: "Jalectric, Cincinnati." Long Dist. Teleph. No. 1877, Canal.)
Jarecki Manufacturing Co., Ltd., manufacturers of engineers' tools, Erie, Pa.
Jarvis Engineering Co., contractors for steam plants, 61, Oliver-street, Boston, Mass.
Jasper Water, Light & Power Co., Jasper, Ala.
Jaynes Electrical Co., installation contractors, 806, Main-st., Buffalo, N.Y.
Jefferson Brass Foundry, commutator bars, pure copper castings, 209, King-st., Brooklyn, N.Y.
Jefferson City Light, Heat & Power Co., Jefferson City, Mo.
Jefferson Electric Co., installation contractors, 144, Field-ave., Detroit, Mich.
Jefferson Light, Heat, Power & Water Co., Jefferson, Iowa.
Jeffrey Manufacturing Co., manufacturers of the Jeffrey electric coal mining machines, electric drills, pumps & locomotives, 172, East 1st-ave., Columbus, Ohio.
Jenkintown Light Co., Jenkintown, Pa.
Jenks, W. H., installation contractor, 617, East Main-st., Richmond, Va. (Teleph. No. 338.)
Jenks, W. J., M.AM.I.E.E., secretary Board of Patent Control, 120, Broadway, New York. (Telephone No. 5289, Cort.)
Jenney Electric Manufacturing Co., high-grade direct current dynamos & motors, Anderson, Ind.
Jennings, W. H., installation contractor, 509, North Water-st., Decatur, Ill.
Jensen, Chr., M.I.E.E., c/o H. Hertz, Western Electric Co., Hawthorne, Chicago, Ill.
Jermyn Electric Light, Heat & Power Co., Jermyn, Pa.
Jersey Central Traction Co., Keyport, N.J.
Jersey City Electric Co., installation contractors, 772, West Side-ave., Jersey City, N.J.
Jersey Shore Electric Street Railway Co., Jersey Shore, Pa.
Jerseyville Light, Heat & Power Co., Jerseyville, Ill.
Jessop, Wm., & Sons, steel manufacturers, converters & refiners, 91, John-st., New York.
Jewell Belting Co., manufacturers of machine belting, belt dressing & belt cement, 15, Trumbull-st., Hartford, Conn.
Jewell Electrical Instrument Co., voltmeters & ammeters, 61-63, Union Park-court, Chicago, Ill. (Telephone No. 929, Monroe.)
Jewett Car Co., electric tramcar builders, Newark, Ohio.
Joachim, Jacob, electrical engineer & contractor, 309, Dryades-st., New Orleans, La.
Johannesen, S. E., M.AM.I.E.E., electrical engineer, General Electric Co., Pittsfield, Mass.
Johns Hopkins University, Baltimore, Md.
Johns-Manville, H. W., Co., manufacturers of asbestos, electric insulating materials, &c., 100, William-st., New York, N.Y. (Telegrams: "Wardjohns, New York"); & 171-173, Randolph-st., Chicago, Ill.
Johnson, Charles F., second-hand electric plant, 1315, Citizens-bldg., Cleveland, Ohio.
Johnson, Christian, installation contractor, 1444, Humboldt-boul., Chicago, Ill.
Johnson, F. H., electrical contractor, 32, Central-sq., Lynn, Mass. (Teleph. No. 523-5); & 86, Washington-st., Marblehead. (Teleph. No. 159-12.)
Johnson, Le Baron B., electrical contractor, 136, Liberty-st., New York.
Johnson, Warren S., A.AM.I.E.E., Johnson Service Co., 153, Michigan-st., Milwaukee, Wis.
Johnson-Kennedy Electric Co., electric supply dealers, 244, East 5th-st., Cincinnati, Ohio.
Johnson-Robinson Machinery Co., mfrs. of & jobbers in machinery, 715-717, N. 2nd-st., St. Louis, Mo.

Johnson Temperature Controlling Co., manufacturers of automatic, pneumatic & electric heat regulators, 152, Lake-st., Chicago, Ill.
Johnston, Thomas J., patent lawyer & electrician, 149, Broadway, New York. (Telegs.: "Teejay, Newyork.")
Johnston Electric Co., dealers in electrical supplies, Omaha, Neb.
Johnstown Passenger Railway Co., Johnstown, Pa.
Jones, Albert L., electrical engineer, 236, East 5th-st., Cincinnati, Ohio.
Jones, B. N., M.AM.I.E.E., Otis Elevator Co., 17, Battery-pl., New York.
Jones, Ernest S., manufacturers' agent, Muncie, Ind. (Teleph. No. 444.)
Jones, F. W., M.AM.I.E.E., electrical engineer, 32, West 40th-st., New York.
Jones, Harold K., electrical contractor, 180, Front-st., & 22, Burling Slip, New York. (Telephone No. 1668, John.)
Jones, Prof. Forrest R., A.AM.I.E.E., M.A.S.M.E., 1702, Melrose-ave., Knoxville, Tenn.
Jones, Robert Ross, engineer & manufacturers' agent, Harrisburg, Pa.
Jones, A. E., & Co., manufacturers of electric signs, 815, West Diamond-st., Allegheny, Pa.
Jones, Arthur, Co., second-hand electric plant, 85, Van Buren-st., Chicago, Ill.
Jones Electric Co., installation contractors, 1764, West 25th-st., Cleveland, Ohio.
Jones, Fred. A., Co., engineers, Houston, Tex.; & New Orleans, La.
Jones & Winter, telephone engineers, 1259, Monadnock-bldg., Chicago, Ill.
Jones-Beach & Co., dealers in electrical supplies, Philadelphia, Pa.
Jonesboro Water & Light Co., Jonesboro, Ark.
Jordan, August, installation contractor, 109, West 29th-st., New York.
Jordan Automatic Signal Co., Inc., 74, Beekman-st., New York.
Jordan Bros., Inc., electricians, 74, Beekman-st., New York. (Teleph. No. 4915, Beekman.)
Jordan Electric Light & Power Co., Jordan, N.Y.
Journal of Electricity, Power & Gas (weekly), Technical Publishing Co., 604, Mission-st., San Francisco, Cal.
Journal of the Franklin Institute (monthly; ann. sub., $5), 15, South 7th-st., Philadelphia, Pa.
Journal of Physical Chemistry (ann. sub., $4), Cornell University, Ithaca, N.Y.
Journal of the Telegraph (monthly; ann. sub., $1), 195, Broadway, New York.
Journal of the Western Society of Engineers (6 times a year. Ann. sub., $3.00. Free to members), 1737, Monadnock-blk., Chicago, Ill.
Joy, Edward, Co., dealers in electrical supplies, Syracuse, N.Y. (Both Telephones.)
Judd Electric Co., manufacturers of electric bells, medical batteries & electrical specialties, Detroit, Mich.
Judson, Wm. Pierson, M.AM.S.C.E., M.I.C.E., A.AM.I.E.E., consulting engineer, Broadalbin, New York. (Teleph. No. 17.)

K. & B. Co., special electrical supplies, corner 8th & Chestnut-sts., S.E., Philadelphia, Pa.
Kalbach Bros., electrical contractors & engineers, Wildwood, N.J. (Teleph. No. 239A, Bell.)
Kalbfleisch, Franklin H., Co., manufacturers of acids & chemicals, Broadway & 16th-st., New York.
Kalispell Water & Electric Co., Kalispell, Mont. (F. B. Roblin, general manager.)
Kanawha Valley Traction Co., Charleston, W. Va. (A. H. Hampton, manager.)
Kanawha Water & Light Co., Charleston, W. Va.
Kankakee Electric Light Co., Kankakee, Ill.
Kankakee Electric Railway Co., Kankakee, Ill.
Kansas City Electric Light Co., Kansas City, Mo.
Kansas City Electrical Construction Co., electrical contractors, 930, Wyandotte-st., Kansas City, Mo.
Kansas City Electrical & Telephone Supply Co., 919, Grand-ave., Kansas City, Mo.
Kansas City Railway & Light Co., Kansas City, Mo.
Kansas City-Western Railway Co., Leavenworth, Kan.
Kansas Long-Distance Telephone & Telegraph Co., Topeka, Kan.
Karapetoff, Vladimir, A.AM.I.E.E., professor of experimental electrical engineering, Cornell University, Ithaca, N.Y.
Kartavert Manufacturing Co., manfrs. of hard & flexible fibre for electrical purposes, Wilmington, Del.
Kastner, G. Kurt., electrical contractor, 42, Union-sq., New York.
Kates, L. S., electrical engineer & contractor, 1314, Arch-st., Philadelphia, Pa.
Katte, E. B., M.AM.I.E.E., chief engineer, Electric Traction N.Y.C. & H.R.R.R. Co., Grand Central Station, New York. (Teleph. No. 6060, Bryant.)
Katzenbach & Co., F. S., dealers in electrical supplies, 35, East State-st., Trenton, N.J.
Kaukauna Gas, Electric Light & Power Co., Kaukauna, Wis.
Keasbey, Robt. A., agent for Keasbey & Mattison Co., 100, North Moore-st., New York.
Keasbey & Mattison Co., fire proof magnesia, Ambler, Pa.
Keeler, I. P., A.AM.I.E.E., superintendent power & construction, Asheville Electric Co., Asheville, N.C.
Keeler, E., Co., manufacturers of steam boilers, Williamsport, Pa.
Keelyn Electric Co., installation contractors, 133, Sycamore-st., Milwaukee, Wis.

Keene Electric Railway Co., Keene, N.H.
Keene Gas & Electric Co., Keene, N.H.
Kehoe, John E., electrical contractor, 923, 6th-ave., New York.
Keil, Francis, & Son, electric bell & pushes makers, New York City.
Keily, Wm. E., A.AM.I.E.E., 590, Old Colony-bldg., Chicago, Ill. (Teleph. No. 2196, Harrison.)
Keiser-Van Leer Co., electrical contractors, Bloomington, Ill.
Keith, Dr. Nathaniel S., M.AM.I.E.E., mining & metallurgical engineer, 350, Bullitt-bldg., Philadelphia, Pa.
Keith Electric & Auto Co., Beaumont, Tex.
Keller, E. E., M.AM.I.E.E., M.A.S.M.E., vice-pres. & general manager, Westinghouse Machine Co., Pittsburg, Pa.
Keller Manufacturing Co., manufacturers of vacuum cleaners, Philadelphia, Pa.
Keller-Pike Co., mechanical & electrical engineers, 1213, Race-st., Philadelphia, Pa.
Kelley, W. S., A.AM.I.E.E., chief engineer, Holtzer-Cabot Electric Co., Brookline, Mass.
Kelley Electric Co., installation contractors, 409, Elm-st., Cincinnati, Ohio.
Kellogg, Dr. J. H., electro-therapeutist, Battle Creek, Mich.
Kellogg, James W., M.E., A.AM.I.E.E., manager marine sales, General Electric Co., Schenectady, New York.
Kellogg, E. H., & Co., "Anti-Corrosive" cylinder oil & dynamo & general machinery oil, 244, South-st., New York. (Telegs.: "Kellogg, New York." Teleph. No. 184, Orchard.)
Kellogg Switchboard & Supply Co., manufacturers of telephones & telephone switchboards, Green & Congress-sts., Chicago, Ill.
Kelly, John, electrical engineer, Schenectady, N.Y.
Kelly, John F., PH.D., M.I.E.E., M.AM.I.E.E., consulting engineer, president, Telelectric Co., Pittsfield, Mass.
Kelly, T. T., & Co., electrical contractors, 2, Columbia-st., Boston, Mass.
Kelman Electric & Manufacturing Co., 612, North Main-st., Los Angeles, Cal.
Kelsey, James C., Purdue University, Lafayette, Ind.
Kelting Engineering & Supply Co., 119, Pearl-st., New York, N.Y.
Kenan, Wm. R., jun., M.AM.I.E.E., chemist & electrical engineer, c/o Traders Paper Co., Lockport, N.Y.
Kendall, W. R., A.AM.I.E.E., electrical engineer, Weeks & Kendall, 605, New Nelson-bldg., Kansas City, Mo.
Kendall, Edward, & Sons, makers of high-pressure boilers for electric light plants, Cambridgeport, Mass.
Kendall, M. K., & Co., electric railway contractors, 32, Oliver-st., Boston, Mass.
Kendall, W. D., Co., installation contractors, 166, Main-st., Worcester, Mass.
Keniston Engineering Co., electrical contractors, 52, Washington-st., Boston, Mass.
Kennebec Light & Heat Co., Augusta, Maine.
Kennebunk Electric Light Co., Kennebunk Port, Maine.
Kennedy, Jeremiah J., M.AM.I.E.E., consulting engineer, 52, Broadway, New York.
Kennelly, A. E., M.A., D.SC., M.I.E.E., M.AM.I.E.E., professor of electrical engineering, Harvard University, Cambridge, Mass.
Kenney, W. E., installation contractor, Watertown, N.Y.
Kenny, Paul T., electrical engineer & contractor, 140, Nassau-st., New York. (Telegs.: "Kemaco, New York." Teleph. Nos. 4740 & 4741, Beekman.)
Kenny Electrical Manufacturing Co., electric lifts, Nassau-Beekman-bldg., 140, Nassau-st., New York. (Telegs.: "Kemaco, New York." Teleph. Nos. 4740 & 4741, Beekman.)
Kenosha Gas & Electric Co., Kenosha, Wis.
Kensington Engine Works, Ltd., builders of feed-water heaters, 704, Arch-street, Philadelphia, Pa.
Kent, J. Martin, A.AM.I.E.E., instructor in steam & electricity, Manual Training High School, Kansas City, Mo. (Teleph. No. 2624, Main.)
Kent Manufacturing Co., installation contractors, 222, Washington-st., Brookline, Mass.
Kent Water, Light & Power Co., Kent, Ohio.
Kenton Gas & Electric Co., Kenton, Ohio. (Teleph. Nos. : 17, Bell; & 1422, Auto.)
Kentucky Electric Co., electric light contractors, Ludlow, Ky.
Kentucky Electrical Co., incandescent lamp manufacturers, Owensboro, Ky.
Kenyon, W. H., A.AM.I.E.E., patent lawyer, 49, Wall-st., New York.
Keokuk Electric Railway & Power Co., Keokuk, Iowa.
Ker, W. Wallace, A.AM.I.E.E., instructor in Electrical Hebrew Technical Institute, 36, Stuyvesant-st., New York.
Kerite Insulated Wire & Cable Co., rubber wire coverers, Hudson Terminal, 30, Church-st., New York.
Kern, W. J., electrical supplies & construction, Main & St. Ann-sts., Owensboro, Ky. (Home Teleph. No. 540.)
Kerr Turbine Co., makers of turbo electric generators, Wellsville, N.Y.
Kershner, Jefferson E., A.AM.I.E.E., consulting engineer, Lancaster County R. & L. Co., 445, West Chestnut-st., Lancaster, Pa.
Kessler, J. J., consulting electrical engineer, St. Louis, Mo.
Kessler & Wiedemann, analytical & consulting chemists, 224 South, Vandeventer-ave., St. Louis, Mo.
Kester Electric Co., manufacturers of dynamos & motors, 1106, South 14th-st., Terre Haute, Ind.

Kettering, C. F., A.AM.I.E E., National Cash Register Co., Dayton, Ohio.
Kewanee Light & Power Co., Kewanee, Ill.
Key West Electric Co., Key West, Fla. (O. C. G. Urban, manager.)
Keyes Electric Co., Gowanda, New York.
Keyser Electric Light Co., Keyser, W. Va.
Keystone Electric Co., makers of electro-therapeutic apparatus, 135, South 10th-st., Philadelphia, Pa.
Keystone Electric & Manufacturing Co., arc lamp manufacturers, Allegheny, Pa.
Keystone Electric Telephone Co., telephone instrument makers, 822, 5th-ave., Pittsburgh, Pa.
Keystone Electrical Co., electrical engineers, 135, South 10th-st., Philadelphia, Pa.
Keystone Electrical Instrument Co., 50, Church-st., New York.
Keystone Electrical Instrument Co., manufacturers of voltmeters & amperemeters, 9th-st. & Montgomery-ave., Philadelphia, Pa. (Telegrams: "Kerelinco, Philadelphia." Bell & Keystone Long Distance Telephones.)
Keystone Engineering Co., contracting electrical engineers, 1207–1208, Farmers Bank-bldg., Pittsburg, Pa.
Keystone Fibre Co., insulating material manufacturers, 1524, Chestnut-st., Philadelphia, Pa.
Kidd, F. L., electrical contractor, Lawrence, Mass.
Kidder, Jerome, Manufacturing Co., manufacturers of electro-medical apparatus & complete supplies for physicians, Bible House-bldg., New York, N.Y.
Kierulff, B. F., jun., & Co., dealers in electrical supplies, 210, South Los Angeles-st., Los Angeles, Cal.
Kiewert, Chas. L., & Co., carbon makers & supplies, Milwaukee, Wis.
Kilbourne & Clark Co., electrical engineers, manufacturers of electrical machinery & storage batteries, Seattle, Wash.
Kilgour, Hamilton, M.I.E.E., c/o Canadian Bank of Commerce, New York.
Kilgour, Martin H., M.I.E.E., c/o American Institute of Mining Engineers, 29, West 39th-st., New York.
Kimball, Fred. M., electrical engineer, manager Small Motor Department, General Electric Co., India-bldg., State-st., Boston, Mass.
Kimball Electrical Construction Co., installation contractors, 42, East 23rd-st., New York.
Kimbark, D. Avery, consulting electrical engineer, Suite 1502, Fort Dearborn-bldg., Chicago, Ill. (Telephone No. 219, Central.)
Kinetic Electric Co., installation contractors, 60th-st. & Baltimore-ave., Philadelphia, Pa.
King, Henry R., A.AM.I.E.E., chief engineer, Power Apparatus, Western Electric Co., Hawthorn. Ill.
King, L. E., A.AM.I.E.E., engineer, Western Electric Co., Chicago, Ill.
King, Warren D., electrical supplies, Peabody, Mass. (Telephone No. 52–3.)
King Electric Co., electrical engineers & contractors, Bay City, Mich. (Telegs.: "King, Bay City.")
King Electrical & Machine Works, manufacturing electricians, Osgood, Ind.
King's Electrical Works, electrical contractors, 1323, Broadway, Oakland, Cal. (Teleph. No. 2675, Oakland.)
Kingfisher City Electric Light Plant, Kingfisher, Okla.
Kingsbury-Samuel Electric Co., electrical contractors, 213, North Calvert-st., Baltimore, Md. (Teleph. Nos.: 2324, Courtland; & Long Distance 4192, St. Paul.)
Kingston Consolidated R.R. Co., Kingston, N.Y.
Kingston Gas & Electric Co., Kingston, N.Y.
Kinsley, Carl, A.M., M.E., associate professor of physics, University of Chicago, Chicago, Ill.
Kinsman, Frank E., M.AM.I.E.E., electrical engineer, 50, Church-st., New York. (Telegs.: "Relation, New York.")
Kintner, Chas. J., A.AM.I.E.E., electrical expert & engineer, 45, Broadway, New York, N.Y. (Telegs.: "Kintner, New York." Teleph. No. 2030, Broad.)
Kintner, Samuel Montgomery, M.AM.I.E.E., Westinghouse Electric Co., Pittsburg, Pa.
Kirk, G. E., A.AM.I.E.E., patent lawyer, Suite 1649, The Nicholas, Toledo, Ohio. (Home Teleph. No. 61, Main.)
Kirkland, John W., B.SC., M.AM.I.E.E., General Electric Co., Schenectady, N.Y.
Kirkpatrick, C. C., installation contractor, 827, S. Spring-st., Los Angeles, Cal.
Kirkpatrick, Walter G., civil, hydraulic & electrical engineer, Rooms 31–33, Croom-bldg., Jackson, Miss. (Teleph. No. 1070.)
Kirksville Light, Power & Ice Co., Kirksville, Mo.
Kitfield, E. H., civil & electrical engineer, 53, State-street, Boston, Mass.
Kitredge, C. H., electrical supplies, Ann Arbor, Mich.
Kittanning Electric Co., Kittanning, Pa.
Kittanning & Leechburg Railway Co., Kittanning, Pa.
Klauder, Rudolph H., A.AM.I.E.E., consulting engineer, Commercial-bldg., Philadelphia, Pa.
Klein, Nathan, installation contractor, 176, Grand-st., New York.
Klein, R. M., A.AM.I.E.E., Diehl Manufacturing Co., Elizabethport, N.J.
Klein, P. H., jun., Co., electric lamp makers, 110, Liberty-st., New York. (Teleph. No. 2645, Cort.)
Klein, Mathias, & Sons, makers of linesmen's tools, &c., 87 & 89, West Van Buren-st., Chicago, Ill. (Long Distance Telephone No. 2047, Harrison.)

Kleinschmidt, Edward, electrical instruments, 231-235, Greenwich-st., New York. (Teleph. No. 6356, Cort.)
Klemm & Co., shades & reflectors for electric lights, N.W. cor. Fifth & Cherry-sts., Philadelphia, Pa.
Klinck, J. Henry, A.AM.I.E.E., commercial engineer, Industrial & Power Department, Westinghouse Electric & Manufacturing Co., Pittsburg, Pa.
Kline, J. J., M.AM.I.E.E., Fort Wayne Electric Works, Fort Wayne, Ind.
Klipstein, A., & Co., sal ammoniac for electrical purposes, 122, Pearl-st., New York.
Kluckhuhn Bro., electrical contractors, 1509, P-st., N.W., Washington, D.C.
Knapp, L. E, M.AM.I.E.E., manager, Fort Worth Telephone Co., Fort Worth, Tex.
Knapp Electric & Novelty Co., manufacturers of battery fan motors, specialities & electric toys, 511-513, West 51st-st., New York.
Knickerbocker Electric Co., general electrical contractors, 116, West-st, New York, N.Y.
Knight, A. M., & Co., manufacturers of electric fans, Lunenberg-st., Fitchburg, Mass.
Knight Bros., patent solicitors & experts, 2, Rector-st., New York. (Telegs.: "Cantata, New York." Teleph. Nos. 585-586, Rector.)
Knott, L. E., Apparatus Co., manufacturers of physical, chemical & electrical apparatus for schools & laboratories, 16, Harcourt-st., Boston, Mass. (Telegs.: "Courtnot, Boston." A.B.C. Code.)
Knowles, C. S., insulating & electrical materials, 7, Arch-st., Boston, Mass. (Telegrams: "Sevenarch, Boston." Telephone Nos. 947-948.)
Knowles, Edward R., M.AM.I.E.E., consulting electrical engineer, 701, World-bldg., New York City.
Knowles' Steam Pump Works, electric engineers & pump makers, 115, Broadway, New York.
Knox, C. E., M.AM.I.E.E., consulting electrical engineer, 76, William-st., New York.
Knox, Chas. N., manufacturers' agent for electrical apparatus, 210, Pearl-st., Hartford, Conn. (Telephone No. 1361.)
Knox, Francis H., A.AM.I.E.E., chief engineer, Boise & Interurban Railway Co., Boise, Idaho.
Knox Engineering Co., installation contractors, Fisher-bldg., Chicago, Ill.
Knoxville Electric Co., Knoxville, Iowa.
Knoxville Railway & Light Co., Knoxville, Tenn.
Kny-Scheerer Co., manufacturers of electro-medical & X-ray apparatus, 27th-st. & 9th-ave., New York.
Kohlbusch, Herman, Sr., manufacturer of dynamometers, &c., 194, Broadway, New York, N.Y.
Kohler Bros., contracting electrical engineers, 1800-1812, Fisher-bldg., Chicago, Ill. (Telegs.: "Relhok," all offices. Lieber Code. Teleph. No. 322, Har.); 10089, Metropolitan Life-bldg., New York; & 56, Ludgate Hill, London, E.C.
Kokomo, Marion & Western Traction Co., Kokomo, Ind.
Kokomo Telephone & Electric Mfg. Co., makers of telephones, switchboards, &c., Kokomo, Ind.
Korff, Fred. W., electrical engineer, Lockport, N.Y.
Korsmeyer Co., dealers in electrical supplies, Lincoln, Neb.
Krabbe, Christian, electrical supplies, 292 Broadway, Brooklyn, N.Y. (Teleph. No. 1959, J. Williamsburg.)
Kramer, O. H. E., installation contractor, 620, North Taylor-ave., St. Louis, Mo.
Krantz, H., Manufacturing Co., manufacturers of switchboards & panelboards, 160-166, 7th-st., Brooklyn, N.Y. (Telegs.: "Krantz, Brooklyn." Teleph. Nos. 278 & 279, South.)
Kratz Bros., installation contractors, Evansville, Ind.
Kraushaar Brass Manufacturing Co., electrolier manufacturers & fitters, 2507-2509-2511, North Broadway, St. Louis, Mo.
Kruesi, August H., A.AM.I.E.E., designing engineer, General Electric Co., Schenectady, N.Y.
Kruger, John L., installation contractor, 137, Grand-ave., Brooklyn, N.Y.
Kuehn Electric Co., electrical contractors, Canton, Ohio.
Kuhlman Electric Co., makers of the Kuhlman transformer, Elkhart, Ind. (Cable address: "Kuhlectric, Elkart." Long Dist. Teleph. No. 107, local 467.)
Kurz & Root, electric repairs, North Island-st., Appleton, Wis.
Kusel, D. A., Telephone & Electric Manufacturing Co., makers of telephones, 2212, Olive-st., St. Louis, Mo. (Long Distance Teleph. No. 6339-L. Central, Kinloch.)

L. & H. Electrical Co., installation contractors, 319, South 8th-st., St. Joseph, Mo.
La Belle Iron Works, Steubenville, Ohio.
Lackawanna Light Co., Scranton, Pa.
Lackawanna Valley Electric Light & Power Supply Co., Carbondale, Pa.
Lackawanna & Wyoming Valley Rapid Transit Co., Scranton, Pa.
Laclede Car Co., manufacturers of cars & trucks, 4500-4600, North 2nd-st., St. Louis, Mo.
Laclede Gas Light Co., 716, Locust-st., St. Louis, Mo.
Laconia Car Co., manufacturers of electric cars & car trucks, Laconia, N.H.
Laconia Electric Lighting Co., 523, Main-st., Laconia, N.H.

Laconia Street Railway Co., Laconia, N.H.
La Crosse City Railway Co., La Crosse, Wis.
La Crosse Gas & Electric Co., 222, Main-st., La Crosse, Wis.
Lafayette College, Easton, Pa.
Lafayette Gas Co., Lafayette, Ind.
Lagerquist, Gustave, electric light fixtures, 516, 3rd-ave., North, Minneapolis, Minn.
Laidlaw Dunn-Gordon Co., manufacturers of air compressors & pumping machinery, Cincinnati, Ohio.
La Junta Electric Co., electric light & power contractors, La Junta, Col.
Lake Charles Ice, Light & Water Co., Lake Charles, La. (Long Distance Teleph. No. 5.)
Lake City Electric Co., electric light contractors, Lake City, Iowa.
Lake City Electric & Water Co., Lake City, Fla.
Lake Erie, Bowling Green & Napoleon Railway Co., Bowling Green, Ohio.
Lake Shore Electric Railway Co., Cleveland, Ohio.
Lakewood Electric Light Plant, Lakewood, Ohio.
Lamar Light & Water Co., Lamar, Mo.
Lamarche's Sons, H., dealers in battery zincs, spelter, &c., 81, John-st., New York, N.Y.
Lamb, Richard, M.AM.I.M.E., A.AM.I.E.E., civil engineer, 136, Liberty-st., New York.
Lamb Electric Co., makers of electric motors, &c., Grand Rapids, Mich.
Lambertville Heat, Light & Power Co., Lambertville, N.J.
Laminar Fibre Co., manufacturers of hard & flexible fibre, Cambridge, Mass. (Cable address: "Laminar, Boston." Lieber's & W. U. Codes.)
Lamme, B. G., M.AM.I.E.E., chief engineer, Westinghouse Electric & Manufacturing Co., Pittsburg, Pa.
Lancaster Electric Light Co., Lancaster, Ohio.
Lancaster Electric Light, Heat & Power Co., Lancaster, Pa.
Lancaster Electric Supply & Construction Co., installation contractors, Lancaster & Columbia, Pa.
Lancaster Traction & Power Co., Lancaster, Ohio. (Teleph. No. 476.)
Land, Edmund, telephone engineer, 15, Jones-bldg., Detroit, Mich.
Land, Frank, M.E., A.AM.I.E.E., M.AM.S.MECH.E., Land & Wharton Co., 912, Pa.-bldg., Philadelphia, Pa.
Land & Wharton Co., Ltd., electrical engineers & contractors, 912, Pa.-bldgs., Philadelphia, Pa.
Landis Electric Co., electrical machinery, 237, South Market-st., Wichita, Kan. (Teleph. No. 567.)
Landon, F. W., & Co., electrical supplies, 4, Freight-st., Concord, N.H.
Lane, J. N. V., electrical supply dealer, 5, State-st., Bangor, Maine.
Lane & Bodley Co., manufacturers of engines, elevators, pulleys, &c., Cincinnati, Ohio. (Telegrams: "Lanebodley, Cincinnati." Lieber's Code. Long Dist. Teleph. No. 173, Elm.)
Lang, E. M., Co., manufacturers of solder, 341, Fore-st., Portland, Maine.
Lang, J., Electric Co., makers of knife switches, switchboards, &c., 116–128, North Lincoln-st., Chicago, Ill.
Lange, Adolph, electrical engineer, 274, Flatbush-ave., Brooklyn, N.Y.
Langsdorf, A. S., M.AM.I.E.E., professor of electrical engineering, Washington University, St. Louis, Mo.
Langstadt-Meyer Construction & Supply Co., contracting electrical & mechanical engineers, 767, College-ave., Appleton, Wis.
Langton, J., M.AM.I.E.E., M.AM.SOC.C.E., consulting engineer, 99, John-st., New York.
Langworthy, L. O., electrical contractor, 5, Harris-pl., Bradford, Pa.
Lanigan & Rosemont Electric Co., installation contractors, 6, West 3rd-st., New York.
Lansden Co., electric motor carriages, 54, Lackawanna-ave., Newark, N.J.
Lansdorf, A. S., professor of electrical engineering, Washington University, St. Louis, Mo.
Lansing Boiler & Engine Works, builders of steam engines, Lansing, Mich.
Lansingh, Van Rensselaer, M.AM.I.E.E., M.I.E.S., illuminating & electrical engineer, 50, Church-st., New York. (Teleph. No. 7711, Cort.)
La Porte Public Utility Co., La Porte City, Iowa.
Lardner, Henry A., M.AM.I.E.E., M.AM.S.M.E., J. G. White & Co., 43, Exchange-pl., New York.
Laredo Electric & Railway Co., Laredo, Tex. (Teleph. No. 126.)
Larimer Light & Power Co., Fort Collins, Col.
La Roche, F. A., Co., manufacturing electricians, 652, Hudson-st., New York, N.Y. (Telegrams: "Falarco, New York." A.B.C., 5th edit., & W.U. Codes.)
Las Animas Electric Co., electric light contractors, Las Animas, Col. (Teleph. No. 3.)
Las Vegas Railway & Power Co., Las Vegas, New Mexico.
Latham, E. B., & Co., electrical supply dealers, 4, Murray-st., New York.
Latham Engineering & Electric Co., Inc., installation contractors, 214, Ellis-st., nr. Mason-st., San Francisco, Cal. (Teleph. No. 1614, Franklin.)
Latta, J. Edward, A.AM.I.E.E., professor of electrical engineering, University of North Carolina, Chapel Hill, N.C.
Lau, Willy H., electrolier manufacturer, 26, East Lake-st., Chicago, Ill.
Law & Hawxhurst, electric fixtures, 162, Pine-st., & 54, Richmond-st., Providence, R.I. (Teleph. No. 3758-R.)

Lawrence, R. R., A.AM.I.E.E., assistant professor of electrical engineering, Mass. Institut. of Technology, Boston, Mass.
Lawrence Electric Light Co., Lawrence, Kan.
Lawrence, F. D., Electric Co., dealers in electrical supplies, 219, West 4th-st., Cincinnati, Ohio.
Lawrence Gas Co., Lawrence, Mass.
Lawrence Gas Fixture Manufacturing Co., electric light fixtures, 129, North 12th-st., Philadelphia, Pa.
Lawrenceville Water & Light Co., Lawrenceville, Ill. (Teleph. Nos. 47 & 98.)
Laws, F. A., A.AM.I.E.E., associate professor of electrical testing, Massachusetts Institute of Technology, Boston, Mass.
Lawton, Wm., electrical contractor, 611, Market-st., Wilmington, Del.
Layman, W. A., M.I.E.E., M.AM.I.E.E., electrical engineer, Wagner Electrical Manufacturing Co., 6400, Plymouth-ave., St. Louis, Mo.
Leadville Light & Power Co., Leadville, Col.
Leavenworth Novelty Works, electrical contractors, 218, Delaware-st., Leavenworth, Kan.
Leavitt-Bartholomew Co., electrolier manufacturers & fitters, 620, South Spring-st., Los Angeles, Cal.
Lebanon City Electric Light Plant, Lebanon, Ohio.
Lebanon, City of, Light & Water Department, Lebanon, Mo.
Lebanon Electric Co., Ltd., manufacturing electricians, Lebanon, Pa.
Lebanon Electric Light & Power Co., Lebanon, N.H.
Lebanon Electric Light & Water Co., Lebanon, Ore.
Lebanon Light, Ice & Power Co., Lebanon, Ky.
Lebanon Valley Street Railway Co., Lebanon, Pa.
Leclair Bros., installation contractors, Green Bay, Wis.
Leclanché Battery Co., manufacturers of electric batteries, 111–117, East 131st-st., New York, N.Y.
Le Clear, Gifford, A.AM.I.E.E., electrical & mechanical engineer, Densmore & Le Clear, 15, Exchange-st., Boston, Mass. (Telephone No. 2857, Main.)
Lederer, William, consulting electrical engineer & contractor, 4843, Langley-ave., Chicago, Ill. (Teleph. No. 4167, Gray.)
Ledig, R. G., electric light fixtures, 821, Cherry-st., Philadelphia, Pa.
Lee, Claudius, A.AM.I.E.E., instructor in electrical engineering, Technic Institute, Blacksburg, Va.
Lee, Francis Valentine T., B.A., M.AM.I.E.E., A.M.I.E.E., Pacific Gas & Electric Co., 445, Sutter-st., San Francisco, Cal. (Teleph. No. 140, Sutter.)
Lee, J. D., electrical contractor & supply dealer, Niagara Falls, N.Y.
Lee & Bellmer, electricians, 50, West Broadway, New York.
Lee Co., J. Ellwood, manufacturers & exporters of medical batteries, Conshohocken, Pa. (Telegs.: "Lee, Conshohocken." A.B.C. Code.)
Lee County Lighting Co., Dixon, Ill.
Lee Electric Co., installation contractors, 217, North Calvert-st., Baltimore, Md.
Lee Electric Co., Lee, Mass.
Lee Electric Light Co., Inc., Clarinda, Iowa.
Lee, W. S., & Co., electrical contractors, 241, Essex-st., Salem, Mass.
Leeds & Northrup Co., electrical instrument makers & dealers, Wayne Junction, Philadelphia, Pa.
Leetonia Electric Light & Power Co., Leetonia, Ohio.
Leffel, James, & Co., turbine waterwheel makers, 308, Lagonda-st., Springfield, Ohio.
Legrand, Chas., M.AM.I.E.E., Copper Queen Consolidated Mining Co., 99, John-st., New York.
Lehigh Electric Co., installation contractors, Allentown, Pa.
Lehigh Valley Traction Co., Allentown, Pa.
Lehigh Valley Transit Co., Allentown, Pa.
Lehmer, Jos. R., dealers in electrical supplies, Omaha, Neb.
Le Mars City Water & Light Co., Le Mars, Iowa.
Lemoore Electric Light & Water Works, Lemoore, Cal.
Lemp, Hermann, jun., M.AM.I.E.E., General Electric Co., Lynn, Mass.
Leominster Electric Light & Power Co., Leominster, Mass.
Leonard, H. Ward, M.AM.I.E.E., M.I.E.E., inventor, Bronxville, N.Y.
Leonhardt, F. W., installation contractor, 502, 12th-st. N.W., Washington, D.C.
Le Roy Hydraulic Electric Co., electric light & power contractors, Le Roy, N.Y.
Lessner, J. S., electrical supply dealer & contractor, Springfield, Ohio.
Letchfield Electric Light & Power Co., Letchfield, Conn.
Le Valley Vitae Carbon Brush Co., manufacturers of carbon brushes & "Gold Medal" commutator compound, 683, Tremont-ave., New York. (Telegs.: "Vitaebrush, New York.")
Leve, Robert E., & Co., installation contractors, 19, East 15th-st., New York.
Lever, C. H., Manufacturing Co., makers of electrical wood mouldings, cleats, &c., 92nd & Homan-ave., Evergreen Park, Chicago, Ill.
Leveridge, Chas. W., manufacturer & dealer in electrical & automobile supplies, 183, Greenwich-st., New York. (Telegs.: "Loweridge, New York.")

Levi, Morris, & Co., electrical engineers, 920, 3rd-ave., New York. (Telephone No. 1509, Plaza.)
Levy, Max, installation contractor, 2320, Market-st., Galveston, Tex.
Levy Electric Co., 648, Sacramento-st., & 1205, Polk-st., San Francisco, Cal.
Lewis, Edwin C., electrical engineer; construction work, 121, Federal-st., Boston, Mass. (Telephone No. 3566, Boston.)
Lewis, Frank A., electrical contractor & supplies, Wilkes-Barre, Pa.
Lewis, I. N., A.M.AM.I.E.E., instructor, Department of Electricity, U.S. Artillery School, Fort Monroe, Va.
Lewis, John J., electrical engineering & supplies, 19, Park-pl., New York. (Teleph. No. 6078, Barclay.)
Lewis, Warren B., M.AM.I.E.E., electrical engineer, Providence, R.I. (Teleph. No. 2113, Union.)
Lewiston & Auburn Electric Light Co., Auburn, Maine.
Lewiston, Augusta & Waterville Street Railway, Lewiston, Maine.
Lewiston Electric Supply Co., installation contractors, Lewiston, Idaho. (Teleph. No. 221, Main.)
Lewistown Electric Light, Heat & Power Co., Lewistown, Pa.
Lewistown & Reedsville Electric Railway Co., Lewistown, Pa.
Lexington & Interurban Railway Co., Lexington, Ky. (Teleph. No. 19.)
Lexington Light & Power Co., Lexington, Va.
Lexington Mill & Elevator Co., electric light contractors, Lexington, Neb.
Ley, Fred. T., & Co., underground conduits & culverts, Springfield, Mass.
Leyden, H. R., M.AM.I.E.E., Schenectady Power Co., Schaghticoke, N.Y.
Leyner, J. Geo., Engineering Works Co., Denver, Col. Works: Littleton, Col. (Telegs.: "Leyner.")
Libbey, M. F., electrical contractor, Whitefield, N.H.
Liberty Electric Co., installation contractors, 6017, Center-ave., Pittsburg, Pa.
Liberty Electric Light Co., Liberty, Mo.
Liberty Light & Power Co., Liberty, N.Y.
Library of the American Association for the Advancement of Science, c/o University of Cincinnati, Ohio.
Lichter & Jens, electrical engineers, Chemical-bldg., St. Louis, Mo.
Licking Light & Power Co., Newark, Ohio.
Lidgerwood Manufacturing Co., electric hoist makers, 96, Liberty-st., New York.
Lieb, J. W., jun., M.AM.S.C.E., M.AM.S.M.E., M.AM.I.E.E., associate general manager, New York Edison Co., 55–57, Duane-st., New York.
Light, Heat & Power Co., Connersville, Ind.
Light, Heat & Power Corporation, 131, State-st., Boston, Mass. (Telephone No. 3089, Main.)
Lighthipe, J. A., M.AM.I.E.E., engineer, Edison Electric Co., Edison-bldg., Los Angeles, Cal.
Ligon, W. D., M.AM.I.E.E., consulting electrical engineer, W. E. & M. Co., University-bldg., Syracuse, N.Y.
Lillibridge, R. D., A.AM.I.E.E., electrical & mechanical engineer, 100, Broadway, New York. (Telegs.: "Technical, New York." Teleph. No. 5, Cort.)
Lima Insulator Co., manufacturers of electrical insulators, Lima, N.Y.
Lima & Toledo Traction Co., Lima, Ohio.
Lima-Honcoye Electric Light & R.R. Co., Lima, N.Y.
Lincoln, Paul M., M.AM.I.E.E., electrical engineer, Westinghouse Electric & Mfg. Co., Pittsburg, Pa.
Lincoln Electric Co., makers of lifting magnets, 3750, Kelley-ave. North-East, Cleveland, Ohio.
Lincoln Gas & Electric Co., Lincoln, Neb.
Lincoln, Hammett Co., electrical engineers, 32, Mill-st., Newport, R.I.
Lincoln Traction Co., Lincoln, Neb.
Lincoln Water, Light & Power Co., Lincoln, Ill.
Linder, H. J., buyer of & dealer in second-hand electrical plant, 39, Cortlandt-st., New York.
Lindsley & Allen Electric Co., Incorp., electrical engineering & contracting, 257–259, Eddy-st., Providence, R.I.
Lindsley Bros. Co., manufacturers of cedar poles, &c., Menominee, Mich.
Link-Belt Co., manufacturers of elevating, conveying & power transmission machinery, Philadelphia; Chicago; New York; Pittsburg; & Indianapolis. (Telegs.: "Chainbelt.")
Linton City Electric Light Plant, Linton, Ind.
Linze Electric Supply Co., electrical supplies, 1217, Olive-st., St. Louis, Mo.
Lion Electric Co., installation contractors, 123, East 4th-st., Los Angeles, Cal.
Lionel Manufacturing Co., Inc., 4, White-st., New York.
Lippincott Glass Co., glass electrical supplies, Alexandria, Ind.
Lipscomb Electrical Co., electrical engineers, 423, Main-st., Dallas, Tex.
Lisbon Light & Power Co., Lisbon, N.H.
Litscher, C. J., Electric Co., jobbers of electrical supplies, 41, South Market-st., Grand Rapids, Mich.
Little, F. P., Electric Co., 192, Main-st., Buffalo, N.Y.
Little Rock Railway & Electric Co., Little Rock, Ark. (Teleph. No. 2345.)
Littlefield, H. A., & Co., electrical repair work, dynamos & motors, 16, Avon-st., West Lynn, Mass. (Teleph. No. 1636.)
Littleton Water & Electric Light Co., Littleton, N.H.
Livermore Falls Light & Power Co., Livermore, Maine.

Livermore, J. P. & H. J., solicitors of patents & patent experts, 110, State-st., Boston, Mass. (Telegrams: "Eromvil, Boston." Telephone No. 2554, Main.)
Livermore Water & Power Co., Livermore, Cal.
Livingstone Water & Power Co., Livingstone, Mont.
Livsey, J. H., A.AM.I.E.E., manager, General Electric Co., 1002-3-4, Majestic-bldg., Detroit, Mich. (Long Distance Telephone No. 1824.)
Lloyd, Edward William, A.AM.I.E.E., general contract agent, Commonwealth Edison Co., 139, Adams-st., Chicago, Ill. (Teleph. No. 1280, Randolph.)
Lloyd, Herbert, M.AM.I.E.E., president & general manager Electric Storage Battery Co., Allegheny-ave. & 19th-st., Philadelphia, Pa.
Lloyd, Morton G., A.AM.I.E.E., Bureau of Standards, Washington, D.C.
Lloyd, R. McA., M.I.E.E., c/o General Vehicle Co., Long Island City, N.Y.
Lloyd & Smith, electrical contractors, 429, River-st., Manistee, Mich.
Lock Haven Electric Light & Power Co., Lock Haven, Pa.
Locke Insulator Manufacturing Co., manufacturers of high potential insulators in porcelain & glass & indestructible insulator pins, Victor, N.Y. (Telegrams: "Locke, Victor, N.Y.")
Lockport Light, Heat & Power Co., Lockport, N.Y.
Lockwood, T. D., M.I.E.E., M.AM.I.E.E., expert & manager of Patent Department, American Telephone & Telegraph Co., Boston, Mass. (Teleph. Nos.: 7620, Fort Hill; & 20, Melrose.)
Loeffler, L. J., telephone manufacturer, 20, Fulton-st., New York.
Loewenthal, Max, E.E., A.AM.I.E.E., president, Electric Home Supply Co., 540, West 124th-st., New York.
Loewnig & Jones, consulting illuminating engineers, 334, Carondelet-st., New Orleans, La.
Logan Light Co., electric light contractors, Logan, Iowa.
Logansport Electric Light Plant, Logansport, Ind.
Lohman, R. W., A.AM.I.E.E., M.E., Lohman & Co., Metropolis Bank-bldg., San Francisco, Cal.
Lombard Governor Co., makers of the Lombard water-wheel governor & relief valve, Ashland, Mass. (Telegs.: "Lomgov, Boston, Mass." Long Dist. Teleph. No. 199, S. Framingham.)
London, W. J. A., A.I.E.E., chief engineer, Terry Steam Turbine Co., Hartford, Conn.
Lonergan, J. E., & Co., manufacturers of patent automatic oilers & safety steam appliances, 211, Race-st., Philadelphia, Pa.
"Long-Arm" System Co., electrical apparatus manufacturers, Cleveland, Ohio.
Long Island Electric Railway Co., Long Island City, N.Y.
Longden, John N., consulting electrical engineer, 1300, Broadway, New York, N.Y.
Longmont Electric Light & Power Co., Longmont, Col.
Loomis, Chas., installation contractor, 39, Bowery, Akron, Ohio.
Loomis, Osborn P., M.AM.I.E.E., electrical engineer, Shipbuilding & Dry Dock Co., Newport News, Va.
Lorain Electrical Construction Co., installation contractors, Lorain, Ohio. (Teleph. No. 155.)
Lorain Steel Co, electric tramway engineers & contractors, Pennsylvania-bldg., Philadelphia, Pa.
Lorain Street Railway Co., Lorain, Ohio.
Lord Electric Co., wiring, construction & equipment, 112, Water-st., Boston, Mass.
Lord Electric Co., installation contractors, 213, West 40th-st., New York.
Los Angeles Gas & Electric Co., Los Angeles, Cal.
Los Angeles Gas & Electric Fixture Manufacturing Co., Los Angeles, Cal.
Los Angeles & Redondo Railway Co., Los Angeles, Cal.
Loud, Hy. Sherman, M.I.E.E., Morristown, N.J.
Loud's, H. M., Sons Co., electric light & telephone poles, Au Sable, Mich.
Loughlin, Philip H., electrical contractor, Gardner, Mass.
Louis, Frank, electrical contractor, Ogdensburg, N.Y.
Louis, O. T., A.AM.I.E.E., electrical engineer, O. T. Louis Co., 59, 5th-ave., New York.
Louisiana Gas & Electric Light Co., Louisiana, Mo.
Louisville & Eastern R.R. Co., 511, West Green-st., Louisville, Ky.
Louisville Lighting Co., Louisville, Ky.
Louisville Electric Supply Co., dealers in electrical supplies, 412, 2nd-st., Louisville, Ky.
Louisville & Northern Railway & Lighting Co., New Albany, Ind.
Louisville Railway Co., Lexington, Ky.
Louisville & Southern Indiana Traction Co., New Albany, Ind.
Lounsbery, Eaton & Co., installation contractors, 144, East Erie-st., Chicago, Ill.
Loveday, Claude, installation contractor, 732, State-st., Santa Barbara, Cal. (Teleph. Nos. 549, Home.)
Lovejoy, D. R., B.SC., E.E., A.AM.I.E.E., electrical engineer, U. S. E. M. Co., 209, West 33rd-st., New York.
Lovejoy, J. R., M.AM.I.E.E., electrical engineer, vice-president General Electric Co., Schenectady, N.Y.
Loveland Citizens' Electric Co., Loveland, Ohio.
Loveridge, H. B., installation contractor & dealer in supplies, Portland Electrical Works, 351, Stark-st., Portland, Ore.
Lowe Electric Co., dealers in electrical supplies, 54, Vesey-st., New York, N.Y.
Lowell Electric Light Corporation, Lowell, Mass.

Lowell Insulated Wire Co., wire coverers (indiarubber), Lowell, Mass.
Lowson, David, A.AM.I.E.E., electrical inspector, Department of Education, 59th-st. & Park-ave., New York.
Lozier, R. T. E., M.AM.I.E.E., Power & Mining Machine Co., 6, Wall-st., New York.
Lozier Light & Power Co., Plattsburg, N.Y.
Lucas, J. H., electrical engineer & contractor, 4217, Delaware-ave., St. Louis, Mo.
Lucas, J. C. M., Co., installation contractors, 1307, Continental-bldg., Baltimore, Md.
Lucke, C. E., A.AM.I.E.E., professor of mechanical engineering, Columbia University, New York.
Luckett, Fred, electrolier manufacturer & fitter, 266, State-st., Brooklyn, N.Y.
Ludlow City Electric Light Plant, Ludlow, Vt.
Ludlow Valve Manufacturing Co., Troy, N.Y.
Ludwig & Co., consulting electrical engineers, Atlanta, Ga.
Luepke, F. P., A.AM.I.E.E., supt., Public Service Corporation of N.J., Southern Division, Trenton, N.J.
Luetke Iron & Brass Works, electric light fixtures, 227, West 29th-st., New York.
Lukes, George Holt, A.AM.I.E.E., general superintendent, North Shore Electric Co., 205, La Salle-st., Chicago, Ill.
Lund & Miller, installation contractors & engineers, 52, Water-st., New York.
Lundell, Robert, A.AM.I.E.E., electrical engineer, 9, West 68th-st., New York.
Lundie, John, A.AM.I.E.E., consulting engineer, 52, Broadway, New York.
Lundin Electric & Machine Co., Inc., manufacturers of electric specialities, 10, Thacker-st., Boston, Mass.
Lundy, A. D., M.AM.I.E.E., Sargent & Lundy, 1720, Railway Exchange-bldg., Chicago, Ill.
Lunkenheimer Co., makers of superior brass & iron steam specialties, Cincinnati, Ohio.
Luquer, Thatcher T. P., electrical engineer, 3, West 29th-st., New York.
Lurienne, Louis A., manager Compagnie Française des Cables Télégraphiques, 25, Broad-st., New York.
Lycoming Electric Co., Williamsport, Pa.
Lyman, Chester Wolcott, A.AM.I.E.E., M.A., International Paper Co., 30, Broad-st., New York, N.Y.
Lyman, James, M.M.E., engineer, Western District, General Electric Co., Monadnock-bldg., Chicago, Ill.
Lynchburg Traction & Light Co., Lynchburg, Va.
Lyndon, Lamar, A.AM.I.E.E., consulting electrical engineer, 56, Pine-st., New York. (Telegs.: "Lyndon, New York." Teleph. No. 4717, John.)
Lyndonville Village Electric Light Plant, Lyndonville, Vt.
Lynn Gas & Electric Co., Lynn, Mass.
Lynn Incandescent Lamp Co., new & renewed incandescent lamps, Lynn, Mass.
Lytle Creek Power Co., San Bernardino, Cal.

M. & M. Electric Co., installation contractors, Greenwood, S.C.
Macallen, W. T. C., Co., manufacturers of solid mica insulators, 338, Congress-st., Boston, Mass. (Telegs.: "Macallen, Boston.")
McAllister, Addams Stratton, E.E., M.M.E., PH.D., M.AM.I.E.E., associate editor, *Electrical World*, 239, West 39th-st., New York.
McBerty, Frank R., A.AM.I.E.E., telephone engineer, Western Electric Co., New York.
Macbeth-Evans Glass Co., glass manufacturers, Pittsburgh, Pa.
McCaffrey & Williams, installation contractors, 1904, Broadway, Parsons, Kan.
MacCalla, C. S., A.AM.I.E.E., assistant general manager & engineer-in-chief, Washington Water Power Co., Co., Spokane, Wash. (Teleph. No. 5171, Main.)
McCandless, H. W., & Co., manufacturers of miniature & decorative incandescent lamps, &c., 67–69, Park-pl., New York. (Telephone No. 1555, Cort.)
McCarthy Bros. & Ford, manufacturers of & dealers in electrical apparatus, 41, East Eagle-st., Buffalo, N.Y.
McCay, H. Kent, M.AM.I.E.E., electrical engineer, McCay Engineering Co., 9, East Lexington-st., Baltimore, Md.
McCay Engineering Co., electrical engineers & contractors, 9, East Lexington-st., Baltimore, Md. (Telephone No. 3018, Bell.)
McCleary-Harmon Co., electrical contractors & general supplies, Stevens-bldg., Detroit, Mich.
McCloy Electric Co., installation contractors, 3908, 5th-ave., Pittsburg, Pa.
McCollin, Thos. H., & Co., makers of blue print paper, South-West cor. 9th & Arch-sts., Philadelphia, Pa. (Telegs.: "Talbot, Philadelphia." Teleph. Nos.: 41–97A, Filbert; & 50-50 D. Race.)
McColgan, C. I., Co., dealers in electrical supplies, 789, Mission-st., San Francisco, Cal.
McCook Electric Light Co., McCook, Neb. A. R. Scott, manager.
McCormick, D. A., installation contractor, 32, Clifford-st., Detroit, Mich.
Maccoun, A. Ellicott, M.AM.I.E.E., supt. electric department, the Carnegie Steel Co., Braddock, Pa.
MacCoy, J. B., & Son, electric light fixtures, 114–12, West 30th-st., New York.
McCrea, James, & Co., electric boring machine makers, 63 & 65, West Washington-st., Chicago, Ill.
McCreary, A. A., & Co., manufacturers of portable shades & reflectors, 136, Liberty-st., New York.
McCullough, W. T., Electric Co., dealers in electrical supplies, Pittsburg, Pa.

McCullough-Dalzell Crucible Co., crucible manufacturers, Pittsburgh, Pa. (Telegrams: "Plumbago, Pittsburgh.")
McDonald, Wm., A.I.E.E., Variable Speed Clutch Co., 301, Enterprise-bldg., Milwaukee, Wis.
McDonell, Jas., Co., installation contractors, 32 & 34, East-ave., Rochester, N.Y. (Teleph. No. 1161.)
McDowell, J. R., installation contractor, Auburn, Ind.
McElroy, J. F., A.AM.I.E.E., mechanical supt., Consolidated Car Heating Co., 131, Lake-ave., Albany, N.Y.
McEvoy, C. H., telephone cords, Lowell, Mass.
McFaddin, H. G., & Co., manufacturers of glass globes for electric lighting, 38, Warren-st., New York. (Telegs.: "Glassware, New York.")
McFell Electric Co., installation contractors, 90, West Van Buren-st., Chicago, Ill.
MacGahan, Paul, M.AM.I.E.E., electrical engineer, Westinghouse Electric & Manufacturing Co., Pittsburg, Pa.
MacGovern, Archer & Co., dealers in second-hand machinery, 114, Liberty-st., New York.
McGowan, John H., Co., manfrs. of steam power & hand pumps, 58, Central-ave., Cincinnati, Ohio.
McGraw, James, jobber of electrical supplies, Richmond, Va.
McGraw, Jas. H., A.AM.I.E.E., president McGraw Publishing Co., 239, West 39th-st., New York.
McGraw Publishing Co., publishers of electrical & scientific books, 239, West 39th-st., New York.
MacGregor, W. H., M.E., A.AM.I.E.E., electrical engineer, manager, New York office Dictaphone Co. of America, 290, Broadway, New York. (Teleph. No. 2844, Worth.)
McGuire Cummings Manufacturing Co., tramway trucks, &c., 122, North Sangamon-st., Chicago, Ill.
McGunnigle, P., & Son, electricians, 882, 6th-ave., New York. (Teleph. No. 1245, Plaza.)
Machado & Roller, electrical engineers & manufacturers' agents, 203, Broadway, New York. (Telegrams: "Weeco, New York." Lieber & A1 Code. Telephone No. 3580, Cort.)
Machen & Mayer Electrical Manufacturing Co., manufacturers of push button switches, plugs, &c., 17th & Vine-sts., Philadelphia, Pa.
Machinery (monthly, four editions; ann. sub. U.S., $1.00, $2.00; foreign edition, $3.00; Railway Machinery edition, $2.00 in U.S.), 49, Lafayette-st., New York.
MacHugh, John D., electrical contractor, Wolfboro, N.H.
McIntire, G. A., & Co., manufacturers of novelties, tools, &c., Greenwich, Conn.
McIntire, C., Co., makers of connectors & terminals, 13–15, Franklin-street, Newark, N.J.
McIntire, Walter C., & Co., electrical contractors & mfrs. agents, 12, North 5th-st., Philadelphia, Pa.
McIntosh Battery & Optical Co., manufacturers of electro-surgical apparatus, 227–229, Washington-st., Chicago, Ill. (Teleph. No. 800, Main.)
MacIntosh Electric Co., installation contractors, 114½, East 5th-st., Los Angeles, Cal.
McIntosh, Seymour & Co., manufacturers of steam engines for electrical purposes, Auburn, N.Y.
McIntyre, H. C., installation contractor, Mount Vernon, N.Y.
McIntyre, H. W., electrical & mechanical engineer, Randolph, Vt.
Mackellar, Herbert, electrical contractor, 2099, North 63rd-st., Philadelphia, Pa.
McKenna, J., superintendent, Commercial Pacific Cable Co., San Francisco, Cal.
McKenney & Waterbury Co., manufacturers & retailers of electric fixtures & supplies, 181, Franklin, cor. Congress-st., Boston, Mass.
Mackenzie, C. C., installation contractor, 1507, S. Salina, Syracuse, N.Y.
Mackenzie, Quarrier & Ferguson, electrical engineers, 114, Liberty-st., New York.
McKinney Electric Light & Motor Power Co., McKinney, Tex.
McKinstry, J. P., electrical engineer, cor. Seneca & Champlain-sts., Cleveland, O. (Telegrams: "Lake, Cleveland." Telephone No. 533.)
MacLaren, Malcolm, M.I.E.E., professor of electrical engineering, University, Princeton, N.J.
McLaughlin, J. F., chief of City Electrical Bureau, Philadelphia, Pa.
McLauthlin, Geo. T., Co., manufacturers of elevators & engines, 120, Fulton-st., Boston, Mass. (Telegrams: "Lauthlin, Boston." Teleph. No. 163, Richmond.)
McLeer & Co., manufacturing electricians, 169, South-st., New York.
MacLennan, K., & Co., lubricant manufacturers, 909, Washington-st., Chicago, Ill.
McLeod, Ward & Co., makers of portable electric lamps, 27, Thames-st., New York, N.Y.
McLimont, A. W., electrical engineer, Federal Electric Co., 141, Broadway, New York.
McManamy & Rodman, electrolier manufacturers & fitters, Binghamton, N.Y.
MacMaster Electric Construction Co., 114, North 3rd-st., Columbus, Ohio.
McMeans & Tripp, consulting mechanical & electrical engineers, 607, State Life-bldg., Indianapolis, Ind.
McMeen & Miller, consulting engineers & patent experts, 1442 & 1443, Monadnock-blk., Chicago, Ill. (Local & Long Distance Telephone Nos. 1386, Harrison & Automatic.)
Macmillan, John, electrical engineer, Charleston, S.C.
MacMillan, R. S., electrical machinery & supplies, 40, Dearborn-st., Chicago, Ill. (Telephone No. 3659, Central.)
McMillin, Emerson & Co., examiners of gas, electric, water & street railway properties, 40, Wall-st., New York, N.Y. (Telegrams: "Emacmil, New York." Telephone No. 3781, John.)
McMinnville City Water & Electric Light Plant, McMinnville, Tenn.

McMurtry, Jas. E., & Co., manufacturers of phosphor-bronze gauze dynamo brushes, 319, Lincoln-ave., Chicago, Ill.
MacNamara, E. J., electric light fixtures, 40, East Long-st., Columbus, Ohio.
McNamara Bros., slate & marble for switchboards, Fair Haven, Vt.
McNaughton, James, Co., electric motor carriages, 29, West 42nd-st., New York.
McNerney Electric Co., installation contractors, 127, Colonial Arcade, & 3782, West 25th-st., Cleveland, Ohio. (Teleph. Nos.: 722, Main; 1878, Central; & 1110, L. Central.)
Macomb Electric Light & Gas Co., Macomb, Ill.
Macomber, G. S., M.AM.I.E.E., assistant professor of electrical engineering, Cornell University, Ithaca, N.Y.
Macomber & Whyte Co., manufacturers of telephone wire, 19, South Canal-st., Chicago, Ill.
Macon Electric Light & Water Works, Macon, Mo.
Macon-Evans Varnish Co., insulating varnish, Pittsburgh, Pa.
Macon Railway & Light Co., Macon, Ga.
MacRae, Hector C., portable storage batteries, 316, St. Paul-ave., Baltimore, Md.
McRoy Clay Works, underground clay conduits, Rookery, Chicago, Ill. Works: Brazil, Ind.
McShane Bell Foundry Co., mfrs. of bells, gongs & brass specialties, 421, North-st., Baltimore, Md.
McWilliams, Jos., & Co., mechanical & electrical contractors, Louisville, Ky.
Maddock, John, & Sons, battery jar manufacturers, Coalport Pottery, Trenton, N.J.
Maddocks, W. S., electrical construction, 318, Linden-st., Scranton, Pa. (Teleph. No. 1998 M., New.)
Madison City Electric Light Plant, Madison, S.D.
Madison County Gas & Electric Co., Oneida, N.Y.
Madison County Light & Power Co., Edwardsville, Ill.
Madison Gas & Electric Co., Madison, Wis.
Madison Light & Railway Co., Madison, Ind.
Madison River Power Co., Butte, Mont.
Magie, Wm. F., professor of physics, Princeton University, Princeton, N.J.
Magnet Wire Co., makers of covered wire, 17, Battery-pl., New York. (Teleph. No. 1324, Broad.)
Magnolia Light, Heat & Power Co., Warrensburg, Mo.
Magnus Metal Co., manufacturers of trolley wheels, &c., 111, Broadway, New York.
Magnusson, C. E., M.AM.I.E.E., professor of electrical engineering, University of Washington, Seattle, Wash.
Mahanoy City Light, Heat & Power Co., Mahanoy City, Pa.
Mahony, J. J., M.AM.I.E.E., electrical engineer, 30, Church-st., New York.
Mailloux, C. O., M.AM.I.E.E., M.I.E.E., consulting electrical engineer, 76, William-st., New York. (Telegrams: "Mailloux, New York." Telephone No. 5790, John.)
Main Belting Co., manufacturers of Leviathan belting, 1219-1235, Carpenter-st., Philadelphia, Pa.; 55, Market-st., Chicago, Ill.; Boston, Mass.; & Buffalo, N.Y.
Maine Electric Co., manufacturing electrical engineers, 23 & 25, Commercial-st., Portland, Maine.
Maintenance Co., electrical contractors, 54, Franklin-st., New York.
Malad Power Co., Boise, Idaho.
Malden Electric Co., Malden, Mass.
Malone Electric Light & Power Co., Malone, N.Y.
Mammoth Spring Electric Light Co., Mammoth Spring, Ark.
Manatee Light & Traction Co., Braidentown, Fla.
Manchester & Derry Street Railway, 46, Hanover-st.. Manchester, N.H.
Manchester Light & Power Co., Manchester, Conn.
Manchester & Nashua Street Railway. 46, Hanover-st., Manchester, N.H.
Manchester Street Railway, 46, Hanover-st, Manchester, N.H.
Manchester Traction, Light & Power Co., 46, Hanover-st., Manchester, N.H.
Manhattan Electric Range Co., electric heating apparatus makers, 150, Nassau-st., New York.
Manhattan Electrical Supply Co., manufacturers of electrical supplies, dry batteries, &c., 17, Park-pl., New York (Telegs.: "Mesco, New York"); & 188, 5th-ave., Chicago, Ill.
Manhattan Light, Heat & Power Co., St. Paul, Minn.
Manistique Light & Power Co., Manistique, Mich.
Manitou Electric Co., electric light contractors, Manitou, Col.
Manitowoc & Northern Traction Co., Manitowoc, Wis.
Mankato Gas & Electric Light Co., Mankato, Minn.
Manning, Maxwell & Moore, dealers in railway & machine tools & supplies, 85, Liberty-st., New York.
Manquis, R., & Sons, installation contractors, 189, Atlantic-ave., Brooklyn, N.Y.
Manross, F. N., manufacturer of non-magnetic hair springs, Forestville, Conn. (Telegrams: "Manross, Forestville." Commercial Cable Co. Code. Teleph. No. 327.)
Mansfield Railway, Light & Power Co., Mansfield, Ohio.
Mansfield Tempered Copper Co., makers of commutator bars, Mansfield, Ohio.
Mansfield Town Electric Light Plant, Mansfield, Mass. (Teleph. No. 45-2.) G. W. Wood, supt.
Manton, A. Woodroffe, M.I.E.E., c/o S. Pearson & Son, Incorporated, 5th-ave., New York. (Telegs.: "Manton, c/o Sonraep, New York." Teleph. No. 486, Flushing.)

Manufacturers' & Inventors' Electric Co., electrical apparatus, 82 & 84, Nassau-st., New York. Factory: 29–31, Gold-st., New York City. (Telegrams: "Mandieco, New York.")
Marburg, Louis C., A.AM.I.E.E., engineer, Contracting Department, Milwaukee, Wis.
Marconi Wireless Telegraph Co. of America, 27, William-st., New York. (Telegs.: "Inogram, New York." Teleph. No. 5545–6, Broad.)
Marengo City Electric Light & Water Works, Marengo, Ill.
Marengo Electric Light & Power Co., Marengo, Iowa.
Marietta Municipal Electric Light Plant, Marietta, Ohio. T. Hancock, superintendent.
Marine Electric Co., installation contractors, Howard & Fremont-sts., San Francisco, Cal.
Marine Engine & Machine Co., engine makers (gas), Harrison, N.J.
Marinette Gas Engine Co., Springfield, Ohio.
Marion Electric Light & Street Railway Co., Marion, Ill.
Marion Insulated Wire & Rubber Co., manufacturers of rubber-covered wires & cables, Marion, Ind.
Marion Light & Heating Co., Marion, Ind.
Marion Light & Power Co., Marion, Ala.
Marion Railway, Light & Power Co., Marion, Ohio.
Maris Bros., manufacturers of electric cranes & lifts, South 56th-st., Philadelphia, Pa.
Marks, Louis B., M.M.E., M.AM.I.E.E., electrical engineer, 103, Park-ave., New York.
Marks, Prof. W. D., PH.B., C.E., M.AM.I.E.E., consulting engineer, 623, Park-row-bldg., New York.
Marks, Hiram, Electric Co., electrical engineers, contractors & supplies, 48, Woodward-ave., Detroit, Mich. (Teleph. No. 1981, Main.)
Marlboro Electric Co., Marlboro, Mass. (Telephone No. 29–2.)
Marlboro Electric Machine & Lamp Co., incandescent lamp manufacturers, Marlboro, Mass.
Marlboro & Westboro Street Railway Co., Westboro, Mass.
Marquette City Electric Light Plant, Marquette, Mich.
Marquette City & Presque Isle Railway Co., Marquette, Mich.
Marquette Electric Manufacturing Co., arc lamp manufacturers, Chicago, Ill.
Marriner Electrical Supply Co., 1039, N.-st., Lincoln, Neb.
Marrs Tanner Electric Co., installation contractors & engineers, Danville, Ill.
Marsh, L. J., electrical contractor, 1941, Market-st., Philadelphia, Pa.
Marshall, J. T., M.AM.I.E.E., assistant engineer, General Electric Co.'s Lamp Works, Harrison, N.J.
Marshall, Wm., electric condensers, 709, Lexington-ave., New York, N.Y.
Marshall City Electric Light Plant, Marshall, Minn.
Marshall Electric Co., manufacturers of electrical fittings & specialties, Hyde Park, Mass.
Marshall Electric Light & Power Co., Marshall, Mo.
Marshall, R. W., & Co., dealers in electric railway supplies, 50, Church-st., New York.
Marshalltown Light, Power & Railway Co., Marshalltown, Iowa.
Marsily, F. A., & Co., manufacturers' agents for arc light carbons, 22, Produce Exchange, New York.
Marsten, C. L., & Co., electrical supplies, 84, Exchange, Portland, Maine.
Martin, F., A.AM.I.E.E., American H. Rubber Co., College Point, New York.
Martin, Julius, M.I.E.E., M.AM.I.E.E., master electrician, Navy Yard, Brooklyn, N.Y.
Martin, T. Commerford, M.I.E.E., editor & director of the *Electrical World*, 239, West 39th-st., New York. (Telegs.: "Electrical, New York." Teleph. No. 4700 Bryant.)
Martin City Electric Light Plant, Martin, Tenn.
Martin Electric Co., electric marine work, 90, Verona-st., Brooklyn, N.Y. (Teleph. No. 936, Hamilton.)
Martin Telephone Co., E. H., telephone exchanges, toll & telegraph lines, Webster City, Iowa.
Martin's Ferry Municipal Electric Light Plant, Martin's Ferry, Ohio.
Martinsville Light, Heat, Power & Water Co., Martinsville, Ind. (Local Teleph. No. 123.)
Marvin, Harry N., M.AM.I.E.E., 11, East 14th-st., New York.
Marvin & Casler Co., manufacturers of special machinery, Canastota, N.Y.
Marvin Electric Drill Co., manufacturing electricians, Binghampton, N.Y.
Maryland Electrical Supply Co., dealers in electrical supplies, 328, Eutaw-st., Baltimore, Md.
Maryland Telephone & Telegraph Co., Baltimore, Md.
Marysville Gas & Electric Co., Marysville, Cal.
Maryville Electric Light & Power Co., Maryville, Mo.
Mascoma Electric Light & Gas Co., White River Junction, Vt.
Mason City & Clear Lake Railway Co., Mason City, Iowa.
Mason City Electric Light Plant, Mason City, Ill.
Mason Regulator Co., makers of heat regulators, 158, Sumner-st., Boston, Mass.
Massachusetts Chemical Co., manufacturers of insulating materials, 170, Sumner-st., Boston, Mass. (Telegs.: "Maschemco, Boston.")
Massachusetts Electric Cos., electric light, traction & power, 84, State-st., Boston, Mass.
Massachusetts Electric Manufacturing Co., mfrs. of copper wires, West Lynn, Mass. (Teleph. 2138.)
Massachusetts Institute of Technology, Boston, Mass. (Teleph. No. 2180, Back Bay.) *See* SCHOOLS.
Massachusetts Lighting Co., 131, State-st., Boston, Mass.

Masset, Anthony, electric fixtures, 111, East 10th-st., New York.
Massey, Dr. G. Betton, electro-therapeutist, 1831, Chestnut-st., Philadelphia, Pa.
Massillon Light, Heat & Power Co., Massillon, Ohio. (Telegs.: "Massillon, Ohio." Teleph. Nos.: 5, Bell; & 105, Massillon.)
Masson, R. S., A.AM.I.E.E., Electrical Operating Construction Co., Trust-bldg., San Francisco, Cal.
Mather, Eugene Holmes, A.M.AM.I.E.E., general manager Nassau Light & Power Co., Roslyn, N.Y.
Mather, L. R., installation, light, power & telephone contractor, Utica, N.Y.
Mathias Hart Co., dealers in electric railway supplies, 516, Atlantic-ave., Boston, Mass.
Mathieson Alkali Works, Providence, R.I.
Mathieu Electric Co., electrical contractors, 6010, Center-ave., Pittsburg, Pa. (Long Distance Telephone No. 172, Highland.)
Matson, I. L., electrical engineer & contractor, 147, Summer-st., Boston, Mass.
Mattfeld, John A., installation contractor, 418, Tompkins-ave., Brooklyn, N.Y
Matthews, W. N., & Bro., electrical specialties, St. Louis, Mo.
Mattoon Heat, Light & Power Co., Mattoon, Ill.
Mauch Chunk Heat, Power & Electric Light Co., Mauch Chunk, Pa.
Maus, H. H., & Co., trolley ties & poles, 420, Walnut-st., Philadelphia, Pa.
Maver, Wm., jun., M.AM.I.E.E., electrical expert & consulting electrical engineer, 136, Liberty-st., New York.
Maxim, H. P., A.AM.I.E.E., engineer, Electrical Vehicle Co., Hartford, Conn.
Maxim & Goodridge, electric motor car manufacturers, Hartford, Conn.
May, S., electrical installation contractor, 636, 6th-ave., New York, N.Y. (Teleph. No. 724–725–3384–38.)
Mayer, Geo. M., M.AM.I.E.E., electrical apparatus & special machinery, 241, S. Jefferson-st., Chicago, Ill.
Mayer Engineering Co., electrical specialities makers, 241, S. Jefferson-st., Chicago, Ill.
Mayfield Water & Light Co., Mayfield, Ky.
Mayhew, F. A., installation contractor, 3137, Jefferson-ave., Cincinnati, Ohio.
Maynard, G. C., M.AM.I.E.E., consulting & supervising electrical engineer, Smithsonian Institution, Washington, D.C. (Telegs.: "Maynard, Smithsonian, Washington." Teleph. No. 1811, Main.)
Maysville Street R.R. & Transfer Co., Maysville, Ky.
Maywood & Proviso Electric Light & Power Co., Maywood, Ill.
Mead, Morris W., superintendent, Bureau of Electricity, Department of Public Safety-bldg., 6th-ave., Pittsburgh, Pa. (Telephone Nos. 1137 & 1500, Private Office Telephone No. 1141.)
Mead-Morrison Manufacturing Co., electric conveying machinery, 11, Broadway, New York.
Meador-Richardson Co., dealers in electrical supplies, Empire-bldg., Atlanta, Ga.
Mechanic Falls Electric Light Co., Mechanic Falls, Maine. (N.E. Teleph. No. 16–31.)
Mechanical Appliance Co., motor & dynamo manufacturers, 138, Stewart-st., Milwaukee, Wis. (Telegs.: "Watco, Milwaukee." Teleph. No. 205, South.)
Mechanical Rubber Co., insulating washers, Chicago, Ill.
Medfield Electric Light & Power Co., Walpole, Mass.
Media Electric Light, Heat & Power Co., Media, Pa.
Media, Middletown, Aston & Chester Electric Railway Co., Folsom, Pa.
Mees, C. L., A.AM.I.E.E., president & professor of physics, Rose Polytechnic Institute, Terre Haute, Ind.
Meier Dental Manufacturing Co., electric heating apparatus makers, 507, Culver May, St. Louis, Mo.
Meier Electric & Elevator Co., electrical engineers & contractors, 33–35, West Chesapeake-st., Indianapolis, Ind.
Meigs, Geo. E., electrical engineer, contractor & electric supplies, 306, Massena-st., Syracuse, N.Y. (Bell Teleph. No. 2718–I.)
Meikel, Chas. W., Co., electrolier manufacturers & fitters, Indianapolis, Ind.
Meldrum & Gunn, installation contractors, 14, East South Temple-st., Salt Lake City, Utah.
Memphis Electric Co., installation contractors, 160, South 2nd-st., Memphis, Tenn.
Memphis Street Railway Co., Memphis, Tenn.
Menasha Wood Split Pulley Co., manufacturers of pulleys for power transmission, Menasha, Wis. (Telegrams: "Lawson, Menasha." Telephone No. 96.)
Mendota Light & Heating Co., Mendota, Ill.
Meneely, Geo. R., & Son, manufacturers of car bearings, Watervliet, N.Y.
Menominee & Marinette Light & Traction Co., Menominee, Mich.
Menominee Electric Manufacturing Co., manufacturers of electrical apparatus, Menominee, Mich.
Menomonie Electric Light & Power Co., Menomonie, Wis.
Mentz, H. Sloan, A.AM.I.E.E., consulting electrical engineer, 714, Hennen-bldg., New Orleans, La.
Merced Falls Gas & Electric Co., Merced, Cal.
Merchant & Co., manufacturers of the star ventilator, 517, Arch-st., Philadelphia, Pa.
Merchants' Electric & Manufacturing Co., installation contractors, 5, Market-st., St. Louis, Mo.
Merchants' Heat & Light Co., Indianapolis, Ind.
Merchants' Heat, Light & Power Co., Canton, Ohio.
Meredith, Wynn, M.AM.I.E.E., consulting engineer, Union Trust-bldg., San Francisco, Cal.

Meriden Electric Light Co., Meriden, Conn.
Meridian Light & Railway Co., Meridian, Miss.
Merriam, Ezra B., A.AM.I.E.E., electrical engineer, General Electric Co., Schenectady, N.Y.
Merrill, J. F., M.AM.I.E.E., professor of physics & electrical engineering, director of School of Mines, University of Utah, Salt Lake City, Utah.
Merrill Railway & Lighting Co., Merrill, Wis.
Merrill, T. L., Co., dealers in electrical supplies, 228, Middle-st., Portland, Maine.
Mershon, Ralph D., M.I.E.E., M.AM.I.E.E., M.AM.S.M.E., consulting engineer, 60, Wall-st., New York; & Street Railway-chbrs., Montreal. (Telegs.: "Radamer, New York.")
Mesaba Telephone Co., Duluth, Minn.
Meserve, F. W., electrical contractor, South Framingham, Mass.
Messalouskee Electric Co., Waterville, Maine.
Messmer, Fred., Manufacturing Co., manufacturers of phosphor bronze pinions & bearings, 10, S. Broadway, St. Louis, Mo.
Messner, Chas. W., electrical contractor, 3704, North Broad-st., Philadelphia, Pa. (Both Telephones.)
Meter Electrical Construction Co., installation contractors, Oshkosh, Wis.
Metropolis City Electric Light Plant, Metropolis City, Ill.
Metropolitan Electric Protective Co., burglar alarms, 38, East 8th-st., New York.
Metropolitan Electric Stage Lighting Co., installation contractors, 1402, Broadway, New York, N.Y.
Metropolitan Electrical Supply Co., dealers in electrical supplies, 184, Lake-st., Chicago, Ill.
Metropolitan Electrical Works, installation contractors, 412, Grant-ave., San Francisco, Cal. (Teleph. No. 3465, Douglas.)
Metropolitan Engineering Co., electrical speciality manufacturers, 1240, Atlantic-ave., Brooklyn, N.Y.
Metropolitan Street Railway Co., New York, N.Y.
Metropolitan Switchboard Co., manufacturers of switchboards & panel boards, 532, West 22nd-st., New York.
Metropolitan West Side Elevated Railway Co., Chicago, Ill.
Mexican Telegraph Co., 66, Broadway, New York.
Meyer, Julius, Pruss. Gov. C.E., A.AM.I.E.E., consulting engineer & negotiator, 60, Liberty-st., New York. (Telegrams: "Julimey, New York." Telephone No. 3433, John.)
Meyer Electric Co., installation contractors, Butte, Mont.
Meyer, L. A., & Co., installation contractors, 450, East Water-st., Milwaukee, Wis.
Meyrowitz, E. B., electro-medical appliance & X-ray apparatus manufacturer, 104, E. 23rd-st., New York.
Mezger & Co., Laboratory, 12, Clinton-st., Brooklyn, N.Y.
Miami Artesian Water & Light Co., Miami, Okla.
Miami Light, Heat & Power Co., Piqua, Ohio.
Mianus Electric Co., makers of electrical supplies, Mianus, Conn.
Mianus Motor Works, gasoline engines, Cos Cob, Conn.
Mica Insulator Co., micanite manufacturers, 68, Church-st., New York.
Mica Manufacturing Co., mica for electrical purposes, 307 & 309, West Broadway, New York.
Michigan City Gas & Electric Co., Michigan City, Ind.
Michigan College of Mines, Houghton, Mich. For professors, &c., *see* SCHOOLS.
Michigan Inspection Bureau (E. F. Chapman, manager; J. H. Montgomery, electrical inspector), 34 & 36, Congress-st., Detroit, Mich. (Teleph. No. 700.)
Michigan Lubricator Co., manufacturers of dynamo & motor sight-feed oilers & oil gauges, 661-669, Beaubien-st., Detroit, Mich.
Michigan Power Co., Lansing, Mich.
Michigan Storage Battery Co., accumulators, Detroit, Mich.
Michigan United Railway Cos., Lansing, Mich.
Middleboro Gas & Electric Plant, Middleboro, Mass.
Middlebury Electric Co., Middlebury, Vt.
Middlesborough Electric Light, Heat & Power Co., Middlesborough, Ky.
Middlesex & Monmouth Electric Light, Heat & Power Co., Keyport, N.J.
Middleton, O. N., electrical construction, 77, Herman-st., Philadelphia, Pa. (Teleph. No. 1471.)
Middletown Car Works, tramcar makers, Middletown, Pa.
Middletown Electric Light Co., Middletown, Conn.
Middletown Electric Lighting & Power Co., Middletown, Ohio.
Midland Electric Co., general electrical contractors, Des Moines, Iowa. (Telephone No. 490.)
Midland Metal Co., Inc., manufacturers of brass goods, car trimmings, &c., 1427-33, Catharine-st., Philadelphia, Pa.
Mietz, A., makers of gas engines, 134, Mott-ave., New York.
Mildrum, W. W., jewels for electrical instruments, East Berlin, Conn. (Telephone No. 339-6.)
Miles & Piper, Z. C., Co., electrical engineers, contractors & supply dealers, 1021, 1st-ave. S., Seattle, Wash.
Milford Electric Light & Power Co., Milford, N.H.
Milford Electric Light & Power Co., Milford, Mass.

Milford & Uxbridge Street Railway Co., Milford, Mass.
Milks Electric Co., installation contractors, Binghamton, N.Y.
Mill River Electric Light Co., Williamsburg, Mass.
Milledgeville Electric Light Co., Milledgeville, Ga.
Miller, Charles E., dealer in supplies for electric vehicles, 97, Reade-st., New York.
Miller, John, electrician, 145, East 23rd-st., New York. (Teleph. No. 3474, Grammercy.)
Miller, John A., installation contractor & machinist, 804, E.-st. N.W., Washington, D.C.
Miller, K. B., A.M.I.E.E., engineer, 1454, Monadnock-blk., Chicago, Ill.
Miller, L. E., electrical engineer, 1210, Congress-ave., Houston, Tex.
Miller, Wm. Edmund, A.I.E.E., c/o General Electric Co., Schenectady, N.Y.
Miller Electric Co., dealers in electrical platers' & polishers' supplies, 20, William-st., Newark, N.J.
Miller Electrical Co., installation contractors, 20, William-st., Newark, N.J.
Miller & McMeen, consulting electrical engineers, Monadnock-blk., Chicago, Ill.
Miller-Bowden Electric Co., installation contractors, 1721, Champa-st., Denver, Col. (Tel. 5253, Main.)
Miller-Seldon Electric Co., jobbers & contractors, 55, Park-pl. West, Detroit, Mich.
Millersburg Electric Light Co., Millersburg, Ohio.
Milliken, Chas. L., electrical contractor, Saco, Maine.
Mills Electric Co., dealers in electrical supplies, Peoria, Ill. (Telegs.: "Meco, Peoria." Long Distance Teleph. No. 3250.)
Millville Electric Light Co., Millville, N.J.
Millville Traction Co., Millville, N.J.
Milne Electric Co., installation contractors, 422, East Water-st., Milwaukee, Wis.
Milton Electric Light & Power Co., Milton, Pa.
Milwaukee Electric Launch Co., makers of electric launches, North-ave., Milwaukee, Wis.
Milwaukee Electric Railway & Light Co., Milwaukee, Wis.
Milwaukee Electrical Specialties Co., ground clamps, test connectors, &c., Milwaukee, Wis.
Miner, Willard M., electrical engineer, Plainfield, N.J.
Mineral Point Zinc Co., Mineral Point, Wis.
Minerallac Electric Co., insulating material manufacturers, 839, Monadnock-blk., Chicago, Ill.
Miners' Supply Co., electric mining plant makers, St. Clair, Pa.
Minersville Electric Light Co., Minersville, Pa.
Minge Electric Equipment Co., installation contractors, 38, West 33rd-st., New York.
Mining Magazine, 135, William-st., New York.
Mining World (weekly; ann. sub, U.S., $3.00; Canada, $5.00; Foreign, $6.00), 1420, Monadnock-blk., Chicago, Ill.
Minneapolis Electric & Construction Co., electric supplies & construction, 15, South 4th-street, Minneapolis, Minn. (Telephone No. 146–2.)
Minneapolis Electric Motor Co., installation contractors, 9, South 5th-st., North, Minneapolis, Minn.
Minneapolis General Electric Co., 147, Milk-st., Minneapolis, Minn.
Minnesota Electric Co., electrical engineers, 309, 2nd-ave. South, Minneapolis, Minn. (N.W. Telephone Main Nos.: 2339 J.; & 3267, Twin City.)
Minot Light & Telephone Co., Minot, N.D.
Mishawaka City Electric Light Station, Mishawaka, Ind.
Mission Fixture Co., manufacturers of electric & combination fixtures, 113, W. 9th-st., Los Angeles, Cal. (Teleph. Nos.: 4468, Main; & 4668, Main F.)
Missoula Light & Water Co., Missoula, Mont.
Missouri-American Electric Co., manufacturers of incandescent lamps, St. Louis, Mo.
Missouri Valley Electric Light Co., Missouri Valley, Iowa. (Local Telephone No. 7.)
Missouri Water, Light & Traction Co., Nevada, Mo.
Mitchell, W. E. G., manufacturer of insulating varnishes, &c., 88, Maiden-lane, New York.
Mitchell-Vance Co., The, mfrs. of electroliers, 836 & 838, Broadway; & 503, West 24th-st., New York.
Moberly Gas & Electric Co., Moberly, Mo.
Mobile Electric Co., electric signs, 582, Broad-st., Newark, N.J.
Mobile Electric Co., Mobile, Ala.
Mobile Light & Railroad Co., Mobile, Ala.
Model Gas Engine Works, gas engine manufacturers, 500, Harrison-st., Peru, Ind.
Modern Electric Co., telephone & electrical supplies makers & dealers, Burlington, Iowa.
Modern Machinery (monthly), 960, Monadnock-bldg., Chicago, Ill. (Ann. sub., P.U., $1.00.)
Mohawk Electric Co., makers of electrical specialities, 310, Broadway, Albany, N.Y.
Mohawk Electrical Supply Co., dealers in electrical supplies, 329, South Warren-st., Syracuse, N.Y.
Mohr, John, & Sons, boiler makers, 32-42, Illinois-st., Chicago, Ill. (Telephone No. 305, North); & 96th-st., Calumet River. (Telephone Nos.: 299, Oakland; & 53, So. Chicago.)
Molera, E. J., M.AM.I.E.E., civil & electrical engineer, 2025, Sacramento-st., San Francisco, Cal. (Telegs.: "Molera, San Francisco.")
Moline Elevator Co., electric elevators, Moline, Ill.

Moloney Electric Co., transformer manufacturers, 7th & Hickory-st., St. Louis, Mo.
Monarch Electric Co., dealers in electrical supplies, 1113, Wyandotte-st., Kansas City, Mo.
Monarch Electric & Wire Co., dealers in electrical supplies, 125, South Clinton-st., Chicago, Ill.
Monarch Manufacturing Co., manufacturers of engine stops, 140, Grand-st., Waterbury, Conn. (Telephone No. 120.)
Monarch Mica Mining Co., 150, Nassau-st., New York.
Monarch Telephone Manufacturing Co., telephone makers, Morgan & Washington-sts., Chicago, Ill.
Monett Electric Light, Power & Ice Co., Monett, Mo.
Monitor Automatic Motor Controlling Devices, rheostats, 106, South Gay-st., Baltimore, Md.
Monitor Manufacturing Co., automatic motor starters & controllers, 106, South Gay-st., Baltimore, Md.
Monmouth Gas & Electric Co., Monmouth, Ill.
Monrath, Gustave, consulting & contracting engineer, Singer-bldg., New York. (Teleph. No. 3769, Cortlandt.)
Monroe Brass & Wire Co., manufacturers' agents, 801, Traction-bldg., Cincinnati, Ohio.
Monroe City Electric Light Plant, Monroe, Mich.
Monroe Water Works, Light & Traction Co., Monroe, La.
Montagu, Ralph L., A.AM.I.E.E., A.AM.I.M.E., consulting engineer, Oroville, Cal.
Montana Electric Co., jobbers of electrical supplies & apparatus, Butte City, Mont.
Montana Power Transmission Co., Butte, Mont.
Montauk Fire Detecting Wire Co., electric cable & fire alarm makers, 100, William-st., New York.
Montclair Electric Light Co., Montclair, Col.
Monte Vista Electric & Gas Light Co., Monte Vista, Col.
Monterey County Gas & Electric Co., Monterey, Cal.
Monterez County Gas & Electric Co., Kohl-bldg., San Francisco, Cal.
Montgomery & Chester Electric Railway Co., Phœnixville, Pa.
Montgomery & Co., exporters of machinery & tools, 105, Fulton-st., New York, N.Y.
Montgomery Electric Light & Power Co., Canajoharie, N.Y.
Montgomery Light & Water Power Co, Montgomery, Ala.
Montgomery Northern Railway Co., Montgomery, Ala.
Montgomery Traction Co., Montgomery, Ala.
Monticello Electric Co., The, Monticello, Iowa.
Montpelier City Electric Light Plant, Montpelier, Ind.
Montpelier Electric Light Co., Montpelier, Idaho.
Montrose Electric Light & Power Co., Montrose, Col.
Moon Manufacturing Co., The, manufacturers of annunciators, cable terminal heads, &c., 25, South Jefferson-st., Chicago, Ill.
Moore, Alfred F., manufacturer of insulated electric wire, 200–218, North 3rd-st., Philadelphia, Pa.
Moore, D. McFarlan, M.AM.I.E.E., inventor, Moore Electrical Co., 169, Malvern-st., Newark, N.J.
Moore, James Robert, consulting & supervising electrical, elevator & illuminating engineer, 156, 5th-ave., New York. (Teleph. No. 222, Gramercy.)
Moore, Wilbur G., installation contractor, Lafayette, Ind.
Moore, Wm. E., M.AM.I.E.E., consulting engineer, West Penn. Railways Co., Pittsburg, Pa.
Moore Electrical Co., manufacturers of vacuum tube lighting apparatus, 169, Malvern-st., Newark, N.J.
Moore, Samuel L., & Sons' Corporation, engine makers, oil, Elizabeth, N.J.
Moore & White Co., manufacturers of friction pulleys, 15th-st. & Lehigh-ave., Philadelphia, Pa.
Moore & Wyman, makers of electric lifts, cranes, &c., corner Granite & Richards-sts., South Boston, Mass.
Moore-Edenfield Electric & Manufacturing Co., electrical contractors, & supplies, Augusta, Ga.
Moormann & Otten, electric light fixtures, 611, Main-st., Cincinnati, Ohio.
Mora, Mariano L., C.E., E.E., A.AM.I.E.E., General Electric Co., 30, Church-st., New York.
Moran & Hastings Manufacturing Co., manufacturers of electric fixtures, 61, East Washington-st., Chicago, Ill.
Moran & Van Fossen, electrolier manufacturers, 42, Wabash-ave., Chicago, Ill.
Morgan, Harry E., & Co., electrical engineers, Camden, N.J. (Keystone Teleph. No. 547.)
Morgan & Wright, manufacturers of rubber goods, Detroit, Mich.
Morgan-Gardner Electric Co., electrical mining machinery, 27th-st. & Shields-ave., Chicago, Ill.
Morgan Smith, S., Co., turbine water wheels, York, Pa.
Morganfield Electric Light & Power Co., Morganfield, Ky.
Morganstern Electric Co., installation contractors, 325, 2nd-ave., Pittsburg, Pa. (Teleph. No. Bell 1106, Court.)
Moriarty, J. L., & Co., installation contractors, 120, West 61st-st., New York.
Moritz, C. H., A.AM.I.E.E., general superintendent, Aluminium Co. of America, Niagara Falls, N.Y.
Morreson Electric Light, Heat & Power Co., Little Falls, Minn.
Morrin, Thomas, consulting engineer, Balboa-bldg., San Francisco, Cal.
Morrin Climax Boiler Co., makers of the Morrin "Climax" steam generators, Smith, Lorraine, Court & Creamer-sts., Brooklyn, N.Y. (Telegrams: "Axclim, Brooklyn." Telephone No. 243, Hamilton.)

Morris County Traction Co., Morristown, N.J.
Morris Electric Co., Inc., general electrical supplies, 315, Shipley-st., Wilmington, Del.
Morris Elmer, P., Co., makers of electrical supplies, 90, West-st., New York.
Morris Machine Works, builders of steam engines, Baldwinsville, N.Y.
Morrison, G. F., manager General Electric Co.'s Lamp Works, Harrison, N.J.
Morrison, J. Frank, A.AM.I.E.E., electrical engineer, 317, North Paca-st., Baltimore, Md. (Teleph. Nos.: 2372, St. Paul; & 2912, Cort.)
Morrison, Richard H., electrical engineer, 3rd-ave. & 71st-st., New York.
Morrison Electrical Engineering Co., installation contractors, Amsterdam, N.Y.
Morrison Gas & Electric Co., Morrison, Ill.
Morse, G. H., A.AM.I.E.E., professor of electrical engineering, University of Nebraska, Lincoln, Neb.
Morse, O. R., installation contractor, Brookline, Mass.
Morse Chain Co., gears & pinions, Ithaca, N.Y.
Morse, Williams & Co. (Department of Otis Elevator Co.), makers of electric freight elevators, 12th & Sansome-sts., Philadelphia, Pa. (Telegs.: "Tajero, Philadelphia"); 108, Liberty-st., New York; & at Boston, Mass., &c.
Moses, Percival Robert, M.AM.I.E.E., E.E., consulting engineer, 43, West 34th-st., New York.
Mosler, Arthur R., consulting, mechanical & electrical engineer, 163, West 29th-st., New York. (Telegs.: "Spitfire, New York." Teleph. No. 3453, Madison.)
Mosman, C. T., A.AM.I.E.E., electrical engineer, 84, State-st., Boston, Mass.
Mosscrop, Wm. A., A.AM.I.E.E., mechanical engineer, Brooklyn, N.Y.
Motley, Green & Co., railroad supplies, 68, Broad-st., New York.
Motsinger Device Manufacturing Co., makers of sparking dynamos for gas engines, Pendleton, Ind.
Mott, J. L., Iron Works, manufacturers of iron arc lamp poles, 5th-ave. & 17th-st., New York.
Moundsville Electric Co., Moundsville, West Virginia.
Mount Airy Town Electric Light Plant, Mount Airy, N.C.
Mount Carmel Light & Water Co., Mount Carmel, Ill.
Mount Pleasant Electric Light & Water Works, Mount Pleasant, Iowa.
Mount Sterling Water, Light & Ice Co., Mount Sterling, Ky.
Mount Vernon Electric Light Co., Mount Vernon, Ohio.
Mount Vernon Electric Railway Co., Mount Vernon, Ohio.
Mount Washington Electric Light & Power Co., Mount Washington, Md.
Mountain Electric Co., engineers, power plant contractors & jobbers in general supplies, 1619–1623, Glenarm-st., Denver, Col.
Mountain State Electrical Co., telephone cable terminal manufacturers, &c., Wheeling, W. Va.
Muddiman, C. A., & Co., electrolier manufacturers & fitters, 616, 12th-st., Washington, D.C.
Muecke & Roren, electrical engineers & contractors, 640, Broadway, New York.
Muncie Electric Light Co., Muncie, Ind.
Munder Electric Co., electric lamps, Springfield, Mass.
Municipal Electric Light Plant, Marblehead, Mass. (Teleph. No. 69.)
Municipal Electric Light Plant, Newark, Ohio.
Municipal Electric Light & Power Plant, Richmond, Ind.
Municipal Electric Light & Water Plant, Attica, Ind. (Teleph. No. 156.) G. McDonald, superintendent.
Municipal Light & Power Plant, Anderson, Ind.
Municipal Lighting Plant, Ashtabula, Ohio.
Municipal Water & Light Department, Wayne, Neb.
Municipal Water, Light & Power Co., Mackinac Island, Mich.
Munn & Co., publishers of the *Scientific American* & patent solicitors, 361, Broadway, New York. (Telegs.: "Etman, New York.")
Munns Manufacturing Co., electro-medical apparatus manufacturers, Corning, Iowa.
Munsell, Eugene, & Co., dealers in mica, 68, Church-st., New York, N.Y.
Muralt, C. L., A.AM.I.E.E., electrical engineer, 114, Liberty-st., New York.
Muralt & Co., electricians, 114, Liberty-st., New York. (Telegs.: "Demuralt, New York." W.U., A.B.C., 5th edit., Lieber's & Muralt & Co.'s Codes. Teleph. No. 2256, Cort.)
Murphy, E. J., A.M.I.E.E., c/o Miss E. E. Blair, 235, West 108th-st., New York.
Murphysboro Water Works, Electric & Gas Light Co., Murphysboro, Ill.
Murray, Thos. E., M.AM.I.E.E., second vice-president & general manager New York Edison Co., 55, Duane-st., New York.
Murray, W. S., A.AM.I.E.E., electrical engineer, N.Y., N.H. & H.R.R., New Haven, Conn.
Murray Iron Works Co., Corliss engines, steel boilers, Burlington, Iowa. (Telegs.: "Murray.")
Murray, James J., & Co., manufacturers of electric light globes & incandescent shades, Trenton-ave., Willard & Westmoreland-sts., Philadelphia, Pa.
Muschenheim, F. A., M.AM.I.E.E., electrical engineer, Western Electric Co., 206, West 45th-st., New York.
Muskegon Electric Co., electrical contractors, 86, West Western-ave., Muskegon, Mich. (Teleph. No. 557.)
Muskegon Traction & Lighting Co., Muskegon, Mich.

Muskogee Gas & Electric Co., Muskogee, Okla.
Mustard, John, electrical engineer & manufacturers' agent, Real Estate Trust-bldg., Philadelphia, Pa.
Mutual Boiler Insurance Co., 31, Milk-st., Boston, Mass. (Telegrams: "Steam, Boston." Telephone No. 443.)
Mutual Electric Co., electrical contractors, Duluth, Minn.
Mutual Electric Light Co., San Francisco, Cal.
Mutual Electric Light & Power Co., The, Alamosa, Col. (Teleph. No. 431, Black.)
Mutual Light & Water Co., Brunswick, Ga.
Myers, N. A., installation contractor, 708, Fulton-st., Brooklyn, N.Y.
Myers Bros, electrical contractors, Carbondale, Pa.
Myers, L. E., Co., contractors for complete construction & equipment of steam & electric railways, Monadnock-bldg., Chicago, Ill. (Telephone No. 1571, Harrison.)

N. & S. Electric Co., manufacturers of spark dynamos, Seattle, Wash. (Telephone Nos.: 4201, John; & 7128, Ind.)
Nagel, W. G., Electric Co., jobbers of electrical supplies & machinery, Toledo, Ohio.
Nalley, W. J., consulting electrical engineer, Austell-bldg., Atlanta, Ga.
Naperville City Electric Light & Water Works, Naperville, Ill.
Napoleon Water Works & Electric Light Plant, Napoleon, Ohio.
Narragansett Electric Lighting Co., Providence, R.I.
Narragansett Pier Electric Light & Power Co., Narragansett Pier, R.I.
Nash Electrical Supply Co., installation contractors, 506, West Central-ave., Albuquerque, New Mex.
Nash, Geo., Co., magnet-steel, Norway iron, &c., 217, Pearl-st., New York (Teleph. No. 1845, John); & 115, Washington-boul., Chicago, Ill. (Telegs.: "Nashlaw," New York or Chicago.)
Nashua Light, Heat & Power Co., Nashua, New Hampshire.
Nashville Railway & Light Co., Nashville, Tenn. (Teleph. No. 1509.)
Nassau Light & Power Co., Roslyn, N.Y.
Natchitoches Town Electric Light & Water Works Plant, Natchitoches, La.
National-Acme Manufacturing Co., The, manufacturers of screw, terminal & small detached accessories, Cleveland, Ohio. (Telegs.: "Namco, Cleveland.")
National Automatic Fire Alarm Co. of Louisiana, electrical supply dealers, 614-618, Gravier-st., New Orleans, La.
National Brake & Electric Co., manufacturers of air compressors & air brakes, Milwaukee, Wis. (Telegs.: "Ceco, Milwaukee.")
National Cable & Wire Co., wire manufacturers—copper, Shousetown, Pa.
National Carbon Co., manufacturers of electric light carbons, carbon electrodes & plates, carbon brushes & primary batteries, Cleveland, Ohio. (Telegrams: "Carbon, Cleveland.")
National Chemical Co., manufacturers of chemicals, Chestnut Hill, Philadelphia, Pa.
National Conduit & Cable Co., electrical conduits & cables, 41, Park-row, New York.
National Correspondence Institute, Second National Bank-bldg., Washington, D.C. (Telephone No. 1157, Main.)
National Electric Co., manufacturers of electrical specialties, 10th & Sansom-sts., Philadelphia, Pa.
National Electric Co., installation contractors, 669, Dayton-ave., St. Paul, Minn. (Teleph. No. 5363, Tri-State.)
National Electric Co., electrical supply dealers & contractors, 103, Turk-st., San Francisco, Cal.
National Electric Lamp Co., incandescent lamp manufacturers, Cleveland, Ohio.
National Electric Light Association (T. C. Martin, secretary), 29, West 39th-st., New York.
National Electric Manufacturing Co., installation contractors, Des Moines, Iowa.
National Electric Signalling Co., wireless telegraph & telephone equipments, 8th & Water-sts., Washington, D.C.
National Electric Works, electrical manufacturers, Whittier, Cal.
National Electrical Contractors' Association of the United States, 41, Martin-bldg., Utica, N.Y. W. H. Morton, secretary.
National Electrical Inspectors Association. Secretary, T. H. Day, 27, Pliny-st., Hartford, Conn.
National Electrical Supply Co., 1330, New York-ave., Washington, D.C.
National Electrical Trades Association, 1343, Marquette-bldg., Chicago, Ill. F. P. Vose, secretary.
National Elevator & Machine Co., manufacturing electricians, Honesdale, Pa.
National Fire Appliance Co., manufacturers of automatic fire alarms, 161, Franklin-st., Boston, Mass.
National Gas, Electric Light & Power Co., Detroit, Mich.
National Hoisting Engine Co., makers of electric hoists, Harrison, N.J.
National Indiarubber Co., manufacturers of N.I.R. seamless rubber insulated wires & cables, Bristol, R.I.
National Light, Heat & Power Co., 30, Pine-st., New York City.
National Machinery & Wrecking Co., dealers in second-hand machinery, 1914, Scrauton-rd., Cleveland, O.
National Metal Molding Co., conduit systems for interior wiring, Fulton-bldg., Pittsburg, Pa.

National Motor Vehicle Co., makers of gasoline & motor vehicles, 22nd-st. & L. E. & W. R. R., Indianapolis, Ind. (Telegrams: "Automobile, Indianapolis." W.U.T. & A.B.C. 4th ed. Codes.)
National Pipe Bending Co.,manufacturers of the National feed-water heater,94,River-st., New Haven,Conn.
National Porcelain Co., porcelain & china fittings makers, Trenton, N.J.
National Rheostat Co., 115, Franklin-st., Chicago, Ill.
National Stamping & Electric Works, installation contractors, 153-159, South Jefferson-st., Chicago, Ill. (Teleph. Nos. 287 & 288, Monroe.)
National Telephone Supply Co., 1430, Superior-st., Cleveland, Ohio.
National Tube Co., trolley poles, pipe fittings, valves, &c., Pittsburgh, Pa.
National X Ray Reflector Co., reflector & shade manufacturers, 261, East Jackson-boul., Chicago, Ill.
Neall, N. J., electrical engineer, Thomas & Neall, 12, Pearl-st., Boston, Mass. (Teleph. No. 3843, Main.)
Nebraska City Water & Light Co., Nebraska City, Neb.
Nebraska Electrical Co., installation contractors, Omaha, Neb.
Needham, R. J., superintendent Anglo-American Telegraph Co., Duxbury, Mass.
Neff, W. A., A.M.I.E.E., 2083, East 105th-st., Cleveland, Ohio.
Neiler, Samuel G., M.I.E.E., M.AM.I.E E., consulting mechanical & electrical engineer, 1407 & 1411, Manhattan-bldg., Chicago, Ill. (Telephone No. 592, Harrison.)
Nelson, J. V., installation contractor, 61, West 55th-st., New York.
Nelson Scientific Instrument Co., rontgen apparatus, 18, West Randolph-st., Chicago, Ill.
Nelsonville Electric Light Co., Nelsonville, Ohio.
Nernst Lamp Co., Garrison-pl. & Fayette-st., Pittsburg, Pa.
Nesbit, A. Fleming, A.AM.I.E.E., professor of physics, New Hampshire College, Durham, N.H.
Neshobe Electric Co., Brandon, Vt.
Nevada California Power Co., Denver, Col.
Nevada County Gas & Electric Co., Grass Valley, Cal.
Nevin Electric Construction Co., installation contractors, Saginaw, Mich.
New Bedford Gas & Edison Light Co., New Bedford, Mass.
New Bedford & Onset Street Railway Co., New Bedford, Mass.
New Berne Electric Light & Power Co., New Berne, N.C.
New Britain Machine Co., manufacturers of "Case" steam engines, New Britain, Conn. (Telegrams: "Engine, New Britain." Telephone No. 50.)
New Castle Electric Co., New Castle, Pa.
New England Butt Co., manufacturers of braiding machinery & castings, Providence, R.I.
New England Electric Co., dealers in electrical supplies, 1951-53, Lawrence-st., Denver, Col. (Teleph. No. 610, Main.)
New England Electrical Works, insulated wires, cables & braids, Lisbon, N.H.
New England Engineering Co., installation contractors, Waterbury, Conn.
New England Insurance Exchange (C. M. Goddard, secretary & electrician of electrical department), 141, Milk-st., Boston, Mass.
New England Motor Co., dynamo & motor makers, Lowell, Mass.
New England Telephone & Telegraph Co., 101, Milk-st., Boston, Mass.
New Era Gas Engine Co., mfrs. of gas engines, cor. 2nd & Dale-ave., Dayton, Ohio. (Bell Tel. 1602.)
New Jersey Asbestos Co., makers of asbestos materials, 59, Pearl-st., New York. (Teleph. No. 4098, Cort.)
New Jersey Engineering & Construction Co., electrical engineers, Morristown, N.J.
New Jersey Foundry & Machine Co., engineers & contractors, 90, West-st., New York.
New Jersey & Hudson River Railway & Ferry Co., Edgewater, N.J.
New Jersey & Pennsylvania Concentrating Works (Thomas A. Edison, president). Offices: Edison Laboratory, Orange, N.J. Works: Edison, Sussex County, N.J.
New Lexington High Voltage Porcelain Co., insulating fittings, New Lexington, Ohio.
New Lisbon Gas Co., Lisbon, Ohio. (Bell Teleph. No. 93 J. 2.)
New London Gas & Electric Co., New London, Conn.
New Market Electric Light, Power & Heat Co., New Market, N.H.
New Mexico Light, Heat & Power Co., The, Silver City, New Mexico.
New Milford Electric Light Co., New Milford, Conn.
New Milford Power Co., Gaylordsville, Conn.
New Orleans Railway & Light Co., New Orleans, La.
New Process Rawhide Co., manufacturers of noiseless gears, Syracuse, N.Y.
New Richmond Electric Light & Water Works, New Richmond, Ohio.
New Ulm City Electric Light Plant, New Ulm, Minn.
New York Beck Lamp Co., electric arc lamp manufacturers, 30, Greenwich-ave., New York.
New York Belting & Packing Co., Ltd., manufacturers of rubber goods, 91, Chambers-st., New York.
New York Car & Truck Co., manufacturers of Peckham System street car trucks, Kingston, N.Y.; & 29, Broadway, New York.
New York Car Wheel Co., manufacturers of railway wheels for horse, steam & electric service, Buffalo, N.Y.

New York Central & Hudson River Railroad Co., New York. E. B. Katte, chief electric traction engineer.
New York City Railway Co., 621, Broadway, New York.
New York Edison Co., 55, Duane-st., New York, N.Y.
New York Electric Co., electrical contractors, Colorado Springs, Col.
New York Electric Controller Co., 35, Rose-st., New York.
New York Electrical Society (Geo. H. Guy, secretary), 29, West 39th-st., New York. (Telegs.: "Lengineer, New York." Teleph. No. 4600, Bryant.)
New York Insulated Wire Co., manufacturers of insulated wires & tapes, 114, Liberty-st., New York.
New York & Long Island Traction Co., Hempstead, N.Y.
New York, New Haven & Hartford R. R. Co., electric division, Samford, Conn.
New York & New Jersey Telephone Co., 81, Willoughby-st., Brooklyn, N.Y.
New York & Ohio Co., manufacturers of Packard incandescent lamps, Warren, Ohio.
New York & Pennsylvania Telephone & Telegraph Co., Elmira, N.Y.; & 15, Dey-st., New York, N.Y.
New York & Queens Gas & Electric Light & Power Co., Flushing, N.Y.
New York Safety Steam Power Co., makers of automatic engines, 114, Liberty-st., New York.
New York Telephone Co. (John H. Cahill, secretary), 15, Dey-st., New York, N.Y.
Newark Electrical Supply Co., electrical supplies, 281, Market-st., Newark, N.J.
Newberry Water Works & Electric Light Plant, Newberry, S.C.
Newbery, F. E., Electric Co., electrical engineers & contractors, 640–642, Century-bldg., St. Louis, Mo.
Newburgh Light, Heat & Power Co., Newburgh, N.Y.
Newburyport Gas & Electric Co., Newburyport, Mass.
Newgard, Henry, & Co., Inc., electrical construction, cor. Washington-bldg. & Morgan-st., Chicago, Ill.
Newman, Chas. R., installation contractor, 17½, Howe-ave., Passaic, N.J.
Newman, F. J., M.AM.I.E.E., works manager & chief engineer, Woods Motor Vehicle Co., Calumet-ave., 25th-st. & Cottage Grove, Chicago, Ill. (Telegs.: "Woods, Chicago." Teleph. No. 1643, Private Exchange.)
Newman Clock Co., manufacturers of electrical watchman's time detectors, 710, Masonic Temple, Chicago, Ill. (Telegrams: "Watchclock, Chicago.")
Newport Electric Light Co., Newport, N.H. (Teleph. No. 114-5.)
Newport Electric Light Co., Newport, Vt.
Newport Engineering Works, Newport, R.I.
Newport Light & Power Co., Newport, Maine.
Newport News & Old Point Railway & Electric Co., Hampton, Va.
Newport & Providence Railway Co., Newport, R.I.
Newton Gas & Electric Co., Newton, N.J.
Newton & Painter, consulting electrical engineers, 614–616, Professional-bldg., 330, North Charles-st., Baltimore, Md.
Newton & Watertown Gas Light Co., Newton, Mass. (Telephone No. 980, Newton, North.)
Nezperce Water Power Co., Nezperce, Idaho.
Niagara Electro-Chemical Works, sodium & peroxide sodium manufacturers, Niagara Falls, N.Y.
Niagara Falls Gas & Electric Co., Niagara Falls, N.Y.
Niagara Falls Hydraulic Power & Manufacturing Co., Niagara Falls, N.Y.
Niagara Falls Power Co., Niagara Falls, N.Y.
Niagara Gorge Railroad Co., Niagara Falls, N.Y.
Niagara, Lockport & Ontario Power Co., Buffalo, N.Y.
Nichols, Edward L., PH.D., M.AM.I.E.E., professor of physics, Cornell University, Ithaca, N.Y.
Nichols Gas Fixture Manufacturing Co., electrolier manufacturers & fitters, 1100, Myrtle-ave., Brooklyn, N.Y.
Nicholson, S. L., M.AM.I.E E., 7010, Thomas Boulevard, Pittsburgh, Pa. (Teleph. No. 2339 J., Highland.)
Nigh, O. I., & Co., installation contractors, Jenifer-bldg., Washington, D.C.
Niles-Bement-Pond Co., electric crane makers, 111, Broadway, New York.
Niles Electric & Water Plant, Niles, Mich.
Nimis & Nimis, electrical engineers & contractors, 314, Madison-ave., New York.
"1900" Washer Co., electric washing machines, Binghamton, N.Y.
Nixon, William, installation contractor, Newburgh, N.Y.
Nixon-Kimmel Co,, installation contractors, 709, Front-ave., Spokane, Mass.
Noblett, E. J., Co., manufacturers of cross arms, insulator pins & brackets, Chattanooga, Tenn. (Teleph. No. 970, Main.)
Noeggerath, J. E., M.AM.I.E.E., electrical engineer, Schenectady, N.Y.
Nogales Electric Light, Ice & Water Co., Nogales, Ariz.
Norfolk & Bristol Street Railway Co., South Walpole, Mass.
Norfolk Electric Light & Power Co., Norfolk, Neb.
Norfolk & Portsmouth Traction Co., Norfolk, Va.
Norfolk & Southern Railroad Co., Norfolk, Va.
Norris, H. H., M.E., head professor of electrical engineering, Cornell University, Ithaca, N.Y.

Norristown City Electric Light Plant, Norristown, Pa.
Norristown Electric Light & Power Co., Norristown, Pa.
North Adams Gas Light Co., North Adams, Mass.
North Alabama Traction Co., New Decatur, Ala.
North American Co., 30, Broad-st., New York City.
North American Railway Construction Co., elec. railway contractors, 1320, Monadnock-bldg., Chicago, Ill.
North Electric Co., electrical clocks for watchmen, 518, High-st., Buffalo, N.Y.
North Electric Co., manufacturers of telephone exchange apparatus, Cleveland, Ohio.
North Georgia Electric Co., Gainesville, Ga.
North Hampton Electric Lighting Co., North Hampton, Mass.
North Indiana Gas & Electric Co., Hammond, Ill. (Teleph. No. 10.)
North Kankakee Electric Light & Railway Co., Kankakee, Ill.
North Mountain Power Co., Eureka, Cal.
North Shore Electric Co., Chicago, Ill.
North Shore Electric Co., Maywood, Ill.
North Shore Electric Co., Waukegan, Ill.
North West Light & Water Co., Wallace, Idaho.
North Western Michigan Light & Power Co., Manistee, Mich.
Northampton Street Railway Co., Northampton, Mass.
Northampton Traction Co., Easton, Pa.
Northern California Power Co., San Francisco, Cal.
Northern Colorado Power Co., 610, Mercantile-bldg., Denver, Col.
Northern Connecticut Light & Power Co., Windsor Locks, Conn.
Northern Electric Co., installation contractors, Burlington, Vt.
Northern Electric Railway Co., Alaska Commercial-bldg., San Francisco, Cal.
Northern Electrical Co., jobbers of electrical supplies, Duluth, Minn.
Northern Electrical Manufacturing Co., makers of motors, dynamos, &c., Madison, Wis. (Telegrams: "Northelect, Madison.")
Northern Electrical Manufacturing Co., 29, Broadway, New York.
Northern Engineering Works, makers of electric cranes & hoists, 12, Chene-st., Detroit, Mich.
Northern Illinois Light & Traction Co., Ottawa, Ill.
Northern Iowa Telephone Co., dealers in electrical supplies, Cresco, Iowa.
Northern Ohio Traction & Light Co., Akron, Ohio.
Northern Texas Traction Co., Fort Worth, Tex.
Northern Westchester Lighting Co., Ossining, N.Y.
Northrup, E. F., PH.D., A.I.E.E., Leeds & Northrup Co., 4901, Stenton-ave., Philadelphia, Pa.
Northwest Light & Power Co., Seattle, Wash.
Northwest Light & Water Co., North Yakima, Wash.
Northwestern Electric Co., installation contractors, 102, West Adams-st., Chicago, Ill.
Northwestern Electric Equipment Co., 185, East 4th-st., St. Paul, Minn.
Northwestern Electric Heat & Power Co., Kearney, Neb.
North-Western Gas & Electric Co., Walla Walla, Wash.
Northwestern Light & Power Co., Colville, Wash.
Northwestern Manufacturing Co., manufacturing electricians, Clinton & Madison-sts., Milwaukee, Wis.
Northwestern Storage Battery Co., makers of storage batteries, 280, Michigan-st., Chicago, Ill.
Norton Electrical Instrument Co., makers of electrical instruments, Manchester, Conn.
Norton & Jones' Machine Tool Works, manufacturers of automatic drilling machines, Plainville, Conn. (Telegs.: "Jonort, Plainville." Lieber's Code.)
Norway Electric Light Plant, Norway, Mich.
Norway & Paris Street Railway Co., Norway, Maine.
Norwich Gas & Electric Co., Norwich, N.Y.
Norwood Water Works & Electric Plant, Norwood, Ohio.
Novelty Art Glass & Shade Co., Cleveland, Ohio.
Novelty Electric Co., manufacturers of & dealers in electrical supplies, 50–54, North 4th-st., Philadelphia, Pa.
Novelty Electric Sign Co., Inc., installation contractors, 837, Ellis-st., San Francisco, Cal.
Novelty Electric Works, installation contractors, 1105, 1st-st. South, Portland, Ore.
Novelty Incandescent Lamp Co., incandescent lamp manufacturers, Emporium, Pa.
Novelty Turning Co., electrical wood-work, Fitchburg, Mass.
Nowotny, John S., Co., makers of motors, &c., Atlas Bank-bldg., Cincinnati, Ohio.
Noxon, C. P. L., A.AM.I.E.E., manufacturer of dynamos, &c., 500, East Water-st., Syracuse, N.Y.
Nugent, A. W., Co., Inc., electrical contractors, Yonkers, N.Y. (Teleph. No. 662 R.)
Nunemacher Electric Works, installation contractors, San Francisco, Cal.
Nungesser Electric Battery Co., dry & closed circuit battery manufacturers, 27–33, King-st., Cleveland, Ohio. (Telegs.: "Nunco, Cleveland." W.U. Code.)

Nunn, P. N., M.AM.I.E.E., chief engineer, Telluride Power Co., Provo, Utah.
Nunn, R. J., M.D., A.AM.I.E.E., 5, York-st. E., Savannah, Ga.
Nusbaum, Elias, & Bro., electrical contractors, 1519, Moravian-st., Philadelphia, Pa.

O. K. Electric Equipment Co., electrical contractors, 505, Washington-st., Hoboken, N.J.
O. K. Electrical Construction Co., installation contractors, 725, Broadway, New York. (Teleph. No. 25, Spring.)
Oak Bluffs Street Railway Co., Oak Bluffs, Mass.
Oakes, Roland T., Co., electrical contractors, Holyoke, Mass.
Oakes, Thos., & Sons, installation contractors, Hartford, Conn. (Teleph. No. 1479.)
Oakland Electric Light Co., Oakland, Maine.
Oakland Electrical Co., Oakland, Cal.
Oakland Gas Light & Heat Co., Oakland, Cal.
Oakland Traction Co., Oakland, Cal.
Oakwood Street Railway Co., Dayton, Ohio.
Ober, Wm. E., installation contractor, West Medford, Mass.
Oberg & Blumberg, electrical contractors, 112, West 42nd-st., New York.
Oberlin Gas & Electric Co., electric light contractors, Oberlin, Ohio.
Obert, C. W., editor *Street Railway Journal*, 239, West 39th-st., New York.
O'Brien, Alb. Dallam, A.AM.I.E.E., consulting & contracting engineer, Wilmington, N.C.
O'Brien Electric Light Co., incandescent lamp manufacturers, 1710, Market-st., Philadelphia, Pa.
O'Brien, J., Boiler Works, steam boilers, 11–13, Mullanphy & Howard-sts., St. Louis, Mo.
Ocean City Electric Light Co., Ocean City, N.J.
Ocean Shore Railway Co., San Francisco, Cal.
Ockershausen, H. A., installation contractor, 103, East 9th-st., New York.
Oconomowoc Electric Light Plant, Oconomowoc, Wis.
O'Dea, M. T., M.AM.I.E.E., 79, North State-st., Chicago, Ill.
Offutt, Anderson, A.AM.I.E.E., contracting electrical engineering, 439, Carondelet-st., New Orleans, La.
Ogden Electric Supply Co., contracting electricians, 332, 24th-st., Ogden, Utah. (Teleph. No. 693.)
Ogden Rapid Transit Co., Ogden, Utah.
Ogden-Ross Electric Mfg. Co., mfrs. of "wasteless" gravity & salamoniac zincs, Madison, Ind.
Ogdensburg Power & Light Co., Ogdensburg, N.Y.
Ogdensburg Street Railway Co., Ogdensburg, N.Y.
Ohio Brass Co., The, manufacturers of electric railway supplies, Mansfield, Ohio. (Telegs.: "Electric.")
Ohio Electric Railway Co., Cincinnati, Ohio.
Ohio Electric Specialty Manufacturing Co., dynamo brush manufacturers, Troy, Ohio.
Ohio Electric Works, manufacturers of electric novelties & supplies, 6304, Ellen-ave., Cleveland, Ohio. (Telegrams: "Fletcher, Cleveland." Lieber's Code. Telephone Nos.: 471–J.; & C. 5372.)
Ohio Novelty Sign & Electric Co., installation contractors, 240, North Main-st., Marion, Ohio.
Ohio River Electric Railway & Power Co., Pomeroy, Ohio.
Ohio State University, college of engineering, Columbus, Ohio. For professors, *see* SCHOOLS.
Ohio Valley Electric Light Co., Benwood, W. Va.
Ohio Valley Electric Railway Co., Huntington, W. Va.
Oklahoma Gas & Electric Co., Oklahoma City, Oklahoma Territory. (Teleph. No. 14.)
Okonite Co., manufacturers of okonite rubber covered wire, 413, Postal-bldg., New York.
Old Colony Street Railway Co., Boston, Mass.
Old Town Electric Co., electric light contractors, Old Town, Maine.
Olds, Chas. L., Construction Co., electrical supply dealers, Fort Wayne, Ind.
Olds Gasoline Engine Works, makers of gas engines, Chestnut-st., Lansing, Mich.
Olds Motor Works, makers of motor cars, Lansing, Mich.
O'Leary, J. J., electrical engineer, 62, Niagara-st., Buffalo, N.Y.
Oliver Electric & Manufacturing Co., railroad axle light parts, Compton-ave. & Papin-st., St. Louis, Mo. (Bell Teleph. No. 238, Grand.)
Oliver & Snyder Steel Co., cross-arm braces, 1702, Frick-bldg., Pittsburg, Pa.
Olney Bros., dealers in lubricating oils, 54, S. Water-st., Providence, R.I.
Olney Electric Light & Power Co., Olney, Ill.
Olson-Boettger Electric Manufacturing Co., manufacturers & jobbers of electrical machinery, St. Paul, Minn.
Olympia Light & Power Co., Olympia, Wash. (Telephone No. 23, Main.)
Omaha & Council Bluffs Railway & Bridge Co., Council Bluffs, Iowa.
Omaha & Council Bluffs Street Railway Co., Omaha, Neb.
Omaha Electric Light & Power Co., Omaha, Neb.
Omaha Electrical Works, electric elevators, 108, North 11th-st., Omaha, Neb. (Telephone No. 1181.)

Oneida Community, Ltd., arc lamp suspension chains, Oneida, N.Y. (Telegs.: "Community, Oneida." Lieber's & A.B.C. Codes.)
Oneonta Electric Light & Power Co., Oneonta, N.Y.
Ontario Light & Traction Co., Canandaigua, N.Y.
Ontario Power Co., Ontario, Cal.
Opelousas Town Electric Light & Water Works, Opelousas, La.
Orange County Lighting Co., Middletown, N.Y.
Orange County Power Co., Cuddebackville, N.Y.
Orange Electric Light Co., Orange, Mass.
Orange Ice, Light & Water Works Co., Orange, Tex.
Orangeburg City Electric Light Plant, Orangeburg, S.C.
Oregon Power Co., Oregon, Ill.
O'Reilly, A. J., electrical engineer, Fire Prevention Bureau, Pierce-bldg., & 2207, Grand-ave., St. Louis, Mo. (Teleph. No. Bell, Grand, 27); & president Board of Public Improvements, St. Louis.
O'Reilly, Matthew, manufacturer of small dynamos & motors, & repairing, 1106, O.-st., Lincoln, Neb.
Orlando Water & Light Co., Orlando, Fla.
Ormsbee, Alex. F., A.AM.I.E.E., electrical engineer, New York & New Jersey Telephone Co., Brooklyn, N.Y.
Oroville Light & Power Co., Oroville, Cal.
Oroville Water, Light & Power Co., Oroville, Cal.
Orr & Howe Electric Co., installation contractors, 1109, Bluff-st., Pittsburg, Pa. (Teleph. No. 3581 L., Grant.)
Orrville Light, Heat & Power Co., Orrville, Ohio.
Osage Electric Light, Heat & Power Co., Osage, Iowa.
Osborn, Joseph A., consulting electrical engineer, Syndicate Trust-bldg., St. Louis, Mo.
Osborn Manufacturing Co., The, makers of arc lamps, Cleveland, Ohio.
Osborn Water & Electric Light Works, Osborn, Ohio.
Osborn, W. T., & Co., electrical supplies, 702, Delaware-st., Kansas City, Mo.
Osborne, H., superintendent Compagnie Française des Cables Télégraphiques, Orleans, Cape Cod, Mass.
Osborne, Loyall A., A.AM.I.E.E., vice-president Westinghouse Electric & Manufacturing Co., Pittsburg, Pa. (Telegrams: "Osborne, Converter, Pittsburg.")
Osceola Light, Heat & Power Co., Osceola, Iowa.
Oshkosh Gas Light Co., Oshkosh, Wis.
Oshkosh Logging Tool Co., manufacturers of telephone line construction tools, Oshkosh, Wis.
Oskaloosa Traction & Light Co., Oskaloosa, Iowa.
Ostrander, W. R., & Co., manufacturers of & dealers in electrical goods, speaking tubes, &c., 22, Dey-st., New York, N.Y.
Oswegatchie Light & Power Co., Gouverneur, N.Y.
Oswego Traction Co., Oswego, N.Y.
Otis Elevator Co., manufacturers of elevators, 17, Battery-pl., New York, N.Y. (Telegs.: "Lyndentree, New York." Teleph. No. 700, Rector.)
Ott, Clarence J., & Co., electrical contractors, Beaumont, Tex.
Ott Electric Supply Co., installation contractors, Laramie, Wyo. (Telegs.: "Ott, Laramie." Teleph. No. 250, Black.)
Ottawa Water Works & Light Co., Ottawa, Kan.
Otto Gas Engine Works, manufacturers of gas engines & producers, Philada Bourse & 33rd & Walnut-sts., Philadelphia, Pa.
Ottumwa Railway & Light Co., Ottumwa, Iowa.
Oudin, Maurice A., M.SC., M.AM.I.E.E., electrical engineer, General Electric Co., Schenectady, N.Y.
Ouray Electric Power & Light Co., Ouray, Cal.
Overbagh & Ayers Manufacturing Co., electrical fittings makers, 232, South Clinton-st., Chicago, Ill.
Owensboro City Railroad Co., Owensboro, Ky.
Oxford Village Electric Light Plant, Oxford, Ohio.
Oxford Water & Light Co., Oxford, N.C.

P R Manufacturing Co., electric bell manufacturers, 621-659, Bellevue-ave., Detroit, Mich.
Pacific Coast Electrical Transmission Association, Portland, Ore. S. G. Reed, secretary.
Pacific Electric Co., manufacturers of electric shade lamps, La Crosse, Wis.
Pacific Electric Engineering Co., consulting & erecting engineers, 213, 2nd-st., Portland, Ore.
Pacific Electric & Manufacturing Co., switch makers, San Francisco, Cal.
Pacific Electric Motor Co., 1277, Mission-st., San Francisco, Cal.
Pacific Electric Railway Co., Los Angeles, Cal.

Pacific Electrical Works, dealers in electrical supplies, 326–330, S. Los Angeles-st., Los Angeles, Cal. (Telegs.: "Pew, Los Angeles." Teleph. Nos.: Ex. 5591, Home; & Main, 1056, Sunset.)
Pacific Gas & Electric Co., Napa, Cal.
Pacific Gas & Electric Co., Phœnix, Ariz.
Pacific Gas & Electric Co., San Francisco, Cal.
Pacific Light & Power Co., Los Angeles, Cal.
Pacific Lighting Co., San Francisco, Cal.
Pacific Gas & Electric Co., Santa Rosa, Cal.
Pacific Wireless Telegraph Co., 66, Broadway, New York.
Packard, G. F., A.M.I.E.E., electrical engineer, Westinghouse Electric & Mfg. Co., Pittsburg, Pa.
Packard, L. W., A.M.I.E.E., assistant engineer of Meter Department, General Electric Co., Lynn, Mass.
Packard Electric Co., manufacturers of transformers, insulating cloth & varnish, Warren, Ohio.
Packard, W. D. & J. W., electrical engineers, Warren, Ohio. (Telegs.: "Packard, Warren, Ohio.")
Paducah Light & Power Co., Paducah, Ky.
Page, A. D., A.M.I.E.E., manager, incandescent lamp sales, General Electric Co.'s lamp works, Harrison, N.J.
Page Belting Co., manufacturers of leather belting, Concord, N.H.
Paine, E. B., A.M.I.E.E., professor of electrical engineering, University of Illinois, Urbana, Ill.
Paine, F. B. H., M.AM.I.E.E., general manager Niagara, Lockport & Ontario Power Co., Buffalo, N.Y. (Bell Teleph. No. 1150, Seneca.)
Paine, Sidney B., M.AM.I.E.E., General Electric Co., 84, State-st., Boston, Mass.
Paiste, H. T., Co., manufacturers of switches, cut-outs & sockets, 32nd & Arch-sts., Philadelphia, Pa.
Palatka Gas Light & Fuel Co., Palatka, Fla.
Palestine Electric Light Co., Palestine, Texas.
Palmer, W. K., Co., mechanical & electrical engineers, 718, Dwight-bldg., Kansas City, Mo. (Teleph. Nos. 3322, Main, Home & Bell.)
Palmer Bros., manufacturers of magnet bells, receivers, gas engines, bells & telephones, Miamus, Conn.
Palmer Electrical Co., specialties manufacturers, 103, Bedford-st., Boston, Mass.
Palmyra Gas & Electric Co., Palmyra, N.Y.
Palmyra Light & Water Co., Palmyra, Mo.
Palo Alto Electrical Works, contractors, fixtures & supplies, Palo Alto, Cal.
Palo Alto Light Co., Palo Alto, Cal.
Pan Electric Service & Appliance Co., manufacturers of dynamos & motors, St. Louis, Mo. (Teleph. Nos.: 4546, Bell, Main; & 2865, Kinloch, Central.)
Pana Gas & Electric Co., Pana, Ill.
Para Wire Works, wire coverers (indiarubber & gutta-percha), 97, Warren-st., New York.
Parcell, C. A., Co., installation contractors, 136, Liberty-st., New York.
Paris Electric Light Co., Paris, Ky.
Paris Light & Power Co., Paris, Texas.
Parish Electric Track Signal Co., makers of railway signals, Detroit, Mich.
Park City Light, Heat & Power Co., Park City, Utah.
Parke, John Y., & Co., electric apparatus for lighting gas & electrical supplies, cor. 7th & Cherry-sts., Philadelphia, Pa. (Bell Teleph. No. 1206A, Walnut; & 5392D, Main, Keystone.)
Parker, Herschel C., A.M.I.E.E., professor of physics, Columbia University, New York.
Parker, Joseph E., installation contractor, 26, West Haines-st., Philadelphia, Pa.
Parker, L. H., M.AM.I.E.E., railway engineer, Stone & Webster Engineering Corp., 147, Milk-st., Boston, Mass.
Parker Electric Co., electrical supplies, New Orleans, La.
Parker Engineering Co., consulting electrical engineers, 18, East 42nd-st., New York.
Parker-Hamer Electric Co., installation contractors, Palmer, Mass. (Teleph. No. 65–21.)
Parkersburg Inter-urban Street Railway Co., Parkersburg, W. Va.
Parkhurst, Charles William, A.M.I.E.E., superintendent of Electrical Department, Cambria Steel Co., Johnstown, Pa.
Parmelee, Z. L., Co., dealers in electrical fixtures, 716–720, East Broadway, Los Angeles, Cal.
Parmly, C. Howard, A.M.I.E.E., associate professor of physics, The College of the City of New York.
Parrott, R. P., A.M.I.E.E., electrical expert, Gray Nat. Telautograph Co., New York.
Parsons Electric Light & Power Co., Parsons, Kan.
Partrick, Carter & Wilkins Co., makers of electrical supplies, 22nd & Wood-sts., Philadelphia, Pa.
Partridge, Arthur S., dealer in electrical machinery & second-hand electric cars, 417, Pine-st., St. Louis, Mo.
Pascagoula Street Railway & Power Co., Scranton, Miss.
Paso Robles Light & Water Co., Paso Robles, Cal.
Pass & Seymour, Incorporated, manufacturers of electrical specialities & porcelain, Solvay, N.Y.
Patchogue Electric Light Co., Patchogue, N.Y.
Paterson District Telegraph Co., Paterson, N.J.

Patterson, George Washington, M.A., PH.D., A.AM.I.E.E., &c., professor of electrical engineering, University of Michigan, 814, South University-ave., Ann Arbor, Mich.
Patterson, Harold D., A.AM.I.E E., consulting engineer, 3, North Vernon-ave., Mount Vernon, N.Y.
Patterson Bros., telegraph & telephone construction tools, 27, Park-row, New York.
Patterson, Gottfried & Hunter, Ltd., machinery, metals & supplies, 146-150, Centre-st., New York, N.Y. (Telephone No. 2540, Franklin.)
Pattison, Frank A., M.AM.I.E.E., consulting electrical engineer, Fuller-bldg., Broadway, New York.
Pattison Brothers, consulting electrical engineers, Fuller-bldg., Broadway, New York.
Paulin & Mitchell, electrical contractors, 1826, Ridge-ave., Philadelphia, Pa.
Paupack Electric Co., Hawley, Pa. (Teleph. No. 6-2, Bell.)
Pawling & Harnischfeger, makers of electric cranes & hoists, Milwaukee, Wis.
Pawtucket Electric Co., electric light & power, Pawtucket, R.I.
Paxtang Electric Co., Harrisburg, Pa.
Paxton Electric Co., electric light contractors, Paxton, Ill.
Pay-As-You-Enter Car Co., 50, Church-st., New York.
Payne Co., manufacturers of high speed engines, Elmira, N.Y.
Pea River Power Co., Troy, Ala.
Peabody City Electric Light Plant, Peabody, Mass.
Peacock, Thomas, & Sons, installation contractors, 545, Liberty-st., Pittsburg, Pa.
Peake, Edward W., installation contractor, Pensacola, Fla.
Pearce, Fredk., Co., manufacturing electricians, 18, Rose-st., New York, N.Y.
Pearl, P. R., & Co., electrical contractors, 15, West Garden-st., Pensacola, Fla.
Pearson, F. S., M.AM.I.E.E., electrical engineer, 25, Broad-st., New York.
Pease, E. R., electrical contractor, 290, Main-st., Poughkeepsie, N.Y. (Telephone No. 304, Hudson River); & 579, Broadway, Kingston, N.Y. (Telephone No. 881 D., Hudson River.)
Pease, H. C., M.AM.I.E.E., engineer, General Electric Co., Schenectady, N.Y.
Peck, E. F., A.AM.I.E.E., general manager, Schenectady Railway Co., Schenectady, N.Y.
Peekskill Lighting & Railroad Co., Peekskill, N.Y. (Teleph. No. 122.)
Peerless Electric Co., manufacturing electricians, 130, West 25th-st., New York.
Peerless Electric Co., manufacturing electricians, 122, South Green-st., Chicago, Ill. (Teleph. No. 1025, Main.)
Peerless Electric Co., motor, generator & fan makers, Warren, Ohio.
Peerless Electric Co., installation contractors, 1226, H.N.W., Washington, D.C.
Peerless Rubber Manufacturing Co., 16, Warren-st., New York.
Peerless Telephone Manufacturing Co., manufacturers of telephone apparatus, Rio, Wis.
Peet & Powers, consulting & contracting electrical engineers, 45, West 34th-st., New York. (Telegs.: "Creigpeet, New York." Teleph. No. 4614, 38th-st.)
Peirce Specialty Co., manufacturers of electrical construction material, Elkhart, Ind.
Pellegrini, A., & Co., electric lighting fixtures, 155, West 29th-st., New York. (Teleph. No. 3412, Madison.)
Pelouze Electric Heater Co., electric heating apparatus manufacturers, 403, Ohio-st., Chicago, Ill.
Pelton Water Wheel Co., hydraulic engineers & manufacturers of Pelton water wheels, 90, West-st., New York; & 19th & Harrison-sts., San Francisco, Cal.
Peltyn, G. P., installation contractor, 82, 3rd-ave., New York.
Penacook Electric Light Co., Penacook, N.H.
Penberthy Injector Co., manufacturers of automatic injectors & steam specialities, Detroit, Mich.
Pen Dell, Chas. W., A.AM.I.E.E., North Shore Electric Co., Home Insurance-bldg., Chicago, Ill.
Peninsular Electric Light Co., Detroit, Mich.
Penn Electrical Engineering Co., electrical contractors, Washington-ave., Scranton, Pa.
Penn Yan City Electric Light Plant, Penn Yan, N.Y.
Penna Electric Co., electric fan makers, Marietta, Pa.
Penniman, Dr. Thos. D., engineer, Rowland Telegraphic Co., 922, Cathedral-st., Baltimore, Md.
Penniman & Fairley, consulting & designing engineers, 411, Marine Bank-bldg., Baltimore, Md.
Pennsylvania Armature Works, manufacturing electricians, Wilkesbarre, Pa.
Pennsylvania Electric Co., telephone apparatus makers, Marietta, Pa.
Pennsylvania Electrical Works Co., installation contractors, 105, North 2nd-st., Philadelphia, Pa.
Pennsylvania Iron Works, engines & street railway material, 1306, Land Title-bldgs., Philadelphia, Pa.
Pennsylvania Light & Power Co., Allegheny, Pa.
Pennsylvania & Ohio Railway Co., Ashtabula, Ohio.
Pennsylvania Power Co., Ellwood City, Pa.
Pennsylvania State College, The, State College, Centre County, Pa. For professors, *see* SCHOOLS.
Pennsylvania Steel Co., manufacturers of steel rails, switches, frogs & crossings, Steelton, Pa.
Pensacola Electric Co., Pensacola, Fla.
People's Edison Illuminating & Power Co., River Point, R.I.
People's Electric Light Co., Bedford, Ohio.

People's Electric Light, Heat & Power Co., Nanticoke, Pa.
People's Electric Light & Power Co., Silver Creek, N.Y.
People's Gas & Electric Co., Burlington, Iowa.
People's Gas & Electric Co., Chillicothe, Mo. (Local Teleph. No. 400.)
People's Gas & Electric Co., electric light contractors, Mason City, Iowa.
People's Gas & Electric Co. of Oswego, N.Y., 70, East 1st-st., Oswego, N.Y. (Teleph. No. 168.)
People's Gas & Electric Light Co., Xenia, Ohio.
People's Gas Fixture Co., electrolier manufacturers & fitters, 515, Main-st., Cincinnati, Ohio.
People's Gas Light & Power Co., Danielson, Conn.
People's Land & Manufacturing Co., electric light contractors, Oconto, Wis.
Peoples Light, Heat & Power Co., Salina, Kan.
People's Light, Heat & Power Co., Springfield, Ohio.
People's Power Co., Moline, Ill.
People's Railway Co., Dayton, Ohio.
People's Railway Co., Wilmington, Del.
People's Street Railway Co., Nanticoke, Pa.
Peoria Gas & Electric Co., Peoria, Ill.
Peoria Railway Co., Peoria, Ill.
Pepper, David, jun., electrical engineer, 1233, Land Title & Trust-bldg., Philadelphia, Pa.
Percival & Jones, mechanical & electrical engineers, 604, Burlington-bldg., St. Louis, Mo. (Telephone No. 1911, Main.)
Perfection Supply Co., manufacturers of woven wire dynamo brushes, 621, Broadway, New York. (Teleph. No. 4241, Spring.)
Perkins, C. A., PH.D., M.AM.I.E.E., professor, University of Tennessee, Knoxville, Tenn.
Perkins, Frank C., electrical engineer & contractor, 8th Floor, Erie County Bank-bldg., Buffalo, N.Y.
Perkins, H. A., A.AM.I.E.E., professor of physics, Trinity College, Hartford, Conn.
Perkins Electric Switch Manufacturing Co., manufacturers of switches, sockets & electric hardware, 1421, State-st., Bridgeport, Conn.
Perrin, Seamans & Co., machinery for gas & electric companies, 57, Oliver-street, Boston, Mass.
Perry, C. L., A.AM.I.E.E., designing engineer, General Electric Co., Schenectady, N.Y.
Perry, J. W., A.AM.I.E.E., manager, H. W. Johns Manville Co., 100, William-st., New York.
Perry Electric Light Co., Perry, N.Y.
Perry Electric Light & Power & Heat Co., Perry, Iowa.
Perry, W. M., Electric Co., contracting electrical engineers & supply dealers, Columbia, S.C.
Perry Water, Light & Ice Co., Perry, Okla.
Peru City Electric Light Plant, Peru, Ind.
Peru City Lighting Plant, Peru, Ill.
Peru Electric Manufacturing Co., manufacturers of porcelain & china fittings, Peru, Ind.
Petaluma Gas & Electric Co., Petaluma, Cal.
Petaluma & Santa Rosa Railway Co., Petaluma, Cal.
Peterboro Electric Light, Power & Heating Co., Peterboro, N.H.
Peters, H. L., electrical contractor, 260, Pear-st., Buffalo, N.Y.
Petersburg Electric Light Plant, Petersburg, Ill.
Pettes & Randall Co., electrical watchman's clocks, 150, Nassau-st., New York.
Pettet, E., electrical contractor, Farmer City, Ill.
Pettingell-Andrews Co., dealers in electrical supplies, 156-160, Pearl-st., & 491-511, Atlantic-ave., Boston, Mass.
Pettman, O. E., & Co., electrical contractors, Chelsea, Mass.
Petty, H. C., contract manager, Crocker-Wheeler Co., Ampere, N.J. (Cable address: "Crockwheel, Ampere.")
Petty, Walter M., A.AM.I.E.E., general electrical contractor & borough electrician, Rutherford, N.J. (Telephone No. 84.)
Pfatisher, Mathias, A.AM.I.E.E., chief engineer, Electro-Dynamic Co., Philadelphia, Pa.
Phelon, J. O., M.AM.I.E.E., professor, Electrical Engineering, Worcester Polytechnic Institute, Worcester, Mass.
Phelps, Wm. J., A.I.E.E., Hylo Lamp Co., 535, 2nd-ave., Detroit, Mich. (Telegs.: "Hylo, Detroit.")
Phelps Co., makers of motorless flashes, sockets, plugs & fixtures, Detroit, Mich. (Telegs.: "Hylo, Detroit.")
Phelps Manufacturing Co., electric signs, 54, State-st., Detroit, Mich.
Philadelphia Book Co., electrical books, 17, South 9th-st., Philadelphia, Pa.
Philadelphia Central Manual Training School (William L. Sayre, principal), N.E. corner 17th & Wood-streets, Philadelphia, Pa.
Philadelphia & Easton Electric Railway Co., Doylestown, Pa.
Philadelphia Electric Co., 10th & Chestnut-sts., Philadelphia, Pa.
Philadelphia Electric Construction Co., installation contractors, 914, Filbert-st., Philadelphia, Pa.

Philadelphia Electrical & Manufacturing Co., fittings makers, 1228, North 31st-st., Philadelphia, Pa.
Philadelphia Machine Screw Works, manufacturers of all kinds of special machine screws & studs, &c., 624, Race-st., Philadelphia, Pa.
Philadelphia Rapid Transit Co., Philadelphia, Pa.
Philadelphia Suburban Electric Co., Lansdowne, Pa. A. M. Getz, superintendent.
Philadelphia & West Chester Traction Co., 610, Arcade-bldg., Philadelphia, Pa.
Philbric, C. M., electrical contractor, 4, St. Peter-st., Salem, Mass.
Philipsburg Electric Light, Gas, Power & Heating Co., Philipsburg, Pa.
Phillips, Chas. C., Inc., installation contractors, Lynn, Mass.
Phillips, Ellis Laurimore, A.AM.I.E.E., A.S.M.E., A.S.R.E., consulting engineer & contractor, 45, Broadway, New York. (Cables: "Elpse, New York." Teleph. No. 3950–3951, Rector.)
Phillips, Edward, & Co., electrical contractors, 644, Mt. Prospect-ave., Newark, N.J.
Phillips Insulated Wire Co., makers of bare & insulated wire, Pawtucket, R.I. (Telegs.: "Okay, Pawtucket." W.U. Code.)
Phillipsburg Electric Light, Heat & Power Co., Phillipsburg, N.J.
Phillipsburg-Granite Electric Light Co., Phillipsburg, Mont.
Phœnix Electric Co., makers of motors & generators, 9 & 10, Arcade-bldg., Charleston, West Va. (Home Teleph. No. 297.)
Phœnix Electric Light & Coal Co., East Greenwich, R.I.
Phœnix Electric Manufacturing Co., alternating & direct current, dynamos & motors, Mansfield, Ohio.
Phœnix Gas & Electric Co., Phœnixville, Pa.
Phœnix Glass Co., manufacturers of electric light shades, 413, Penn-ave., Pittsburgh, Pa.; & New York, N.Y.
Phœnix Iron Works Co., boilers & engines, Meadville, Pa; & 135, Broadway, New York.
Phœnix Railway Co., Phœnix, Ari.
Phosphor-Bronze Smelting Co., Ltd., The, manufacturers of phosphor-bronze, 2200, Washington-ave., Philadelphia, Pa.
Physical Review (monthly; ann. sub., $6), Ithaca, N.Y. (Edward L. Nichols, E. Merritt & F. Bedell, editors.)
Pickard, G. W., M.AM.I.E.E., consulting electrical engineer, Amesbury, Mass.
Pickenpack, M. S., electrical engineer & contractor, 472, Main-st., Poughkeepsie, N.Y. (Teleph. No. 116, D.C.)
Pickernell, F. A., M.AM.I.E.E., chief engineer, Am. Telegraph & Telephone Co., 125, Milk-st., Boston, Mass.
Piedmont Electric Co., engineers & contractors, Asheville, N.C. (Long Distance Teleph. No. 478.)
Piedmont Electric Light & Power Co., Piedmont, W. Va.
Pierce, Edwin F., gas & electric fixtures, 108, Mason-st., Milwaukee, Wis.
Pierce, Richard H., M.I.E.E., M.AM.I.E.E., electrical engineer, 35, Congress-st., Boston, Mass.
Pierce, Chas., & Co., electrical contractors, 42, Charles-st., Boston, Mass.
Pierce Electric Co., installation contractors, 237, 5th-ave., Chicago, Ill.
Pierce Hardware Co., dealers in electrical supplies, 1108, Broadway, Oakland, Cal.
Pierce, Richardson & Neiler, consulting mechanical & electrical engineers, 1407–1411, Manhattan-bldg., Chicago, Ill. (Teleph. No. 592, Harrison.)
Pierson, Frank E., city electrician, Morristown, N.J. (Telephone No. 167F.)
Pierson & Dean Co., installation contractors, New Haven, Conn.
Pierson, Roeding & Co., underground conduits & culverts, Seattle, Wash.
Pignolet, Louis M., maker of electric measuring instruments, 78, Cortlandt-st., New York, N.Y. (Telegrams: "Pignolet, New York.")
Pike, Clayton W., M.AM.I.E.E., vice-president & general manager, Keller-Pike Co., 1213, Race-st., Philadelphia, Pa.
Pike, W. E., electrical contractor, Newton, Mass.
Pikler, A. H., M.E., M.AM.I.E.E., engineer, Crocker Wheeler Co., Ampere, N.J.
Pillsbury, Chas. L., A.AM.I.E.E., consulting engineer, 206, Metropolitan Life-bldg., Minneapolis, Minn.
Pine Bluff Light & Water Co., Pine Bluff, Ark.
Pineville Electric Light Co., Pineville, Ky.
Pinkerton, Andrew, M.AM.I.E.E., electrical engineer, American Sheet & Tin Plate Co., Pittsburgh, Pa. (Teleph. No. 460, Court.)
Pinkham, C. T., & Co., installation contractors, 433, 6th-ave., New York. (Teleph. No. 4414, Madison-sq.)
Pinkham Electric & Repair Co., electrical engineers, 531, Smithfield-st., Pittsburg, Pa.
Pioneer Electric Co., installation contractors, St. Paul, Minn.
Piscataquis Woolen Co., Guilford, Maine.
Pittsburg Gas & Electric Co., electric light fixtures, 428, Pennsylvania-ave., Pittsburg, Pa.
Pittsburg Glass Co., sellers of arc globes, opal shades, &c., Allegheny, Pa.
Pittsburg High Voltage Insulator Co., Derry, Pa.
Pittsburg, McKeesport & Greensburg Railway Co., Greensburg, Pa.

Pittsburg Railroad & Light Co., Pittsburg, Kan.
Pittsburg Railways Co., Pittsburg, Pa.
Pittsburg Transformer Co., manufacturers of transformers, Pittsburg, Pa.
Pittsburg Valve, Foundry & Construction Co., electrically operated valves, Pittsburg, Pa.
Pittsburgh Armature Works, manufacturing electricians, Main & West Carson-sts., Pittsburg, Pa.
Pittsburgh Electrical & Machine Works, Barker-pl., Pittsburgh, Pa.
Pittsburgh Electrical Supply Co., dealers in electrical supplies & machinery, Pittsburgh, Pa. (Teleph. No. 1985, Court.)
Pittsburgh Gage & Supply Co., manufacturers of oil filters, safety water columns, steam specialties, &c., 30th-st. & Liberty-ave., Pittsburgh, Pa.
Pittsburgh Hardware & Home Supply Co., dealers in electrical supplies, 7th & Grant-sts., Pittsburgh, Pa. (Teleph. Nos. 1022, Bell Grant & P. & A. Main.)
Pittsburgh Insulating Co., manufacturers of insulating paper, linen, &c., Pittsburg, Pa.
Pittsburgh Motor Vehicle Co., electric motor wagons, Pittsburg, Pa.
Pittsburgh Reinforcing Pole Co., poles, 435, 6th-ave., Pittsburgh, Pa.
Pittsburgh Trolley Pole Co., manufacturers of trolley poles for electric railways, 115–117, Water-st., Pittsburgh, Pa.
Pittsburgh Valve, Foundry & Construction Co., electrically operated valves, Birmingham, Ala.
Pittsfield Electric Co., Pittsfield, Mass.
Pittsfield Electric Street Railway Co., Pittsfield, Mass.
Pittsfield Spark Coil Co., induction coils, Dalton, Mass.
Place, Geo., electric tramway supply manufacturer, 120, Broadway, New York.
Plain City Electric Light Plant, Plain City, Ohio.
Plaquemine Electric Light & Power Co., Plaquemine, La.
Plastic Rail Bond, rustless bonds for electric railways, 120, Liberty-st., New York. (Telegrams: "Lorah, New York.")
Platt, Chas. S., dealer in platinum, 29, Gold-street, New York, N.Y.
Platt Iron Works Co., manufacturers of Victor turbines, pumping machinery & feed-water heaters & purifiers, Dayton, Ohio. (Telegrams: "Stilwell, Dayton.")
Platteville Electric Light & Power Co., Platteville, Wis.
Plattsburg Light, Heat & Power Co., Plattsburg, N.Y.
Plattsburgh Traction Co., Plattsburgh, N.Y.
Pleasantville Electric Co., Pleasantville, N.J.
Plumb, H. T., A.AM.I.E.E., associate professor of electrical engineering, Purdue University, West Lafayette, Ind.
Plume & Atwood Manufacturing Co., brass & brass goods manufacturers, 279, Broadway, New York. (Telegs.: "Plumwood, New York.") Factory: Waterbury, Conn.
Plummer Electric Co., installation contractors, 453, Atlantic-ave., Boston, Mass.
Plymouth Electric Light Co., Plymouth, Ind. (Telephone No. 124.)
Plymouth Electric Light Co., Plymouth, Mass.
Pneumelectric Machine Co., makers of electric mining plant, drills, &c., Syracuse, N.Y.
Pohl, George D., Manufacturing Co., makers of gas & gasoline engines, Vernon, N.Y.
Point Richmond Light & Power Co., Point Richmond, Cal.
Polacheck, Chas., & Bros. Co., electrolier manufacturers & fitters, 182, 3rd-st., Milwaukee, Wis.
Polar Star Electric Co., electric light contractors, Faribault, Minn.
Polo Electric Light & Power Co., Polo, Ill.
Polytechnic Institute of Brooklyn, technical school, Brooklyn, N.Y. (Teleph. No. 4314, Main.)
Pomeroy, J. G., A.AM.I.E.E., West manager Adams-Bagnall Electric Co., 303, Dearborn-st., Chicago, Ill.
Pomeroy & Middleport Electric Co., Pomeroy, Ohio.
Pontiac Light Co., Pontiac, Mich.
Pontiac Light & Water Co., Pontiac, Ill.
Poole, C. O., M.AM.I.E.E., chief engineer & assistant general manager Nevada California Power Co., Goldfield, Nevada.
Poole, Cecil P., M.AM.I.E.E., editor *Power & the Engineer*, 505, Pearl-st., New York. (Teleph. No. 3460, Worth.)
Poole, J. W., dealer in electrical supplies, 16, Columbia, Boston, Mass.
Poole, Wm. C., electrician, 227, Lewis-ave., Brooklyn, N.Y.
Pope, Ralph W. (secretary American Institute of Electrical Engineers), 33, West 39th-st., New York (Telegs.: "Cyandric, New York." Teleph. No. 4600, Bryant); & 570, Cherry-st., Elizabeth, N.J.
Pope, William H., installation contractor, Plainfield, N.J.
Popular Electricity (monthly; ann. sub., P.O., 7*s.* 6*d.*), Monadnock-blk., Chicago, Ill. H. W. Young, editor
Popular Science Monthly, Garrison-ave., Hudson, N.Y.
Port Deposit Electric Co., Port Deposit, Md.
Port Huron Light & Power Co., Port Huron, Mich.
Port Jervis Electric Light, Power, Gas & Railroad Co., Port Jervis, N.Y.

Port Tampa Electric Light & Power Co., Port Tampa, Fla.
Portable Electric Safety Light Co., makers of miners' electric safety lamps, 37, N.J. Railroad-ave., Newark, N.J. (Telegs.: "Portelec, Newark." Teleph. No. 3095, Newark.)
Porter, Albert B., consulting electrical engineer, 324, Dearborn-st., Chicago, Ill.
Porter, J. F., C.E., M.AM.I.E.E., president Tri City Railway & Light Co., Davenport, Iowa.
Porter Cedar Co., wood poles, Saginaw, Mich.
Porter, Stephen, & Co., mfrs. of the Porter electric light adjuster, 384, Atlantic-ave., Boston, Mass.
Porter's, Wm., Sons' Co., manufacturers of electric marine lamps, lanterns & fixtures, 17, Vandewater-st., New York. (Telegs.: "Porsonco, New York." W.U. Code.)
Portland Co., manufrs. of voltage regulators & static electricity neutralizers, 58, Fore-st., Portland, Me.
Portland Electric Works, electrical contractors, 353, Stark-st., Portland, Ore.
Portland Lighting & Power Co., Portland, Maine.
Portland Rail Road Co., Portland, Maine.
Portland Railway, Light & Power Co., Portland, Ore. (Teleph. No. A. 6131, Home.)
Portsmouth Electric & Gas Co., Portsmouth, Va.
Portsmouth Electric Railway, Portsmouth, N.H. (Teleph. No. 233, Portsmouth.)
Postal Telegraph — Cable Co., 253, Broadway, New York. (Teleph. No. 6700, Barclay.)
Post-Glover Electric Co., manufacturers of & dealers in electric & street railway supplies, 314 & 316, West 4th-st., Cincinnati, Ohio. (Telephone No. 3, Main.)
Postel & Linn, consulting electrical engineers, Fisher-bldg., Chicago, Ill.
Potomac Electric Power Co., 213-14th N.W., Washington, D.C.
Potomac Terra Cotta Co., electric conduits, Washington, D.C.
Potsdam Electric Light & Power Co., Potsdam, N.Y.
Potter, H. N., SC.D., M.AM.I.E.E., electrical & electro-chemical engineer, Hollywood, Cal.
Potter, Herbert S., electrical engineer, 24, Commerce-st., Boston, Mass. (Telephone No. 850, Richmond.)
Potter, W. B., M.AM.I.E.E., M.AM.S.M.E., M.AM.S.C.E., engineer, Railway & Traction Dept., General Electric Co., Schenectady, N.Y.
Potter, A. L., & Co., poles & supplies, 18, Broadway, Norwich, Conn.
Potter, C. E., Electric Signal Co., St. Louis, Mo.
Potter & Earle, electrical supplies, Fall River, Mass. (Teleph. Nos.: Bell, 660; Auto., 1553.)
Potts, L. M., PH.D., A.AM I.E.E., chief engr., Rowland Telegraphic Co., 107, East Lombard-st., Baltimore, Md.
Pottstown Light, Heat & Power Co., Pottstown, Pa.
Pottsville Union Traction Co., Pottsville, Pa.
Poughkeepsie City & Wappingers Falls Electric Railway Co., Poughkeepsie, N.Y.
Poughkeepsie Light, Heat & Power Co., Poughkeepsie, N.Y.
Powell, Percy Howard, M.E., A.AM.I.E.E., Bridgeport Brass Co., Bridgeport, Connecticut. (Teleph. No. 842.)
Power, Thos. W., Engineering Co., consulting & constructing engineers, Washington Loan & Trust-bldg., Washington, D.C. (Telegs.: "Thospower, Washington." Teleph. No. 1667, Main.)
Power & the Engineer (weekly; ann. sub., United States & Mexico, $2; Canada, $3.00; Great Britain & all other countries, 16s.), 505, Pearl-st., New York (Telegs.: "Powpub, New York." Teleph. No. 3460, Worth); & 6, Bouverie-st., London, E.C. (Telegs.: "Backlash, London." Teleph. No. 5158, Holborn.)
Power Equipment Co., second-hand electric plant, Fisher-bldg., Chicago, Ill.
Power Equipment Co., installation contractors, 50, Church-st., New York.
Power & Mining Machinery Co., dynamo & electric machine manufacturers, 115, Broadway, New York.
Power Specialty Co., superheaters, 111, Broadway, New York.
Prairie City Electric Co., Prairie-du-Chien, Wis.
Pratt, Ch. Richardson, A.AM.I.E.E., consulting engineer, 1123, Broadway, New York.
Pratt, W. F. B., electrical supplies, 25, W. Broadway, New York.
Pratt, William Hemmenway, M.AM.I E.E., designing engineer, General Electric Co., Lynn, Mass.
Pratt-Chuck Co., makers of conduit outlet boxes & covers, Frankfort, N.Y.
Pratt & Whitney Co., manufacturers of machine tools, 1, Flower-st., Hartford, Conn. (Telegrams: "Pratwhit, Hartford." Telephone No. 1130.)
Pray, Thomas, jun., consulting & constructing engineer, steam & electricity, 131, State-st. (P.O. Box 2809), Boston, Mass. (Telegs.: "Milkpray, Boston." Teleph. No. 1683-2, Main.)
Premier Electric Co., installation contractors, 364, Wabash-ave., Chicago, Ill.
Premier Novelty Co., electrical fittings makers, 42, River-st., Chicago, Ill.
Prentiss Clock Improvement Co., electric clock makers, 92, Chambers-st., New York.
Prescott Electric Co., Prescott, Ariz.
Prescott Water & Light Plant, Prescott, Ark.
Press, A., A.M.I.E.E., chief engineer American Transformer Co., 143, Miller-st., Newark, N.J.
Price, Chas. W., A.AM.I.E.E., president & editor of the *Electrical Review & Western Electrician*, 13, Park-row, New York.
Price, Edgar F., A.AM.I.E.E., electrical engineer, general manager Union Carbide Co., New York.
Price, Wm. J., A.M.I.E.E., Western Eng. & Construction Co., 741, Monadnock-bldg., San Francisco, Cal.

Price, G. L. W., Electric Co., dealers in electrical supplies, 908, Beech-ave., Allegheny City, Pa.
Priceburg Electric Light Co., Priceburg, Pa.
Princeton City Electric Light & Water Works, Princeton, Minn. (Teleph. Nos.: 17, N.W.; & 55, T.C.)
Princeton Light, Heat & Power Co., Princeton, N.J.
Princeton Light & Power Co., Princeton, Ind.
Pringle Electrical Manufacturing Co., manufacturers of electrical specialties, 1906–1908, North 6th-st., Philadelphia, Pa.
Prior & Sallada Co., Inc., electrical engineers, 248, Pine-st., Williamsport, Pa. (Teleph. Nos.: 103L, United; & 10R, Bell.)
Prismatic Electric Sign Co., Syracuse, N.Y.
Proal, A. B., jun., M.E., N.Y. & Staten Island Electric Co., West New Brighton, N.Y.
Proceedings of the American Institute of Electrical Engineers (monthly; ann. sub. $6 = £1 1s.), 33, West 39th-st., New York. (Telegs.: "Cyandric, New York." Teleph. No. 4600, Bryant.)
Proctor, Thos. L., A.AM.I.E.E., 814, Minor-ave., Seattle, Wash.
Progressive Age (semi-monthly; ann. sub., $3 in advance, post free to U.S.; Canada, $4; E. C. Brown, editor & publisher), Stewart-bldg., 280, Broadway, New York. (Telegs.: "Progage, New York." Long Distance Teleph. No. 3572-3, Worth.)
Progressive Armature & Electrical Works, installation contractors, 421, Cherry-alley, Pittsburg, Pa.
Prometheus Electric Co., electric cooking & heating apparatus, 236, East 43rd-st., New York. (Teleph. No. 714, Murray Hill.)
Prosser, Herman A., M.AM.I.M.E., M.AM.I.E.E., mining & electrical engineer, 42, Broadway, New York.
Prosser, Thos., & Son, makers of resistance wires, 15, Gold-st, New York.
Prouth, F. G., M.AM.I.E.E., consulting engineer, Randolph-bldg., Memphis, Tenn.
Providence Belting Co., manufacturers of leather belting, 37–39, Charles-st., Providence, R.I.
Providence & Danielson Railway Co., 610, Banigan-bldg., Providence, R.I. (Teleph. No. 4013.)
Providence Engineering Works, manufacturers of engines, 521, South Main-st., Providence, R.I. (Telegrams: "Greene, Providence." Telephone No. 1909.)
Providence Telephone Co., 112, Union-st., Providence, R.I.
Providence, Warren & Bristol R.R., Providence, R.I.
Pruden, W. E., Hardware Co., installation contractors, 866, 8th-ave., New York.
Public Lighting Commission, 40, Atwater-st., Detroit, Mich. (Telephone No. 580.)
Public Service Co., electric light & power contractors, St. Cloud, Minn.
Public Service Corporation of New Jersey, 763, Broad-st., Newark, N.J.
Public Service Railway Co., 7, Central-ave., Newark, N.J.
Pueblo Electric Co., electrical & steam engineers & contractors, 224–226, W. Fourth-st., Pueblo, Col. (Teleph. No. 276, Main.)
Pueblo & Suburban Traction & Lighting Co., Pueblo, Col.
Puffer, Wm. L., M.AM.I.E.E., engineer & expert, 307, Equitable-bldg., Boston, Mass.
Pullen, Leon W., primary batteries, Philadelphia, Pa.
Pullman Railroad Supply Co., makers of trolley catchers & electrical appliances, Rochester, N.Y.
Pullman's Co., tramcar builders, 533, Marquette-bldg., Chicago, Ill.
Pupin, Michael I., adjunct professor of mechanics, Columbia College, New York, N.Y.
Purcell Water Co., The, Purcell, Okla.
Purity Oil Filter Co., 211, Water-st., Pittsburg, Pa.
Pusey Voltage Regulator Co., makers of regulators, 618, Fidelity-bldg., Philadelphia, Pa.
Putnam, H. St. Clair, M.AM.I.E.E., consulting electrical engineer, 100, Broadway, New York.
Putnam, J. E., engineer-in-charge, City Engineer's Laboratory, Rochester, N.Y.
Putnam Electric Co., Greencastle, Ind.
Putnam Light & Power Co., Putnam, Conn.
Putnam Machine Co., manufacturers of engines & water wheels, Fitchburg, Mass.
Pyle-National Electric Headlight Co., 1426 & 1427, Monadnock-blk., Chicago, Ill.

Queen City Electric Co., installation contractors & supplies, N.E. cor. 4th & Plum-sts., Cincinnati, Ohio. (Teleph. No. 654, Main.)
Queen & Co. (incorporated), manufacturers of electrical test instruments, 807, Arch-st., Philadelphia, Pa. (Telegs.: "Queen, Philadelphia.")
Queens Borough Gas & Electric Co., Far Rockaway, N.Y. (Telephone No. 62.)
Queens Borough Gas & Electric Co., 347, Central-ave., New York.
Quincy Electric & Ice Plant, Quincy, Fla.
Quincy Electric Light & Power Co., Quincy, Mass. (Teleph. No. 185.)
Quincy Gas, Electric & Heating Co., Quincy, Ill.

Rachford Bros., dealers in electrical supplies, 211, North 5th-st., Springfield, Ill. (Teleph. No. 910.)
Racine Engine & Machinery Co., manufacturers of vertical automatic cut-off engines, Racine, Wis. (Telegs.: "Enicar, Racine.")

Rackaway Electric Light & Improvement Co., Rackaway, N.J.
Radford Water Power Co., Radford, Va. T. L. Pickle, superintendent.
Radio Telephone Co. (De Forest Wireless System), 103, Park-ave., New York.
Raeburn, Andrew, mechanical & electrical engineer, Westinghouse, Church, Kerr & Co., 131, State-st., Boston, Mass.
Rail Joint Co., makers of rail joints, &c., 29, West 34th-st., New York.
Railroad Age Gazette (weekly; ann. sub., U.S. & Mexico, $5.00; Canada, $6.00; P.U., $8.00), 83, Fulton-st., New York (Telegs.: "Railgaz, New York"); & Queen Anne's-chbrs., Westminster, London, S.W. (Telegs.: "Trazette, London.")
Railroad Supply Co., manufacturers of electric railway supplies, Chicago, Ill.
Railway & Engineering Review, 1305, Manhattan-bldg., Chicago, Ill.
Railway & Locomotive Engineering (monthly), 114, Liberty-st., New York. (Ann. sub., $2; Foreign, $2.50.) (Cable address: "Loceng, New York." Teleph. No. 984, Cort.)
Railway Materials Co., manufacturers' agents, 10, Post Office-sq., Boston, Mass.
Railway Supply Co., dealers in railway supplies, St. Louis, Mo.
Raleigh Electric Co., light, power & traction, Raleigh, N.C.
Ralston, J. H., A.M.AM.I.E.E., contracting engineer, Albany, Ore.
Randall, John E., electrical engineer, National Electric Lamp Association, 166, Euclid-ave., Cleveland, O.
Randall, K. C., M.AM.I.E.E., engineer, Westinghouse Electric & Manufacturing Co., Pittsburg, Pa.
Randolph, L. S., M.AM.S.C.E., M.AM.S.M.E., M.AM.I.E.E., consulting engineer, Blacksburg, Va.
Randolph & Clowes, manufacturers of sheet brass & copper seamless & brazed tubing, Waterbury, Conn.; New York; Chicago; Philadelphia; & Cincinnati.
Randolph & Holbrook Electric Light Co., Randolph, Mass.
Rankin, John R., installation contractor, 1212, East Grand-st., Elizabeth, N.J.
Raphael, Harry, installation contractor, 143, Washington-st., Pittsburg, Pa. (Teleph. Nos.: P. & A. 4481F.; & Bell, 1758, R. Grant.)
Rapid City Electric & Gas Light Co., Rapid City, South Dakota.
Rapid Transit Subway Construction Co., 13, Park-row, New York.
Rappahannock Electric Light & Power Plant, Fredericksburg, Va.
Ratchford, J. B., electrical contractor, 333, South 9th-st., Scranton, Pa.
Raton Electric Light Co., Raton, New Mexico.
Rau, John C., dealer in electrical supplies, 524, 12th-st., N.W., Washington, D.C.
Rauch & Lang Carriage Co., electric motor carriages, 2180, West 25th-st., Cleveland, Ohio.
Ravenna Gas & Electric Light Co., Ravenna, Ohio.
Rawlins Electric Light & Fuel Co., Rawlins, Wyo.
Raymer, G. O., installation contractor, 40, Spring-st., Atlanta, Ga.
Raymond Electric Co., installation contractors, 501, Chestnut-st., Philadelphia, Pa.
Read, R. H., A.AM.I.E.E., patent attorney, General Electric Co., Schenectady, N.Y.
Reading Electric Co., electrical dealers & contractors, 9, North 5th-st., Reading, Pa.
Reading Municipal Electric Light Plant, Reading, Mass.
Reading Town Electric Light Plant, Reading, Ohio.
Reber, H. L., M.AM.I.E.E., secretary & general manager, Kinloch Telephone Co., Kinloch-bldg., St. Louis, Mo.
Reckenzaun, Frederick, M.AM.I.E.E., electrical engineer, 83, Chambers-st., New York.
Reconstructed Granite Co., manufacturers of granite insulators, 14, Dey-st., New York. (Telegrams: "Regran, New York.")
Red Oak Electric Co., Red Oak, Iowa.
Redding, J. Herbert, installation contractor, 22, Bowker-st., Boston, Mass. (Teleph. No. 2482-3, Hay.)
Redwood Manufacturers Co., electric light contractors, Black Diamond, Cal.
Reed, Charles J., A.AM.I.E.E., electrical engineer, 3313, North 16th-st., Philadelphia, Pa.
Reed, H. A., A.AM.I.E.E., president, Bishop Gutta Percha Co., 420, East 25th-st., New York. (Teleph. No. 21, Madison-sq.)
Reed, Henry D., A.AM.I.E.E., vice-president & superintendent, Bishop Gutta Percha Co., 420, East 25th-st., New York. (Teleph. No. 21, Madison-sq.)
Reed, Lyman C., general manager, Electric Manufacturing Co., 926-940, Lafayette-st., New Orleans, La. (Teleph. No. 806, Main.)
Reed, S. Albert, electrical & consulting engineer, 32, Nassau-st., New York.
Reed, W. B., A.AM.I.E.E., consulting engineer, 1013, Hibernia Bank-bldg., New Orleans, La.
Reed, W. E., M.AM.I.E.E., constructing electrical engineer, Machesney-bldg., Pittsburg, Pa.
Reed, Walter Wilson, A.M.AM.I.E.E., electrical engineer & superintendent Houston Lighting & Power Co., Houston, Tex.
Reed & Bro., consulting electricians, 160, West Tioga-st., Philadelphia, Pa.
Reed & Volk Electrical Co., installation contractors, South Norwalk, Conn.
Reeder, Chas. L., consulting electrical engineer, 919-921, Equitable-bldg., Baltimore, Md.
Reedy Elevator Manufacturing Co., electric elevators, 91, Illinois-st., Chicago, Ill.

Reedy, H. J., & Co., manufacturers of electric elevators, 11, 13 & 15, West 2nd-st., Cincinnati, Ohio.
Register, A. L., & Co., installation contractors, 112, North Broad-st., Philadelphia, Pa.
Reid, Brice H., installation contractor, Elkhart, Ind. (Teleph. No. 643.)
Reid, Thorburn, M.AM.I.E.E., consulting electrician, 91, Wall-st., New York, N.Y.
Reilly & Guy, electric bell hanging & dealers in supplies, 26, Whitehall-st., New York, N.Y.
Reilly's, James, Son's Co., manufacturing electricians, 122, Centre-st., New York.
Reineke, Wilson Co., dealers in gas & electric fixtures, 13, Wood-st., Pittsburg, Pa.
Reis & O'Donovan, Inc., electrical & mechanical contractors, 207, East 37th-st., New York. (Teleph. No. 6077, Murray Hill.)
Reisinger, Hugo, electric light carbon manufacturer, 11, Broadway, New York. (Telegrams: "Reisinger, New York.")
Reist, H. G., M.E., M.AM.I.E.E., electrical engineer, General Electric Co., Schenectady, N.Y.
Reiter, C., Electric Co., electrical contractors & supplies, 18, West 2nd-st., Dayton, Ohio.
Reliable Electric Co., installation contractors, Knoxville, Tenn.
Reliance Electric Co., installation contractors, 254, Ogden-ave., Chicago, Ill.
Reliance Electric & Engineering Co., electric motor manufacturers, Caxton-bldg., Cleveland, Ohio.
Reliance Electric & Manufacturing Co., manufacturers of accessories, 832, West 6th-st., Cincinnati, Ohio.
Reliance Engineering Co., consulting mechanical & electrical engineers, 4th National Bank-bldg., Cincinnati, Ohio. (Teleph. Nos.: 5207, Main; 966 R & 2975 L, North.)
Reliance Gauge Column Co., manufacturers of reliance safety water columns, reliance floats, &c., 70, East Prospect-st., Cleveland, Ohio. (Telegrams: "Gauge, Cleveland." Telephone No. E. 760.)
Remy Electric Co., manufacturers of magneto ignition apparatus, Columbus-ave., Anderson, Ind. (Telegs.: "Remygnite, Anderson." W.U. Code. Teleph. No. 640, Main.)
Renim Specialty Co., makers of switch boxes, 37, Parkman-st., Brighton Station, Boston, Mass. (Teleph. No. 164, Brighton.)
Rennard, John C., A.AM.I.E.E., consulting & supervising electrical engineer, New York Telephone Co., 18, Cortlandt-st., New York, N.Y.
Reno, C. Stowe, M.AM.I.E.E., chief engineer, Triumph Electric Co., 610, Baymiller-st., Cincinnati, Ohio. (Teleph. Nos.: 765 & 636, W.; & Home, North, 636 X.)
Reno Power, Light & Water Co., Reno, Nevada.
Renovo Edison Light, Heat & Power Co., Renovo, Pa.
Rensselaer City Water & Electric Light Plant, Rensselaer, Ind.
Renz, Robert E., A.AM.I.E.E., chief electrician, Yak Mining & Milling Co., 408, W. 7th-st., Leadville, Col.
Replogle Governor Works, The, makers of the Replogle water wheel governor, Akron, Ohio. (Telegrams: "Replogle, Akron." W.U. Code used.)
Retherford Bros., electrolier manufacturers, &c., Muncie, Ind.
Reuter, Wm. G., electrical contractor & electrical supplies, 25, East 6th-st., Cincinnati, Ohio. (Telephone No. 2625, Main.)
Reuterdahl, Arvid, A.AM.I.E.E., Reuterdahl Electric Co., 20, Babcock-st., Providence, R.I.
Revere Rubber Co., manufacturers of electrical supplies, Chelsea, & 77, Bedford-st., Boston, Mass.
Revolute Machine Co., makers of continuous electric blue printing apparatus, 151, E. 126th-st., New York.
Reynolds Electric Co., machinery & installation contractors, 80, Columbia-st., Seattle, Wash.
Reynolds Electric Flasher Manufacturing Co., electric sign flashers, 191–193, 5th-ave., Chicago, Ill. (Telegs.: "Reco, Chicago.")
Reynolds Electrical Supply Co., Inc., electrical engineers, 1020, State-st., Santa Barbara, Cal. (Telephone Nos.: 295, Sunset; & 295, Home.)
Rhea County Electric Light Co., electric light contractors, Dayton, Tenn.
Rhinelander Lighting Co., Rhinelander, Wis.
Rhode Island Braiding Machine Co., manufacturers of machinery for covering wire, 228–232, Aborn-st., Providence, R.I.
Rhode Island Co, Providence, R.I.
Rhode Island Electric Protective Co., operating municipal burglar & fire alarm systems, 32, Custom House-st., Providence, R.I. (Teleph. No. 250, Union.)
Rhode Island Electrical Equipment Co., electrical supplies, 45, South Main-st., Providence, R.I.
Rhode Island Telephone & Electric Co., manufacturers & dealers in electrical supplies, 55, Pine-st., Providence, R.I.
Rhodes, H. A., A.AM.I.E.E., chief engineer, Col. Tel. Co., Denver, Col.
Rice, Arthur, A.AM.I.E.E., A.S.M.E., New York Telephone Co., 15, Dey-st., New York.
Rice, Calvin W., M.I.E.E., M.AM.I.E.E., M.AM.S.M.E., 29, West 39th-st., New York.
Rice, D. E., manufacturer of feed-water heaters, 191, Atwater-street, Detroit, Mich.
Rice, Edwin Wilbur, jun., M.I.C.E., M.I.E.E., M.AM.I.E.E., vice-president & technical director, General Electric Co., Schenectady, N.Y.
Rice, Geo. S., chief engineer, Haddon Hall, New York.
Rice, Martin P., A.AM.I.E.E., chief of Publication Bureau, General Electric Co., Schenectady, N.Y.
Rice, Seymour A., dealer in electrical supplies, 119, Michigan-ave., Lansing, Mich.

Rice & Baldwin Electric Co., electrical engineers & supplies, 214, Pearl-st., Hartford, Conn.
Rice-Lake City Electric Light Plant, Rice-Lake, Wis.
Rich & Ware, electrical engineers, 162, West 29th-st., New York.
Richardson, J. W. A., installation contractor & electrical engineer, New Orleans, La.
Richardson, R. E., M.AM.I.E.E., general manager Kansas City Electric Light Co., Kansas City, Mo.
Richardson Engineering Co., complete electric light plants, 36, Pearl-st., Hartford, Conn.
Richardson, Frank A., & Co., telephone manufacturers, 34, Southbridge-st., Worcester, Mass.
Richmond, Will F., electrical engineer, 308, Atlantic-ave., Boston, Mass.
Richmond Electric Co., manufacturing electricians, Richmond, Va.
Richmond Light, Heat & Power Co., Richmond, Ind.
Richmond Light & Power Co., Richmond, Cal.
Richmond Light & Railroad Co. Office: Jay-st., New Brighton, S.I., N.Y.
Richter, Eugene L., Electric Co., electrical contracts & supplies, 1919, Columbia-ave., Philadelphia, Pa. (Long Dist. Bell Teleph. Nos.: 606, Diamond; & Keystone, 17, Park.)
Richter Electrical Co., 406, Plum-ave., Cincinnati, Ohio.
Richter & Eschler, dynamo manufacturers, Camden, N.J.
Ricker Manufacturing Co., fuse manufacturers, 300, North Water-st., Rochester, N.Y.
Rideout, Alexander C., LL.D., A.AM.I.E.E., 101, Randolph-st., Chicago, Ill.
Rider, George S., & Co., consulting electrical engineers, Century-bldg., Cleveland, Ohio.
Ridgway Dynamo & Engine Co., Ridgway, Pa. (H. S. Thayer, president.)
Ridgway Electric Light Co., Ridgway, Pa.
Ridlon, Frank, Co., dealers in second-hand electric light & power apparatus, 200, Summer-st., Boston, Mass. (Telegrams: "Ridwood, Boston.")
Riehle Bros. Testing Machine Co., 19, North 69th-st., Philadelphia, Pa.
Ries, Elias E., M.AM.I.E.E., electrical engineer & inventor, 116, Nassau-st., New York. (Telegs.: "Rieselect, New York.")
Riess Incorp. Light Supply Co., electric light fixtures, 719, Vine-st., Cincinnati, Ohio.
Riggs, W. M., B.S., M.AM.I.E.E., professor of electrical engineering, Clemson College, S.C.
Riker, Andrew L., M.AM.I.E.E., Locomobile Co. of America, Bridgeport, Conn.
Riley, T. P., installation contractor, Fargo, N.D.
Ripon Light & Water Co., Ripon, Wis.
Risdon-Alcott Turbine Co., turbine waterwheel makers, Mount Holly, N.J.
Risdon Iron & Locomotive Works, electric lighting & electric railway & mining machinery, San Francisco, Cal.
Ritchie & Sons, E. S., manufacturers of electrical instruments, Brookline, Mass.
Rittenhouse & Smith, electrical contractors, Harrison-ave., Scranton, Pa.
Ritter, Wm. F., manufacturing electrician, 55, Main-st., Cincinnati, Ohio.
River Falls City Electric Light Plant, River Falls, Wis.
Riverside & Arlington Railway Co., Riverside, Cal.
Riverside City Electric Light Department, Riverside, Cal.
Riverside Light & Power Co., Abilene, Kan.
Roanoke Railway & Electric Co., Roanoke, Va.
Roaring Fork Electric Light & Power Co., Aspen, Col.
Robb, D., installation contractor, 124, West 50th-st., New York.
Robb, Russell, M.AM.I.E.E., electrical engineer, Stone & Webster, 147, Milk-st., Boston, Mass.
Robb, W. L., M.AM.I.E.E., professor of physics & electrical engineering, Rensselaer Polytechnic Institute, Troy, N.Y.
Robb & Blackmer, installation contractors, 129, Pearl-st., Boston, Mass.
Robb-Mumford Boiler Co., boiler makers, South Framingham, Mass.
Robbins Electric Co., dealers in electrical supplies & construction, 830, Liberty-ave., Pittsburgh, Pa.
Robbins & Myers Co., manufacturers of "Standard" fans & dynamos & power motors, Springfield, Ohio. (Telegrams: "Standard, Springfield, Ohio." Telephone No. 63, Main.)
Robert Instrument Co., voltmeters & ammeters, 56, Shelby-st., Detroit, Mich.
Roberts, E. P., M.AM.I.E.E., consulting engineer, Schofields-bldg., Cleveland, Ohio.
Roberts, J. H., manufacturer of electric lifts, &c., 430, West Broadway, New York.
Roberts & Abbott Co., consulting electrical engineers, Schofield-bldg., Cleveland, Ohio.
Roberts Electric Supply Co., H. C., electric supplies, 905, Arch-st., Philadelphia, Pa.
Roberts, Geo. I., & Bros., constructing engineers for steam power & electric plants, & dealers in mill, hotel & engineers' supplies, 473, 4th-ave., New York. (Telegs.: "Girabi, New York." Lieber's Code.)
Roberts & Schaefer Co., electric mining plant makers, Old Colony-bldg., Chicago, Ill.
Robertson-Cataract Co., 37-39, Court-st., Buffalo, N.Y.
Robertson Electric Construction Co., installation contractors, 21, Terrace-st., Buffalo, N.Y.
Robinson, Almon, A.M.AM.I.E.E., Webster-rd., P.O. Box 54, Lewiston, Maine.
Robinson, D. P., M.AM.I.E.E., vice-president Stone & Webster Engineering Corporation, Boston, Mass.

Robinson, Harry A., M.AM.S.H.V.E., consulting engineer, 1407–11, Manhattan-bldg., Chicago, Ill. (Teleph. No. 592, Harrison.)
Rochester Car Wheel Works Co., manufacturers of street car wheels, Rochester, N.Y.
Rochester City Electric Light Plant, Rochester, Minn.
Rochester Electric Light, Heat & Power Co., Rochester, Ind.
Rochester Electric Motor Co., makers of dynamos & motors, Rochester, N.Y.
Rochester Machine Tool Works, Ltd., makers of automatic, high speed & petroleum engines, 3, Frank-st., Rochester, N.Y. (Telegrams: "Acme, Rochester, N.Y.")
Rochester & Manitou Rail Road Co., Granite-bldg., Rochester, N.Y.
Rochester Railway Co., Rochester, N.Y.
Rochester Railway & Light Co., Rochester, N.Y.
Rock Hill Water, Light & Power Co., Rock Hill, S.C.
Rock Island Battery Co., primary batteries, 9th & Sycamore-sts., Cincinnati, Ohio.
Rockford Edison Co., Rockford, Ill.
Rockford & Interurban Railway Co., Rockford, Ill.
Rockingham County Light & Power Co., Portsmouth, N.H.
Rockingham Power Co., Wilmington, N.C.
Rockland Electric Co., Hillburn, N.Y.
Rockland Light & Power Co., Haverstran, N.Y.
Rockland Light & Power Co., Nyack, N.Y. (Teleph. No. 450.)
Rockland, Thomaston & Camden Street Railway Co., Rockland, Maine.
Rockville Center Village Electric Light Plant, Rockville Center, N.Y.
Rockville Gas & Electric Light Co., Rockville, Conn.
Rockwood Manufacturing Co., manufacturers of paper pulleys, 1801–2001, English-ave., Indianapolis, Ind. (Telegrams: "Rock, Indianapolis.")
Rocky Mount City Electric Light Plant, Rocky Mount, N.C.
Rodrigues, M. R., portable battery fans, 17, Whipple-st., Brooklyn, N.Y.
Roe, Albert, & Co., electrical & mechanical engineers, 766, Fox-ave., New York.
Roeber, E. F., editor *Electrochemical & Metallurgical Industry*, 239, West 39th-st., New York.
Roebling, Ferdinand W., A.AM.I.E.E., J. A. Roebling's Sons Co., Trenton, N.J.
Roebling's, John A., Sons Co., manufacturers of wire for all electrical purposes, Trenton, N.J.
Roeller, W. H., & Co., electrical engineers, Pottstown, Pa.
Roentgen Manufacturing Co., makers of & dealers of Roentgen apparatus, Mariner & Merchant-bldg., Philadelphia, Pa.
Roeser & Sommer, gas & electric fixtures, 386–388, 2nd-ave., New York.
Roessler & Hasslacher Chemical Co., manufacturers & importers of chemicals, 100, William-st., New York.
Rogers & Hilton, installation contractors, 318, Pearl-st., Syracuse, N.Y.
Rogers Laboratory of Physics, Massachusetts Institute of Technology, Boston, Mass.
Rogers Paper Manufacturing Co., insulating papers, South Manchester, Conn. (Telegs.: "Rogers, So. Manchester, Conn." Teleph. No. 110–4.)
Rogue River Electric Co., Tolo, Ore.
Rohan, John, & Son Boiler Works Co., manufacturers of boilers, Lewis & Biddle-sts., St. Louis, Mo.
Rohn, George F., installation contractor, 446, East Water-st., Milwaukee, Wis.
Rohrer, A. L., M.AM.I.E.E., M.AM.S.M.E., electrical superintendent, Schenectady Works, General Electric Co., Schenectady, N.Y.
Roller, J. E., M.AM.I.E.E., 101, North Munn-ave., East Orange, N.J.
Roller, Frank W., M.E., M.AM.I.E.E., Machado & Roller, 203, Broadway, New York, N.Y. (Telegrams: "Weeco, New York." Telephone No. 3580, Cort.)
Roller-Smith Co., electrical apparatus manufacturers, Bethlehem, Pa.
Rollins Engine Co., manufacturers of Rollin's engines, Nashua, N.H.
Rome Gas, Electric Light & Power Co., Rome, N.Y. (Telephone Nos. 180 & 181.)
Rongtell Electric Co., electrical contractors, 4248, Olive-st., St. Louis, Mo.
Rood, J. T., A.AM.I.E.E., professor of physics & electrical engineering, University of Alabama, University, Ala.
Rooney Electric Lamp Co., makers of incandescent lamps, 155, East 23rd-st., New York.
Roosa, E. D., & Co., electrical contractors & engineers, 100–110, East Washington-ave., Springfield, Ill.
Root Spring Scraper Co., makers of track scrapers, Kalamazoo, Mich.
Roovers Bros., manufacturers of electric novelties, 100, Shermerhorn-st., Brooklyn, N.Y.
Roper, John L., Lumber Co., Roper, N.C.
Rosa, E. B., PH.D., SC.D., M.AM.I.E.E., physicist, National Bureau of Standards, Washington, D.C.
Rose Electric Co., dealers in second-hand electric light apparatus, 202, South 3rd-st., St. Louis, Mo.
Rose Polytechnic Institute, Terre Haute, Ind. For professors, *see* SCHOOLS.
Roseberry-Henry Electric Co., electrical contractors, 93, Pearl-st., Grand Rapids, Mich.
Rosenbaum, William A., A.AM.I.E.E., electrical expert & patent agent, 41, Park-row, New York. (Telegs.: "Almagesto, New York." Teleph. No. 2977, John.)
Ross, Edwin L., installation contractor, 614, East 138th-st., New York.

Ross, Frederick C., installation contractor, 255, Greenwich-st., New York. (Teleph. No. 4810, Cort.)
Ross, J. O. G., A.AM.I.E.E., consulting & contracting engineer, 150, Nassau-st., New York.
Ross, L. C., Co., electric light fitters, 813, Walnut-st., Kansas City, Mo.
Ross-Hull Electric Co., electrical supplies & machinery, 114–116, North 3rd-st., Columbus, Ohio.
Rossiter, MacGovern & Co., dealers in electrical machinery, 90, West-st., New York. (Telegs.: "Rossmacgov, New York." Teleph. No. 4105, Cort.)
Rossman, J. G., electrical engineer, 140, Nassau-st. (P.O. Box 1565), New York.
Rossmann, G. M., installation contractor, Keene, N.H.
Rossmassler-Bonine Electric Co., electric motor manufacturers, 1214, Orkney-st., Philadelphia, Pa.
Roswell Electric Light Co., Roswell, New Mexico.
Roth, Ernest F., electrical contractor, 75, No. Main-st., Wilkesbarre, Pa. (Teleph. Nos.: 300, Consolidated; & 119-R, Bell.)
Roth Bros. & Co., manufacturing electrical engineers, 27–29, South Clinton-st., Chicago, Ill. (Telegrams: "Rothbro, Chicago." W.U. Code. Telephone No. 2429, Main.)
Rouquette, W. F. B., Life M.AM.I.E.E., 47, Warren-st., New York.
Rouquette & Co., electrical & mechanical engineers & contractors, 47, Warren-st., New York. (Telegs.: "Rouquette, New York." Teleph. No. 5249, Cort.)
Rousseau, David, installation contractor, 310, Mott-ave., New York.
Rousseau, J. M., electrical contractor, 57, East 59th-st., New York.
Roux, G. P., M.I.E.E., 33, St. Paul's-rd., Ardmore, Pa.
Rowe, G. H., M.AM.I.E.E., consulting electrical engineer, Commercial National Bank-bldg., Chicago, Ill.
Rowe, W. W., electrician & bell hanger, 30, Cornhill, Boston, Mass.
Rowell, Herbert G., electrical engineer & contractor, Auburn, Maine.
Rowell, S. C., & Co., dealers in steel & iron castings, 139, Pearl-st., Boston, Mass.
Rowland, Prof. A. J., A.AM.I.E.E., electrical engineer, Drexel Institute, 4510, Osage-ave., Philadelphia, Pa.
Rowland Telegraphic Co., printing telegraph apparatus manufacturers, 107, E. Lombard-st., Baltimore, Md.
Royal Eastern Electrical Supply Co., dealers in electrical supplies, 114–116, West 27th-st., New York.
Royal Electric Co., installation contractors, 25, South 16th-st., Philadelphia, Pa.
Royal Light & Power Co., Delavan, Ill.
Royse Electric Co., wholesale electrical supplies & apparatus, 125, South Meridian-st., Indianapolis, Ind. (Telephone No. 849.)
Ruebel & Wells, consulting electrical & mechanical engineers, Chemical-bldg., St. Louis, Mo.
Ruffner, Charles Shumway, M.AM.I.E.E., assistant general superintendent, Utah Department, Telluride Power Co., Provo, Utah.
Ruger, J. W., Manufacturing Co., makers of gas engines, Buffalo, N.Y.
Rugg, H. V., district engineer, Westinghouse Electric & Manufacturing Co., Philadelphia, Pa.
Ruggles-Coles Engineering Co., engineers & contractors, 50, Cortlandt-st., New York, N.Y.
Rumford Falls Light & Water Co., Rumford Falls, Maine.
Rumsey & Co., Ltd., power pumps especially adapted for electric power & pumps for all purposes, 75, Warren-st., New York. (Telegrams: "Pumps, New York." Teleph. No. 4322, Court.)
Rumsey Electric Co., electrical supplies, 245, Jefferson-ave., Detroit, Mich.
Rumsey Electric Co., Ltd., dealers in electrical machinery & supplies, 1211, Filbert-st., Philadelphia, Pa. (Telegs.: "Remco, Philadelphia." Teleph. Nos.: 52–87, Filbert, Bell; & 2130, Keystone, Race.)
Rumsey & Sikemeier Co., electrical, street railway, telephone & telegraph supplies, 19th & Pine-sts., St. Louis, Mo. (Teleph. Nos.: Beaumont, 970, Bell; & Central, 4971, Kinloch.)
Runyan, C. C., installation contractor, Mansfield, Ohio.
Runyon & Carey, consulting engineers, 122, Market-st., Newark, N.J. (Teleph. No. 515.)
Runzel-Lenz Electric Manufacturing Co., makers of telephone cables, 97, South Clinton-st., Chicago, Ill.
Ruprecht Electric Co., manufacturing electro-medical electricians, 7117, Cedar-ave., Cleveland, Ohio.
Rushmore, D. B., M.AM.I.E.E., engineer Power & Mining Dept., General Electric Co., Schenectady, N.Y.
Rushmore, S. W., A.AM.I.E.E., 629, South-ave., Plainfield, N.J.
Russel, Edgar, A.AM.I.E.E., Major U.S.A., Fort Leavenworth, Ken.
Russell, Chas. Joyce, A.M.I.E.E., district manager Philadelphia Electric Co., Philadelphia, Pa.
Russell, G. W., jun., M.AM.I.E.E., electrical engineer & contractor, 500, 5th-ave., New York.
Russell, H. A., A.AM.I.E.E., agent, General Electric Co., 302, Laurel-st., San Francisco, Cal.
Russell, Percy, electrical dental appliances, 10 & 12, East 23rd-st., New York. (Telephone No. 3747, Gramercy.)
Russell Electric Co., installation contractors, 25, West 42nd-st., New York.
Russell & Stoll Co., makers of electrical fittings, 48, Cliff-st., New York.
Russell-Tomlinson Electric Co., manufacturers of telephones, Milford, Conn.
Rust, H. B., Co., electrical contractors, 14–22, Peck-st., Providence, R.I.
Ruth, E. C., electrical contractor, Mount Vernon, N.Y.
Rutherfoord, B., A.I.E.E., A.AM.I.E.E., engineer, Westinghouse-bldg., Pittsburg, Pa.
Rutland City Electric Light Co., Rutland, Vt.
Rutland Railway, Light & Power Co., Rutland, Vt.

Ryan, Harris J., M.E., M.AM.I.E.E., professor of electrical engineering, Stanford University, Cal.
Ryan, W. C. M., A.AM.I.E.E., electrical engineer, Simmen Automatic Railway Signal Co., Oakland, Cal.
Ryan, Walter D'Arcy, A.AM.I.E.E., director Ill. Eng. Soc., illuminating engineer, General Electric Co., Schenectady, N.Y.
Ryan Electric Co., installation contractors, 112, Cleveland-ave., Columbus, Ohio. (Teleph. Nos.: 8415, Citizen; & Bell, 1886, Main.)
Ryle, William, & Co., silk for electrical purposes, 54, Howard-street, New York City.

S. B. Construction Co., electrical contractors, 1205, Grandview-ave., Pittsburg, Pa.
S. E. I. Co., measuring instrument makers, Syracuse, N.Y.
Sabina Village Water & Light Plant, Sabina, Ohio. (Teleph. No. 57.)
Sabine, J. B., patent agent & expert, 42, Broadway, New York, N.Y. (Telephone No. 425, Cortlandt.)
Sachers, Ralph J., PH.D., M.E., E.E., patent solicitor & expert, 2, West 29th-st., New York. (Cable address: "Patentsach, New York." Teleph. No. 2977, Madison-sq.)
Sachs, Joseph, M.AM.I.E.E., president Sachs Co., 618, Capitol-ave., Hartford, Conn.
Sachs Co., enclosed fuse makers, Hartford, Conn.
Sachs Electric Co., manufacturers of insulators, 1417, Olive-st., St. Louis, Mo.
Sachsenmaier, George, installation contractor, 1109, Race-st., Philadelphia, Pa.
Sackett Electric Construction Co., contractors & engineers, Buffalo, N.Y.
Sackett Mine Supply Co., electrical engineers & contractors, 77, East Long-st., Columbus, Ohio. (Bell Telephone No. 1627; Citizens No. 1829.)
Sacramento Electric, Gas & Railway Co., Sacramento, Cal.
Safe Harbor Water & Power Co., Lancaster, Pa.
Safety Appliance Co., electrical specialties, 1330–1332, Kenmore-ave., Buffalo, N.Y.
Safety-Armorite Conduit Co., interior conduits, Rankin Station, Pa.
Safety Car Heating & Lighting Co., 2, Rector-st., New York.
Safety Electric Signal Co., wiring contractors, 120, Liberty-st., New York.
Safety Equipment Manufacturing Co., power plant specialists, Chicago, Ill.
Safety Insulated Wire & Cable Co., manufacturers of insulated wire & cable, 114, Liberty-st., New York. (Telegs.: "Bosforo, New York." Teleph. No. 7620-1-2, Cort.) Works: Bayonne, N.J.
Safford, W. W., electrical contractor, Korn Alley, Newport, N.H. (Teleph. No. 14-11, Newport.)
Sag Harbor Electric Light & Power Co., Sag Harbor, N.Y.
Sagadahock Light & Power Co., Bath, Maine.
Saginaw Bay City Railway & Light Co., Saginaw, Mich.
Saginaw Valley Traction Co., Saginaw, Mich.
St. Albans Electric Light & Power Co., St. Albans, Vt.
St. Clair County Gas & Electric Co., Belleville, Ill.
St. François County Electric Railway Co., Farmington, Mo.
St. James City Electric Light Plant, St. James, Minn.
St. John's Light & Power Co., St. Augustine, Fla.
St. Joseph Railway, Light, Heat & Power Co., St. Joseph, Mo.
St. Louis Brass Manufacturing Co., manufacturers of electric light fixtures, Jefferson & Washington-aves., St. Louis, Mo.
St. Louis Car Co., manufacturers of cars, trucks & specialities, 8000, North Broadway, St. Louis, Mo.
St. Louis Electric Heating Co., manufacturers of electric heating apparatus, St. Louis, Mo.
St. Louis Electric & Machine Co., installation contractors, Chemical-bldg., St. Louis, Mo.
St. Louis Electric Manufacturing Co., manufacturing electricians, 7th & Hickory-sts., St. Louis, Mo.
St. Louis Motor Carriage Co., motor carriages, St. Louis, Mo.
St. Mary's Electric Co., electric light contractors, St. Mary's, Pa.
St. Mary's Electric Light Plant, St. Mary's, Ohio.
St. Mary's Incandescent Lamp Co., makers of incandescent lamps, St. Mary's, Pa.
St. Paul Electric Co., dealers in electrical supplies, 316, Robert-st., St. Paul, Minn.
St. Paul Gas Light Co., St. Paul, Minn.
St. Peter Electric Light & Water Works, St. Peter, Minn.
St. Regis Falls Electric Light Co., St. Regis Falls, N.Y.
Salamanca Water & Light Works, Salamanca, N.Y.
Salem Electric Co., Salem, N.J.
Salem Electric Light & Artificial Ice Co., Salem, Ind.
Salem Electric Light & Power Co., Salem, Ohio.
Salem Electric Lighting Co., 19–25, Peabody-st., & 89, Lafayette-st., Salem, Mass. (Teleph. No. 1330.)
Salem Milling, Lighting & Heating Co., Salem, S.D.
Salem Town Electric Light Plant, Salem, Va.
Salida Light & Power Utility Co., Salida, Col.
Salineville Electric Light, Heat & Power Co., Salineville, Ohio.

Salisbury & Spencer Railway Co., Salisbury, N.C.
Salt Lake Electric Supply Co., dealers in electrical supplies, 151, Main-st., Salt Lake City, Utah.
Sampson, F. D., M.AM.I.E.E., superintendent, Line Construction, Southern Power Co., Charlotte, N.C.
Sampson & Allen, electrical engineers & contractors, 51 & 57, Exchange-st., Lynn, Mass. (Teleph. Nos. 2550-2552, Lynn.)
Samson Cordage Works, manufacturers of solid braided cordage for arc lamp cord, trolley cord, &c., 88, Broad-st., Boston, Mass. (Teleph. No. 1608, Fort Hill.)
San Angelo Water Works Co., San Angelo, Tex.
San Antonio Traction Co., San Antonio, Texas.
San Bernardino Valley Traction Co., San Bernardino, Cal.
San Diego Consolidated Gas & Electric Co., San Diego, Cal.
San Diego Electric Railway Co., San Diego, Cal.
San Francisco Electrical Co., electrical engineers, 20–22, 1st-st., San Francisco, Cal. (Teleph. No. 1166.)
San Francisco Gas & Electric Co., San Francisco, Cal.
San Joaquin Light & Power Co., Fresno, Cal. (Teleph. No. 113, Main.)
San Jose Railway Co., San Jose, Cal.
San Jose & Santa Clara County Rail Road Co., San Jose, Cal.
San Leandro Gas & Electric Light Co., San Leandro, Cal.
San Luis Gas & Electric Co., San Luis Obispo, Cal.
San Marcos Utilities Co., San Marcos, Tex.
Sanborn-Marsh Electric Co., contracting engineers & supplies, 115, W. Illinois-st., Indianapolis, Ind.
Sanderson & Porter, street railway, electric light & power engineers & contractors, 52, William-st., New York. (Telegrams: "Sandport, New York.")
Sands, H. S., M.AM.I.E.E., consulting & constructing elect. engineer, 1153, Market-st., Wheeling, W. Va.
Sands, H. S., Electric & Manufacturing Co., electrical contractors, 1151 & 1153, Market-st., Wheeling, W. Va.
Sandusky Gas & Electric Co., Sandusky, Ohio.
Sandusky, Norwalk & Mansfield Electric Railway Co., Norwalk, Ohio.
Sandwich Electric Co., telephone apparatus makers, 200, Eddy-st., Sandwich, Ill.
Sanford, G. E., A.AM.I.E.E., General Electric Co., Lynn, Mass.
Sanford Electric Co., installation contractors, Sanford, Maine.
Sanford Light & Power Co., Sanford, Maine.
Sangamo Electric Co., makers of wattmeters, Springfield, Ill.
Santa Fe Water & Electric Co., electric light contractors, Santa Fe, New Mexico.
Saranac Lake Light, Heat & Power Co., Saranac Lake, N.Y.
Saratoga Gas & Electric Light Co., Saratoga Springs, N.Y.
Saratoga Light, Heat & Power Co., Saratoga, Wyo.
Sarco Co., The, electrical fittings makers, 906, 6th-ave., New York.
Sargent, Howard R., A.AM.I.E.E., electrical engineer, General Electric Co., Schenectady, N.Y.
Sargent, W. D., M.I.E.E., M.AM.I.E.E., vice-pres. New York & New Jersey Telephone Co., 81, Willoughby-st., Brooklyn, N.Y. (Teleph. No. 12000, Main.)
Sargent & Lundy, mechanical & electrical engineers, Railway Exchange-bldg., Chicago, Ill. (Teleph. No. 586, Harrison.)
Sargent, Wm., & Co., electrical engineers & contractors, Equitable-bldg., Boston, Mass.
Satherberg, Carl H., A.AM.I.E.E., chief engineer, Midvale Steel Co., Nicetown, Philadelphia, Pa.
Sauquoit Silk Manufacturing Co., braiding & insulating silks for all purposes, 4015, Clarissa-st., Nicetown, Philadelphia, Pa.
Savannah Electric Co., Savannah, Ga.
Savannah Electric Repair Co., installation contractors, 30, Drayton-st., Savannah, Ga.
Savannah Lighting Co., Savannah, Ga. (Teleph. No. 311.)
Sawin, G. A., A.AM.I.E.E., Public Service Corp. of N.J., 763, Broad-st., Newark, N.J.
Sawtelle, Edmund Munroe, M.I.E.E., consulting engineer, 5, Beekman-st., New York.
Sawyer, Willits Herbert, A.AM.I.E.E., engineer, Ford, Bacon & Davis, 115, Broadway, New York.
Saxton, E., electric railway contractor, Washington, D.C.
Saylor Electric Co., installation contractors, 127, 4th-ave., Pittsburgh, Pa.
Sayville Electric Co., Sayville, N.Y.
Scannevin & Potter, electrical supplies, Newport, R.I.
Schaeffel Electrical Construction Co., Inc., installation contractors, 43, West 21st-st., New York.
Schafer's Electric Construction Co., installation contractors, 370, Pearl-st., Brooklyn, N.Y. (Teleph. No. 3487, Main.)
Schaff, Jacob G., Electric Co., electrical contractors, Chambersburg, Pa.; & Hagerstoun, Md.
Schaffer & Budenberg, makers of tachometers, 10, Leo-pl., Brooklyn, N.Y.
Schawel, Jas., & Co., platinum refiners & importers, 27, John-st., New York.
Scheffler, F. A., M.AM.I.E.E., Babcock & Wilcox Co., 85, Liberty-st., New York.
Scheible, Albert, electrical engineer, 14, South Jefferson-st., Chicago, Ill.

Scheidel-Western Xray Coil Co., manufacturers of X-ray coils & electrical specialities, 199–201, East Madison-st., Chicago, Ill. (Telegs.: "Scheidelcoil, Chicago." Long Dist. Teleph. No. 1766, Main.)
Schenectady Illuminating Co., Schenectady, N.Y. (Telephone No. 425, Hud. River.)
Schenectady Railway Co., Schenectady, N.Y.
Schieren, Charles A., & Co., dealers in belting for electrical purposes, 30, Ferry-st., New York.
Schill, Chas. A., electrical contractor, 750, South 4th-st., St. Louis, Mo. (Teleph. No. 141, Olive.)
Schimpf, Alfred, electric bell hangers, electricians, &c., 59, Washington-ave., Albany, N.Y.
Schlosser, Fred. G., A.AM.I.E.E., superintendent, Electrical Dept., Laclede Gas Light Co., 2721, Adams-st., St. Louis, Mo.
Schmidt, A. R., Electric Co., engineering & contracting, 137, Oneida-st., Milwaukee, Wis.
Schmidt, H. T., Electric Co., dealers in electrical supplies, 318, West 3rd-st., Davenport, Iowa.
Schmidt, Rudolph & Co., dealers in electrical goods, 51, Main-st. East, Rochester, N.Y.
Schmitt, F. E., A.AM.I.E.E., associate editor, *Engineering News*, 220, Broadway, New York.
Schneider, John V., maker of electric door openers, Long Island City, N.Y.
Schneider, C., Sons, electrical contractors, 1207, F-st., Washington, D.C.
Schoen, Allen M., M.AM.I.E.E., chief engineer, South-Eastern Underwriters Association, Equitable-bldg., Atlanta, Ga.
Schoenberg, R. A., & Co., installation contractors, 906, 6th-ave., New York.
Schoepf, T. H., M.I.E.E., M.AM.I.E.E., electrical engineer, Westinghouse Co., Pittsburg, Pa.
School of Mines Quarterly, Columbia University, New York.
Schoonmaker, A. O., dealer in all grades of electric mica, 221, Fulton-st., New York, N.Y.
Schopper & Co., F. D., electricians, south-east corner 512, Race-street, Cincinnati, Ohio.
Schreiber, G. E., A.AM.I.E.E., consulting engineer, 49, Eppirt-st., East Orange, N.J.
Schreiter, Henry, C. & E.E., LL.B., Attorney & Counsellor at Law & Solicitor of Patents (Schreiter & Mathews), 20, Nassau-st., New York. (Telephone No. 2631, John.)
Schuchardt & Schutte, manufacturers of hand tachometers, 136, Liberty-st., New York.
Schug Electric Manufacturing Co., dealers in electrical supplies, 321, Jefferson-ave., Detroit, Mich.
Schulman, A. S., electrical contractor, 40, Perin-bldgs., Cincinnati, Ohio.
Schultz, Lewis Rodman, consulting electrical engineer, 355, West 29th-st., New York.
Schum, Ch. H., A.AM.I.E.E., electrical engineer, Burke Electric Co., Erie, Pa.
Schureman, J. L., Co., manufacturers of electric motor controlling devices, 80, West Jackson-boul., Chicago, Ill.
Schuster Electric Co., installation contractors, 2169, McLean-ave., Cincinnati, Ohio.
Schuwirth, W. G., & Co., electrical supplies & installations, 229, East Commerce-st., San Antonio, Tex.
Schuyler Electric Light Plant, Schuyler, Neb.
Schuylkill Valley Traction Co., Norristown, Pa.
Schwab, Martin C., A.AM.I.E.E., consulting engineer, 170, Mentor-bldg., Chicago, Ill.
Schwabe, Walter P., A.AM.I.E.E., general manager, Northern Connecticut Light & Power Co., Windsor Locks, Conn.
Schwarze Electric Co., electric bell manufacturers, 324, Dearborn-st., Chicago, Ill.
Schwedtman, F., M.AM.I.E.E., general superintendent, Wagner Electric Manufacturing Co., 1005, Chemical-bldg., St. Louis, Mo.
Scientific American (weekly; ann. sub., $3; Europe, $4. *Scientific American Supplement*, weekly; ann. sub., $5; Europe, $6; combined rates, $7 & $9.50), 361, Broadway, New York.
Scientific American Export Edition (monthly; ann. sub., $3, in Spanish), 361, Broadway, New York.
Scioto Valley Traction Co., 3rd & Rich-sts., Columbus, Ohio. (Teleph. Nos.: 8325 & 8326, Citizen; & Bell, 3115, Main.)
Sciple Sectional Pole Co., iron poles, Minneapolis, Minn.
Scott, A. C., PH.D., A.AM.I.E.E., professor of electrical engineering, University of Texas, Austin, Tex.
Scott, C. B., jobber in electrical supplies, 119, Franklin-ave., Scranton, Pa.
Scott, Chas. F., M.AM.I.E.E., M.I.E.E., consulting engineer, Westinghouse Electric & Manufacturing Co., Pittsburg, Pa.
Scott, George B., superintendent & electrician, Gold & Stock Tel. Co., 68, Broad-st., New York.
Scott, George W., consulting electrical engineer, 188, East Madison-ave., Chicago, Ill.
Scott, H. M., electrical contractor, Capitol & Quanier-sts., Charleston, W. Va.
Scott, Jas. B., M.AM.I.E.E., M.A.S.M.E., consulting engineer, Maryland Savings Bank-bldg., Baltimore, Maryland.
Scott, Wm. M., A.AM.I.E.E., electrical engineer, Cutter Electric & Manufacturing Co., 19th & Hamilton-sts., Philadelphia, Pa.
Scott, W. W., contractor for electric wiring, &c., 200, Summer-st., Boston, Mass.
Scott Bros., installation contractors, Troy, N.Y.
Scott Bros. Electric Co., electric supplies & repairing, 3–7, Farrar-st., Detroit, Mich. (Teleph. No. 2175, Main.)
Scott, Lyman & Stack, installation contractors, 421, J-st., Sacramento, Cal.
Scovill Manufacturing Co., manufacturers of brass wire, 35, Mill-st., Waterbury, Conn.

Scranton Electric Co., Board of Trade-bldg., Scranton, Pa. (Teleph. No. 2000.)
Scranton Electric Construction Co., manufacturing electrical engineers, Scranton, Pa.
Scranton Illuminating, Heat & Power Co., Scranton, Pa.
Scranton Railway Co., Scranton, Pa.
Scranton Traction Co., 234, Lackawanna-ave., Scranton, Pa.
Scribner, Charles E., M.AM.I.E.E., engineer, Western Electric Co., 259, South Clinton-st., Chicago, Ill.
Seabord Electric Co., installation contractors, Norfolk, Va.
Seabright Electric Light Co., Seabright, N.J.
Searing, Lewis, A.AM.I.E E., vice-president & general manager Denver Engineering Works Co., 901, East 10th-ave., Denver, Col.
Scarles, A. L., A.AM.I.E.E., electrical engineer, 222, Houseman-bldg., Grand Rapids, Mich.
Sears, Henry D., maker of electric porcelain, 131, State-st., Boston, Mass.
Seaton Mountain Electric Light, Heat & Power Co., Idaho Springs, Col.
Seattle Electric Co., Seattle, Wash.
Seattle Electric & Equipment Co., installation contractors, 218, Union-st., Seattle, Wash.
Seattle Electric Light & Power Co., Seattle, Wash.
Seattle Municipal Light & Power Plant, Seattle, Wash.
Seattle, Renton & Southern Railway Co., Seattle, Wash.
Seattle-Tacoma Power Co., Seattle, Wash.
Seaview Railroad Co., Narragansett Pier, R.I.
Sebastian Lathe Co., machinists & tool makers, 121 & 123, Culvert-st., Cincinnati, Ohio.
Sebasticook Power Co., successors to Pittsfield Electric Light & Power Co., Pittfield, Maine.
Sechrist, Albert, Manufacturing Co., manufacturers of gas & electric fixtures, 17, St. Logan-ave., Denver, Colorado.
Security Electric Supply Co., dealers in electrical supplies, 19th & Olive-sts., St. Louis, Mo.
Security Register Co., manufacturers of car registers, 714, St. Charles-st., St. Louis, Mo.
Sedalia Electric Light & Power Co., Sedalia, Mo.
Sedalia Light & Traction Co., Sedalia, Mo.
Seidler-Miner Electric Co., manufacturers of navy & marine electric fixtures, 207–211, Jefferson-ave., Detroit, Mich.
Seiler's Electrical Works, manufacturers of electric supplies, 322, Market-st., San Francisco, Cal.
Self-Winding Clock Co., self-winding synchronized clocks, 161, Grand-ave., Brooklyn, N.Y.
Sellers & Rippey, consulting engineers, 1301, Stephen Girard-bldg., Philadelphia, Pa. (Telegs.: "Sele, Philadelphia." Teleph. No. 32–56, Filbert.)
Sellers, W., & Co., electric crane builders, 1600, Hamilton-st., Philadelphia, Pa. (Telegrams: "Sellers, Philadelphia.")
Sellner Gas & Electric Fixture Manufacturing Co., electrolier manufacturers & fitters, 412 & 414, North 8th-st., St. Louis, Mo. (Teleph. Nos.: Bell, 518, Main; & Kinloch, 1391, Central.)
Sells, O. P., installation contractor, Sterling, Col.
Selma Lighting Co., Selma, Ala.
Selma Street & Suburban Railway Co., Selma, Ala.
Selzer, C. A., electric light fixtures, Euclid-ave. & 9th-st., Cleveland, Ohio.
Semi-Dry Battery Co., makers of dry batteries, Harrison (Newark), N.J.
Seneca River Power Co., Baldwinsville, N.Y.
Serrell, L. W., A.AM.I.E.E., mechanical & electrical engineer, 29, Broadway, New York, N.Y.
Sessions Foundry Co., iron castings for electrical purposes, Bristol, Conn.
Sethman, G. H., M.AM.I.E.E., mechanical & electrical engineer, Denver, Col.
Sever, George F., M.SC., M.AM.I.E.E., professor of electrical engineering, Columbia University, New York.
Seyfert's Sons, L. F., dealers in new & second-hand machinery, &c., 437, North 3rd-st., Philadelphia, Pennsylvania.
Seymour, J. M., consulting engineer, 51, Lawrence-st., Newark, N.J.
Seymour Electric Light Co., Seymour, Conn.
Seymour Gas & Electric Light Co., Seymour, Ind.
Shafer, A. H., installation contractor, San Antonio, Tex.
Shamokin & Edgewood Electric Railway Co., Shamokin, Pa.
Shamokin Electric Light, Heat & Power Co., Shamokin, Pa.
Shand Engineering Co., hydraulic, mechanical & electrical engineers, Columbia, S.C.
Shannon, H. L., electrolier manufacturer & fitter, 729, 15th-st., Denver, Col.
Shannon, John T., Electric Co., installation contractors & engrs., North & Madison-aves., Baltimore, Md.
Shapiro & Arouson, electric fixtures manufacturers, 67, Centre-st., New York. (Telephone No. 343, Williamsburg.)
Shapter, W. P., installation contractor, Summit, N.J.
Sharp, Chas. E., electrical supplies, Security-bldg., St. Louis, Mo. (Teleph. Bell 1227, Main.)
Sharp, Clayton H., PH.D., Electrical Testing Laboratories, 80th-st. & East End-ave., New York. (Telephone No. 5513, Lenox.)

Sharp, Joseph, Belting & Supply Co., manufacturers of machine belting, 457, East Front-st., Cincinnati, Ohio.
Shaw, Edwin C., M.AM.I.E.E., M.AM.S.M.E., general manager of works, B. F. Goodrich Co., Akron, Ohio.
Shaw, Howard Burton, A.AM.I.E.E., professor of electrical engineering & dean of the School of Engineering, Missouri State University, Columbia, Mo.
Shaw Electric Crane Co., The, manufacturers of electric cranes & hoisting machinery, Muskegon, Mich.; & 85–89, Liberty-st., New York. (Telegs.: "Cognition, New York," Teleph. No. 45, Cort.)
Shaw, J. Elliott, Co., manufacturers of & dealers in electrical supplies, 632, Arch-st., Philadelphia, Pennsylvania.
Shawnee Lighting Co., Shawnee, Okla.
Shea, D. M., electrical contractor, Waverly-pl., Madison, N.J.
Shea, D. W., M.AM.I.E.E., professor of electrical engineering & physics, Catholic University of America, Washington, D.C.
Sheaff & Jaastad, mechanical & electrical engineers, Broad Exchange-bldg., Boston, Mass.
Shearer, J. S., B.S., PH.D., assistant professor of physics, Cornell University, Ithaca, N.Y.
Sheboygan Light, Power & Railway Co., Sheboygan, Wis.
Shedd, S. S., & Bro. Co., dealers in electric & gas fixtures, 432, 9th-st., N.W., Washington, D.C.
Sheddy, J. H., manager & electrician, Renovo Edison Light, Heat & Power Co., Renovo, Pa.
Sheehan, W. M., & Co., electrical engineers, contractors & supply jobbers, 136, Liberty-st., New York.
Sheffield Co, electric light & traction, Sheffield, Ala.
Shelby Electric Co., manufacturers of incandescent lamps, Shelby, Ohio.
Shelby Village Electric Light Plant, Shelby, Ohio.
Sheldon, Samuel, A.M., PH.D., M.AM.I.E.E., professor of physics & electrical engineering, Polytechnic Institute, & 198½, Schermerhorn-st., Brooklyn, N.Y. (Telephone No. 2619, Main.)
Sheldon, S. R., M.AM.I.E.E., professor of electrical engineering, University of Idaho, Moscow, Idaho.
Sheldon, F. P., & Co., consulting electrical engineers, Industrial Trust-bldg., Providence, R.I.
Shelton Electric Co., manufacturers of vibrators, rotary converters & thereapeutic machines, 105, West 42nd-st., New York; & 35, Randolph-st., Chicago, Ill.
Shenandoah Artificial Ice, Power, Heat & Light Co., Shenandoah, Iowa.
Shepard, G. R., Engineering & Construction Co., electrical & consulting engineers, 444, Water-st., New York.
Shepardson, Geo. D., M.E., M.AM.I.E.E., prof. of electrical engineering, University of Minn., Minneapolis, Minn.
Shepherd-Fluharty Electric Co., dealers in electrical supplies, 330, North Calvert-st., Baltimore, Md.
Shepherd & Rust, electrical engineers & contractors, 42, West Market-st., Wilkes Barre, Pa.
Sherman, G. A., A.AM.I.E.E., Western Electric Co., 642, Folsom-st., San Francisco, Cal.
Sherman & Moore, consulting engineers, 88, Broad-st., Boston, Mass.
Sherman City Electric Light Plant, Sherman, Tex.
Sherman Gas & Electric Co., Sherman, Tex.
Sherrill Electric Co., installation contractors, Burlington, Iowa.
Sherwin Electric Co., contractors & jobbers, Burlington, Vt.
Sherwin-Williams Co., insulating varnishing manufacturers, 601, Canal-rd. N.W., Cleveland, Ohio.
Sherwood Manufacturing Co., manufacturers of injectors, lubricators & engine & boiler supplies, 34, Washington-street, Buffalo, N.Y. (Telegrams: "Injector, Buffalo.")
Shiawassee Light & Power Co., Corunna, Mich.
Shields, W. J., & Co., makers of volt graduators, New Wilmington, Pa. Office: Pittsburg, Pa.
Shipman, B. C., M.AM.I.E.E., consulting electrical engineer, 604, Mission-st., San Francisco, Cal.
Shippensburg Electric Light, Heat & Power Co., Shippensburg, Pa.
Shirley, John R., & Sons, electric light fixtures, 262, Weybosset-st., Providence, R.I.
Shoemaker, J. F., A.AM.I.E.E., chief electrician, C. R., I. & P. R. R. Shops, 47th-st., Chicago, Ill.
Shoemaker, W. M., & Co., installation contractors, 232, 3rd-st., Louisville, Ky.
Shoenberg, Milton H., electrical appliances, 1445, Polk-st., San Francisco, Cal. (Teleph. No. 3368.)
Shore Electric Co., Red Bank, N.J.
Shreve, Crump & Low Co., makers of electric light fixtures, 147, Tremont-st., Boston, Mass.
Shreveport Gas, Electric Light & Power Co., Shreveport, La.
Shreveport Traction Co., 100, Market-st., Shreveport, La.
Shrewsbury, Lewis A., A.AM.I.E.E, chief electrician, El Oro Mining & Railway Co., Ltd., El Oro, Mex.
Shultz Belting Co., manufacturers of leather belting, St. Louis, Missouri; & 113, Liberty-st., New York.
Shuster, John Wesley, A.AM.I.E.E, assistant professor in electrical engineering, University of Wisconsin, Madison, Wis.
Sibley, Robert, M.AM.I.E.E., consulting engineer, Missoula, Mont.
Sibley & Pitman, dealers in electrical supplies, 26, Warren-st., New York. (Teleph. Nos. 5760–5763, Barclay.)
Sidney Electric Light Co., Sidney, Ohio.

Siebenmorgen, W., A.AM.I.E.E., chief engineer, C. & C. Electric Co., Garwood, N.J.
Sieber, G. A., electrical repairing, 210, South Main-st., Jacksonville, Ill. (Teleph. No. 259.)
Siebert, A. E., & Co., installation contractors, Norfolk, Va.
Sieder, A. L., electrical contractor, 105, North Munn-ave., Newark, N.J.
Sieman Hard Rubber Corporation, insulating material manufacturers, Bridgeport, Conn.
Siemens & Halske, Hudson Terminal-bldg., Room 1559, New York.
Siggers & Siggers, patent lawyers, National Union-bldg., Washington, D.C.
Signal & Control Co., patentees & makers of electric automatic whistle operators, 161, Washington-st., New York. (Telegrams: "Signal, New York.")
Signal Engineer, Monadnock-blk., Chicago, Ill.
Sigourney Electric Light & Power Co., Sigourney, Iowa.
Silver State Electric Co., installation contractors, 222, 15th-st., Denver, Col.
Silverton, Town of, Electric Light Plant, Silverton, Col. (Teleph. No. 13, King.)
Simmons & Son, installation contractors, New Haven, Conn.
Simonds Manufacturing Co., manufacturers of gear wheels, pinions, &c., 25th & Liberty-sts., Pittsburg, Pa.
Simplex Electric Heating Co., heating apparatus, Cambridge, Mass.
Simplex Electrical Co., manufacturers of insulated wires & cables, 110, State-st., Boston, Mass. (Telegrams: "Innosam, Boston." Telephone No. 5300, Main.)
Simplex Interior Telephone Co., telephone makers, 19, East 3rd-st., Cincinnati, Ohio.
Simplex Manufacturing Co., fan motor makers, 90, West-st., New York.
Simpson, Alexander B., A.AM.I.E.E., electrical contractor, 151, East 41st-st., New York. (Teleph. No. 2125-38th.)
Simpson, G. T., consulting engineer, Pioneer Press-bldg., St. Paul, Minn.
Simpson, I. H., electrical engineer, 286, Amsterdam-ave., New York.
Simpson Barnes Electric Co., local electrical supplies dealers, 237, Halsey-st., Newark, N.J.
Sinclair, H. A., M.AM.I.E E., electrical engineer, 110, West 30th-st., New York.
Singer-Geiser Electric Co., electrical engineers & supply dealers, Waynesboro, Pa. (Teleph. 43 Y., Bell.)
Single, John, Paper Co., insulating paper, Syracuse, N.Y.
Sinker-Davis Co., The, manufacturers of engines & boilers, Indianapolis, Ind.
Sioux City Gas & Electric Co., Sioux City, Iowa.
Sioux City Service Co., Sioux City, Iowa.
Sioux Falls Electric Construction Co., installation contractors, Sioux Falls, S.D.
Sioux Falls Light & Power Co., Sioux Falls, S.C.
Sipp Electrical & Machine Co., Mill-st., Paterson, N.J.
Sirch Electrical & Testing Laboratories, consulting electrical engineers, 606, S. Hope-st., Los Angeles, Cal.
Siskiyou Electric Power & Light Co., Yreka, Cal.
Sistersville Electric Light & Power Co., Sistersville, W. Va.
Skeen Robert Electric Works, installation contractors, Portland, Ore.
Skelley Manufacturing Co., telephone apparatus manufacturers, Canal Dover, Ohio.
Skinner, C. E., engineer, Research Division, Westinghouse Electric & Manufacturing Co., Pittsburg, Pa.
Skinner Engine Co., builders of steam engines, Erie, Pa.
Skirrow, J. F., electrical engineer, 253, Broadway, New York. (Teleph. No. 6700, Barclay.)
Skowhegan Electric Light Co., Skowhegan, Maine.
Slater, Wm., installation contractor, Memphis, Tenn.
Slater Light & Water Works, Slater, Mo.
Slichter, W. I., M.AM.I.E.E., electrical engineer, General Electric Co., Schenectady, N.Y.
Sloane, T. O. C., jun., A.AM.I.E.E., general contractor, 60, Wall-st., New York.
Smethurst & Allen, electric railway builders, North American-bldg., Philadelphia, Pa.
Smith, Albert, dealer in electrical supplies, 169, West Water-st., Milwaukee, Wis.
Smith, Frank E., M.AM.I.E.E., consulting & supervising electrical engineer, 418, Eugenia-ave., San Francisco, Cal.
Smith, Fred R., electrolier manufacturer & fitter, 507, Linden-st., Scranton, Pa.
Smith, F. S., A.AM.I.E.E., Engineers' Club, 32, West 40th-st, New York.
Smith, Harold B., M.E., M.AM.I.E.E., M.I.E.E., consulting engineer, professor of electrical engineering, Worcester Polytechnic Institute, Worcester, Mass.
Smith, H. E., installation contractor, Batavia, N.Y.
Smith, Irving W., A.AM.I.E.E., electrician, Bishop Gutta Percha Co., 420, East 25th-st., New York.
Smith, J., electrical engineer, 3, East 135th-st., New York. (Telephone No. 1122, Harlem.)
Smith, J. Brodie, A.AM.I.E.E., vice-president & general manager Manchester Traction Light & Power Co., 46, Hanover-st., Manchester, N.H.
Smith, Jesse M., M.AM.I.E.E, M.A.S.M.E., consulting electrical & mechanical engineer, 220, Broadway, New York. (Teleph. No. 1296, Cortlandt.)
Smith, L. J., installation contractor, 415, West 31st., Los Angeles, Cal. (Teleph. No. 21521, Home.)
Smith, Oberlin, A.AM.I.E.E., president, Ferracute Machine Co., Bridgeton, N.J. (Telegrams: "Ferracute, Bridgeton." Long Distance Telephone No. 34.)

Smith, Richard W., electric railway supplies, 67, Milk-st., Boston, Mass.
Smith, S. J., jun., A.AM.I.E.E., engineer, S. E. M. Co., 1316, Empire-bldg., Atlanta, Ga.
Smith, T. Carpenter, M.AM.S.M.E., M.AM.I.E.E., mechanical engineer & electrician, 316, Mariner & Merchant-bldg., Philadelphia, Pa. (Telegs.: "Muckle, Philadelphia." Long Distance Teleph. No. Lombard, 1485.)
Smith, Thomas H., contracting electrician, 1730, Champa-st., Denver, Col.
Smith, W. E., A.AM.I.E.E., electrician, United States Navy Department, Midvale Steel Works, Philadelphia, Pa.
Smith, A. Z., & Co., manufacturing electricians, 923, Commerce-st., Tacoma, Wash. (Teleph. 7553, Main.)
Smith, E. P., Electric Contract Co., installation contractors, Dubuque, Iowa.
Smith Electric Co., electrical supplies, Allentown, Pa.
Smith Electric Construction Co, 169, West Water-st., Milwaukee, Wis.
Smith Electric & Manufacturing Co., dealers in electrical supplies, 205, South Tyron-st., Charlotte, N.C.
Smith Electrical Engineering Co., electric bell, light, telegraph & telephone supplies, Watertown, N.Y.
Smith, F. M., & Co., electrical supplies, Fort Wayne, Indiana. (Teleph. Nos.: 204, Home; 690, Bell.)
Smith, Hinchman & Grylls, consulting mechanical & electrical engineers, Washington Arcade-bldg., Detroit, Mich.
Smith & Howley, electrical contractors, 243, Wyoming-ave., Scranton, Pa.
Smith of New York Co., manufacturers of headlights for electric cars, 352, Pearl-st., New York, N.Y. (Telegs.: "Bombay, New York.")
Smith, S. Morgan, Co., makers of water turbines, York, Pa.
Smith & Nichols, manufacturers of insulating compounds, &c., 48, South-st., New York, N.Y.
Smith Storage Battery Co., accumulators, Zoar, Ohio.
Smith, Thos., & Co., manufacturers of armature core discs, 14, Cypress-st., Worcester, Mass.
Smith & Wallace, manufacturers of & dealers in electrical railway supplies, Woburn, Mass. (Telegrams: "Montvale, Woburn." W.U. Code. Long Distance Telephone No. 35.)
Smyrna Electric Light Plant, Smyrna, Del.
Smythe, E. H., A.AM.I.E.E., patent expert, 738, Monadnock-bldg., Chicago, Ill.
Snider Electric Co., dealers in dynamos & motors, 1626, South Broadway, St. Louis, Mo.
Snohomish Electric Light, Power & Gas Co., Snohomish, Wash.
Snow, J. E., A.M., M.S., E.E., A.AM.I.E.E., associate professor of electrical engineering & consulting engineer, Armour Institute of Technology, Chicago, Ill.
Snyder, N. M., A.I.E.E., 276, 3rd-ave., Kankakee, Ill.
Society of Wireless Telegraph Engineers. Secretary, C. E. Russell, Boston, Mass.
Solano Electric Light & Gas Co., Benicia, Cal.
Somerset Electric Light, Heat & Power Co., Somerset, Pa.
Somerset Traction Co., Skowhegan, Maine.
Sommer, C. R., gas & electrical fixtures, 386–388, 2nd-ave., New York.
Soper, C. A., electrician, 1092, Fulton-st., Brooklyn, N.Y.
Soren, Townsend Hodges, A.AM.I.E.E., electrical engineer, General Electric Co., Schenectady, N.Y.
Sorenson Manufacturing Co., X-ray apparatus makers, Ravenna, Ohio.
South Bend Electric Co., South Bend, Wash.
South Side Electric Light & Power Co., Kansas City, Mo.
South Side Elevated Railroad Co., Chicago, Ill.
South-West Missouri Rail Road Co., Webb City, Mo.
Southern Bell Telephone & Telegraph Co. (D. I. Carson, secretary), 78, South Pryor-st., Atlanta, Ga.
Southern California Edison Co., Los Angeles, Cal.
Southern California Electric Co., installation contractors, 121½, West 3rd-st., Los Angeles, Cal.
Southern Car Co., makers of tramcars, High Point, N.C.
Southern Electric Co., installation contractors, Atlanta, Ga.
Southern Electric Co., dealers in electrical supplies, 423, North Calvert-st., Baltimore, Md.
Southern Electric Co., installation contractors, Wilmington, N.C.
Southern Electric Supply & Manufacturing Co., electrical supplies, 171, Cotton-ave., Macon, Ga.
Southern Electrical Co., installation contractors, San Diego, Cal.
Southern Electrical Co., electrical engineers, installation contractors & jobbers of electrical goods, Nashville, Tenn.
Southern Heating, Light & Power Co., Carnegie, Pa.
Southern Light & Traction Co., Natchez, Miss.
Southern New England Telephone Co. (H. H. Sykes, general manager), New Haven, Conn.
Southern Pines & Carthage Electric Light Plant, Southern Pines, N.C.
Southern Power Co., Charlotte, N.C.
Southgate Electric Co., installation contractors, Worcester, Mass.
Southwark Foundry & Machine Co., builders of engines, Washington-ave. & 5th-st., Philadelphia, Pa.
South-west Electric Co., installation contractors, Redlands, Cal.

Southwest Electrical Co., electrical contractors, San Bernardino, Riverside & Redlands, Cal. (Teleph. Nos.: 568, Home; & 126, Red.)
Southwestern Electric Co., installation contractors, Baltimore-bldg., Oklahoma City, Okla.
Southwestern Electric Co., installation contractors, 24, South 10th-st., St. Louis, Mo.
Southworth, M. O., A.AM.I.E.E., Fairbanks, Morse & Co., Chicago, Ill.
Sowers, D. W., A.AM.I.E.E., president H. W. Dopp Co., Buffalo, N.Y. (Teleph. No. 416, Bell North.)
Spalding, P. L., A.AM.I.E.E., Bell Telephone Co., 17th & Filbert-sts., Philadelphia, Pa. (Teleph. No. 2790, Filbert.)
Spangler Bros., manufacturers of electric signs, Newark, N.J.
Sparta Electric Light Plant, Sparta, Wis.
Sparta Gas & Electric Co., Sparta, Ill.
Spartanburg Railway, Gas & Electric Co., Spartanburg, S.C.
Spaulding & Metcalf, dealers in machinists & mill supplies, 532, Arch-st., Philadelphia, Pa.
Spear, James, Stove & Heating Co., manufacturers of street car heaters, 1014, Market-st., Philadelphia, Pa.
Speer Carbon Co., manufacturers of carbon brushes, St. Mary's, Pa.
Spencer, Chas. J., A.AM.I.E.E., Patent Office, 4014, 5th-ave., N.W., Washington, D.C.
Spencer, E. J., A.AM.I.E.E., consulting engineer, 220, South Grand-ave., St. Louis, Mo.
Spencer, L. D., installation contractor, 2822, Boylston-ave. North, Seattle, Wash. (Telegs.: "Spencer, Seattle." Teleph. Nos.: 4968, East, Sunset; & Independent L. 2313.)
Spencer, Paul, A.AM.I.E.E., inspector of electric plants, United Gas Improvement Co., Philadelphia, Pa.
Spencer Electric Light & Power Co., Belding, Mich.
Spencer Electrical Co., manufacturers of telephones & transmitters, 163, Greenwich-st., New York. (Telegs.: "Spencerco, New York." Teleph. No. 603, Court.)
Spencer Gas Co., electric light contractors, Spencer, Mass.
Spencer Light, Power, Heat & Water Co., Spencer, Ind.
Spencer Turbine Cleaner Co., manufacturers of vacuum cleaners, Hartford, Conn.
Spencer's Sons, I. S., manufacturers of specialties in soft gray iron, brass & bronze castings for electrical purposes, Guilford, Conn.
Spengel, Carl, patent expert & draughtsman. Offices: 75, Atlas National Bank-bldg., Cincinnati, Ohio. (Teleph. No. 948, Canal.)
Sperry, Elmer A., M.AM.I.E.E., electrical engineer, 40, Wall-st., New York.
Spies, Albert, A.AM.I.E.E., editor *Electrical Record*, 114, Liberty-st., New York.
Spies Electric Co., telephone apparatus makers, 81, West Van Buren-st., Chicago, Ill.
Spinney, L. B., M.AM.I.E.E., professor of physics & electrical engineering, Iowa State College, Ames, Iowa.
Spittal, Andrew, electrical & physical instrument, 210½, South High-st., Columbus, Ohio.
Splitdorf, C. F., electrical engineer, manufacturer of induction coils, &c., 261–265, Walton-ave., New York. (Teleph. No. 4180, Melrose.)
Spokane & Inland Empire Railroad Co., Spokane, Wash.
Spon & Chamberlain, publishers of electrical & scientific books, 123, Liberty-st., New York.
Sprague, B. S., electrical supplies, Marietta, Ohio.
Sprague, Frank J., M.I.E.E., M.AM.I.E.E., consulting engineer, 165, Broadway, New York. (Telegs.: "Spragelec, New York.")
Sprague, T. W., electrical engineer, 88, Broad-st., Boston, Mass.
Sprague Electric Co., makers of dynamos & electric machinery, 527, West 34th-st., New York. (Telegs.: "Spragmotor, New York." Teleph. No. 2352, Murray Hiill.)
Sprague Electric Elevator Co., manufacturers of all classes of electric elevators, 17, Battery-pl., New York. (Telegrams: "Spragelec, New York.")
Spring Valley Electric Light Co., Spring Valley, Ill.
Spring Valley Electric Light & Investment Co., Spring Valley, Minn.
Springer, F. W., M.AM.I.E.E., professor of electrical engineering, University of Minn., Minneapolis, Minn.
Springfield City Electric Light Plant, Springfield, Tenn.
Springfield Consolidated Railway Co., Springfield, Ill.
Springfield Electric Co., installation contractors, Springfield, Mass.
Springfield Electric Co., Springfield, Vt.
Springfield Electric Railroad Co., Springfield, Vt.
Springfield Elevator & Pump Co., makers of electric lifts, Hartford, Conn.
Springfield Foundry Co., manufacturers of electric elevators & machinery, Springfield, Mass.
Springfield Gas & Electric Co., Springfield, Mo.
Springfield Light, Heat & Power Co., Springfield, Ill.
Springfield Railway Co., Springfield, Ohio.
Springfield Street Railway Co., Springfield, Mass.
Springfield Traction Co., Springfield, Mo.
Springfield Water & Electric Light Co., Springfield, Ky.

Springfield & Xenia Railway Co., Springfield, Ohio.
Springville City Electric Light Plant, Springville, Utah.
Sprout, Sidney, consulting & supervising mechanical & electrical engineer, Room 619, Crocker-bldg., San Francisco, Cal.
Spruill, J. B., installation contractor, 97, Main-st., North Adams, Mass.
Spurling, O. C., A.M.I.E.E., plant engineer, Western Electric Co., Hawthorne, Ill.
Squier, Capt. G. O., M.AM.I.E.E., U.S.A. Signal Corps, Washington, D.C.
Squire Electric Co., engineers & contractors, 614, Wyandotte-st., Kansas City, Mo. (Bell Teleph. No. 789, Main.)
Stackpole Battery Co., makers of dry cells, St. Mary's, Pa.
Stafford Springs Electric Light & Gas Co., Stafford Springs, Conn.
Staines, Bunn & Taber Co., manufacturers of electric fixtures, 147, Lawrence-st., Brooklyn, N.Y.
Staley & Gillespie, electrical elevator repairs, 445–7, West Broadway, New York. (Teleph. No. 5346, Spring.)
Stamford Gas & Electric Co., Stamford, Conn.
Stanberry Electric Light Co., Stanberry, Mo.
Standard Asphalt & Rubber Co., insulating material manufacturers, 205, La Salle-st., Chicago, Ill. (Telegs.: "Sarco, Chicago.")
Standard Electric Accumulator Co., makers of accumulators, 93, Mercer-st., New York.
Standard Electric Co., installation contractors, 17, Richmond, Providence, R.I.
Standard Electric Co., electrical fittings makers, 110, South Western-ave., Chicago, Ill.
Standard Electric Co., installation contractors, 194, Randolph-st., Detroit, Mich.
Standard Electric Co., supplies, repairing & construction, 110, 3rd-ave., Nashville, Tenn. (Tel. No. 399.)
Standard Electric Co., installation contractors & manufacturers of dry batteries, Syracuse, N.Y.
Standard Electric Co., arc lamp, motor & dynamo makers, 113, West 3rd-st., Cincinnati, Ohio. (Teleph. No. 819, Main.)
Standard Electric Co., installation contractors, Portland, Ore. (Teleph. No. 12, Main.)
Standard Electric Construction Co., Ltd., electrical construction & supplies, 625, Poydras-st., New Orleans, La. (Teleph. No. 1169.)
Standard Electric Construction Co., electrical engineers, 14–16, N. Water-st., Rochester, N.Y.
Standard Electric Light Co., Argentine, Kan.
Standard Electric & Machine Co., manufacturing electricians, Allegheny, Pa.
Standard Electric Manufacturing Co., manufacturers of incandescent lamps, Niles, Ohio.
Standard Electrical Supply Co., installation contractors, Norfolk, Va.
Standard Electrical Works, jobbers of electrical supplies, 669–671, Mission-st., San Francisco, Cal.
Standard Engineering Co., installation contractors, Garfield-bldg., Cleveland, Ohio.
Standard Gas & Electric Co., Raleigh, N.C. (Teleph. No. 228.)
Standard Glass Insulators, manufacturers of electrical insulators, Brookfield, Mo.
Standard Machine & Electric Co., installation contractors, 33, Chesapeake-st., Indianapolis, Ind.
Standard Machinery & Equipment Co., manufacturing electricians, 410, Electric-bldg., Cleveland, Ohio.
Standard Motor Truck Co., Frick-bldg., Pittsburg, Pa.
Standard Paint Co., makers of insulating varnishes, tapes, &c., 100, William-st., New York.
Standard Roller Bearing Co., Philadelphia, Pa.
Standard Telephone Manufacturing Co., manufacturers of telephone apparatus, Portsmouth, Ohio.
Standard Underground Cable Co., manufacturers of bare & insulated wires & cables, Westinghouse-bldg., Pittsburgh, Pa. Branch offices: New York, Boston, Philadelphia, Chicago, St. Louis & San Francisco. (Telegrams: "Cables, Pittsburgh.")
Standard Varnish Works, makers of paints, New York.
Standard Vitrified Conduit Co., makers of conduits, 39, Cortlandt-st., New York.
Standard Welding Co., seamless steel tubes, electric welding, West 76th-st., Cleveland, Ohio.
Stanford Water, Light & Ice Co., Stanford, Ky.
Stanley, William, M.AM.I.E.E., electrical engineer & inventor, Great Barrington, Mass.
Stanley, G. I., Electric Manufacturing Co., manufacturers of electrical apparatus, Pittsfield, Mass. (Telegrams: "Selemco, Pittsfield." A.B.C. Code, 4th edition. Long Dist. Telephone Nos. 118 & 104); & Pioneer-bldg., Seattle, Wash.
Stanley Instrument Co., makers of electricity meters, Great Barrington, Mass.
Stanley & Patterson, Incorporated, manufacturers of general electrical equipment supplies, 23, Murray-st.—27, Warren-st., New York. (Telegs.: "Eleclight, New York." A.B.C. Code, 4th & 5th editions. Teleph. Nos. 5900–5904, Barclay.) Store: 329, 4th-ave.; factory: 35 & 37, Vesey-st.
Stanton, Le Roy W., M.AM.I.E.E., consulting telephone engineer, 201, Electrical-bldg., Cleveland, Ohio; & 1644, Monadnock-bldg., Chicago, Ill.
Star Brass Works, makers of tramway appliances, Kalamazoo, Mich.
Star Dynamo Co., installation contractors & manufacturers, Jeffersen City, Mo.
Star Electric Co., The, fan motor makers, Niles, Ohio.

Star Electric Co., makers of fire alarm telegraph apparatus, Binghamton, N.Y. (Telegrams: "Beach, Binghamton, New York." Telephone No. 557.)
Star Electrical Concern, arc lamp manufacturers, 74, Cortlandt-st., New York.
Star Porcelain Co., electrical specialities, Trenton, N.J.
Starr Bros. Bell Co., manufacturers of bells, East Hampton, Conn.
Starr Electric Co., installation contractors, 208, West Worthington-st., Springfield, Mass.
Station Equipment Co., dealers in second-hand machinery, 204, Dearborn-st., Chicago, Ill.
Staunton, A. R., electrical supplies & installation contractor (P.O. Box 346), Thibodaux, La. (Long Distance Teleph. No. 180.)
Stave Electrical Co., arc lamp manufacturers, 27, West 27th-st., New York.
Steamboat Springs Electric Co., electric light contractors, Steamboat Springs, Col. (Teleph. No. 26, Mountain.)
Stearns, J. W., M.AM.I.E.E., president Mountain Electric Co., Denver, Col.
Stearns Manufacturing Co., manufacturers of steam engines, Erie, Pa.
Stebbins Hardware Co., dealers in electrical supplies, 74, Van Buren-st., Chicago, Ill.
Stecker Electric & Machine Co., installation contractors & manufacturing electricians, 34-36, Bates-st., Detroit, Mich. (Teleph. Nos. 3928, Main & City.)
Stedman's Foundry & Machine Works, manufacturers of engines, Aurora, Ind.
Steel City Electric Co., conduit specialities & manufacturers of electrical supplies, Pittsburgh, Pa. (Bell Teleph. No. 852, Brady.)
Steele, Robt. A. M., electrical contractor, 131, South Highland-ave., East End, Pittsburg, Pa.
Steele, Walter D., electrical engineer, c/o Westinghouse, Church, Kerr & Co., 8, Bridge-st., New York.
Steinberger, A., installation contractor, 53, South May-st., Chicago, Ill.
Steiner Manufacturing Co., electric motor manufacturers, 2600, North 14th-st., St. Louis, Mo.
Steinholtz, H. M., electrical contractor, 172, Pearl-st., Hartford, Conn.
Steinmetz, Charles P., M.AM.I.E.E., electrical engineer, General Electric Co., Schenectady, N.Y.
Steinmetz Electric Co., installation contractors, 77, 5th-ave., Chicago, Ill.
Stendicke, Archinal & Ness, electro-medical instrument makers, 61, Fulton-st., New York. (Teleph. No. 5655, John.)
Stenger, E. H., electrical engineer, 715, Vine-st., Cincinnati, Ohio.
Stephenson, D. J., Co., electrical supplies, 520, Water-st., Port Huron, Mich.
Stephenson, John, Co., tramcar builders, Elizabeth, N.J.
Sterling Electric Co., manufacturers of telephones & complete telephone exchange equipments, Lafayette, Ind.
Sterling Electric Co., dealers in electrical supplies, 133, New Montgomery-st., San Francisco, Cal.
Sterling Electric Manufacturing Co., electric incandescent lamp manufacturers, Warren, Ohio.
Sterling Electric Motor Co., motors, dynamos & electric machinery, 2nd & Edgar-sts., Dayton, Ohio. (Telegs.: "Sterlmot, Dayton, Ohio." Lieber Code. Long Distance Teleph. No. 1062.)
Sterling Gas & Electric Light Co., Sterling, Ill.
Sterling Hardware & Electrical Co., installation contractors, 1003, Mission-st., San Francisco, Cal.
Sterling-Meaker Co., makers of trolley bases, 420, Ogden-st., Newark, N.J. (Cables: "Sterco, Newark.")
Sterling Varnish Co., insulating varnish, 307, 4th-ave., Pittsburgh, Pa. (Telegrams: "Varnish, Pittsburgh, Pa." A.B.C. Code, 4th edition); & Brougham-st., Blackfriars-rd., Manchester, England.
Sterling, W. C., & Son Co., dealers in cedar poles, ties & posts, Monroe, Mich. (Long Dist. Teleph. No. 100.)
Stern, P. K., A.AM.I.E.E., electrical & mechanical engineer, 521, West 182nd-st., New York.
Stern & Silverman, electrical engineers & contractors, 605, Land Title-bldg., Philadelphia, Pa.
Sterner, Edwin, Co., electrical contractors, Flint, Mich.
Sterns Electric Equipment Co., installation contractors, 316, Pearl-st., Buffalo, N.Y.
Sterns, J. C., Electrical Co., electrical engineers & dealers in electrical supplies, 259, Pearl-st., Buffalo, N.Y. (Teleph. No. 877, Frontier); & Warren, Pa.
Stetson, Thomas Drew, patent solicitor & expert, 108, Fulton-st., New York. (Telegrams: "Stetsonpat, Newyork." Telephone No. 4289, John.)
Steubenville & East Liverpool Railway & Light Co., Toronto, Ohio.
Steubenville, Mingo & Ohio Valley Traction Co., Steubenville, Ohio.
Stevens, J. F., B.S.C., M.E., M.AM.I.E.E., president, Keystone Electrical Instrument Co., 9th-st. & Montgomery-ave., Philadelphia, Pa.
Stevens, William, installation contractor, Joliet, Ill.
Stevens, Geo. M., Co., Inc., manufacturers of fire alarm apparatus & dealers in supplies, 15, Chardon-st., Boston, Mass.
Stevens Institute of Technology, Hoboken, N.J.
Stevens-Hewitt Engineering Co., electrical & hydraulic engineers, 15, William-st., New York.

Steward, D. M., Manufacturing Co., manufacturers of lavite insulators, Chattanooga, Tenn. (Telegs.: "Steatite, Chattanooga." A.B.C. Code, 4th edition); & 47, Murray-st., New York. (Telegs.: "Steatite, New York.")

Stewart, R. S., M.AM.I.E.E., consulting electrical engineer, 814, Penobscot-bldg., Detroit, Mich. (Teleph. No. 3026, Main.)

Stewart, Frank H., Electric Co., dealers in electrical supplies, 35, N. 7th-st., Philadelphia, Pa.

Stewart, John A., Electric Co., brokers & dealers in electrical machinery, 311, East 5th-st., Cincinnati, Ohio. (Telegs.: "Jaselco, Cincinnati." Teleph. Nos. 1253 & 3412, Main.)

Stewart Heater Co., manufacturers of feed-water heaters, Buffalo, N.Y.

Stewart & Son, manufacturers of steam boilers, Worcester, Mass.

Stickney, W. G., installation contractor, Jersey City, N.J.

Stillwater City Electric Light & Water Works, Stillwater, Okla.

Stillwater Gas & Electric Light Co., Stillwater, Minn.

Stillwell, Lewis Buckley, M.AM.I.E.E., M.I.E.E., consulting electrical engineer, 100, Broadway, New York.

Stine, Dr. Wilbur M., A.AM.I.E.E., electrical engineer, professor of engineering, Swarthmore College, Swarthmore, Pa.

Stirling, C. C., electrician, 66, State-st., Hartford, Conn.

Stirling Co., water tube boilers, 606, Pullman-bldg., Chicago, Ill.

Stitzer, Arthur B., M.AM.I.E.E., electrical engineer, Philadelphia Rapid Transit Co., Philadelphia, Pa.

Stockbridge, G. H., A.AM.I.E.E., patents, 165, Broadway, New York, N.Y. (Telegs.: "Legitimist, New York." Teleph. No. 2580, Cortland.)

Stockton Electric Railroad Co., Stockton, Cal.

Stockton Gas & Electric Co., Stockton, Cal.

Stoelting, C. H., Co., manufacturers of & dealers in scientific apparatus & laboratory appliances, 31–45, West Randolph-st., Chicago, Ill. (Telegrams: "Stoelting, Chicago." Telephone No. 4025, Main.)

Stolz Electrophone Co., electrical apparatus, 725, Stewart-bldg., Chicago, Ill.

Stone, Chas. A., A.AM.I.E.E., electrical engineer, Stone & Webster, 147, Milk-st., Boston, Mass. (Telegs.: "Electreng, Boston." Teleph. No. 1660, Fort Hill.)

Stone, C. W., M.AM.I.E.E., electrical engineer, General Electric Co., Schenectady, N.Y.

Stone Telegraph & Telephone Co., 31, State-st., Boston, Mass.

Stone & Webster, electrical engineers, 147, Milk-st., Boston, Mass. (Telegs.: "Electreng, Boston.")

Storage Battery Supply Co., manufacturers of storage batteries & electrical specialties, 239, E. 27th-st., New York.

Storer, Norman W., M.AM.I.E.E., electrical engineer, Westinghouse Electric & Manufacturing Co., Pittsburg, Pa.

Storer, S. B., electrical engineer, University-blk., Syracuse, N.Y.

Storm Lake Electric Light & Power Co., Storm Lake, Iowa.

Storrs, H. A., M.AM.I.E.E., electrical engineer, Williston, N.D.

Storsberg, F., dealer in electrical fixtures, 22, Atlantic-st., Newark, N.J.

Stott, Henry G., Past Pres. AM.I.E.E., superintendent Motive Power, Interborough Rapid Transit Co., New York.

Stoughton Gas & Electric Co., Stoughton, Mass.

Stovel, R. W., A.AM.I.E.E., electrical engineer, Westinghouse, Church, Kerr & Co., 10, Bridge-st., New York.

Stow Manufacturing Co., manufacturers of flexible shafts, portable tools, multi-speed motors, &c., Binghampton, N.Y.

Stowe, Bernard A., A.AM.I.E.E., chief engineer, Jandus Electric Co., Cleveland, Ohio.

Straight Electric Co., installation contractors, Des Moines, Iowa.

Straight Line Engine Co., manufacturers of high-speed engines, Syracuse, N.Y. (Telegrams: "Engine, Syracuse, N.Y.")

Strang, E. P., electrical contractor, 723, Walnut-st., Philadelphia, Pa. (Teleph. Nos.: 2458, Walnut, Bell; & 1752, Main, Keystone.)

Strauss, H. A., consulting electrical & steam engineer, 390, Broadway, New York. (Telegrams: "Nodal, New York." Telephone No. 3164, Franklin.)

Strauss, Lawrence L., electrical contractor, 13, East 125th-st., New York. (Teleph. Nos. 5050 & 5051, Harlem.)

Street Bros., electrical contractors, Chattanooga, Tenn.

Strobel & Wilkin Co., makers of O. K. dry batteries, 591, Broadway, New York.

Strock, S. C., maker of railroad ties, trolley-poles, &c., Bowling Green-bldg., 11, Broadway, New York. (Telegs.: "Strock, New York." Teleph. No. 2658, Rector.)

Strom, Carl E., installation contractor, Alameda, Cal.

Stromberg-Carlson Telephone Manufacturing Co., manufacturers of telephone apparatus, aerial & underground cables, Rochester, N.Y.

Strong, Frederick G., M.AM.I.E.E., electrical engineer, Box 959, Hartford, Conn.

Stroudsburg Electric Light & Power Co., Stroudsburg, Pa.

Strutt, Wm., dealer in electrical fixtures, Paterson, N.J.

Stuart, H. R., M.AM.I.E.E., manager American Telegraphone Co., Wheeling, Va.
Stuart, D. A., & Co., manufacturers of dynamo oil, 447, Illinois-ave., Chicago, Ill.
Stuart-Howland Co., manufacturers & dealers in electrical supplies, 1–3, Winthrop-sq., & 12–36, Otis-st., Boston, Mass.
Stucky, Jacob, repairing & reconstructing of dynamos & motors, 17, Alling-st., Newark, N.J.
Studebaker Automobile Co., electric motor cars, South Bend, Ind.
Sturm & Brinkman, repair shops & wiring contractors, 313, 2nd-ave., Pittsburgh, Pa.
Sturtevant, B. F., Co., makers of fans, engines, motors, turbines, &c., Boston & Hyde Park, Mass.
Sturtevant & Mason, patent attorneys, Washington Loan & Trust-bldg., Washington, D.C. (Telegs.: "Sturtevant, Washington.")
Stuttgart Water & Electric Light Plant, Stuttgart, Ark.
Submarine Signal Co., 88, Broad-st., Boston, Mass. (Telegs.: "Submarine, Boston.")
Suburban Gas & Electric Co., Revere, Mass.
Suburban Railroad Co., electric tramway, Chicago, Ill.
Sullinger, Park, electrical contractor, 335, Broadway, New York. (Teleph. No. 1603, Franklin.)
Sullivan Electric Co., installation contractors, Butte City, Mont.
Sullivan Electric Co., Sullivan, Ill.
Sullivan, G. W., & Co., electrical repairs, 118, Opera-pl., Cincinnati, Ohio.
Sullivan Heat, Light & Power Co., Sullivan, Ind.
Sulphur Light & Power, Sulphur, Okla.
Sulzer & Co., electric light fixtures, 821, Cherry-st., Philadelphia, Pa.
Summers, L. L., consulting engineer, First National Bank-bldg., Chicago, Ill.
Summit County Power Co., 405, 17th-st., Denver, Col.
Sumpter Light & Water Co., Sumpter, Ore.
Sumter Ice, Light & Power Co., Sumter, S.C.
Sumter Telephone Manufacturing Co., telephone apparatus makers, Sumter, S.C. (Telegs.: "Sumterfone, Sumter.")
Sun Porcelain Co., manufacturers of electrical specialties, Trenton, N.J.
Sunbeam Incandescent Lamp Co., 259, South Clinton-st., Chicago, Ill.; & at New York.
Sunbury & Northumberland Electric Railway Co., Sunbury, Pa.
Sundh Electric Co., makers of automatic regulators, 113, Cedar-st., New York.
Sunlight Window Reflector Co., manufacturers of metal reflector & shade, 141, Court-st., Brooklyn, N.Y.
Sunny, B. E., M.AM.I.E.E., president, Chicago Telephone Co., 203, Washington-st., Chicago, Ill. (Teleph. No. 294, Main.)
Superior Water, Light & Power Co., Superior, Wis.
Supplee Electric Co., installation contractors, 922, Chestnut-st., Philadelphia, Pa.
Supply Manufacturing Co., The, manufacturers of incandescent lamps, electric railway & light supplies, 32nd & Smallman-sts., Pittsburgh, Pa.
Susquehanna County Electric Co., Susquehanna, Pa.
Susquehanna Traction Co., Lock Haven, Pa.
Sutter, Chas. J., electrical engineer & contractor, 1220, Pine-st., St. Louis, Mo. (Telephone Nos.: 5198, Main; & Kinloch, 5605 R., Central.)
Sutton, Frank, consulting electrical & mechanical engineer, 91, Wall-st., New York.
Swan Electric Co., electrical engineers, 37, Pearl-st., Boston, Mass.
Swann Day Lumber Co., Clay City, Ky.
Swanson, A. L., electrical construction & supplies, 316, 2nd-st., Evansville, Ind. (Telephone No. 36.)
Swedish-American Telephone Co., manufacturers of telephones, switchboards & supplies, 5235–5247, East Ravenswood Park, Chicago, Ill. (Telegs.: "Satco, Chicago." Teleph. No. 782.)
Swedish-Electric Vibrator Co., 602–620, Farragut-ave., Chicago, Ill. (Teleph. No. 782–783, Edgewater.)
Sweet, F. P., installation contractor, Chattanooga, Tenn.
Sweeten-Crossan Electric Co., manufacturers of & dealers in electrical supplies, 816, Arch-st., Philadelphia, Pa. (Teleph. Nos.: 850 & 851, Bell; & 4930, A., Keystone.)
Sweetland, Ralph, A.AM.I.E.E., engineer, New England Insurance Exchange, 147, Milk-st., Boston, Mass.
Sweetser, F. C., installation contractor, 43, East Union-st., Pasadena, Cal. (Both Teleph. Nos. 250.)
Sweetser, S. G., Electric Co., installation contractors, Harrisburg, Pa.
Swenson, Bernard V., M.AM.I.E.E., M.AM.S.M.E., secretary & treasurer, American Street & Interurban Railway Association, 29, West 39th-st., New York City.
Swett Electric Light & Power Co., Medina, N.Y.
Swett & Lewis Co., manufacturers of X-ray apparatus, &c., 79, Franklin-st., Boston, Mass.
"Swift" Lubricator Co., lubricating devices, 729–731, West 2nd-st., Elmira, N.Y.
Swing Electric Co., dynamos & electric machine manufacturers, 327, East 6th-st., Cincinnati, Ohio.
Sykes, E. C., electrical contractors, 12, Front-st., Rochester, N.Y. (Teleph. No. 672.)
Sykes, Henry H., A.AM.I.E.E., general manager, Southern New England Telephone Co., New Haven, Conn. (Teleph. No. 12.)
Synnestvedt Machine Co., motor carriages, 4117, Liberty-ave., Pittsburgh, Pa.

Syracuse Armature Works, manufacturing electricians, Syracuse, N.Y.
Syracuse Boiler Works, makers of boilers, 511, East Water-street, Syracuse, N.Y.
Syracuse Lighting Co., Syracuse, N.Y.
Syracuse Rapid Transit Railway Co., Syracuse, N.Y.
Syracuse & Suburban Railroad Co., Syracuse, N.Y.
Syracuse Supply Co., installation contractors, Syracuse, N.Y.
Syracuse Twist Drill Co., bell fitters' & electricians' bits, 936, Grape-street, Syracuse, N.Y.

Tacoma City Electric Light Plant, Tacoma, Wash.
Tacoma Railway & Power Co., Tacoma, Wash.
Tafel, H. C., electrical supplies, 236, West Jefferson-st., Louisville, Ky.
Takata & Co., engineers & contractors, 60, Wall-st., New York.
Talbot, Richmond, electrical contractor, 52, William-st., New York.
Talcott Electric Co., installation contractors & electrical supplies, 418, Navarro-st., San Antonio, Tex. (Teleph. No. 119, New.)
Taltavall, Thos. R., A.AM.I.E.E., associate editor, *Electrical World*, 239, West 39th-st., New York.
Tama & Toledo Electric Railway & Light Co., Toledo, Iowa.
Tamaqua Light, Heat & Power Co., Tamaqua, Pa.
Tampa Electric Co., Tampa, Fla.
Tank Electric Co., electrical contractors, 324, Dearborn-st., Chicago, Ill.
Tarbell, E. H., Co., electric light fixtures, 15, Washington-st., Boston, Mass.
Tarbox, F. N., electrical contractor, Dunmore, Pa.
Tarentum Traction Passenger Railway Co., Tarentum, Pa.
Taunton Electric Light Plant, Taunton, Mass.
Taunton Locomotive Manufacturing Co., manufacturers of feed water heaters, &c., Taunton, Mass.
Taunton Municipal Lighting Plant, Taunton, Mass.
Taunton New Bedford Copper Co., switch makers, 77, Water-st., New York.
Taunton New Bedford Copper Co., manufacturers of switches & switchboards, Taunton, Mass.
Taunton & Pawtucket Street Railway Co., Taunton, Mass.
Taylor, J. B., M.AM.I.E.E., Railway Engineering Department, General Electric Co., Schenectady, N.Y.
Taylor, Seymour, electrical contractor & supplies, Glens Falls, N.Y. (Teleph. Nos.: 317, Commercial Union; & 161 W., Hudson River.)
Taylor, Wm., dealer in electrical specialities & supplies, 203, Broadway, New York. (Telegrams "Rolyat, New York." Telephone No. 4969, Cort.)
Taylor, W. G., M.I.E.E., c/o Commercial Cable Co., 253, Broadway, New York.
Taylor, Wyatt W., consulting electrical engineer, 2, Rector-st., New York.
Taylor Electric Light Co., Taylor, Tex.
Taylor Electric Truck Co., manufacturers of electric car trucks, springs, wheels, &c., Troy, N.Y.
Taylor, Taylor & Hobson, Ltd., scientific instrument makers, St. James-bldg., 1135, Broadway, New York. Head offices & factory: Leicester, England.
Taylor, W. H., & Co., electrical machinery & supplies, contractors & engineers, 254, Hamilton-st. Allentown, Pa.
Tazewell Electric Light & Power Co., Tazewell, Va.
Teal, Frank C., Ce., dealers in electrical supplies, 75, Bates-st., Detroit, Mich.
Technical Supply Co., electrical instrument makers, 44, East 14th-st., New York.
Tecumseh Electric Co., Tecumseh, Mich.
Telegraph Age (semi-monthly; ann. sub., U.S., $2.00; Canada, $2.50; P.U., $3.00), 253, Broadway, New York. (Telegs.: "Telegage, New York.")
Telegraph Signal Co., Rochester, N.Y.
Tel-Electric Co., wholesale dealers in electrical supplies, Houston, Tex.
Telephone & Electric Equipment Co., manufacturers' agents, San Francisco, Cal.
Telephony (weekly, 10 cents; ann. sub., U.S. & Mexico, $3.00; other countries, $5.00), Monadnock-blk., Chicago, Ill. (H. B. McMeal & Franklin H. Reed, editors.) (Teleph. No. 2951, Harrison.)
Teleseme Electric Manufacturing Co., 137, West 23rd-st., New York.
Telluride Electric Light & Power Co., Telluride, Col.
Telluride Power Co., Provo, Utah.
Telluride Power Co., Telluride, Col.
Temescal Water Co., Corona, Cal.
Temple Electric Light Co., Temple, Texas.
Temple, Henry D., Co., electrical engineers & contractors, Worcester, Mass. (Teleph. No. 1515.)
Templeton Street Railway Co., East Templeton, Mass.
Tenk Hardware Co., electrical supplies, Quincy, Ill.

Terminal Electric Co., installation contractors, 1882, Evanston-ave., Chicago, Ill.
Terre Haute Gas Fixture Co., electrolier manufacturers & fitters, Terre Haute, Ind.
Terre Haute, Indianapolis & Eastern Traction Co., Indianapolis, Ind.
Terrell Electric Light Co., Terrell, Tex.
Terrell-Hedges Co., jobbers & manufacturers of electrical supplies, Chattanooga, Tenn.
Terry, C. A., M.AM.I.E.E., vice-president W. E. & M. Co., 165, Broadway, New York.
Tesla, Nikola, M.I.E.E., M.AM.I.E.E., electrical engineer, 165, Broadway, New York.
Texarkana Gas & Electric Light Co., Texarkana, Ark.
Texas Arm & Pin Co., brackets, pins & cross-arms, Beaumont, Tex.
Texas-Mexican Electric Light & Power Co., Eagle Pass, Tex.
Thaxter, Frank O., electrical contractor, 715, Dudley-st., Boston, Mass.
Thayer, George L., A.AM.I.E.E., consulting engineer, 418, Liddelle-blk., Spokane, Wash.
Thayer & Lynn, manufacturing electricians, 423, Dearborn-st., Chicago, Ill.
Thayer, W. N., Co., electrical contractors, 784, 6th-ave., New York.
Thayer-Wilkinson Co., installation contractors, 1418, Cortleyou-rd., Brooklyn, N.Y.
Thiemer, E. J. H., electrical engineer & contractor, 523, Nostrand-ave., Brooklyn, N.Y. (Telephone No. 1911, Bedford.)
Tholen Bros., installation contractors, Leavenworth, Kan.
Thomas, Benjamin F., M.AM.I.E.E., professor of physics, Columbia State University, Columbus, Ohio.
Thomas, P. H., M.AM.I.E.E., chief electrician, Cooper Hewitt Electric Co., 2, Rector-st., New York.
Thomas & Betts Co., electrical engineers, Barclay-bldg., 299, Broadway, New York. (Telegs.: "Loricated, New York." Teleph. No. 5597, Worth.)
Thomas & Johnson, electrical engineers, 183, Greenwich-st., New York.
Thomas & Neall, electrical engineers, 2, Rector-st., New York; & 12, Pearl-st., Boston, Mass.
Thomaston Electric Light Co., Thomaston, Conn.
Thomasville Municipal Electric Light Plant, Thomasville, Ga.
Thompson, Edward P., M.AM.I.E.E., A.S.M.E., patent solicitor & expert, 50, Morningside-ave. West, New York. (Telegs.: "Science, New York." Teleph. No. 5020, Morningside.)
Thompson, Joseph H., jun., electrical & steam machinery, 17, Battery-pl., New York. (Teleph. No. 6698, Broad.)
Thompson, O. C., installation contractor, 107, East Main-st., New Albany, Ind. (Teleph. Nos.: 342 & 334, Cumberland; & 521, Home.)
Thompson-Bonney Co., electrical repairs & supplies, 45 & 47, York-st., Brooklyn, N.Y. (Long Distance Teleph. No. 3906, Main.)
Thompson-Starrett Co., installation contractors, 314, Madison-ave., New York.
Thomson, D. P., designer, General Electric Co., Schenectady, N.Y.
Thomson, Prof. Elihu, A.M., PH.D., M.I.C.E., Hon. M.I.E.E., M.AM.I.E.E., &c., inventor & electrician, General Electric Co., & Thomson Electric Welding Co., Lynn, Mass.
Thomson Electric Welding Co., manufacturers of electric welding apparatus, Lynn, Mass. (Telegs.: "Welding, Lynn." Teleph. No. 2014.)
Thomson-Houston Electric Co., 42, Center-st., Lynn, Mass.
Thornapple Gas & Electric Co., Hastings, Mich.
Thorne, Chas. F., electrical engineer, 202, East 36th-st., New York.
Thornley, Wm., electrical engineer, contractor & supplies, 259, South 10th-st., Philadelphia, Pa. (Teleph. No. Bell, Walnut, 1523; & Keystone Main, 5118 D.); & Laurel Springs, N.J.
Thornton, K. B., A.AM.I.E.E., electric lighting engineer, J. G. White & Co., 43-49, Exchange-pl., New York City.
Thorpe & Co., installation contractors, Paterson, N.J.
Thousand Islands Electric Light & Power Co., Clayton, N.Y.
Three Rivers Electric Manufacturing Co., electrical machinery, Three Rivers, Mich.
Three Rivers Light & Power Co., Three Rivers, Mich.
Thresher, Alfred A., M.AM.I.E.E., electrical engineer, 29, Broadway, New York.
Thullen, L. H., M.AM.I.E.E., electrical engineer, Union Switch & Signal Co., Pittsburg, Pa.
Thurber, Howard F., A.AM.I.E.E., vice-president & general manager, New York Telephone Co., & New York & New Jersey Telephone Co., 15, Dey-st., New York, N.Y.
Thye, M. P., & Co., electrical contractors, 239-241-243, East 2nd-st., Los Angeles, Cal. (Teleph. Nos.: 4221 Q., Home; & 1148, Sunset, Main.)
Tibbals, E. C., & Co., makers of switchboards, 1199, Atlantic-ave., Brooklyn, N.Y. (Teleph. No. 2586, Bedford.)
Tibbe Electric Co., Washington, Mo.
Tidewater Power Co., Wilmington, N.D.
Tietgen, Falk & Co., electrolier manufacturers & fitters, 79, West Van Buren-st., Chicago, Ill.
Tiffin Edison Electric Illuminating Co., Tiffin, Ohio.
Tiffin, Fostoria & Eastern Railway Co., Tiffin, Ohio.
Time Electric Co., dealers in electrical supplies, 6309, White-ave., Cleveland, Ohio.

Timlin Bros., electrical contractor, Avoca, Pa.
Tingley, E. M., A.AM.I.E.E., Montague, Mich.
Tingley, The R. H., Co., electrical engineers & contractors, 32, Cortlandt-st., New York ; & Providence. R.I.
Tipless Lamp Co., electric lamp manufacturers, 256, West 23rd-st., New York. (Telegs.: "Tipless' New York.") H. J. Jaeger, manager & electrician.
Tipton Electric Light Co., Tipton, Ind.
Tipton Lighting & Heating Co., Tipton, Iowa.
Tisdale & Co., installation contractors, Memphis, Tenn.
Titusville Electric Light & Power Co., Titusville, Pa.
Titusville Electric Traction Co., Titusville, Pa.
Toccoa Falls Light & Power Co., Toccoa, Ga.
Toerring, C. J., Co., arc lamp manufacturers, Warden Power-bldg., 19th & Allegheny-ave., Philadelphia, Pa. (Telegrams : "Toerring, Philadelphia." Lieber's Code. Telephone No. 6-41-42.)
Toledo, Bowling Green & Southern Traction Co., Findlay, Ohio.
Toledo Chandelier Manufacturing Co., electric light fixtures, 127-129-131, Huron-st., Toledo, Ohio. (Teleph. No. 2269, Main.)
Toledo Electric Co., installation contractors & jobbers, Toledo, Ohio.
Toledo, Fostoria & Findlay Railway Co., Fostoria, Ohio.
Toledo Gas, Electric & Heating Co., Toledo, Ohio.
Toledo & Indiana Railway Co., Toledo, Ohio.
Toledo Railways & Light Co., Toledo, Ohio.
Toledo & Western Railway Co., Sylvania, Ohio.
Tollner, Hugo, jun., installation contractor, 292, Taaffe-pl., Brooklyn, N.Y.
Toman Bros., electrical contractors, 130, North Warren-st., Trenton, N.J.
Toms River & Island Heights Electric Light & Power Co., Toms River, N.J.
Tonawanda Power Co., North Tonawanda, N.Y.
Toomey, Frank, Inc., buyers of & dealers in second-hand electrical plant, 127, N. 3rd-st., Philadelphia, Pa.
Topeka Edison Co., Topeka, Kansas. (Telegs.: "Edison Co., Topeka." Teleph. No. 369.)
Topeka Railway Co., 113, East 8th-ave., Topeka, Kan. A. M. Patten, superintendent.
Torchio, Philip, M.AM.I.E.E., chief electrical engineer, New York Edison Co., 57, Duane-st., New York.
Torrington Electric Light Co., Torrington, Conn.
Tower-Binford Electric & Manufacturing Co., manufacturers & dealers in electrical supplies, Richmond, Va.
Towle, Stevenson, consulting electrical engineer, 5, East 42nd-st., New York.
Town Hydro-Electric Plant, Harrisonburg, Va.
Townsend, Henry C., A.AM.I.E.E., electrical patent expert & attorney, 141, Broadway, New York.
Townsend & Decker, patent solicitors, 141, Broadway, New York.
Tracy, Atlee H., A.M.I.E.E., c/o G. Gibbs, 10, Bridge-st., New York.
Trades Supply Manufacturing Co., manufacturers of electrical specialities, 104, Elm-st., Bradford, Pa.
Trafford, E. W., M.AM.I.E.E., electrical engineer, 27, Chamber of Commerce, Richmond, Va.
Trafton, W. I., & Son, electrical contractors, Portsmouth, N.H.
Transformer Speciality Co., 136, Liberty-st., New York.
Treadway Electric Co., electrical construction & consulting engineers, 713, Main-st., Little Rock, Ark. (Old Teleph. No. 2419.)
Tregoning Electric Manufacturing Co., electrical fittings makers, Cleveland, Ohio.
Tremaine Electric Co., electrical contractors & fixture dealers, School-st. & City Hall-sq., Brockton, Mass. (Teleph. No. 901.)
Tremont & Pine Grove Electric Light, Heat & Power Co., Tremont, Pa.
Trent Tile Co., manufacturers of hard porcelain for electrical purposes, Trenton, N.J.
Trenton Gas Light & Power Co., Trenton, Ill.
Trenton Porcelain Co., manufacturers of electrical insulators, Trenton, N.J.
Trenton Street Railway Co., Trenton, N.J.
Trevor, John, electrical engineer, 406, 1st-ave. South, Minneapolis, Minn.
Tri-City Electric Co., installation contractors, Davenport, Iowa.
Tri-City Electric Co., dealers in electrical supplies, Moline, Ill. (Teleph. Nos. : 247, Old ; & 8236, New.)
Tri-City Railway Co., Davenport, Iowa.
Tri-County Light & Power Co., Alpha, Ill. (Teleph. No. 7.)
Triest, W. G., contractor for ironwork, 143, Liberty-st., New York. (Teleph. No. 5940, Cort.)
Trinidad Electric Railroad Co., Trinidad, Col.
Trinidad Light & Power Co., Trinidad, Col.
Tripp & Co., manufacturers of electric signs, 111, 5th-ave., Chicago, Ill.
Trippe, C., superintendent Anglo-American Telegraph Co., Stock Exchange-bldg., 8, Broad-st., New York. (Teleph. No. 3635, Rector.)
Tritt Electric Co., makers of induction coils, &c., 301, South Division-st., Union City, Ind.
Triumph Electric Co., motors & dynamos, Cincinnati, Ohio. (Cables: "Triumph." Lieber's Code.)

Trolley Supply Co., manufacturers of railway supplies, Canton, Ohio.
Trotter, E. T., & Co., insulating material manufacturers, 602, Johnson-ave., Brooklyn, N.Y.
Troy Electrical Co., installation contractors, Troy, N.Y.
Troy Engine & Machine Co., builders of high grade vertical steam engines, Troy, Pa. (Telegrams: "Trojan, Troy." Lieber's Code.)
Troy Gas Co., Troy, N.Y. (Teleph. No. 115.)
Troy & New England Railway Co., Troy, N.Y.
Truckee River General Electric Co., electric light & power, Truckee, Cal.
Trumbull Electric Manufacturing Co., manufacturers of electrical supplies, Plainville, Conn.
Trump Manufacturing Co., turbine & water wheel manufacturers, Springfield, Ohio.
Truswell, Wm., & Son, electrical contractors, 16, Cedar-st., New York.
Tschudin H., installation contractor, 370, Amsterdam-ave., New York. (Teleph. No. 6343, Main.)
Tucke & Parker, electrical contractor, supplies & repairing, 79, Middle-st., Lowell, Mass.
Tucker Electrical Construction Co., electrical constructors & engineers, 110, West 30th-st., New York.
Tucker & Vinton, engineers & contractors, Park-ave. & 41st-st., New York.
Tucson Gas, Electric Light & Power Co., Tucson, Ariz.
Tuerk, Albert, & Co., manufacturers of electrical specialties, 238, Jefferson-st., Chicago, Ill.
Tullahoma Municipal Electric Light & Water Works, Tullahoma, Tenn. S. Shingleton, superintendent.
Tungsten Lamp Development Co., dealers in electrical supplies, 2110, Olive-st., St. Louis, Mo.
Tuolumne Water Power Co., Sonora, Cal.
Turbo-Electric Construction Co., installation contractors, 39, Cortlandt-st., New York.
Turner, W. S., M.AM.I.E.E., electrical engineer, W. S. Barstow & Co., Failing-bldg., Portland, Ore.
Turner Brass Works, Franklin & Michigan-sts., Chicago, Ill. (Telegrams: "Theturner, Chicago." Telephone No. 3224, Main.)
Turner, Vaughan & Taylor Co., wire drawing machinery makers, Cuyahogo Falls, Ohio.
Turnquist, C. M., dealer in electrical supplies, 757, North Lawndale-ave., Chicago, Ill.
Tuscaloosa Ice & Light Co., Tuscaloosa, Ala.
Tuscola Water & Light Co., Tuscola, Ill.
Tuxedo Electric Light Co., Tuxedo, N.Y.
Twin City General Electric Co., Ironwood, Mich.
Twin City Rapid Transit Co., Minneapolis, Minn.
Two Rivers Water & Electric Plant, Two Rivers, Wis.
Tyler, Wm., installation contractor, Flushing, N.Y.
Tyler Electric Co., Tyler, Texas.
Tyndall, William D., patent lawyer & expert, 141, Broadway, New York.
Tyson, Chas. Q., Co., electrical contractors, 35, North Jefferson-st., Dayton, Ohio.

U.S. Incandescent Lamp Co., incandescent lamp manufacturers, St. Louis, Mo.
U.S. Mica Co., miners & manufacturers of ground mica, 238, La Sall-st., Chicago, Ill.
Uebelacker, C. F., M.AM.I.E.E., Ford, Bacon & Davis, Hackensack, N.J.
Uhlenhaut, Fritz, jun., M.AM.I.E.E., c/o chief engineer, Pittsburgh Railway Co., Pittsburgh, Pa.
Ulmer, Gustav W., electric wiring, Newton Centre, Mass.
Ulster Electric Light, Heat & Power Co., Saugerties, N.Y.
Umpqua Water, Light & Power Co., Roseburg, Ore. (Teleph. No. 611, Main.)
Underhill, C. R., A.AM.I.E.E., consulting electrical engineer, 55, Liberty-st., New York.
Underwriters Electric Co., 812, South 1st-ave., Seattle, Wash. (Teleph. Nos.: 4750, Main; & 487, Independent.)
Underwriters National Electric Association, 141, Milk-st., Boston, Mass. (C. M. Goddard, secretary.)
Union Carbide Sales Co., calcium carbide, 157, Michigan-ave., Chicago, Ill. (Telegs.: "Calcar," Chicago or New York); & 79, Wall-st., New York.
Union City Lighting Co., Union City, Ind.
Union City Municipal Electric Light & Water Works, Union, S.C.
Union City Water & Electric Light Works, Union City, Tenn.
Union College, school of electrical engineering, Schenectady, N.Y.
Union Electric Co., Dubuque, Iowa.
Union Electric Co., dealers in electrical supplies, Pittsburg, Pa.
Union Electric Light Co., Franklin, Mass.
Union Electric Light & Power Co., Unionville, Conn. (Teleph. No. 1-3.)
Union Electric Light & Power Co., 10th & St. Charles-sts., St. Louis, Mo.
Union Electrical Porcelain Works, porcelain & china fittings makers, Hamilton-ave., Trenton, N.J.
Union Elevator & Machine Co., electric elevators, 144, Ontario-st., Chicago, Ill.
Union Gas & Electric Co., Bloomington, Ill.

Union Gas & Electric Co., Waterville, Maine. (Telephone No. 63-2, Waterville.)
Union Glass Co., makers of blanks for cutting, Somerville, Mass.
Union Hardware Co., manufacturers of push-button shells, switch handles, &c., Torrington, Conn.
Union Hardware & Electric Supply Co., electrical supplies, Providence, R.I.
Union Iron Works, manufacturing electricians, 320, Market-st., San Francisco, Cal.
Union Light, Heat & Power Co., 612, N. P.-ave., Fargo, N.D.
Union Porcelain Works (C. H. L. Smith), manufacturers of hard porcelain insulators, 300, Eckford-st., Borough, Brooklyn, N.Y. (Telephone No. 70, Greenpoint.)
Union Railway Co., 204, East 128th-st., New York.
Union Springs Light & Water Works Department, Union Springs, Ala.
Union Street Railway Co., New Bedford, Mass.
Union Switch & Signal Co., railway signals, &c., Swissvale, Pa.
Union Traction Co., Santa Cruz, Cal.
Union Utility Co., Morgantown, W. Va.
Unique Art Glass & Metal Co., art glass for electric lighting, 105, Vanderveer-st., Brooklyn, N.Y. (Teleph. No. 906, East N.Y.)
United Brass Manufacturing Co., electric cable machinery, Cleveland, Ohio.
United Electric Apparatus Co., installation contractors, 200, Summer-st., Boston, Mass. (Telegs.: "Zalar, Boston." W.U. Code. Teleph. Main No. 3038.)
United Electric Co., Dennison, Ohio.
United Electric & Hardware Corporation, supplies, 258–260, S. Los Angeles-st., Los Angeles, Cal. (Teleph. Nos.: 1819, Home; & 1722, Main.)
United Electric Light Co., Springfield, Mass.
United Electric Light & Power Co., 1170, Broadway, New York.
United Electric Supply Co., jobbers of electrical supplies, 1531, Pine-st., St. Louis, Mo.
United Engineering & Contracting Co., electrical engineers, 17, West 42nd-st., New York.
United Gas & Electric Co., Leavenworth, Kan.
United Gas & Electric Co., electric light contractors, Litchfield, Ill.
United Gas & Electric Co., New Albany, Ind.
United Gas & Electric Co., San José, Cal.
United Gas, Electric Light & Fuel Co., Fort Edward, N.Y.
United Gas, Electric Light & Fuel Co., Sandy Hill, N.Y.
United Hydro Electric Co., Georgetown, Col.
United Illuminating Co., 148, John-st., Bridgeport, Conn.
United Illuminating Co., New Haven, Conn.
United Indurated Fibre Co., insulated material manufacturers, Lockport, N.Y.
United Missouri River Power Co., Helena, Mont.
United Railroads of San Francisco, Oak & Broderick-sts., San Francisco, Cal. Chas. N. Black, genera manager; S. L. Foster & W. T. Bivens, electrical engineers.
United Railways Co. of St. Louis, St. Louis, Mo.
United Railways & Electric Co., Baltimore, Md.
United States Automatic Telephone Co., 110, Nassau-st., New York. (Telegrams: "Usaphone, New York.") (Elias E. Ries, president & general manager.)
United States Car Lighting Co., 42, Broadway, New York. (Telegs.: "Youeslite, New York." Teleph. Nos. 998 & 999, Broad.)
United States Carbon Co., Cleveland, Ohio.
United States Electric Signal Co., manufacturers of automatic railway signals, 20, Westwood-st., West Newton, Mass.
United States Gas Fixture Co., manufacturers of electric fixtures, 205, Centre-st., New York.
United States Headlight Co., makers of electric headlights, Buffalo, N.Y. (Telegs.: "Headlight, Buffalo.")
United States Incandescent Lamp Co., manufacturers of incandescent electric lamps, St. Louis, Mo.
United States Light & Heating Co., installation contractors, 30, Church-st., New York, N.Y.
United States Mineral Wool Co., manufacturers of mineral wool & corrugated copper gaskets, 140, Cedar-st., New York, N.Y.
United Telegraph, Telephone & Electric Co. (J. G. Earle, president; E. P. M. Connell, secretary), 84, Washington-st., Chicago; & 4705, Cottage Grove-ave., Hyde Park, Ill.
United Traction Co., Albany, N.Y.
United Traction Co., Reading, Pa.
United Verde Copper Co., Jerome, Ariz.
United Wireless Telegraph Co., 42, Broadway, New York.
Universal Cable Grip Co., cable grips, P.O. Box 390, Syracuse, N.Y.
Universal Cutter Co., manufacturing electricians, 4567, Scott-ave., St. Louis, Mo.
Universal Electric Stage Lighting Co. (Kliegl Bros.), 1393–1395, Broadway, & 129, West 38th-st., New York. Signaloid Chemical Works: 129, West 38th-st., New York.

Universal Electric Storage Battery Co., makers of accumulators, 1307, Stock Exchange-bldg., Chicago, Ill.
Universal Electric Supply Co., electrical supply dealers, Mattapan, Mass.
Universal Manufacturing Co., controller manufacturers, 206, Illinois-st., Chicago, Ill.
University of Arkansas, Fayatteville, Ark. *See* SCHOOLS.
University of Chicago, cor. 58th-st. & Ellis-ave., Chicago, Ill. (Telephone No. 426, Hyde Park.)
University of Illinois, Urbana, Ill. (Prof. Morgan Brooks, professor of electrical engineering.)
University of Michigan, Ann Arbor, Mich. For professors, *see* SCHOOLS.
University of Minnesota, Minneapolis, Minn.
University of Oklahoma, Norman, Okla. *See* SCHOOLS.
Upper Hudson Electric Co., Coxsackie, N.Y.
Upper Iowa Power Co., Decorah, Iowa.
Upton, F. R., M.S., M.AM.I.E.E., Union-bldg., Newark, N.J.
Upton, Wm. B., consulting electrical engineer, 902, F-st., N.W., Washington, D.C.
Urbana & Champaign Railway, Gas & Electric Co., Champaign, Ill.
Urbana Light Co., Urbana, Ohio.
Urbana Light, Heat & Power Co., Urbana, Ill.
Utah Country Light & Power Co., American Fork, Utah.
Utah Electrical & Supply Co., installation contractors, Salt Lake City, Utah.
Utah Light & Railway Co., Salt Lake City & Ogden City, Utah.
Utica Armature Works, manufacturing electricians, Utica, N.Y.
Utica Fire Alarm Telegraph Co. (W. P. Campbell, manager), manufacturers of telephones, fire alarm & police telegraph apparatus, 106–108, Liberty-st., Utica, N.Y.
Utica Gas & Electric Co., Utica, N.Y.
Utica & Mohawk Valley Railroad Co., Utica, N.Y.

Vacuum Oil Co., manufacturers of oils, 49, Federal-st., Boston, Mass. (Telegs.: "Vacuum, Boston." Teleph. No. 6166, Main.)
Vacuum Oil Co., manufacturers of lubricants & lubricating appliances, Rochester & Olean, N.Y.
Vail, J. H., consulting electrical engineer, 114, Liberty-st., New York.
Vail, T. N., M.AM.I.E.E., electrical engineer, 26, Cortlandt-st., New York.
Valdosta Ice & Manufacturing Co., Valdosta, Ga.
Valentine Bros. Manufacturing Co., gasoline traction engine manufacturers, 230–234, 5th-ave., S. Minneapolis, Minn.
Valentine-Clark Co., telegraph poles, 234, La Salle-st., Chicago, Ill. (Telegs.: "Valclark, Chicago." Teleph. No. 1418, Harrison.)
Vallee, Geo. W., Electric Co., 1533, Atlantic-ave., Atlantic City, N.J.
Valleja Electric Light & Power Co., Valleja, Cal.
Valley Electric Co., New Brighton, Pa. (Teleph. No. 130, Bell.)
Valparaiso Lighting Co., Valparaiso, Ind.
Van Brunt Street & Erie Basin Rail Road Co., Brooklyn, N.Y.
Vandalia Electric Light Plant, Vandalia, Mo.
Vander Naillen, A., electrical engineer, contractor & supply dealer, 5115, Telegraph-ave., Oakland, Cal. (Teleph. No. 54, Piedmont.)
Vander Naillen, jun., A., C.E., mining engineer & assayer, 5115, Telegraph-ave., Oakland, Cal. (Teleph. No. 54, Piedmont.)
Vander Naillen, R. Leo., electrical engineer, 5115, Telegraph-ave., Oakland, Cal. (Teleph. No. 54, Piedmont.)
Van Dorn Electric & Manufacturing Co., manufacturers of gears, pinions & electrical repairs, 2694, East 79th-st., Cleveland, Ohio.
Van Dorn, W. T., Co., car coupling makers, 1076, South Paulina-st., Chicago, Ill.
Van Dyke Electric Co., electrical engineers, Asbury Park, N.J.
Van Emon Elevator Co., manufacturers of elevators, San Francisco, Cal.
Van Houten & Ten Broeck Co., manufacturers of therapeutic apparatus, 214, East 23rd-st., New York.
Van Loan, I. S., Co., electrical repairs, Park-ave. & 131st-st., New York. (Long Distance Teleph. No. 1418, Spring.)
Van Norden, R. W., A.AM.I.E.E., consulting engineer, 912, Mutual Savings Bank-bldg., San Francisco, Cal.
Van Nort Bros. Electric Co., electrical contractors, 1005, Market-st., St. Louis, Mo.
Van Nort Carbon Brush Co., carbon brush manufacturers, Locust & 11th-sts., St. Louis, Mo.
Van Nostrand, D., Co., publishers of electrical & scientific books, 23, Murray-st., & 27, Warren-st. (P.O. Box 1741), New York. (Telegs.: "Bowline, New York.")
Van Roden, Chas. E., electrical contractor, 3946, Lancaster-ave., Philadelphia, Pa.

Vansize, W. B., M.AM.I.E.E., patent solicitor & expert, 253, Broadway, New York City. (Telegs.: "Vanmam, New York." Teleph. No. 978, Cort.)
Van Trump, C. Reginald, M.AM.I.E.E., engineer, Wilmington City Electric Co., Wilmington, Del.
Van Tuyl, F. F., consulting engineer, Union Trust-bldg., Detroit, Mich.
Van Wagoner-Linn Construction Co., electrical contractors, 110, West 28th-st., New York, N.Y.
Van Winkle, Edward, consulting patent engineer, West Street-bldg., 90, West-st., New York. (Telegs.: "Evanwink, New York." Teleph. Nos.: 3422, Cort; & 3181 M. 3, Prospect.)
Varney, F. H., A.AM.I.E.E., engineer, Pacific Electric Co., 1907, Leavenworth-st., San Francisco, Cal.
Varney, Wm. W., A.M.AM.I.E.E., electrical engineer & patent solicitor, Baltimore, Md.
Varney Electrical Supply Co., manufacturers' agents, electrical supplies, 235, South Meridian-st., Indianapolis, Ind.
Varwig Manufacturing Co., manufacturers of automatic electric beer pumps, 120, Opera-pl., Cincinnati, O.
Veitenheimer, Foster, A.AM.I.E.E., Signal Corps, U.S. Army, Fort Preble, Maine.
Venango Power & Traction Co., Oil City, Pa.
Venino, Fred., electrical engineer & contractor, electrical supplies, 13, Ward-st., Newark, N.J.
Ventura County Power Co., Oxnard, Cal.
Ventura County Power Co., Santa Paula, Cal.
Vergennes Electric Co., Vergennes, Vt.
Vermille, Frank S., electrical contractor, Reading, Mass.
Vesey Electric Co., installation contractors & electrical supplies, 608, Austin-ave., Waco, Tex. (Teleph. Nos.: 888, Ind.; & 514, Southwestern.)
Vesta Accumulator Co., portable storage batteries, 1336, Michigan-ave., Chicago, Ill.
Viaduct Electric Co., makers of telephones & electrical apparatus, Baltimore, Md.
Vicksburg Lighting Co., Vicksburg, Miss.
Vicksburg Traction Co., Vicksburg, Miss.
Victor Electric Co., manufacturers of motors, X-ray coils & electro-medical apparatus, 55-61, Market-st., Chicago, Ill.
Victoria Manufacturing Co., electric light contractors, Victoria, Texas.
Vielé, Blackwell & Buck, consulting engineers, 49, Wall-st., New York. (Telegs.: "Hydroelec, New York.")
Vilter Manufacturing Co., engine builders for electric light & railway service, Milwaukee, Wis. (Telegrams: "Vilter, Milwaukee." Long Dist. Telephone No. 114 S.)
Vincennes City Electric Lighting Co., Vincennes, Ind.
Vincennes Electric Co., light & power contractors, Vincennes, Ind.
Vindex Electric Co., makers of electric bell fittings, Aurora, Ill.
Virginia Electric Light Co., Virginia, Ill.
Virginia Passenger & Power Co., Richmond, Va.
Vogel, J. C., installation contractor, 714, North 24th-st., Philadelphia, Pa. (Long Dist. Bell Teleph. No. 3884D, Poplar.)
Voltamp Electric Manufacturing Co., batteries, cells, accessories & novelties, 406, 408 & 410, Jasper-st., Baltimore, Md. (Cable address: "Voltamp, Baltimore." Long Distance Telephone.)
Voorhees Rubber Manufacturing Co., 18, Bostwick-ave., Jersey City, N.J.
Vosburgh, W. C., Manufacturing Co., Ltd., manufacturers of gas & electric fixtures, 93, Underhill-ave., Brooklyn, N.Y.
Vote-Berger Co., makers of switchboards, telephones & appliances, La Croose, Wis.
Vulcan Electric Heating Co., heating apparatus makers, 540, West Jackson-boul., Chicago, Ill.
Vulcanized Fibre Co., insulating material manufacturers, Wilmington, Del.
Vulcanus Forging Co., railroad & telephone forgings, 965, Hamilton-st., Cleveland, Ohio. (Telephone No. 3189, Main.)

Wabash Water & Light Co., Wabash, Ind.
Waclark Wire Co., wire manufacturers, 49, Wall-st., New York.
Waco Electrical Supply Co., electrical construction & supplies, Waco, Tex.
Waco Gas Co., Waco, Tex.
Waddell, Charles E., M.AM.I.E.E., consulting electrical engineer, Biltmore, N.C.
Waddell, Montgomery, M.AM.I.E.E., consulting electrical engineer, 1, West 101st-st., New York, N.Y.
Wadeford Electric Co., installation contractors, Marquette-bldg., Chicago, Ill.
Wadsworth Bros., installation contractors, Covington, Ky.
Wagner, Albert, electrical contractor, 1227, East 55th-st., Chicago, Ill. (Teleph. No. 587, Hyde Park.)
Wagner, Herbert A., M.AM.I.E.E., consulting engineer, 60, Wall-st., New York.
Wagner, R. V., & Co., manufacturers of electro-medical apparatus, 52, State-st., Chicago, Ill.

Wagner Electric Manufacturing Co., manufacturers of transformers, motors, generators & instruments, St. Louis, Mo.

Wagoner, Philip Dakin, A.AM.I.E.E., manager Transformer Department, General Electric Co., Schenectady, N.Y.

Wait, Henry H., M.I.E.E., M.AM.I.E.E., M.AM.S.M.E., mechanical & electrical engineer, W. E. Co., 4919, Madison-ave., Chicago, Ill.

Waite & Bartlett Manufacturing Co., manufacturers of static machines, X-ray coils & high frequency apparatus, 113–117, West 31st-st., New York, N.Y. (Teleph. No. 5795, Madison-sq.)

Wakefield Municipal Light Plant, Wakefield, Mass.

Wakeman, J. M., vice-president McGraw Publishing Co., 239, West 39th-st., New York.

Walbran, C. J., Jun., A.AM.I.E.E., consulting engineer, 247, Equitable-bldg., Denver, Col.

Waldo, Dr. Leonard, M.AM.I.E.E., consulting electrical engineer, 49, Wall-st., New York. (Telegrams: "Fugue, New York.")

Walker, A. F., consulting electrical engineer, Austell-bldg., Atlanta, Ga.

Walker, Henry L., Co., electrical supplies, 40, 42 & 44, East Larned-st., Detroit, Mich. (Teleph. Nos.: 883 & 1016, Maine.)

Walker & Kepler, electrical engineers & dealers in electrical supplies, 531, Chestnut-st., Philadelphia, Pa.

Wallace Barnes Co., manufacturers of springs, Bristol, Conn.

Wallace Bros. Co., dealers in electrical fixtures, 300, North 4th & Ferry-sts., Lafayette, Ind.

Wallace Supply Co., makers of tramcar materials, 26, Cortland-st., New York.

Wallen, William, electrolier manufacturer & fitter, 81, Chapel-st., Albany, N.Y.

Wallichs, Henry L., electrical contractor, Fond-du-Lac, Wis.

Walling, H. A., electrician, Freeport, N.Y.

Wallingford Borough Electric Works, Wallingford, Conn. (Teleph. No. 2.)

Wallkill Transit Co., Middletown, N.Y.

Wallkill Valley Electric Light & Power Co., Walden, N.Y.

Wallmann Bros., electrical contractors, 1529, Pine-st., San Francisco, Cal.

Walnut Ridge & Hoxie Light & Power & Transit Co., Walnut Ridge, Ark.

Walsh, Guy L'Estrange, A.M.I.E.E., 44, Garden-pl., Brooklyn, N.Y.

Walsh, M. J., Co., general electricians, 311, Stark-st., Portland, Ore. (Teleph. Nos.: 879, Main; & 1879 A.)

Walsh, Owen, Manufacturing Co., manufacturers of electric light fixtures, 78–82, Barclay-st., New York, N.Y.

Walter, Harry, electrical supplies, 26, Exchange-pl., Boston, Mass.

Waltham Gas Light Co., Waltham, Mass.

Walther, G. W., & Co., electrical supplies, 208, West Fayette-st., Baltimore, Md.

Walton Electric Light Co., Walton, N.Y.

Walworth Manufacturing Co., manufacturers of iron fittings, brass & iron valves, & supplies, 132, Federal-st., Boston, Mass.

Walworth & Neville Manufacturing Co., cross arms & insulator pins, Heyworth-bldg., Chicago, Ill.

Wappler Electric Controller Co., makers of electro-medical apparatus & X-ray coils, 177, East 87th-st., New York.

Ward, F. H., installation contractor & supplies, 391, Myrtle-ave., Brooklyn, N.Y. (Teleph. No. 3907 L., Prospect.)

Ward, G. G., M.I.E.E., chairman, vice-president & general manager, Commercial Cable Co., chairman, vice-president & general manager, Commercial Pacific Cable Co., 253, Broadway, New York. (Local hon. sec. & treasurer for the I.E.E.)

Ward-Leonard Electric Co., manufacturers of rheostats, circuit breakers, &c., Bronxville, N.Y. (Telegs.: "Rheostat, Bronxville." Teleph. Nos. 230 & 231, Bronxville.)

Warden Farrell Co., installation contractors, Sheboygan, Wis.

Warder, W. J., jun., A.AM.I.E.E., designing electrical engineer, Roth Bros. & Co., Adams & Loomis-sts., Chicago, Ill.

Ware & Brookfield Street Railway Co., Ware, Mass.

Warner, A. P., A.AM.I.E.E., Warner Instrument Co., Beloit, Wis.

Warner, E. P., M.AM.I.E.E., electrical engineer, Western Electric Co., 259, South Clinton-st., Chicago, Ill.

Warner, R. F., A.AM.I.E.E., electrical engineer, General Electric Co., Schenectady, N.Y.

Warner, W. F., manufacturer of electric arc lamps, Muncie, Ind.

Warner Arc Lamp Co., arc lamp manufacturers, Muncie, Ind.

Warner Electric Co., manufacturers of pole changers for telephone systems, Muncie, Ind.

Warner Electric Co., installation contractors, 331, Frankfort-ave., Cleveland, Ohio.

Warner Elevator Manufacturing Co., makers of electrical elevators, Cincinnati, Ohio.

Warner Instrument Co., manufacturers of electrical instruments, 55, Roosevelt-ave., Beloit, Wis.

Warren, Aldred, A.AM.I.E.E., consulting engineer, 260, West 99th-st, New York.

Warren, H. M., A.M.AM.I.E.E., electrical engineer, Delaware, Lackamanna & Western R.R., Scranton, Pa.

Warren, Brookfield & Spencer Street Railway Co., Brookfield, Mass.

Warren Electric Light & Water Works, Warren, Minn.
Warren Electric Manufacturing Co., manufacturers of Warren Induction Alternator, Sandusky, Ohio.
Warren Electric & Specialty Co., manufacturers of incandescent lamps, Warren, Ohio.
Warren Electrical Light Co., Warren, Pa.
Warren Street Railway Co., Warren, Pa.
Warren Water & Light Co., Warren, Ohio.
Warsaw Gas & Electric Co., Warsaw, N.Y.
Warsaw Water Co., Warsaw, Ind.
Warwick Valley Light & Power Co., Warwick, N.Y.
Washburn Electric Light & Power Co., Washburn, Wis.
Washington, Alexandria & Mount Vernon Railway Co., Washington, D.C.
Washington, Baltimore & Annapolis Electric Railway Co., Washington, D.C.
Washington & Canonsburg Railway Co., Washington, Pa.
Washington Electric Light & Power Co., Washington, Pa.
Washington Electric Supply Co., dealers in electrical supplies, Ziegler-blk, Spokane, Wash.
Washington Gas & Electric Co., Washington, C.H., Ohio.
Washington Railway & Electric Co., Washington, D.C.
Washington Water Power Co., Spokane, Washington.
Washtenaw Light & Power Co., Ann Arbor & Ypsilanti, Mich.
Wason, Leonard C., consulting engineer, Aberthaw Construction Co., 8, Beacon-st., Boston, Mass.
Water & Light Plant, Fitzgerald, Ga.
Water, Light & Transit Co., Carrollton, Mo.
Waterbury Co., makers of telephone, telegraph & power cables, 80, South-st., New York.
Waterloo, Cedar Falls & Northern Railway Co., Waterloo, Iowa.
Waterloo Electric Supply Co., dealers in electrical supplies, Waterloo, Iowa.
Waterman, F. N., M.AM.I.E.E., mechanical & electrical engineer, 100, Broadway, New York, N.Y. (Teleph. No. 2736, Rector.)
Waterman, Davis & Curtis, dealers in electrical supplies, 621, J-st., Sacramento, Cal.
Waters Governor Co., manufacturers of Waters' patent engine governor, 34, Oliver-st., Boston, Mass.
Watertown Electric Light Co., Watertown, N.Y.
Watertown Engine Co., manufacturers of boilers, Corliss & high speed engines, Watertown, N.Y. (Telegs.: "Watenco, Watertown, N.Y.")
Watertown Gas & Electric Co., Watertown, Wis.
Waterville & Fairfield Railway & Light Co., Waterville, Maine.
Watkins Electric Light & Power Co., Watkins, N.Y.
Watkins, F. M., Manufacturing Co., makers of gas engines, Cincinnati, Ohio.
Watmough, Pendleton, Jun., consulting electrical engineer, 59, Pearl-st., New York.
Watrous Manufacturing Co., manufacturers of bells, East Hampton, Conn.
Watson Bros., mica merchants, 170, Purchase-st., Boston, Mass. (Telegs.: "Acim, Boston." A.B.C. Code, 5th edit.)
Watson Insulated Wire Co., Railway Exchange, Chicago, Ill.
Watson-Stillman Co., tool makers, 50, Church-st., New York.
Watsontown Municipal Electric Light, Heat & Power Co., Watsontown, Pa.
Watsonville Water & Light Co., Watsonville, Cal.
Watts & Stern, manufacturing electricians, 1303, Buttonwood-st., Philadelphia, Pa.
Waupaca Electric Light & Railway Co., Waupaca, Wis.
Wausau Electric Co., Wausau, Wis.
Waverley Co., makers of electric vehicles, Indianapolis, Ind.
Waverly, Sayre & Athens Traction Co., Waverly, N.Y.
Waxahachie Electric & Gas Co., Waxahachie, Tex.
Waycross Electric Light & Power Co., The, Waycross, Ga.
Wayne County Electric Co., Lyons, N.Y.
Waynesboro Electric Light & Power Co., Waynesboro, Franklin Co., Pa. H. M. McMulty, electrician.
Weaver, W. D., M.AM.I.E.E., editor *Electrical World*, 239, West 39th-st., New York.
Webb, Henry Storrs, M.S., A.AM.I.E.E., telephone engineer, International Text Book Co., Scranton, Pa.
Weber, Geo., installation contractor, 38, Great Jones-st., New York, N.Y.
Weber, Joseph, electrical expert, Fort Hamilton-ave. & 86th-st., Brooklyn, N.Y. (Teleph. No. 344, Bay Ridge.)
Weber Gas Engine & Gasoline Co., makers of gas engines & gas producers, Kansas City, Mo.
Webster, Dr. Arthur G., professor & director of the physical department, Clark University, Worcester, Mass.
Webster, Edwin S., A.AM.I.E.E., electrical engineer, 147, Milk-st., Boston, Mass. (Cable address: "Electreng, Boston." Teleph. No. 1660, Fort Hill.)
Webster, Camp & Lane Co., manufacturers of Corliss steam engines, turbine water wheels, &c., Akron, Ohio. (Telegrams: "Webcampco, Akron.")

Webster City Electric Light Plant, Webster City, Iowa.
Webster Electric Co., Webster, Mass.
Webster, Warren & Co., manufacturers of feed-water heaters, Point & Elm-sts., Camden, N.J.
Weeks, Edwin R., M.AM.I.E.E., consulting engineer, Weeks & Kendall, 605, New Nelson-bldg., Kansas City, Mo.
Weeks & Kendall, consulting electrical engineers, New Nelson-bldg., Kansas City, Mo.
Weeks & Sanville, consulting electrical engineers, 1708, Sansom-st., Philadelphia, Pa.
Weidenthal-Gosliner Electric Works, installation contractors, Mission & New Montgomery-sts., San Francisco, Cal.
Weiderman, George, Electric Co., Inc., electrical engineers & contractors, 35–37, Rose-st., New York (Teleph. No. 4342, Beekman); & 191, Flatbush-ave., Brooklyn, N.Y. (Teleph. No. 4800, Prospect.)
Weir Frog Co., manufacturers of electric railway appliances, Cincinnati, Ohio.
Weise Bros., electrical engineers, Library-bldg., Davenport, Iowa.
Welch, F. L., electrical contractor, Gloversville, N.Y.
Weldon & Kelly Co., electric light fixtures, 305, Wood-st., Pittsburg, Pa.
Wellington City Electric Light Plant, Wellington, Kan.
Wells, A. E., M.AM.I.E.E., construction engineer, 32, Liberty-st., New York.
Wells, G. A., M.AM.I.E.E., chief engineer, Adams Express Co., 61, Broadway, New York.
Wells, George Eugene, A.AM.I.E.E., consulting electrical engineer, Chemical-bldg., St. Louis, Mo.
Wellsboro Electric Co., Wellsboro, Pa.
Wellsburg Electric Light, Heat & Power Co., Wellsburg, W. Va.
Wellston & Jackson Belt Railway Co., Wellston, Ohio.
Wellston Municipal Electric Light Plant, Wellston, Ohio.
Wellsville Electric Light Co., Wellsville, Ohio.
Wendell & MacDuffie, electric railway supply agents, 50, Church-st., New York. (Telegs.: "Wenmac, New York.")
Wennstrom, John, Sons Co., jewels for electric instruments, Suffern, N.Y.
Werner, Jacob, electrical engineer & contractor, 201, East 47th-st., New York. (Teleph. 1393–38th-st.)
Wesco Supply Co., manufacturers of electrical supplies & telephones, 7th & Clark-ave., St. Louis, Mo.; Fort Worth, Tex.; & Birmingham, Ala.
West Bend Roller Mills & Electric Light Plant, West Bend, Wis.
West Chester Street Railway Co., West Chester, Pa.
West Jersey Electric Co., Wildwood, N.J.
West Penn. Electric Co., light & power contractors, Charlerob, Pa.
West Penn. Electric Co., Connellsville, Pa. (Teleph. No. 719–2, Bell.)
West Penn. Electric Co., Dawson, Pa. (Teleph. No. 25, Tri-State.)
West Penn. Electric Co., light, power & traction, Bank for Savings-bldg., Pittsburgh, Pa.
West Penn. Railways Co., Pittsburg, Pa.
West Point Electric Light & Power Co., West Point, Neb.
West Point Water, Light & Power Co., West Point, Va.
Westboro Gas & Electric Co., Westboro, Mass.
Westchester Electric R. R. Co., Mount Vernon, N.Y.
Westchester Electrical Equipment Co., installation contractors, Yonkers, N.Y.
Westchester Lighting Co., Mount Vernon, N.Y.
Westchester Lighting Co., Tarrytown, N.Y.
Westerly Gas & Electric Light Co., Westerly, Rhode Island.
Westerly Railway & Lighting Co., Westerly, R I.
Western Association of Electrical Inspectors. Secretary, W. S. Boyd, 125, Monroe-st., Chicago, Ill.
Western Display Co., electric signs, 321, Robert-st., St. Paul, Minn.
Western Electric Co., electric light contractors, Jamestown, N.D.
Western Electric Co., manufacturers of electrical apparatus & supplies, 259, South Clinton-st., Chicago, Ill.; West & Bethune-sts., New York; Atlanta; Denver; Des Moines; Hawthorne; Indianapolis; Kansas; Omaha; Philadelphia; Pittsburg; St. Louis; Salt Lake City; San Francisco; Seattle; Los Angeles; Portsmouth; Savannah; & Norfolk House, Victoria Embankment, London, England. (Telegs.: "Electric.")
Western Electric Sign Co., installation contractors, 577, Turk-st., San Francisco, Cal.
Western Electric Supply Co., dealers in electrical supplies, El Paso, Tex.
Western Electric Works, contractors & supplies, Portland, Ore.
Western Engineering & Construction Co., consulting engineers & contractors, 506, Merrill-bldg., Milwaukee, Wis.
Western Gasfixture Co, makers of electric fixtures, 607-617, St. Clair-st., Toledo, Ohio. (Both Teleph. Nos. 349.)
Western Insulation Co., Inc., mica merchants, 170, West Adams-st., Chicago, Ill.
Western New York & Pennsylvania Traction Co., Olean, N.Y.
Western Ohio Railway Co., Lima, Ohio.

Western Society of Engineers, Electrical Section, 1737, Monadnock-blk., Chicago, Ill. (J. H. Warder, secretary.)

Western Stage Appliance Co., manufacturers of electric signs, Ye Liberty Playhouse-bldg., Oakland, Cal.

Western Storage Battery Co., manufacturers of storage batteries, Indianapolis, Ind.

Western Surgical Instrument House, manufacturers of physicians' & hospitals' electrical supplies, 52, Dearborn-st., Chicago, Ill.

Western Telephone Manufacturing Co., telephone apparatus makers, 122–124, North Curtis-st., Chicago, Ill. (Telegs.: "Westphone, Chicago." Teleph. No. 3884, Monroe.)

Western Union Telegraph Co. General office: 195, Broadway, New York.

Western United Gas & Electric Co., Aurora, Ill.

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Westfield Municipal Gas & Electric Plant, Westfield, Mass.

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Westinghouse Lamp Co., incandescent lamp manufacturers, 510, West 23rd-st., New York.

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Weston Electric Light, Power & Water Co., Weston, West Virginia.

Weston Electrical Instrument Co., manufacturers of electrical measuring instruments & appliances, Waverly Park, Newark, N.J. (Cables: "Weslec, Newark." A.B.C. Code. Long Distance Teleph. No. 1920, Newark.) London Branch: Audrey House, Ely-pl., Holborn, W.C.

Weston, Wm. H., & Co., manufacturers of switches & switch boards, 1309, Buttonwood-st., Philadelphia, Pa.

Westport Water & Electric Co., Westport, Conn. (Teleph. No. 42–2.) Superintendent, F. B. Hubbell.

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Wetherill & Co., Robt., manufacturers of Corliss engines, Chester, Pa.

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Wetmore-Savage Co., dealers in electrical supplies, 65, Oliver-st., Boston, Mass.

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Wetzler, Joseph, M.AM.I.E.E., president, Electrical Engineer Institute of Correspondence Instruction, 1123, Broadway, New York.

Weymouth Light & Power Co., East Weymouth, Mass.

Wharton, Wm., jun., & Co., Incorporated, manufacturers of steam & street railway track work, 25th-st. & Washington-ave., Philadelphia, Pa. (Telegs.: "Wilwharton, Philadelphia." Teleph. Nos.: 2–45, Locust; & 20–30, Lombard.)

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Wheeler Reflector Co., manufacturers of shades & reflectors, 156, Pearl-st., Boston, Mass.

Wheeling Electric Co., Wheeling, W. Va.

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Western Stage Appliance Co., Ye Liberty Playhouse-bldg., Oakland, Cal.

Agents—Electrical.

F.—Agents d'électricité.
G.—Agenten—Elektr.

Bangs, Chas. R., A.AM.I.E.E., American Telephone & Telegraph Co., 15, Dey-st., New York.
Bedford, A., 43, Milk-st., Boston, Mass.
Blackall, Frederick S., 39, Cortlandt-st., New York.
Corey, R. B., Co., 39, Cortlandt-st., New York.
Du Vivier, E. H., 30, Church-st., New York.
Giles, A. F., Empire-bldg., Atlanta, Iowa.
Knox, Chas. A., 210, Pearl-st., Hartford, Conn.
Machado & Roller, 203, Broadway, New York.
Martin, John, 33, New Montgomery-st., San Francisco, Cal.
Searles, A. M., 1315, Old Colony-bldg., Chicago, Ill.
Whitman & Couch, 192-202, Sumner-st., Boston, Mass.
Young, W. W., 26, Cortlandt-st., New York.

Alarms (Electric)—Burglar, Fire, Safe, Ship, Train, &c.

F.—Avertisseurs électriques—voleurs, incendie, navires, trains, &c.

G.—Elektrische Alarm-Apparate—Dieb, Feuer, Schiff, Eisenbahn u. s. w.

American Watchman Time Detector Co., 234, 235, Broadway, New York.
Bankers Electric Protection Co., Chicago, Ill.
Boston Automatic Fire Alarm Co., 104, Milk-st., Boston, Mass.
Bradley, E. C., & Co., 15 & 17, Stone-st., Rochester, N.Y.
Chicago Electric Protective Co., 159, La Salle-st., Chicago, Ill.
Copenhagen Automatic Fire Alarm Co., Sheboygan, Wis.
Darche Electric Works, 12, West 13th-street, Chicago, Ill.
Gamewell Auxiliary Fire Alarm Co., 178, Devonshire-st., Boston, Mass.
Ghegan Manufacturing Co., 210, Garside-st., Newark, N.J.
Hall, William, 14, West 2nd-st., Dayton, Ohio.
Jakobson, M., & Co., 1125, Lexington-ave., New York.
Kells, C. E., jun., Medical-bldg., New Orleans, Louisiana.
Kelly, John E., 429, Spruce-st., Camden, N.J.
McGunnigle, P., & Son, New York.
Michigan Auxiliary Fire Alarm Co., 41, Telephone-bldg., Detroit, Mich.
National Fire Appliance Co., 161, Franklin-st., Boston, Mass.
Police Telephone & Signal Co., Chicago, Ill.
Rousseau, David, 310, Mott-ave., New York.
Utica Fire Alarm Telegraph Co., 106, Liberty-street, Utica, N.Y.
Western Electric Co., 259, South Clinton-st., Chicago; West & Bethune-sts., New York.
See also ALPHABETICAL.

Alternate Current Motors.

F.—Moteurs pour courant alternatif.
G.—Wechselstrom-Motoren.

Aluminium Manufacturers & Merchants.

F.—Aluminium—Fab. et March. d'.
G.—Aluminium—Fab. & Händler von.

Ammeters—Makers of.

F.—Ampèremètres—Fab. d'.
G.—Ammeter—Fab. von.

Robert Instrument Co., 56, Shelby-st., Detroit, Mich.
Western Electric Co., 259, South Clinton-st., Chicago; West & Bethune-sts., New York.
See also ALPHABETICAL.

Ammonia Manufacturers.

F.—Ammoniaque—Fab. d'.
G.—Ammonia—Fab. von.

Klipstein, A., & Co., 122, Pearl-st., New York.

Annunciators—Makers of.

F.—Tables indicateurs—Fab. de.
G.—Anzeiger—Fab. von.

Heath Electric Co., 336, Grand River-ave., Detroit, Mich.
Western Electric Co., 259, South Clinton-st., Chicago; West & Bethune-sts., New York.
See also ALPHABETICAL.

Annunciators (Electric)—Makers of.

F.—Tables indicateurs électriques—Fab. de.
G.—Anzeiger (Electr.)—Fab. von.

Carl Electric Co., Akron, Ohio.
Holtzer-Cabot Electric Co., The, Boston, Brookline, Mass. (Telegs.: "Holtzer, Boston.")
Moon Manufacturing Co., 25, South Jefferson-st., Chicago, Ill.
Western Electric Co., 259, South Clinton-st., Chicago; West & Bethune-sts., New York.
See also ALPHABETICAL.

Anti-Friction Metal.

F.—Metal "Anti-Friction."
G.—"Anti-Friction"-Metall Fabrikanten.

Graphite Lubricating Co., Bound Brook, New Jersey.

Anti-Induction Cables—Makers of.

F.—Cables Anti-Inducteurs—Fab. de.
G.—Anti-Inductions Kabel—Fab. von.

Standard Underground Cable Co., Westinghouse-bldg., Pittsburg, Pa.
Western Electric Co., 259, South Clinton-st., Chicago; West & Bethune-sts., New York.
See also ALPHABETICAL.

Apparatus for Lighting Gas—Electric.

F.—Appareils électriques pour allumer le gaz.
G.—Apparate zum Anzünden des Gases—Elektrische.

Igniter Appliance Co., Cleveland, Ohio.
Western Electric Co., 259, South Clinton-st., Chicago; West & Bethune-sts., New York.
See also ALPHABETICAL.

Apparatus Makers—Electrical.

F.—Appareils électr.—fab. d'.
G.—Apparate Elektr.—Fab. von.

Archer & Pancoast Co., 507, West 24th-st., New York.
Baillard, E. V., Fox-bldg., New York.
Barnes, W. F. & Jno., Co., Rockford, Ill.
Bliss, E. W., Co., 12, Adams-st., Brooklyn, New York.
Bogue, Chas. J., Electric Co., 513–515, West 29th-st., New York.
California Gas Fixture Co., 515–519, Mission-st., San Francisco, Cal.
Central Electric Heating Co., 617–620, Havemeyer-building, 26–28, Cortlandt-st., New York.
Cope, T. J., 8, North 6th-st., Philadelphia, Pennsylvania.
Crown Electric Manufacturing Co., Bridgeport, Conn.; & at 18, Cortlandt-st., New York.
Doyle, John, 14, Ann-st., New York.
Dressler, Charles E., & Co., 1, Madison-ave., New York.
Electric Experimental & Developing Co., 44, Broad-st., New York.
Electric Home Supply Co., 45, West 34th-st, New York.
Electric Selector & Signal Co., 72, Trinity-pl., New York, N.Y.
Electrical Equipment Co., Wheldon-blk., Pittsfield, Mass.
Fuller, Seth W., Co., 185, Devonshire-st., Boston, Mass.
Fuller Co., The, cor. Russell-st. & Grand Boulevard, Detroit, Mich.
Graton & Knight Manufacturing Co., Worcester, Mass.
Greiner, Emil, Co., 45, Cliff-st., New York.
Harvard Electric Co., 525, West Van Buren-st., Chicago, Ill.
Hollings, R., & Co., 39, Bedford-st., Boston, Mass.
Klein, Mathias & Sons, 87 & 89, West Van Buren-st., Chicago, Ill.
Knott, L. E., Apparatus Co., Boston, Mass.
Long Arm System Co., Cleveland, Ohio.
McCarthy Bros. & Ford, 41, East Eagle-bldg., 45, North Division-st., Buffalo, N.Y.
McEvoy Electric Construction & Supply Co., Jersey City, N.J.
Manion & Co., New Orleans, La.
Maryland Mfg. & Construction Co., 340, North-st., Baltimore, Md.

Apparatus Makers—Electrical—*continued.*

Menominee Electric Manufacturing Co., Menominee, Mich.
Oelschlaeger Bros., 42, East 23rd-st., New York.
Pacific Electric Co., La Cross, Wis.
Porter, Stephen, & Co., 384, Atlantic-ave., Boston, Mass.
Rich, C. F., & Co., Telephone-bldg., Detroit, Mich.
Ridlon, Frank, & Co., 180, Summer-st., Boston, Mass.
Robinson Co. (Incorporated), 315, Dearborn-st., Chicago, Ill.
Roller-Smith Co., Bethlehem, Pa.
Rose Electric Co., 202, South 3rd-st., St. Louis, Mo.
Shaw Electrical Co., 632, Arch-st., Philadelphia, Pa.
Stanley, G. I., Electric Manufacturing Co., Pittsfield, Mass.
Stolz Electrophone Co., 725, Stewart-bldg., Chicago, Ill.
Technic Electrical Works, 214–218, New-st., Philadelphia, Pa.
Ulary, W. A., 4176, Germantown-ave., Philadelphia, Pa.
Unique Art Glass & Metal Co., Brooklyn, New York.
United States Headlight Co., Buffalo, N.Y.
Western Electric Co., 259, South Clinton-st., Chicago; West & Bethune-sts., New York. *See also* ALPHABETICAL.

Arc Lamp Fittings.

F.—Accessoires pour lampes à Arc.
G.—Bogenlampen Einrichtungen.

Ajax Line Material Co., 12 & 14, South Jefferson-st., Chicago, Ill.

Arc Lamp Manufacturers—Electric.

F.—Lampes électriques à Arc—Fab. de.
G.—Bogen Lampen—Elektrische.

American Arc Lamp Co., Kalamazoo, Mich.
Anderson Tool Co., Anderson, Ind.
Beck Flaming Lamp Co., 30, Greenwich-ave., New York.
Brooklyn Electric & Novelty Lamp Co., 278, Fulton-st., Brooklyn, N.Y.
Colt, J. B., & Co., 23, Barclay-st., New York.
Electric Construction & Supply Co., 237, Broadway, New York, N.Y.
Excello Arc Lamp Co., The, 24, East 21st-st., New York.
Fox Bros. & Co., 126–130, Lafayette-st., New York.
General Light Improvement Co., Land Title-bldg., Philadelphia, Pa.
German American Electric Co., 110, West 14th-st., New York.
Hamburger, Felix, 78, 5th-ave., New York.
Jandus Electric Co., Cleveland, Ohio.

Arc Lamp Manufacturers—Electric—*continued.*

Kester Arc Lamp & Manufacturing Co., Chicago, Ill.
Marquette Electric Mfg. Co., Chicago, Ill.
New York Beck Lamp Co., 30, Greenwich-ave., New York.
Osborn Mfg. Co., Cleveland, Ohio.
Standard Electric Co., 111–113, West 3rd-st., Cincinnati, Ohio.
Star Electrical Concern, 74, Cortlandt-st., New York City.
Stave Electrical Co., 27, West 27th-st., New York.
Suffolk Electric Mfg. Co., Boston, Mass.
Toerring, C. J., Co., Warden Power-bldg., 19th & Allegheny-ave., Philadelphia, Pa.
Turbayne Electric Specialty Co., 66, E. Fort-st., Detroit, Mich.
Union Brass Manufacturing Co., The, 123–127, Ontario-st., Chicago, Ill.
Warner, W. F., Muncie, Ind.
Warner Arc Lamp Co., Muncie, Ind.
Western Electric Co., 259, South Clinton-st., Chicago; West & Bethune-sts., New York. *See also* ALPHABETICAL.

Asbestos Manufacturers & Merchants.

F.—Amiante—Fab. et March. d'.
G.—Asbest—Fabrikanten und Händler.

Johns-Manville, H. W., Co., 100, William-st., New York, N.Y.
Keasbey, Robt. A., 100, N. Moore-st., New York.
New Jersey Asbestos Co., 59, Pearl-st., New York.

Assayers.

F.—Essayeurs.
G.—Anrichter.

Automatic Electric Signalling Apparatus —Makers of.

F.—Appareils électr. de signaux automat—Fab. d'.
G.—Automatische Elektr. Signal Apparate—Fab. von.

Federal Signal Co., Albany, N.Y.
General Railway Signal Co., Rochester.
Gill-Alexander Electric Manufacturing Co., 213, East 15th-st., Kansas City, Mo.
Jordan Automatic Signal Co., Inc., 74, Beekman-st, New York.
National Electric Signaling Co., 8th & Water-sts., Washington, D.C.
U.S. Electric Signal Co., 20, Westwood-st., West Newton, Mass.
Western Electric Co., 259, South Clinton-st., Chicago; West & Bethune-sts., New York. *See also* ALPHABETICAL.

Automatic Regulators—Makers of.

F.—Régulateurs autom.—Fab. de.
G.—Automatische Regulatoren—Fab. von.

Sundh Electric Co., 113, Cedar-st., New York.

Balance (Induction)—Makers of.

F.—Balance (Induction)—Fab. de.
G.—Waagen Fabrikanten (Induction).

Bowsher, N. P., Co., South Bend, Ind.
D'Este, Julian, & Co., 24, Canal-st., Boston, Mass.

Batteries—Dry.

F.—Piles—Sèches.
G.—Batterien—Trockene.

Delta Manufacturing Co., Bloomfield, N.J.
Dow Portable Electric Co., 218, Formont-st., Boston, Mass.
Empire State Dry Battery Co., 55, Dey-st., New York.
Hard, J. Randolph, 2 & 4, Howard-st., New York, N.Y.
Improved Dry Battery Co., 82, Center-st., New York.
Montreal Dry Battery Co., Montreal, Canada.
North American Electric Co., Chicago, Ill.
Nungesser Electric Battery Co., Cleveland, Ohio.
Semi-Dry Battery Co., Harrison (Newark), N.J.
Stackpole Battery Co., St. Mary's, Pa.
Strobel & Wilkin Co., 591, Broadway, New York, N.Y.
Wilhelm, H., Battery Co., 70, Frost-st., Brooklyn, N.Y.

Batteries—Galvanic.

F.—Piles galvaniques—Fab. de.
G.—Batterien—Galvanische.

Bradbury-Stone Electric Storage Co., 5, 7, & 9, Grand-street, Lowell, Mass.
Edison Manufacturing Co., 31, Union-sq., New York.
Glass, Dr. James, 1210, Gilbert-street, Philadelphia, Pa.
Hirlemann, Chas. J., 17, Laight-st., New York, N.Y.
Law Battery Co., Cranford, N.J.
Leclanche Battery Co., 111-117, East 131st-st., New York, N.Y.
Lee Co., J. Ellwood, Conshohocken, Pa.
McIntosh Battery & Optical Co., 227-229, Washington-st., Chicago, Ill.
Pine, D. J., 10, North 17th-st., St. Louis, Mo.
Rendrock Powder Co., 23, Park-place, New York, N.Y.
River & Rail Electric Light Co., 45, Broadway, New York, N.Y.
S. S. White Dental Co., Philadelphia, Pa.; New York, N.Y.; Boston, Mass.; Chicago, Ill.; Brooklyn, N.Y.; & Atlanta, Ga.
Scheenberg, R. A., & Co., 344, Columbus-ave., New York, N.Y.
Stien, August K., 149, Rhine-st., Chicago, Illinois.
Western Electric Co., 259, South Clinton-st., Chicago; West & Bethune-sts., New York.
See also ALPHABETICAL.
Williams, P. G., 6, Barclay-st., New York.
Wocher, Max, & Son, 21-23, West 6th-st., Cincinnati, Ohio.

Batteries—Portable.

F.—Piles Portatives.
G.—Batterien—Tragbare.

Chloride of Silver Dry Battery Co., 407 & 409, North Paca-st., Baltimore, Md.
Voltamp Electric Manufacturing Co., 406, 408 & 410, Jasper-st., Baltimore, Md.

Batteries—Primary.

F.—Piles électriques—primaires.
G.—Batterien—Primäre.

Brooklyn Dry Cell Battery Co., 991, Madison-st., Brooklyn, N.Y.
Burnley - Battery Manufacturing Co., North East, Pa.
Farnsworth, Arthur J., 27, Thames-st., New York.
Gordon Battery Co., 39, Cortlandt-st., New York.
Hirlimann, C. J., 17, Laight-st., New York.
Leclanché Battery Co., 111-117, East 131st-street, New York.
North American Electric Co., Chicago, Ill.
Pullen, L. W., Philadelphia, Pa.
Rock Island Battery Co., 9th & Sycamore-sts., Cincinnati, Ohio.
Western Electric Co., 259, South Clinton-st., Chicago; West & Bethune-sts., New York.
See also ALPHABETICAL.

Batteries—Storage.

F.—Accumulateurs—Fab. d'.
G.—Batterien—Accumulator.

American Battery Co., 312-314, Fulton-st., Chicago, Ill.
American Storage Battery Co., Cambridge, Mass.
Chicago Battery Co., 1400, Michigan-ave., Chicago, Ill.
Dayton Manufacturing Co., Dayton, Ohio.
Edison Storage Battery Co., Orange, N.J.
Electric Supply & Battery Co., 7510, Woodland-ave. S.E., Cleveland, Ohio.
Electrical Maintenance & Repair Co., 200-202, Market-st., Newark, N.J.
Fritschle, O., 1449, Clarkson-st., Denver, Col.
Gould Storage Battery Co., 347, 5th-ave., New York.
Halt Electric Storage Co., 1227, Callowhill-st., Philadelphia, Pa.
Haschke Storage Battery Co., 271-273, Michigan-ave., Chicago, Ill.
Helios Manufacturing Co., Bridesburg, Philadelphia, Pa.
Kilbourne & Clark Co., Seattle, Wash.
Leecol Storage Battery Co., Chicago, Ill.
McRae, Hector C., Baltimore, Md.
North-western Storage Battery Co., 280, Michigan-st., Chicago, Ill.
Smith-Storage Battery Co., Zoar, Ohio.
Storage Battery Supply Co., 239, East 27th-st., New York.

Batteries—Storage—*continued.*

Tafel, H. C., 236, West Jefferson-st., Louisville, Ky.
Tray Plate Battery Co., 5-11, Frederick-st., Binghampton, N.Y.
Vesta Accumulator Co., 1336, Michigan-ave., Chicago, Ill.
Western Electric Co., 259, South Clinton-st., Chicago; West & Bethune-sts., New York.
See also ALPHABETICAL.
Western Storage Battery Co., Indianapolis, Indiana.
Willard Storage Battery Co., Cleveland, Ohio.
Witherbee Igniter Co., 41, East Eagle-st., New York, N.Y.
Zoar Battery Co., Zoar, Ohio.

Bell Fitters & Contractors—Electric.

F.—Sonneries électriques—Poseurs et Entrepreneurs.
G.—Elektrische Glocken—Einrichter und Unternehmen.

Boston Electric Co., 123, Dorrance-st., Providence, R.I.
Chadwick & Trefather, Portsmouth, N.H.
Clark, E. H., 19, Washington-st., Long Branch, N.J.
Eclipse Electrical Co., 209, North 11th-st., St. Louis, Mo.
Fagerberg, Emil, 367, Rush-st., Chicago, Ill.
Hopkins, F. B., Garrettsville, Ohio.
Johnson Safe Automatic Electric Co., P.O. Box 239; & 1115, East Main-st., Richmond, Va.
Joslin, Wm. B., Maline, Ill.
Reilly & Guy, 26, Whitehall-st., New York City.
Schmidt, Mackey, & Co., 92, Euclid-ave., Cleveland, Ohio.
Smith, Arthur C., 41, Bedford-st., New Bedford, Mass.
Springer, C. A., 516, Spruce-st., Washington, D.C.
Unity Electrical Co., Scandinavian Am. Bank-bldg., St. Paul, Minn.
Western Electric Co., 259, South Clinton-st., Chicago; West & Bethune-sts., New York.
See also ALPHABETICAL.

Bell Founders—Electric.

F.—Sonnettes électriques—Fondeurs de.
G.—Glocken-giesser—Elektr.

Gong Bell Manufacturing Co., East Hampton, Conn.

Bell Manufacturers—Electric.

F.—Sonneries électriques—Fab. de.
G.—Elektrische Glocken-Fabrikanten.

Andreas, C., & Son, 116, North 3rd-street, St. Louis, Mo.
Bevin Bros. Manufacturing Co., East Hampton, Conn.
Brower, H. C., & Son, 317, East Genesee-street, Syracuse, N.Y.

Bell Manufacturers—Electric—*continued.*

Dole, Charles E., Bangor, Maine.
Electric Novelty Co., 125, Monroe-st., Memphis, Tenn.
Holtzer-Cabot Electric Co., The, Boston, Brookline, Mass. (Telegs.: "Holtzer, Boston.") Makers of Navy Standard Watertight bells, high voltage bells, electric horns, electro-mechanical gongs. Loud-ringing polarized bells. Send for Catalogue No. 40.
P R Manufacturing Co., 621-659, Bellevue-ave., Detroit, Mich.
Schwarze Electric Co., 324, Dearborn-st., Chicago, Ill.
Smith, Thomas H., 1730, Champa-st., Denver, Col.
Starr Bros. Bell Co., East Hampton, Conn.
Vindex Electric Co., Aurora, Ill.
Western Electric Co., 259, South Clinton-st., Chicago; West & Bethune-sts., New York.
See also ALPHABETICAL.

Blasting Apparatus Makers—Electric.

F.—Appareils électriques pour l'etirage à la poudre.
G.—Sprengapparate (Elektr.)—Fab. von.

Western Electric Co., 259, South Clinton-st., Chicago; West & Bethune-sts., New York.
See also ALPHABETICAL.

Boiler Composition Makers.

F.—Compositions pour joints de chaudières à vapeur.
G.—Kesselstein—Fab. von. Chemikalien für Verhinderung von.

Port Chester Electric Co., Port Chester, Pa.

Boiler Makers.

F.—Chaudières—Fab. de.
G.—Dampfkessel—Fab. von.

Abendroth & Root Manufacturing Co., 50, Church-st., New York, N.Y.
Allen, Wm., Sons Co., Worcester, Mass.
Babcock & Wilcox Co., 85, Liberty-st., New York.
Bromich, Joseph, 119, Jefferson-st., Topeka, Kan.
Hawley Down Draft Furnace Co., 714, Monadnock-bldg., Chicago, Ill.
Kendall, Edward, & Sons, Cambridgeport, Massachusetts.
Mohr, J., & Sons, 32-42, Illinois-st., Chicago, Illinois.
Morrin Climax Boiler Co., Smith, Lorraine, Court & Creamer-sts., Brooklyn, N.Y.
O'Brien, John, Boiler Works, 11-13, Mullanphy & Howard-sts., St. Louis, Mo.
Phœnix Iron Works Co., Meadville, Pa.
Robb-Mumford Boiler Co., South Framingham, Mass.
Rohan, John, & Son Boiler Works Co., Lewis & Biddle-sts., St. Louis, Mo.
Stirling Co., 606, Pullman-bldg., Chicago, Ill.
Syracuse Boiler Works, 511, East Water-street, Syracuse, N.Y.

Boiler & Steam Engine Fittings Mfrs.

F.—Chaudières et Machines à vapeur—fab. d'accessoires de.

G.—Teile für Dampfmaschinen und Kessel.

American Steam Gauge & Valve Manufacturing Co., Boston, Mass.
Barber & Ross, 11th & G-sts., N.W., Washington, D.C.
Casey & Hedges Manufacturing Co., Chattanooga, Tenn.
Dillon, D. M., Fitchburg, Mass.
Galligan & Mulqueen Manufacturing Co., 39, West Washington-st., Chicago, Ill.
Jarvis Engineering Co., 61, Oliver-st., Boston, Mass.
Keeler, E., Co., Williamsport, Pa.
Pennsylvania Iron Works, 1306, Land Title-bldg., Philadelphia, Pa.
Stewart & Son, Worcester, Mass.

Bolts, Screws, Nuts, &c.—Makers of.

F.—Boulons, Ecrous, vis—Fab. de.

G.—Bolzen, Schrauben, Muttern—Fab. von.

Grip Nut Co., 500, 5th-ave., New York; & Chicago, Ill.
Porter, H. K. 66, Beverley-st., Boston, Mass.

Brackets & Pendants.

See ELECTROLIERS.

Braiding Machines for Covering Wire.

F.—Machines à couvrir fil électrique.

G.—Wirkerstühle zum Bespinnen von Drähten.

New England Butt Co., Providence, R.I.
Payne, Geo. W., & Co., 102, Broad-street, Pawtucket, R.I.

Brass Founders & Manufacturers to the Electrical Trades.

F.—Bronze Fond. et Fab. de.

G.—Messing Giesser & Fab.

Cabinet Work—Electric.

F.—Ebénisterie—électrique.

G.—Holzarbeiter—elektrische.

Cable Machinery (Electric)—Makers of.

F.—Cables électr.—Fab. de machines pour.

G.—Elektr. Kabel Maschinen—Fab. von.

United Brass Manufacturing Co., Cleveland, O.
Universal Cable Grip Co., Syracuse, N.Y.

Cable Manufacturers.

F.—Cables—Fab. de.

G.—Kabel Fabrik.

Aluminium Co. of America, Pittsburg, Pa.
Bishop Gutta-Percha Co., 420–430, East 25th-street, New York, N.Y.
Chadwick Boston Lead Co., Boston, Mass.
Habishaw Wire Co., 253, Broadway, New York.
Montauk Fire Detecting Wire Co., 100, William-st., New York.
Mountain State Electrical Co., Wheeling, W. Va.
Standard Underground Cable Co., Westinghouse-bldg., Pittsburg, Pa.
Western Electric Co., 259, South Clinton-st., Chicago; West & Bethune-sts., New York.
See also ALPHABETICAL.

Cable Manufacturers—Electric Light.

F.—Cables pour la lumière électrique—Fab. de.

G.—Kabel für Elektrisches Licht—Fab. von.

Western Electric Co., 259, South Clinton-st., Chicago; West & Bethune-sts, New York.
See also ALPHABETICAL.

Carbon Brushes.

F.—Balais de charbon.

G.—Kohlen—Bürsten.

Hart & Co., Inc., Monadnock-bldg., Chicago, Ill.
Le Valley Vitae Carbon Brush Co., 683, Tremont-ave., New York, N.Y.
Van Nort Carbon Brush Co., Locust & 11th-sts., St. Louis, Mo.

Carbon Makers & Suppliers.

F.—Charbons électr.—Fab. et March. de.

G.—Kohlen—Fab. und Lief. von.

American Carbon Co., Noblesville, Ind.
American Carbon & Battery Co., Signal Hill, East St. Louis, Ill.
Binney & Smith Co., 81–83, Fulton-st., New York.
Carrier, A. E., 220, Broadway, New York.
Eastern Carbon Works, Jersey City, N.J.
Elliptical Carbon Co., Union League Club, Chicago, Ill.
Frorop, L. E., 232, Greenwich-st., New York.
Kiewert, Chas. L., Co., Milwaukee, Wis.
Laclede Carbon & Electric Co., Kokomo, Ind.
Marsily, F. A., & Co., 22, Produce Exchange, New York.
National Carbon Co., Cleveland, Ohio.

Carbon Rods & Battery Plates.

F.—Verges à charbon et plaque à piles.

G.—Kohlen Stange u. Platten für Batterien—Fabr. von.

International Acheson Graphite Co., Niagara Falls, N.Y.

Castings for Dynamos, &c.

F.—Fonte à Dynamos.

G.—Giessereien für Dynamos.

Detroit Steel Casting Co., Detroit, Mich.
Eureka Tempered Copper Works, North East, Pa.
Robbins & Myers Co., Springfield, Ohio.
Sessions Foundry Co., Bristol, Conn.
Sipp Electrical & Machine Co., Mill-st., Paterson, N.J.
Western Electric Co., 259, South Clinton-st., Chicago; West & Bethune-sts., New York.
See also ALPHABETICAL.

Ceiling, Desk & Exhaust Fans.

Diehl Manufacturing Co., Elizabeth, N.J.

Central Stations.

F.—Stations centrales d'eclairage élec.

G.—Elektricitätswerke—Elektr. Beleuchtung.

See LIGHT, POWER & TRACTION COMPANIES—ELECTRIC.

Central Stations—Contractors for the Construction & Maintenance of.

F.—Stations centrales—Entrepreneurs de construction et d'entretien.

G.—Elektricitätswerke—Untermehmer zur Errichtung u. Aufrechterhaltung von.

Chemical Glass & Apparatus Manufacturers.

F.—Verrerie et Appareil de chimie.

G.—Chemisches Glas & Apparate—Fab. von.

Eimer & Amend, cor. 18th & 3rd-aves., New York.

Chemical Manufacturers, Merchants & Agents.

G.—Produits chimiques—Fab. March. et Agents de.

F.—Chemikalien—Fabr. Handler u. Agenten.

Kalbfleisch, F. H., Co., Broadway & 16th-st., New York.
Massachusetts Chemical Co., 170, Summer-st., Boston, Mass.
National Chemical Co., Chestnut Hill, Philadelphia, Pa.
Niagara Electro-Chem. Wks., Niagara Falls, N.Y.
Roessler & Hasslacher Chemical Co., 100, William-st., New York, N.Y.

Chemists—Analytical.

F.—Chimistes analytiques.

G.—Chemiker—Analytiker.

Deavitt, H. M., 1126, National Life-bldg., 159, La Salle-st., Chicago, Ill.

Chemists—Consulting.

F.—Chimistes—Consultants.

G.—Chemiker—Beratende.

Dudley, Chas. B., Penn. R. R. Co., Altoona, Pennsylvania.
Kessler & Wiedemann, 224, South Vandeventer-ave., St. Louis, Mo.

Chemists—Electro.

F.—Electro-Chimistes.

G.—Electro-Chemiker.

Kenan, Wm. R., jun., c/o Traders Paper Co., Lockport, N.Y.
McKenna, C. F., 221, Pearl-st., New York.

Clock Wheels, Pinions, &c.—Makers of.

F.—Roues d'horlogerie.

G.—Uhrräder—Fabriken.

Hausburg, E. O., 45, Maiden-lane, New York, N.Y.

Clocks & Synchronization—Electric.

F.—Horloges et synchronisation—électrique.

G.—Elektrische Uhren und Zeitmesser.

American Clock Co., Chicago, Ill.
Blodgett Clock Co., 141, Franklin-st., Boston, Mass.
Connecticut Time & Electric Co., 247, Pearl-street, Hartford, Conn.
Darche Manufacturing Co., 2117, South Halsted-st., Chicago, Ill.
Frick, Fred., Clock Co., Waynesboro, Pa.
Newman Clock Co., 710, Masonic Temple, Chicago, Ill.
North Electric Co., 518, High-st., Buffalo, N.Y.
Prentiss Clock Improvement Co., 92, Chambers-st., New York.
Self-Winding Clock Co., 161, Grand-ave., Brooklyn, N.Y.

Clutch Manufacturers.

F.—Griffes de transmission.

G.—Kuppelungen.

Blevney, John C., 216, High-st., Newark.
Fairbanks, Morse & Co., Chicago, Ill.
Hunter, J., Machine Co., North Adams, Mass.

Coils—Medical & Intensity.

F.—Bobines—Médicine et intensité.

G.—Spulen Medicinische & Intenzitäts.

American Coil Co., Inc., Foxboro, Mass.

Commutator Segments—Makers of.

F.—Segments de Commutateur.
G.—Commutator Segmenten.

Commutator Co., 119–121, 1st-st. North, Minneapolis, Minn.
Forest City Electric Co., 111, Windsor-ave., Cleveland, Ohio.
Homer Commutator Co., 4748, Hough-ave., Cleveland, Ohio.
Jefferson Brass Foundry, Brooklyn, N.Y.
Mansfield Tempered Copper Co., Mansfield, Ohio.

Condensers—Makers of.

F.—Condensateurs—Fab. de.
G.—Condensatoren—Fab. von.

Alberger Condenser Co., 95, Liberty-st., New York.
Heine, Wm. A., Corcoran-bldg., Washington, D.C.

Conduit Systems of House Wiring.

F.—Systèmes conduites de fil electrique (pour des maisons).
G.—Draht Leitung für Häuser—Systeme.

Alphaduct Co., 136, Cator-ave., Jersey City, N.J.
Appleton Electric Co., New York City.
Colgan, Wm. H., Co., West Newton, Mass.
G. & W. Electric Specialty Co., 128, West Jackson-boul., Chicago, Ill.
National Metal Molding Co., Fulton-bldg., Pittsburg, Pa.
Rittenhouse-Miller Co., 923, Witherspoon-bldg., Philadelphia, Pa.
Unity Electrical Co., Scandinavian Am. Bank-bldg., St. Paul, Minn.

Conduits (Underground) & Culverts.

F.—Conduits—Sousterrains—Fab. de.
G.—Untergrund. Röhren—Fab. von.

American Circular Loom Co., Chelsea, Mass.
American Conduit Co., 140, Nassau-st., New York.
American Conduit Manufacturing Co., Pittsburgh, Pa.
American Sewer Pipe Co., Pittsburg, Pa.
American Vitrified Conduit Co., 170, Broadway, New York.
Camp, H. B., Co., Aultman, Ohio.
Dielectric Co. of America, Belleville, N.J.; & 324, Dearborn-st., Chicago, Ill.
Drummond, M. J., & Co., 182, Broadway, New York.
Griffen, John D., A.AM.I.E.E., 82, Wall-st., New York.
H.B. Camp Co., Flatiron-bldg., New York.
Ley, Fred T., & Co., Springfield, Mass.
McRoy Clay Works, Rookery, Chicago, Ill.
Michigan Pipe Co., Bay City, Mich.
Pierson, Roeding & Co., Seattle, Wash.
Potomac Terra Cotta Co., Washington, D.C.
Safety Armorite Conduit Co., Rankin Station, Pa.

Conduits (Underground) & Culverts—*continued.*

Standard Vitrified Conduit Co., 39, Cortlandt-st., New York.
Steel City Electric Co., Pittsburgh, Pa.
Unity Electrical Co., Scandinavian Am. Bank-bldg., St. Paul, Minn.
Williamsport Wooden Pipe Co., 44, Broad-st., New York; & Williamsport, Pa.
Wyckoff Pipe & Creosoting Co., 50, Church-st., New York.

Contractors—Electric Light & Power.

F.—Eclairage électrique—Entrepreneurs d'.
G.—Elektrisches Licht—Unternehmer.

American Furniture Co., Batesville, Ind.
Ardmore Ice, Light & Power Co., Ardmore, Okla.
Baxter, A. C., Newton, Mass.
Bellman & Sanford, 149, Broadway, New York.
Bisbee Improvement Co., Bisbee, Ariz.
Bridgton Water & Electric Co., Bridgton, Maine.
Cataract Power & Conduit Co., Buffalo, N.Y.
Cloquet Electric Co., Cloquet, Minn.
Concord Electric Light Plant, Concord, Mass.
Connecticut Railway & Lighting Co., Fairfield-ave., Bridgeport, Conn.
Crested Butte Light & Water Co., Crested Butte, Col.
Cuero Light & Power Co., Cuero, Tex.
Deposit Electric Co., Deposit, N.Y.
Eagle Electric Works, Washington, Ill.
Eastern Oregon Light & Power Co., Baker City, Ore.
Eau Claire Lighting & Power Co., Eau Claire, Wis.
Fremont Yaryan Co., Freemont, Ohio.
Gray's Harbor Electric Co., Aberdeen, Wash.
Hillsboro Gas & Electric Co., Hillsboro, Tex.
Hudson River Electric Power Co., Mechanicsville, N.Y.
Kentucky Electric Co., Ludlow, Ky.
Lafayette-Louisville Electric Co., Lafayette, Col.
La Junta Electric Co., La Junta, Col.
Lake City Electric Co., Lake City, Iowa.
Lancaster Electric Light, Heat & Power Co., Lancaster, Pa.
Lawton-Beattie Electric Co., Cincinnati, Ohio.
Le Roy Hydraulic Electric Co., Le Roy, N.Y.
Meyer, L. A., & Co., 450, East Water-st., Milwaukee, Wis.
Middletown Electric Lighting & Power Co., Middletown, Ohio.
Mutual Light & Water Co., Brunswick, Ga.
Oberlin Gas & Electric Co., Oberlin, Ohio.
Paxton Electric Co., Paxton, Ill.
People's Electric Light & Power Co., Silver Creek, N.Y.
Perry Electric Light Co., Perry, N.Y.
Piedmont Electric Light & Power Co., Piedmont, W. Va.
Pineville Electric Light Co., Pineville, Ky.

Contractors—Electric Light & Power—*continued.*

Platteville Electric Light & Power Co., Platteville, Wis.
Port Deposit Electric Co., Port Deposit, Md.
Pottsville Union Traction Co., Pottsville, Pa.
Princeton Light & Power Co., Princeton, Ind.
Redwood Manufacturers Co., Black Diamond, Cal.
Safety Car Heating & Lighting Co., 106, Broadway, New York, N.Y.
St. Marys Electric Co., St. Marys, Pa.
Shawnee Lighting Co., Shawnee, Okla.
Steamboat Springs Electric Co., Steamboat Springs, Col.
Superior Water, Light & Power Co., Superior, Wis.
Union Electric Co., Dubuque, Iowa.
United Electric Gas & Power Co., Santa Barbara, Cal.
United Gas & Electric Co., Dover, N.H.
United Gas & Electric Co., Litchfield, Ill.
Unity Electrical Co., Scandinavian Am. Bank-bldg., St. Paul, Minn.
Vincennes Electric Co., Vincennes, Ind.
Wagner, A., 1227, East 55th-st., Chicago, Ill.
Washington Water Power Co., Spokane, W. Va.
Willamette Valley Co., Albany, Ore.
Yazoo Improvement Co., Yazoo, Miss.

Contractors—Installation.

F.—Installation—Entrepreneurs d'.
G.—Unternehmer—Einsetzung.

Acme Electric Co., Knoxville, Tenn.
Adams, L., 412, Dryades-st., New Orleans, La.
Aetna Electric Stage Lighting Co., 276, Sedgwick-st., Chicago, Ill.
Agutter-Griswold Electric Co., Seattle, Wash.
Alloway Electric Co., Marquette-bldg., Chicago, Ill.
American Electric Co., 595, Garfield-ave., Detroit, Mich.
American Electric Co., Omaha, Neb.
American Electric Co., 118, 3rd-ave. S., Seattle, Wash.
American Electrical Repair Co., South Main & West Carson-sts., Pittsburg, Pa.
American Elevator & Electric Co., 520, Camp-st., New Orleans, La.
American Engineering Co., Indianapolis, Ind.
Anderson Electrical Works, San Francisco, Cal.
Andrae Herman Electrical Co., 221, West Water-st., Milwaukee, Wis.
Archbold-Brady Co., Syracuse, N.Y.
Ashland Electric Co., 975, Milwaukee-ave., Chicago, Ill.
Atkinson, G. H., Co., 273, Washington-st., Jersey City, N.J.
Atlantic Electric Co., Norfolk, Va.
Aubrey, B. W., Malone, N.Y.
B. & C. Electric Construction Co., 207, Bleecker-st., Utica, N.Y.
Bachman, J. B., Provo City, opposite P.O., Utah.

Contractors—Installation—*continued.*

Bailey, Johnson & Saunders, Buffalo, N.Y.
Ballantine & Faby, 517, N. 2nd-st., Shamokin, Pa.
Ballda Electric Co., 333, Columbia-st., Utica, N.Y
Balsley, R. O., 471, S. Pine-st., Indianapolis, Ind.
Banner Electric Co., 1418, Chouteau-ave., St Louis, Mo.
Barnes, C. M., 912, Myrtle-st., Scranton, Pa.
Barré, Joseph, & Co., 25, Fulton-st., New York.
Batley, W. J., Electric Co., 207, Indiana-ave., Indianapolis, Ind.
Bay State Electric Co., Boston, Mass.
Beach Electrical Co., 2228, Mission-st., San Francisco, Cal.
Beck Electrical Repair Co., Columbus, Ohio.
Beiluss, Hermann A., Electric Co., 3705, Armour-ave., Chicago, Ill.
Beinert, G. D., 43, East 8th-st., New York.
Bell, Thomas H., 485, Hamilton-st., Albany, N.Y.
Bell Electric Co., Auburn, Cal.
Bell Electric Co., 2532, Nicolet-ave., Minneapolis, Minn.
Benton, T. P., & Son, La Crosse, Wis.
Bernet & Co., 3975, Cottage Grove-ave., Chicago, Ill.
Berry, D. E., & Co., Evansville, Ind.
Bidstrup, J. F., & Co., 26, Frankfort-st., NewYork, N.Y.
Blackall & Baldwin Co., 39, Cortlandt-st., New York.
Bleyle Electric Co., 84, Cortlandt-st., New York.
Blomkun Electric Co., 151, Reed-st., Milwaukee, Wis.
Bloomfield Equipment Co., Bloomfield, N.J.
Boehm, W. D., Sterling, Ill.
Borneman & Sons, 230, S. Main-st., Elkhart, Ind.
Brennan Electric Construction, 330, Dearborn-st., Chicago, Ill.
Bridegam, W. E., Reading, Pa.
Brittain, D. A., Electric Co., 177, Grand River-ave., Detroit, Mich.
Brittingham, A. D., & Co., 39, Prospect-ave., Mount Vernon, N.Y.
Brown, Addison W., Electric Co., 195, Montague-st., Brooklyn, N.Y.
Brown Electric Co., 101, Cleveland-ave., Columbus, Ohio.
Brown, S. A., & Co., 126, Liberty-st., New York.
Brown-Ryan Electric Co., 27, Deshler-blk., Columbus, Ohio.
Buffalo Electric Contracting Co., 62, Niagara-st., Buffalo, N.Y.
Burckard, Wm. A., & Co., Inc., Norfolk, Va.
Burgess-Granden Co., Omaha, Neb.
Burkart Electrical Co., 1123, Broadway, New York City.
Burke Electrical Works, New Orleans, La.
Burr, Garrett S., Hackensack, N.J.
Butte Electric Supply Co., Butte, Mont.
Butte Engineering & Electric Co., 683, Howard-st., San Francisco, Cal.
Buxbaum & Cooley, 64, West Columbia-st., Seattle, Wash.

Contractors—Installation—*continued.*

C. O. D. Electric Works, Los Angeles, Cal.
California Electric Construction Co., San Francisco, Cal.
California Electric Construction Co., 44, West San Fernando-st., San José, Cal.
Camden & Co., 714, Market-st., Parkersburg, W. Va.
Cameron, E. A., 126, Smith-st., Dunmore, Pa.
Campbell Bros., 146, Front-st., Traverse City, Mich.
Campbell Electric Co., 1454, Court-pl., Denver, Col.
Campbell Electrical Co., Inc., 141, South Highland-ave., Pittsburgh, Pa.
Cannell, J. J., & Co., Everett-sq., Everett, Mass.
Capital Electric Co., 18, N. 7th-st., Richmond, Va.
Capitol Electric Co., 167, West Broad-st., St. Paul, Minn.
Carpenter, D. K., Corp., 27, Belmont-st., Brockton, Mass.
Carroll Electric Co., 14th-st. & New York-ave., Washington, D.C.
Carter Electric Co., Pittsburgh, Pa.
Carter, F. C., & Co., 719, Walnut-st., Philadelphia.
Cascade Gas & Electric Fixture Co., Seattle, Wash.
Cedar Rapids Electric Supply Co., Cedar Rapids, Pa.
Central Electric Co., Colorado Springs, Col.
Central Electric Co., Greensboro, N.C.
Central Electric Co., 124, Broadway, Detroit, Mich.
Central Electric Co., South Bend, Ind.
Central Electric Co., Waco, Tex.
Central Electrical Supply Co., 29, West 15th-st., New York.
Century Electric Co. of San José, 20, South Market-st., San José, Cal.
Champaign Gas & Electric Supply Co., Champaign, Ill.
Charm Electric Co., 115, Leverett-st., Boston, Mass.
Cheyne, F. H., Electric Co., Indianapolis, Ind.
Chicago Electrical Equipment Co., 83, West Jackson-boul., Chicago, Ill.
Chipman, W. E., & Co., 62, Sudbury-st., Boston, Mass.
Chippewa Electric Co., Sault Ste. Marie, Mich.
Choquette, A. E., Sherbrooke, Que., Canada.
Chutes Electric Co., 1831, South Main-st., Los Angeles, Cal.
Citizens Electric Co., Des Moines, Iowa.
City Electrical Co., 753, Main-st., Hartford, Conn.
City Gas & Electric Works, 607, South Olive-st., Los Angeles, Cal.
Claypool Electric Co., 134, East Long-st., Columbus, Ohio.
Cleveland Construction Co., Citizens-bldg., Cleveland, Ohio.
Coast Electric Co., 312, San Pablo-ave., Oakland, Cal.
Coll Electric Co., Pittsburg, Pa.
Collins, F., 7, Park-pl., Carbondale, Pa.

Contractors—Installation—*continued.*

Columbia Construction Co., Stephen-bldg., Milwaukee, Wis.
Columbia Electric Co., Harrisburg, Pa.
Columbus Electrical Works, Columbus, Ohio.
Commercial Construction Co., 114, East 28th-st., New York.
Commercial Electric Co., New Orleans, La.
Connecticut Electric Equipment Co., Meriden, Conn.
Connolly Melhern Electrical Engineering Co., 10, East 11th-st., Chattanooga, Tenn.
Consolidated Electric Co., Byrne-bldg., Los Angeles, Cal.
Consolidated Electric Co., Nashville, Tenn.
Contractos Electrical Co., 7, East 42nd-st., New York.
Cook, Arthur E., Morse & Cook-bldg., Meriden, Conn.
Cook Electric Co., 342, Vernon-ave., Long Island City, N.Y.
Cooke, A., 1414, Swetland-st., Scranton, Pa.
Cooke-Wilson Electric Supply Co., Imperial Pr.-bldg., Pittsburg, Pa.
Corrao, Wm. A., Electric Co., 1414, Chestnut-st., St. Louis, Mo.
Crosby Co., Virginia City, Nev.
Crown Electrical Co., 310, North Gay-st., Baltimore, Md.
Culbert, E. H., 1412, West Susquehanna-ave., Philadelphia, Pa.
Currier, E., 8519, Germantown-ave., Philadelphia, Pa.
Dalton, E. C., Oakland, Cal.
Dalton Electrical Co., Meridian, Miss.
Daly, T. I., Cambridge, Mass.
Daubert & Schrecker, 906, 3rd-st., Louisville, Ky.
Dauphin Electrical Supplies Co., Harrisburg, Pa.
Davis, Lewis S., 221, West 116th-st., New York.
Davis, S., 14, West 29th-st., New York.
Dawes, F. B., Hudson, Mass.
Dean, Thos. A., Lancaster, Pa.
Dean, S., & Co., 24, Province-st., Boston, Mass.
Demara & Classon, Addison, N.Y.
Denver Electric Wiring Co., Denver, Col.
Denver Electrical Co., Denver, Col.
Dexter, J. Boyd, Annapolis, Md.
Dickinson, A. T., 55, Prospect-st., Rockville, Conn.
Didwalis, J., 507, S. Main-st., Wilkes Barre, Pa.
Dillon, T. L., 11, West 28th-st., New York.
Donahoo, J. F., Bond-bldg., Washington, D.C.
Doty, C. E., & Co., 88, Washington-st., Chicago, Ill.
Dougherty Electric & Mch. Co., North-East cor. 10th & Walnut-sts., St. Louis, Mo.
Downes, E. S., Syracuse, N.Y.
Doylestown Electric Co., Doylestown, Pa.
Duffy, W. F., & Co., 96, Warren-st., New York.
Durbrow & Hearne Manufacturing Co., 12, Wooster-st., New York.
Durling Electric Co., Baltimore, Md.
Eastern Electric Construction Co., 281, Franklin-st., Boston, Mass.

Contractors—Installation—*continued.*

Eastern Electrical Equipment Co., 43, West 27th-st., New York City.
Edison Electric Construction Co., San Francisco, Cal.
Electric Co., McKeesport, Pa.
Electric Construction Co., Old South-bldg., Boston, Mass.
Electric Construction Co., 263, East Colorado-st., Pasadena, Cal.
Electric Construction & Supply Co., Oswego, N.Y.
Electric, Gas & Steam Brokerage Co., Chicago, Ill.
Electric Installation & Equipment Co., 218, Grand-st., New York.
Electric & Machine Construction Co., 6014, Center-ave., Pittsburg, Pa.
Electric Motor & Construction Co., 1306, Clay-st., Oakland, Cal.
Electric Operating Construction Co., 49, Wall-st., New York.
Electric Repair & Construction Co., Altoona, Pa.
Electric Service Co., 208, North Main-st., South Bend, Ind.
Electric Supply & Construction Co., West Park-st., Franklin, Pa.
Electric Wiring Co., Kansas City, Mo.
Electrical Construction Co., 423, Richmond-ter., New Brighton, N.Y.
Electrical Construction Co., 120, Broadway, Detroit, Mich.
Electrical Construction Co., 406, 10th-st., Oakland, Cal.
Electrical Construction & Manufacturing Co., 25, 3rd-ave., New York.
Electrical Construction & Supply Co., Alton, Ill.
Electrical Engineering Co., 125, West Mohawk-st., Buffalo, N.Y.
Electrical Engineering Co., 11, East Lexington-ave., Baltimore, Md.
Electrical Engineering & Construction Co., 433, Judge-bldg., Salt Lake City, Utah.
Electrical Repair & Manufacturing Co., 619, Champlain-ave., Cincinnati, Ohio.
Electrical Shop, The, 242, North Park-ave., Chicago, Ill.
Electrical Supply Co., 714, Union-st., New Orleans, La.
Electrical Testing & Maintenance Co., 145, West 42nd-st., New York.
Electro Construction Co., Arcade-bldg., Philadelphia, Pa.
Ellis Mfg. Co., 263, Ogden-ave., Chicago, Ill.
Elwell, Wm. P., 36, Main-st., Peabody, Mass.
Emergency Electrical Co., 235, Duffield-st., Brooklyn, N.Y.
Emmons Electric Construction Co., 84, La Salle-st., Chicago, Ill.
Empire Electric Co., 1308, 2nd-ave., New York.
Empire Electric Co., Spokane, Wash.
Empire Electric Sign Co., 162–164, East 118th-st., New York.
Engelhardt Electric Co., 172, Fox-st., Buffalo, N.Y.

Contractors—Installation—*continued.*

Enterprise Electric Co., 194, West Broadway, New York.
Enterprise Electrical Co., Middletown, N.Y.
Enterprise Electrical Co., 5307, Euclid-ave., Cleveland, Ohio.
Equitable Electric Inspection Co., St. Louis, Mo.
Evans, Admirall, & Co., 281, Water-st., New York.
Evans, G. T., & Co., 115, 9th-st., Pittsburg, Pa.
Excelsior Electric Maintenance Co., 162, West 29th-st., New York.
Fajans, Isidor, 54, Lexington-ave., New York.
Favor, S. S., Gloucester, Mass.
Fewkes Whalen Co., Inc., 48, North 11th-st., Philadelphia, Pa.
Floy, Henry, 165, Broadway, New York.
Flucker & Keedwell, 503, 5th-ave., New York.
Foreman Bros. Electric Co., Paducah, Ky.
Forsberg Motor Works, 402, Bleeker-st., New York.
Foster, M. B., Electric Co., Fuller-bldg., New York; & 54, Batterymarch-st., Boston, Mass.
Foulkes-Gaylord Co., Inc., 931, Security-bldg., Los Angeles, Cal.
Frankel, A. M., Rockaway Beach, N.Y.
Freeborn Engineering & Construction Co., Scarritt-bldg., Kansas City, Mo.
French Electric & Supply Co., Park Way & Sandusky-st., Allegheny, Pa.
Frey, F. A., 52, West Broadway, New York.
Fuller Construction Co., 949, Broadway, New York.
Gans Bros., 155, N. Main-st., Los Angeles, Cal.
Gaylord & Vore, Pasadena, Cal.
Gee, Edwin C., 2, Wall-st., New York.
Gibbs & Goebel, W. Lackawanna-ave., Scranton, Pa.
Gillen Electric Co., 1121–22, Williamson-bldg., Cleveland, Ohio.
Globe Electric Co., 6340, Jackson Park-ave., Chicago, Ill.
Goodrich, C. E., Baltimore, Md.
Gordon Minthorne, T., Stapleton, N.Y.
Gotham, W. P., 9, West Chippewa-st., Buffalo, N.Y.
Gould Bros., 183, Freeport-st., Boston, Mass.
Gould Coupler Co., 1, West 34th-ave., New York.
Grand Electric Co., 795, Woodward-ave., Detroit, Mich.
Grant, G. H., Marion, Ind.
Gray Bros. Electric Co., 160, Cass-ave., Detroit, Mich.
Gray, G. R., & Co., 39, Vesey-st., New York.
Graybill, John E., & Co., York, Pa.
Griffin, W. A., 1524, Glenarm-st., Denver, Col.
Groswith Electric Co., 52nd & Lancaster-ave., Philadelphia, Pa.
Guarantee Elec. Co., 1630, Park-ave., New York.
Guarantee Electric Works, Peoria, Ill.
Guarantee Electric Works, San Francisco, Cal.
Guyton Electric Co., Dayton, Ohio.
H S. Electric Machinery Co., The, Portland, Me.

Contractors—Installation—*continued.*

Hall, Wm., Electric Co., Dayton, Ohio.
Hanlon & Murphy, 280, Asylum-st., Hartford, Conn.
Hanson Electric Co., Jamestown, N.Y.
Hartig, W. O., Electric Co., Century-bldg., Minneapolis, Minn.
Hartman, H. F., 1109, Jackson-st., Scranton, Pa.
Hatfield Electric Co., 36, South Meridian-st., Indianapolis, Ind.
Hazazer & Hoag, 12, 14 & 16, John-st., New York.
Hellmund Collbohm Electric Co., 150, Nassau-st., New York.
Hersh, E. W., Electric Co., 54, West 28th-st., New York.
Herstein, L. A., & Co., 321, North Eutaw-st., Baltimore, Md.
Hertner Electric & Manufacturing Co., 713, Frankfort-ave., Cleveland, Ohio.
Higley & Co., Salt Lake City, Utah.
Hill, M. W., Co., 405, Courtland-st., Baltimore, Md.
Hills, Jr., Electric Co., Sam W., 225, East 4th-st., Cincinnati, Ohio.
Hinman Telephone & Electric Co., 9, Merritt-ave., Oshkosh, Wis.
Holabird-Reynolds Electric Co., 116, East 5th-st., Los Angeles, Cal.
Holcomb, D. S., 60, Centre-st., New York, N.Y.
Holland, C. A., 2401, Downay-ave., Los Angeles, Cal.
Hollis Electric Co., 311, 2nd-ave. South, Minneapolis, Minn.
Home Electric Co., 205, West Market-st., Louisville, Ky.
Home Electrical Co., Seattle, Wash.
Howe Electric Co., Monadnock-blk., Chicago, Ill.
Howe Engineering Co., 150, Nassau-st., New York.
Huber, Otto, 303, Main-st., Cincinnati, Ohio.
Hudson, Wm., 831, Elton-ave., New York, N.Y.
Hudson Electrical Construction Co., Jersey City, N.J.
Hudson Electrical Supply Co., 54, Warren-st., New York.
Hummler, A., Oakford-ct. & Spruce-st., Scranton, Pa.
Hurlburt-Still Electrical Co., Houston, Tex.
Huth, Wm., 65, Granite-st., Brooklyn, N.Y.
Hutton, W. A., Center-st. & Oakford-ct., Scranton, Pa.
Hyde, E. H., Marietta, Ohio.
Idaho Electric Supply Co., Y.M.C.A.-bldg., Boise, Idaho.
Ideal Electric Contracting Co., 125, East 23rd-st., New York, N.Y.
Independent Electric Machinery Co., 448, Sheidley-bldg., Kansas City, Mo.
Independent Electrical Construction Co., 381, Fulton-st., San Francisco, Cal.
Independent Electrical Supply Co., 383, Canal-st., New York.
Ingalls Electric Construction Co., 22, South Tennessee-ave., Atlantic City, N.J.
Inland Electric Co., Spokane, Wash.

Contractors—Installation—*continued.*

Interborough Electric Service Corp., 138, Liberty-st., New York.
Intermont Co., Bluefield, W. Va.
Interstate Electric Co., Connellsville, Pa.
Interurban Construction Co., 1515, Tremont-pl., Denver, Col.
Interurban Electric Equipment Co., 147, Lawrence-st., Brooklyn, N.Y.
Jackson, T. F., 94, John-st., New York.
Jamestown Electric Co., Jamestown, N.Y.
Jandons Electric Equipment Co., 510, 6th-ave., New York.
Jaynes Electrical Co., 806, Main-st., Buffalo, N.Y.
Jefferson Electric Co., 144, Field-ave., Detroit, Mich.
Jersey City Electric Co., Jersey City, N.J.
Johnson, C., 1444, Humboldt-boul., Chicago, Ill.
Johnson, Le Baron B., 136, Liberty-st., New York.
Jones Electric Co., 1764, West 25th-st., Cleveland, Ohio.
Jordan, A., 109, West 29th-st., New York.
Kastner, G. C., 42, Union-sq., New York.
Keelyn Electric Co., 133, Sycamore-st., Milwaukee, Wis.
Kehoe, J. E., 923, 6th-ave., New York.
Kelley, W. V., 1123, Broadway, New York.
Kelley Electric Co., 409, Elm-st., Cincinnati, O.
Kelly, T. T., & Co., 2, Columbia-st., Boston, Mass.
Kendall, W. D., Co., 166, Main-st., Worcester, Mass.
Kent Manufacturing Co., 222, Washington-st., Brookline, Mass.
Kimball Electrical Construction Co., 42, East 23rd-st., New York.
Kinetic Electric Co., 60th-st. & Baltimore-ave., Philadelphia, Pa.
Kirkpatrick, C. C., 827, S. Spring-st., Los Angeles, Cal.
Klein, N., 176, Grand-st., New York.
Knox Engineering Co., Chicago, Ill.
Kratz Bros., Evansville, Ind.
Kuehn Electric Co., Canton, Ohio.
L. & H. Electrical Co., 319, South 8th-st., St. Joseph, Mo.
Lancaster Electric Supply & Construction Co., Lancaster, Pa.
Lanigan & Rosemont Electric Co., 6, West 3rd-st., New York.
Latham Engineering & Electric Co., Inc., 214, Ellis-st., nr. Mason-st., San Francisco, Cal.
Lee Electric Co., 217, North Calvert-st., Baltimore, Md.
Lehigh Electric Co., Allentown, Pa.
Leonhardt, F. W., 502, 12th-st., N.W., Washington, D.C.
Levi, Morris, & Co., 920, 3rd-ave., New York.
Lewiston Electric Supply Co., Lewiston, Idoho.
Liberty Electric Co., 6107, Center-ave., Pittsburg, Pa.
Lindsley & Allen Electric Co., Inc., 257-259, Eddy-st., Providence, R.I.

Contractors—Installation—*continued.*

Lion Electric Co., 123, E. 4th-st., Los Angeles, Cal.
Longstreth, C. L., Los Angeles, Cal.
Lorain Electrical Construction Co., Lorain, Ohio.
Lord Electric Co., 213, W. 40th-st., New York.
Loveday, Claude, Santa Barbara, Cal.
Lucas, J. H., 4217, Delaware-ave., St. Louis, Mo.
Lucas, J. C. M., Co., 1307, Continental-bldg., Baltimore, Md.
Lund & Miller, 52, Water-st., New York.
M. & M. Electric Co., Greenwood, S.C.
McCaffrey & Williams, 1904, Broadway, Parsons, Kan.
McCloy Electric Co., 3908, 5th-ave., Pittsburg, Pa.
McCormick, D. A., 32, Clifford-st., Detroit, Mich.
McDowell, J. R., Auburn, Ind.
MacIntosh Electric Co., 114½, East 5th-st., Los Angeles, Cal.
McIntyre, H. C., Mount Vernon, N.Y.
MacMaster Electric Construction Co., Columbus, Ohio.
McNerney Electric Co., 127, Colonial Arcade, Cleveland, Ohio.
McWilliams, Jos., & Co., Louisville, Ky.
Maddocks, W. S., 318, Linden-st., Scranton, Pa.
Maintenance Co., 54, Franklin-st., New York.
Marble, A. R., Terre Haute, Ind.
Marine Electric Co., Howard & Fremont-sts., San Francisco, Cal.
Marrs Tanner Electric Co., Danville, Ill.
Mather, L. R., Utica, N.Y.
Mattfield, J. A., 418, Tompkins-ave., Brooklyn, N.Y.
May, S., 636, 5th-ave., New York.
Mayhew, F. A., 3137, Jefferson-ave., Cincinnati, Ohio.
Meier Electric & Elevator Co., Indianapolis, Ind.
Meldrum & Gunn, 14, East South Temple-st., Salt Lake City, Utah.
Memphis Electric Co., 160, South 2nd-st., Memphis, Tenn.
Merchants' Electric Co., La Fayette, Ind.
Merchants' Electric & Manufacturing Co., 5, Market-st., St. Louis, Mo.
Messner, Chas. W., 3704, North Broad-st., Philadelphia, Pa.
Meter Electrical Construction Co., Oshkosh, Wis.
Metropolitan Electric Stage Lighting Co., 1402, Broadway, New York.
Metropolitan Electric Works, 2922, California-st., San Francisco, Cal.
Metropolitan Electrical Works, 412, Grant-ave., San Francisco, Cal.
Meyer Electric Co., Butte, Mont.
Milks Electric Co., Binghamton, N.Y.
Miller, John A., 804, E.-st., N.W., Washington, D.C.
Miller Electrical Co., 20, William-st., Newark, N.J.
Miller-Bowden Electric Co., 1721, Champa-st., Denver, Col.
Miller-Seldon Electric Co., Detroit, Mich.

Contractors—Installation—*continued.*

Milne Electric Co., 422, E. Water-st., Milwaukee, Wis.
Minge Electric Equipment Co., 38, West 33rd-st., New York City.
Minneapolis Electric Motor Co., Minneapolis, Minn.
Modern Electric Co., Burlington, Iowa.
Morrison Electrical Engineering Co., Amsterdam, N.Y.
Morse, O. R., Brookline, Mass.
Myers, N. A., 708, Fulton-st., Brooklyn, N.Y.
Myers Bros., Carbondale, Pa.
N.Y. Electric Supply Co., Taunton, Mass.
Nash Electrical Supply Co., 506, West Central-ave., Albuquerque, New Mex.
National Electric Co., 669, Dayton-ave., St. Paul, Minn.
National Electric Co., 103, Turk-st., San Francisco, Cal.
National Electric Manufacturing Co., Des Moines, Iowa.
Nebraska Electrical Co., Omaha, Neb.
Nelson, J. V., 61, West 55th-st., New York.
Newbery, F. E., Electric Co., 640–642, Century-bldg., St. Louis, Mo.
Nigh, O. I., & Co., Jenifer-bldg., Washington, D.C.
Nimis & Nimis, 314, Madison-ave., New York.
Nixon-Kimmel Co., 709, Front-ave., Spokane, Mass.
Northern Electric Co., Burlington, Vt.
Northwestern Electric Co., 102, West Adams-st., Chicago, Ill.
Novelty Electric Sign Co., Inc., 837, Ellis-st., San Francisco, Cal.
Novelty Electric Works, 1105, 1st-st. South, Portland, Ore.
Nunemacher Electric Works, San Francisco, Cal.
Nusbaum, Elias, & Bro., 1519, Moravian-st., Philadelphia, Pa.
Ober, Wm. E., West Medford, Mass.
Ohio Novelty Sign & Electric Co., 240, North Main-st., Marion, Ohio.
Olson-Boettger Electric Manufacturing Co., St. Paul, Minn.
Orr & Howe Electric Co., 1109, Bluff-st., Pittsburg, Pa.
Ott Electric Supply Co., Laramie, Wyo.
Pan Electric Service & Appliance Co., St. Louis, Mo.
Parker, J. E., 26, West Haines-st., Philadelphia.
Parker-Hamer Electric Co., Palmer, Mass.
Parsons & Wolever Electric Co., Lafayette, Ind.
Peake, E. W., Pensacola, Fla.
Peerless Electric Co., 1226, H.N.W., Washington, D.C.
Peltyn, G. P., 82, 3rd-ave., New York.
Penn Electrical Engineering Co., Washington-ave., Scranton, Pa.
Pennsylvania Electrical Works, 105, North 2nd-st., Philadelphia, Pa.
Perry, W. M., Electric Co., Columbia, S.C.
Philadelphia Electric Construction Co., 914, Filbert-st., Philadelphia, Pa.

Contractors—Installation—*continued.*

Phillips, C. C., Inc, Lynn, Mass.
Piedmont Electric Co., Asheville, N.C.
Pierce Electric Co., Chicago, Ill.
Pierson & Dean Co., New Haven, Conn.
Pinkham, C. T., & Co., 133, 6th-ave., New York.
Pioneer Electric Co., St. Paul, Minn.
Plummer Electric Co., 453, Atlantic-ave., Boston, Mass.
Power Equipment Co., 50, Church-st., New York.
Pratt, W. F. B., 25, West Broadway, New York.
Premier Electric Co., 364, Wabash-ave., Chicago, Ill.
Progressive Armature & Electrical Works, 421, Clerry Alley, Pittsburg, Pa.
Pruden, W. E., Hardware Co., 866, 8th-ave., New York.
Queen City Electric Co., Cincinnati, Ohio.
Raphael, H., 143, Washington-st., Pittsburg, Pa.
Ratchford, J. B., 333, S. 9th-st., Scranton, Pa.
Raymond Electric Co., 501, Chestnut-st., Philadelphia, Pa.
Rayner, G. O., 118, Marietta-st., Atlanta, Ga.
Redding, J. H., 22, Bowker-st., Boston, Mass.
Reed & Volk Electrical Co., The, South Norwalk, Conn.
Register, A. L., & Co., 112, North Broad-st., Philadelphia, Pa.
Reid, B. H., Elkhart, Ind.
Reis & O'Donovan, Inc., 207, E. 37th-st., New York.
Reliable Electric Co., Knoxville, Tenn.
Reliance Electric Co., 254, Ogden-ave., Chicago, Ill.
Reynolds Electric Co., Marion, Ind.
Richardson Engineering Co., 36, Pearl-st., Hartford, Conn.
Riley, T. P., Fargo, N.D.
Rittenhouse & Smith, Harrison-ave., Scranton, Pa.
Robb, D., 124, West 50th-st., New York.
Robb & Blackmer, 129, Pearl-st., Boston, Mass.
Robertson Electric Construction Co., 21, Terrace-st., Buffalo, N.Y.
Rogers & Hilton, 318, Pearl-st., Syracuse, N.Y.
Rongtell Electric Co., 4248, Olive-st., St. Louis, Mo.
Ross, E. L., 614, East 138th-st., New York.
Ross, F. C., 255, Greenwich-st., New York.
Ross, Olof, Everett, Mass.
Royal Electric Co., 25, South 16th-st., Philadelphia, Pa.
Russell Electric Co., 25, West 42nd-st., New York.
Ruth, E. C., Mount Vernon, N.Y.
Ryan Electric Co., 112, Cleveland-ave., Columbus, Ohio.
Safety Electric Signal Co., 120, Liberty-st., New York.
Safford, W. W., Korn Alley, Newport, N.H.
St. Louis Electric & Machine Co., Chemical-bldg., St. Louis, Mo.
Savannah Electric Repair Co., 30, Drayton-st., Savannah, Ga.
Saylor Electric Co., 127, 4th-ave., Pittsburg, Pa.

Contractors—Installation—*continued.*

Schaefers Electric Construction Co., 370, Pearl-st., Brooklyn, N.Y.
Schaeffel Electrical Construction Co., Inc., 43, West 21st-st., New York.
Schaff, J. G., Electric Co., Chambersburg, Pa.
Schill, Chas. A., 750, South 4th-st., St. Louis, Mo.
Schoenberg, R. A., & Co., 906, 6th-ave., New York.
Schuster Electric Co., 2169, McLean-ave., Cincinnati, Ohio.
Seabord Electric Co., Norfolk, Va.
Shannon, John T., Electric Co., North & Madison-aves., Baltimore, Md.
Sherrill Electric Co., Burlington, Iowa.
Sieder, A. L., Newark, N.J.
Silver State Electric Co., 222, 15th-st., Denver, Col.
Simmons & Son, New Haven, Conn.
Singer-Geiser Electric Co., Waynesboro, Pa.
Sioux Falls Electric Construction Co., Sioux Falls, S.D.
Skeen Robert Electric Works, Portland, Ore.
Smith, L. J., 415, West 31st-st., Los Angeles, Cal.
Smith Electric Co., Allentown, Pa.
Smith & Howley, 243, Wyoming-ave., Scranton, Pa.
Southern California Electric Co., 121½, West 3rd-st., Los Angeles, Cal.
Southern Electric Co., Atlanta, Ga.
Southern Electric Co., Wilmington, N.C.
Southern Electrical Co., San Diego, Cal.
Southwest Electric Co., Redlands, Cal.
Southwestern Electric Co., Baltimore-bldg., Oklahoma City, Okla.
Southwestern Electric Co., 24, South 10th-st. St. Louis, Mo.
Springfield Electric Co., Springfield, Mass.
Spruill, J. B., 97, Main-st., North Adams, Mass.
Squire Electric Co., 614, Wyandotte-st., Kansas City, Mo.
Standard Electric Co., 104, Randolph-st., Detroit, Mich.
Standard Electric Co., 110, 3rd-ave., Nashville, Tenn.
Standard Electric Co., 17, Richmond, Providence, R.I.
Standard Electrical Supply Co., Norfolk, Va.
Standard Engineering Co., Garfield-bldg., Cleveland, Ohio.
Standard Machine & Electric Co., 33, Chesapeake-st., Indianapolis, Ind.
Starr Electric Co., 208, West Worthington-st., Springfield, Mass.
Staunton, A. R., Thibodaux, La.
Stecker Electric & Machine Co., 34-36, Bates-st., Detroit, Mich.
Steinholtz, H. M., 172, Pearl-st., Hartford, Conn.
Steinmetz Electric Co., 77, 5th-ave., Chicago, Ill.
Sterling Hardware & Electrical Co., 1003, Mission-st., San Francisco, Cal.
Sterner, Edwin, Co., Flint, Mich.
Sterns Electric Equipment Co., 316, Pearl-st., Buffalo, N.Y.

Contractors—Installation—*continued.*

Stevens, Wm., Joliet, Ill.
Straight Electric Co., Des Moines, Iowa.
Strauss, L. L., 13, East 125th-st., New York.
Sturm & Brinkman, 313, 2nd-ave., Pittsburgh, Pa.
Sullinger, Park, 335, Broadway, New York.
Sweetser, F. C., 43, East Union-st., Pasadena, Cal.
Sweetser, S. G., Electric Co., Harrisburg, Pa.
Syracuse Supply Co., Syracuse, N.Y.
Talbot, R., 52, William-st., New York.
Tank Electric Co., 324, Dearborn-st., Chicago, Ill.
Tarbox, F. N., Dunmore, Pa.
Terminal Electric Co., 1882, Evanston-ave., Chicago, Ill.
Thayer, W. N., Co., 784, 6th-ave., New York.
Thayer-Wilkinson Co., The, 1418, Cortleyon-rd., Brooklyn, N.Y.
Tholen Bros., Leavensworth, Kan.
Thompson, O. C., 107, East Main-st., New Albany, Ind.
Thomson Electric Co., 315, Dearborn-st., Chicago, Ill.
Timlin Bros., Avoca, Pa.
Tingley, The R. H., Co., 32, Cortlandt-st., New York; & Providence, R.I.
Tollner, Hugo, jun., Taaffe-pl., Brooklyn, N.Y.
Trafton, W. I., & Son, Portsmouth, N.H.
Tri-City Electric Co., Davenport, Iowa.
Troy Electrical Co., Troy, N.Y.
Truswell, Wm., & Son, 16, Cedar-st., New York.
Turbo Electric Construction Co., 39, Cortlandt-st., New York.
Tyson, Chas. Q., Co., 35, North Jefferson-st., Dayton, Ohio.
Ulmer, G. W., Newton, Mass.
United Electric Apparatus Co., 200, Summer-st., Boston, Mass.
United States Light & Heating Co., 30, Church-st., New York.
Unity Electrical Co., Scandinavian Am. Bank-bldg., St. Paul, Minn.
Valentine Bros. Manufacturing Co., 230-234, 5th-ave. South, Minneapolis, Minn.
Van Roden, Chas. E., 3946, Lancaster-ave., Philadelphia, Pa.
Van Wagoner-Linn Construction Co., New York.
Vermille, F. S., Reading, Mass.
Vesey Electric Co., Waco, Tex.
Wadeford Electric Co., Marquette-bldg., Chicago, Ill.
Wadsworth Bros., Covington, Ky.
Wallich, H. L., Fond-du-Lac, Wis.
Wallmans Bros., 1529, Pine-st., San Francisco, Cal.
Weidenthal-Gosliner Electric Works, Mission & New Montgomery-sts., San Francisco, Cal.
Weiderman, Geo., Electric Co., Inc., 35-37, Rose-st., New York.
Welch, F. L., Gloversville, N.Y.
Western Electric Sign Co., 577, Turk-st., San Francisco, Cal.
Wetherbee & Whitney, 112, Franklin-st., Boston, Mass.

Contractors—Installation—*continued.*

Wheeler Motor Works, Burlington, Iowa.
White City Electric Co., 355, Dearborn-st., Chicago, Ill.
White, Hayes & Swinford, 1022, Arch-st., Philadelphia, Pa.
White, Mellett & Co., 34, Broad-st., Boston, Mass.
White, R. M., Electric Co., Columbus, Ohio.
Whitehead, J. T., 1009, 6th-ave., New York.
Whiteley, A., 52, John-st., New York.
Whitney, L. A., 65, 5th-ave., New York.
Whittemore, G. H., Milford, Mass.
Widmayer, Frank B., 2312, Broadway, New York.
Wilcox, L. M., Newark, N.J.
Wilkes, G., & Co., 502, McPhee-bldg., Denver, Col.
Wilkinson, Jas., & Co., 92, Arch-st., Boston, Mass.
Will & Finck Co., 10, Gough-st., San Francisco, Cal.
Williams, Jos., 104, North James-st., Ludington, Mich.
Windle, R. T., Electrical Works, 846, 8th-ave., New York.
Wingate & Brooks, 64, Public-sq., Cleveland, O.
Winters Electric Co., Toledo, Ohio.
Wittman, Lyman & Co., 315, Polk-st., San Francisco, Cal.
Wolverine Electric Co., Ltd., Detroit, Mich.
Worrall & Sechrist, Lippincott-bldg., Philadelphia, Pa.
Worrell Electric Co., 8, North 13th-st., Philadelphia, Pa.
Wright, Don E., Evanston, Ill.
Wright & Lawson, Cheyenne, Wyo.
Wyman, A. L., 25, Richey-ave., North Side, Pittsburgh, Pa.
Yoest, J. Z., 4786, Liberty-ave., Pittsburg, Pa.
York & Boothby, Middle-st., Portland, Maine.

Contractors—Telegraph.

F.—Télégraphes—Entrepreneurs de.
G.—Telegraphenbau—Unternehmer.

Unity Electrical Co., Scandinavian Am. Bank-bldg., St. Paul, Minn.

Contractors—Telephone.

F—Téléphones—Entrepreneurs de.
G.—Telephonen—Unternehmer.

Unity Electrical Co., Scandinavian Am. Bank-bldg., St. Paul, Minn.

Copper Merchants.

F.—Cuivre—March. de.
G.—Kupfer—Händler.

Coe Brass Manufacturing Co., Torrington, Conn.
Eureka Tempered Copper Co., North East, Pa.

Cranes—Makers of.

F.—Grues—Fab. de.
G.—Krähne—Fab. von.

Case Manufacturing Co., Columbus, Ohio.
Fay, J. A., & Egan Co., Cincinnati, Ohio.
Franklin Portable Crane & Hoist Co., Franklin, Pa.
Maris Bros., South 56th-st., Philadelphia, Pa.
Moore & Wyman, corner Granite & Richard-sts., South Boston, Mass.
Morse, Williams, & Co., 12th & Sansome-sts., Philadelphia, Pa.; 108, Liberty-st., New York; & at Boston, Mass., &c.
Pawling & Harnischfeger, Milwaukee, Wis.
Sellers, W., & Co., 1600, Hamilton-st., Philadelphia, Pa.
Shaw Electric Crane Co., Muskegon, Mich.
Sprague Electric Elevator Co., Postal Telegraph-bldgs., 17, Battery-pl., New York.
Whittier Machine Co., Boston, Mass.

Creosote Manufacturers.

F.—Creosote—Fab. de.
G.—Kreosot—Fab. von.

Lehigh Valley Creosoting Co., 11, Broadway, New York.

Crucible Manufacturers.

F.—Creusets—Fab. de.
G.—Schmelztiegel—Fab. von.

Chrome Steel Works, Chrome, N.J.
McCullough-Dalzell Crucible Co., Pittsburgh, Pa.

Cut-Outs—Makers of.

F.—Coupe-circuits fusibles.
G.—Strom-Unterbrecher & Schmelzbare Sicherheitungen.

Crescent Electrical Manufacturing Co., 5, Prospect-st., Rochester, N.Y.
Hulings Electric Co., East Liverpool, Ohio.
Kelman Electric & Manufacturing Co., 612, North Main-st., Los Angeles, Cal.
Live Wire Cut Out Co., 35, Warren-st., New York.

Designers & Draughtsmen.

F.—Dessinateurs.
G.—Zeichner.

Dick, W. A., M.AM.I.E.E., Westinghouse Electric & Manufacturing Co., Pittsburg, Pa.
Fortescue, C. Le G., Westinghouse Electric & Manufacturing Co., Pittsburg, Pa.
Thomson, D. P., General Electric Co., Schenectady, N.Y.
Zabel, M. W., A.AM.I.E.E., c/o John A. Brown & Cragg, 1450, Monadnock-bldg., Chicago, Ill.

Distributers & Suppliers of Electricity.

F.—Electricité—Fournisseurs et distributeurs d'.
G.—Elektricität—Verteilung und Lieferung von.

Electrical Storage Supply Co., San Francisco, Cal.

Door Openers—Electric.

F.—Ouvre-portes électr.
G.—Elektr. Thür Oeffner.

Schmeider, John V., Long Island City, N.Y.

Driving Band Makers—Indiarubber & Gutta-Percha.

F.—Courroies de transmission—Caoutchouc et Gutta Percha.
G.—Maschinenriemen—Gummi u. Gutta Percha.

Alexander Bros., 410 & 412, North 3rd-st., Philadelphia, Pa.
Allen, W. D., & Co., 151, Lake-st., Chicago, Ill.
American Tool & Machine Co., 199, Beach-st., Boston, Mass.
Atkins, E. C., & Co., Memphis, Tenn.
Bickford & Francis Belting Co., Buffalo, N.Y.
Boston Belting Co., 256, Devonshire-street, Boston, Mass.
Butler Hard Rubber Co., 33, Mercer-street, New York, N.Y.
Chicago Belting Co., 67 & 69, South Canal-st., Chicago, Ill.
Jewell Belting Co., 15, Trumbull-st., Hartford, Conn.
Main Belting Co., 1219–1235, Carpenter-st., Philadelphia, Pa.; & 55, Market-st., Chicago, Ill.
Norwich Belt Manufacturing Co., 33, North Canal-street, Chicago, Ill.
Page Belting Co., Concord, N.H.
Sharp, Joseph, Belting & Supply Co., 457, E. Front-st., Cincinnati, Ohio.

Driving Band Makers—Leather.

F.—Courroies de transmission—Cuir.
G.—Maschinenriemen—Leder.

Arny, C. W., & Sons, 228–230, North 3rd-street, Philadelphia, Pa.
Hide Leather & Belting Co., 227, South Meridian-st., Indianapolis, Ind.
Hunt, Henry C., Co., 32, Oliver-st., Boston, Mass.
McMahon, G. P., & Co., 9, Morgan-street, St. Louis, Mo.
Munson Belting Co., Chas., 36, S. Canal-st., Chicago, Ill.
Providence Belting Co., 37–39, Charles-street, Providence, R.I.
Schieren, Charles A., & Co., 30, Ferry-st., New York, N.Y.
Shultz Belting Co., St. Louis, Mo.; & 113, Liberty-st., New York.

Dynamo Brushes.

F.—Balais de dynamos.
G.—Dynamo Bürsten.

Chapin, Chas. E., 27, Thames-st., New York.
Crown Woven Wire Brush Co., Salem, Mass.
Fleming, Wilfrid H., 393, Pearl-st., New York City; & Bayonne, N.J.
Holmes Fibre Graphite Manufacturing Co., 5155, Wakefield - st., Germantown, Philadelphia.
International Trading & Electric Co., 40, Cortlandt-st., New York.
Karoly Electrical Construction Co., E. S., 1425, Monadnock-block, Chicago, Ill.
McMurtry, Jas., & Co., 319, Lincoln-ave., Chicago, Ill.
Ohio Electric Specialty Manufacturing Co., Troy, Ohio.
Perfection Supply Co., 621, Broadway, New York.

Dynamo & Electric Machine Manufacturers.

F.—Dynamos et Machines électriques—Fab. de.
G.—Dynamo-Maschinen—Fab. von.

Akron Electrical Manufacturing Co., Akron, Ohio.
Bartz, Wygant & Brown, Inc., Hornellsville, N.Y.
Bidstrup & Graham, 35, Frankfort-st., New York.
Bishop, W. S., New Haven, Conn.
Boissier Electric Co., 478, Pearl-st., New York.
Browning Manufacturing Co., Milwaukee, Wisconsin.
Burke Electric Co., Erie, Pa.
C. & C. Electric Co., 149, Broadway, New York, N.Y.
Clark Electric Co., 253, Broadway, New York.
Commercial Electric Co., Boston, Mass.
Commercial Electric Co., Indianapolis, Indiana.
Consolidated Electric Manufacturing Co., 355, Congress-st., Boston, Mass.
Cushman Electric Co., Concord, N.H.
Diehl Manufacturing Co., Elizabeth, N.J.
Duplex Electric Manufacturing Co., Ltd., Corry, Pa.
Eagle Electric Works, 124, S. Jefferson-ave., Peoria, Ill.
Elbridge Electrical Manufacturing Co., Elbridge, N.Y.
Electric Machinery Co., 13th & 14th-aves., & Polk & Tyler-sts. N.E., Minneapolis, Minn.
Electro-Dynamic Co., Philadelphia, Pa.
Elliott Bros. Electric Co., 386, Hamilton-ave. N.E., Cleveland, Ohio.
Elwell-Parker Co. of America, 4300, St. Clair-ave., Cleveland, Ohio.
Emerson Electric Manufacturing Co., St. Louis, Mo.
Fidelity Electric Co., Lancaster, Conn.
Fisher Electrical Works, Detroit.
G. & E. Electric Co., Binghampton, N.Y.
Garwood Electric Co., Garwood, N.J.
Gough, W. H., & Bro., 116, N. Warren-st., Syracuse, N.Y.

Dynamo & Electric Machine Manufacturers—*continued.*

Guarantee Electric Co., Chicago, Ill.
Hanson & Van Winkle Co., 92, William-st., New York, N.Y.
Henricks Novelty Co., 124–128, Capitol-ave. South, Indianapolis, Ind.
Holtzer-Cabot Electric Co., The, Boston (Brookline), Mass.
Homer, F. E., & Co., 440, Belden-st., Cleveland, Ohio.
Ideal Electric & Manufacturing Co., Mansfield, Ohio.
Jenney Electric Manufacturing Co., Anderson, Ind.
"K. & K." Engineering Co., 144, High-st., Boston, Mass.
Kester Electric Co., 1106, South 14th-st., Terre Haute, Ind.
Kohlbusch, Herman, sen., 194, Broadway, New York, N.Y.
Lovell Manufacturing Co., Ltd., Erie, Pa.
Motsinger Device Manufacturing Co., Pendleton, Ind.
National Electric Co., Milwaukee, Wis.
New England Motor Co., Lowell, Mass.
Ney, R. W., Mechanic-st., Hartford, Conn.
Noxon, C. P. L., 500, East Water-st., Syracuse, N.Y.
O'Reilly, M., 1106, O.-st., Lincoln, Neb.
Palmer Bros., Miamus, Conn.
Phœnix Brass Foundry Co., Hartford, Conn.
Phœnix Electric Manufacturing Co., Mansfield, Ohio.
Pittsburg Gage & Supply Co., 309–311, Water-st., Pittsburg, Pa.
Power & Mining Machinery Co., 115, Broadway, New York.
Reek, John, Camden, Mich.
Richter & Eschler, Camden, N.J.
Ridgway Dynamo & Engine Co., Ridgway, Pa.
Sprague Electric Co., 527, West 34th-st., New York.
Standard Electric Construction, Ltd., 625, Poydras-st., New Orleans, La.
Star Dynamo Co., Jefferson City, Mo.
Stucky & Heck Manufacturing Co., 35, N. J. R. R.-avenue, Newark. N.J.
Swing Electric Co., 327, East 6th-st., Cincinnati, Ohio.
Wesco Supply Co., Fort Worth, Tex.; & St. Louis, Mo.
Western Electric Co., 259, South Clinton-st., Chicago; West & Bethune-sts., New York.
See also ALPHABETICAL.

Electricians.

F.—Électriciens.
G.—Elektriker.

Aaron Electric Co., 140, South Clinton-st., Chicago, Ill.
Acheson, E. G., International Acheson Graphite Co., Niagara Falls, N.Y.

Electricians—*continued.*

Allison, J. H., Elkhart, Ind.
Balsley, Abe, M.AM.I.E.E., Terre Haute Electric Co., 1503, South 7th-st., Terre Haute, Ind.
Barnes-Pope Electric Co., 201, Sudbury-bldg., Boston, Mass.
Bauer, H. N., A.AM.I.E.E., Postal Telegraph Cable Co., 253, Broadway, New York.
Bell, T. H., jun., Port Chester, N.Y.
Blades, H. H., electrical engineer, Alexandria, Minn.
Bliss, D. M., Engineering Specialty Co., Stamford, Conn.
Blodget Bros. & Co., 301, Congress-st., Boston, Mass.
Board of Electrical Control for the City of New York, 1266, Broadway, New York.
Burkart, J., 1123, Broadway, New York.
Burleigh, C. B., General Electric Co., 84, State-st., Boston, Mass.
Carhart, Henry S., LL.D., Physical Laboratory, University of Michigan, Ann Arbor, Mich.
Carley, A. J., Drytown, Cal.
Carroll, Wm., City Hall, Chicago, Ill.
Cecil, Thos., M.AM.I.E.E., 514, West 134th-st., New York.
Central Electric Co., 264, 5th-ave., Chicago, Ill.
Chapman, Geo. M., & Co., 43, East Main-st., Waterbury, Conn.
Chesapeake Construction Co., Norfolk, Va.
Chesney, C. C., M.AM.I.E.E., Stanley Electric Manufacturing Co., Pittsfield, Mass.
Chetwood, R. E., jun., M.AM.I.E.E., New York Telephone Co., 22, Thames-st., New York.
Christesen, C. A., 452, Amsterdam-ave., New York.
Clark, C. M., A.AM.I.E.E., Clark & MacMullen, 20–22, Broad-st., New York, N.Y.
Clark, Le Roy, M.AM.I.E.E., Safety Insulated Wire & Cable Co., 114, Liberty-st., New York.
Cleveland & Ryan, 26, Cortlandt-st., New York, N.Y.
Colvin, Frank R., Western Electric Co., 57, Bethune-st., New York.
Comstock, H. P., 3552, Cottage Grove-avenue, Chicago, Ill.
Cowie Electric Co., 1613, Grand-ave., Kansas City, Mo.
Crabe, Wm., Erie, Pa.
Cross, Chas. R., Boston, Mass.
Currie, H. A., N.Y., C. & H. R.R. Co., 335, Madison-ave., New York.
Davenport, F. St. J., A.AM.I.E.E., Atlanta Telegraph & Telephone Co., Atlanta, Ga.
De Coster, H. F., 321, East 56th-st., New York.
Doolittle, Clarence E., Roaring Fork Electric Light & Power Co., Aspen, Col.
Edison, Thos. A., Orange, N.J.
Egbert, F. W., 50, 1st-ave., Tompkinsville, New York, N.Y.
Engle, Robert H., 226, S. Fifth-st., Philadelphia, Pa.
Farrell, J., 8, Lawton-st., New Rochelle, N.Y.

Electricians—*continued.*

Ferris & Salisbury, 54, North Main-st., Providence, R.I.
Fielding, Frank E., Virginia City, Nev.
Finn, J. J., 1326, West Broadway, New York.
Fisher, Henry W., M.AM.I.E.E., Standard Underground Cable Co., Pittsburg, Pa.
Fleron, C. A., 107, Broadway, Paterson, N.J.
Flood, J. F., Tri-State Traction Co., Steubenville, Ohio.
Freedman, William H., 54, St. Nicholas-ave., New York, N.Y.
Friedlaender, Eugene, Carnegie Steel Co., Braddock, Pa.
Fromholz, A. J., A.AM.I.E.E., United States Navy Yard, Brooklyn, N.Y.
Fuller, Frank G., A.AM.I.E.E., Meriden, Conn.
Garnett, W. J., A.M.AM.I.E.E., Artillery U.S. Engineering Depôt, Newport, R.I.
Gott, Clarence P., A.AM.I.E.E., 83, Washington-pl., New York, N.Y.
Grower, G. G., M.AM.I.E.E., Coe Brass Manufacturing Co., Ansonia, Conn.
Guinan, P., & Co., 329, Cumberland-st., Brooklyn, N.Y.
Hadley, Arthur L., M.AM.I.E.E., c/o Fort Wayne Electric Works, Fort Wayne, Indiana.
Hardy, C. E., U.S. Navy Yard, Norfolk, Virginia.
Harris, W. C., jun., Harris & Williamson, Birmingham, Ala.
Helfer, P., 1557, 3rd-ave., New York.
Herzog, F. Benedict, PH.D., 137, West 23rd-st., New York.
Higgins, A. M., 116, Liberty-st., Plainfield, New Jersey.
Hill, W., A.M.AM.I.E.E., Toledo, Ohio.
Hochhausen, Wm., Excelsior Electric Co., 74, Hanson-pl., Brooklyn, N.Y.
James, John N., Naval Observatory, Washington, D.C.
Jones, W. R., & Bro., Atlanta, Ga.
Jordan Bros., Inc., 74, Beekman-st., New York.
Kimball, A. S., Worcester Polytechnic Institute, Worcester, Mass.
Lange, Philip A., M.AM.I.E.E., Westinghouse Electric & Manufacturing Co., Pittsburg, Pa.
Lee & Bellmer Co., 50, West Broadway, New York.
Lemp, Hermann, jun., 186, Allen-ave., Lynn, Mass.
McGunnigle, P., & Son, 822, 6th-ave., New York.
McKittrick, F. J. A., A.AM.I.E.E., 624, Western-ave., Lynn, Mass.
McMurtry, A. L., Belmont, Mass.
McNalley, John, jun., 390, Center-st., Jamaica Plains, Mass.
Malia, James P., c/o Armour & Co., 5316, Union-ave., Chicago, Ill.
Mason, Harry C., Portland, Maine.
Miller, J., 145, East 23rd-st., New York.
Milliken, G. F., 19, Pearl-st., Boston, Mass.
Muralt & Co., 114, Liberty-st., New York.

Electricians—*continued.*

Nichols, Edward L., PH.D., Cornell University, Ithaca, N.Y.
Ninns, Albert A., A.AM.I.E.E., B. Altman & Co., 175, 3rd-ave., New York.
O'Dea, M., University of Notre Dame, Notre Dame, Ind.
O'Reilly, A. J., Fire Prevention Bureau, Pierce-bldg., & 2207, South Grand-ave., St. Louis, Mo.
Orne Electric Construction Co., 111 & 113, W. Harrison-st., Chicago, Ill.
Perry, J. W., A.AM.I.E.E., H. W. Johns Manville Co., 100, William-st., New York.
Poole, W. C., 227, Lewis-ave., Brooklyn, N.Y.
Powell, R. A., 131, East 5th-st., St. Paul, Minn.
Price, A. B., 1820, Washington-street, Des Moines, Iowa.
Rankin, J. R., 1212, E. Grand-st., Elizabeth, N.J.
Reed, D. Henry, c/o Bishop Gutta-percha Co., 420, East 25th-st., New York.
Renz, R. E., York Mining & Milling Co., 408, West 7th-st., Ladville, Col.
Rice & Baldwin Electric Co., 214, Pearl-st., Hartford, Conn.
Rowe, W. W., 30, Cornhill, Boston, Mass.
Rushmore, David B., M.AM.I.E.E., Ganley Electric Manufacturing Co., Pittsfield, Mass.
Saward, W. J., & Son, 140, Dupont-st., Buffalo, N.Y.
Schimpf, Alfred, 59, Washington-ave., Albany, N.Y.
Schmidt, J. G., & Son, 209, Main-street, Memphis, Tenn.
Schoen, Allen M., South Eastern Underwriters Association, Equitable-bldg., Atlanta, Ga.
Schopper, F. D., & Co., 512, Race-st., Cincinnati, Ohio.
Sheddy, J. H., Renovo Edison Light, Heat & Power Co., Renovo, Pa.
Sheldon, Samuel, A.M., PH.D., Polytechnic Institute, & 198½, Schermerhorn-st., Brooklyn, New York.
Shrewsbury, Lewis A., El Oro Mining & Railway Co., Ltd., El Oro, Mexico.
Sleight, J. E., jun., 433, Bainbridge-st., Brooklyn, N.Y.
Smith, W. E., A.AM.I.E.E., United States Navy Department, Midvale Steel Works, Philadelphia, Pa.
Southern Electrical Co., Nashville, Tenn.
Standard Electric Co., Syracuse, N.Y.
Standard Electric Co., Portland, Ore.
Stevens & Foote, Middletown, Conn.
Stirling, C. C., 66, State-st., Hartford, Conn.
Thomas, Benjamin F., Columbia State University, Columbus, Ohio.
Thomas, J. A., 44, E. Main-st., Meriden, Conn.
Thomson, Prof. Elihu, General Electric Co., Lynn, Mass.
Union Electric Co., Muncie, Ind.
Walling, H. A., Freeport, N.Y.
Walsh, M. J., Co., 311, Stark-st., Portland, Ore.

Electricians—*continued.*

Waterman, M. B., A.AM.I.E.E., Consolidated Telegraph & Electrical Subway Co., 55, Duane-st., New York.
Webster, Dr. Arthur G., Clark University, Worcester, Mass.
Weston, Edward, SC.D., LL.D., M.AM.I.E.E., Weston Electrical Instrument Co., Waverley Park, N.J.
Wheeler, Schuyler Skaats, Ampere, N.J.
Wilkenning, W., 751, Amsterdam-ave., New York.
Wintringham, J. P., 153, Henry-st., Brooklyn, N.Y.
Wood, J. J., Fort Wayne Electric Works, Fort Wayne, Ind.
Wotton, James A., Electric Manufacturing & Equipment Co., Atlanta, Ga.
Young, C. G., c/o J. G. White & Co., 43, Exchange-pl., New York.
Zolinsky, N., 114, West 135th-st., New York.

Electricians—Consulting.

F.—Électriciens—Consultants.
G.—Elektriker—Beratende.

Brackett, C. F., A.M., M.D., LL.D., Princeton University, Princeton, N.J.
Hague, Chas. A., 52, Broadway, New York.
Reed & Bro., 160, West Tioga-st., Philadelphia, Pa.
Reid, Thorburn, 91, Wall-st., New York.
Smith, Hinchmann & Grylls, Washington Arcade-bldg., Detroit, Mich.
Thompson, E. P., & Anthony, 5, Beekman-st., New York, N.Y.
Treadway Electric Co., 713, Main-st., Little Rock, Ark.
Unity Electrical Co., Scandinavian Am. Bank-bldg., St. Paul, Minn.
Weston, Wm. H., & Co., 1309, Buttonwood-st., Philadelphia, Pa.
Wilson, Fremont, 34, Pine-st., New York.

Electricians—Domestic.

F.—Électriciens—Inst. de maisons, &c.
G.—Elektriker für Hausanlagen.

Electricians—Experts.

F.—Électriciens—Experts.
G.—Elektriker—Fachkundige.

Aylsworth, J. W., M.AM.I.E.E., Edison Laboratory, East Orange, N.Y.
Barnes, Edward A., Fort Wayne Electric Works, Fort Wayne, Ind.
Böhm, L. K., PH.D., 280, Broadway Stewart-bldg., New York.
Bossert Electric Construction Co., Utica, N.Y.
Bunce, Theodore D., Storage Battery Supply Co., 239, E. 27th-st., New York.
Davis, A. G., General Electric Co., Schenectady, N.Y.

Electricians—Experts—*continued.*

Fowler, G. W., 30, Broad-st., New York.
Freeman, Dr. Frank L., 1756, N.-st., Washington, D.C.
Hart, W. J., Saginaw, Mich.
Townsend, H. C., 141, Broadway, New York.
Vose, Ralph, 25, Sunnyside-st., Hyde-park, Mass.
Walton & Co., Washington, D.C.

Electricians—Manufacturing.

F.—Électriciens—Constructeurs.
G.—Elektriker—Fabr.

Amber Electric Manufacturing Co., 60–62, West Monroe-st., Chicago, Ill.
American Electrical Novelty & Manufacturing Co., 304–322, Hudson-st., New York.
Barriett Electric Manufacturing Co., 327, East 6th-st., Cincinnati, Ohio.
Beattie Electrical Co., 334, West 4th-st., Cincinnati, Ohio.
Blake Electric Co., 88, Purchase-st., Boston, Mass.
Bradford, Thos., & Son, Danielson, Conn.
Bronson, E. B., Co., Blue Island, Ill.
Burgess Electric Co., 312, West 1st-st., Duluth, Minn.
Cameron & Co., 294, Dearborn-st., Chicago, Ill.
Cameron Electric Manufacturing Co., Ansonia, Conn.
Campbell Electric Co., Lynn, Mass.
Central Machine Co., Niagara Falls, N.Y.
Chase-Shawmut Co., Newburyport, Mass.
Chattanooga Armature Works, Chattanooga, Tenn.
Chester, Wm. S., Co., 43, East 8th-st., New York.
Cleland, H. W., Wilkinsburg, Pa.
Curran, Jas., Elevator Co., 114, West 2nd-st., Cincinnati, Ohio.
Dayton Electrical Manufacturing Co., Dayton, Ohio.
Eagle Electric Works, Peoria, Ill.
Eaton, S. E., & Co., 660, Hudson-st., New York.
Economy Electric Corporation, South Bend, Ind.
Einbigler & Adler, 316, W. 113th-st., New York.
Electric Appliance Manufacturing Co., Easton, Pa.
Electric Construction Co., 713, 14th-st. N.W., Washington, D.C.
Electric Motor & Equipment Co., Newark, N.J.
Electrical Apparatus Co., Eldridge, N.Y.
Electrical Appliance Co., Cincinnati, Ohio.
Electrical Appliance Co., Denver, Col.
Electrical Appliance Co., Portland, Ore.
Electrical Supply Co., Sacramento, Cal.
Electrical Tool Co., 650–652, Evans-st., Cincinnati, Ohio.
Elliott, S. K., Electric Co., 322–328, Champlain-ave., Cleveland, Ohio.
Elmira Electric Works, Elmira, N.Y.
Farnsworth Electrical Works, 132–138, 2nd-st., San Francisco, Cal.

Electricians—Manufacturing—*continued.*

Ford Oliver Electric & Manufacturing Co., Compton-ave. & Papin-st., St. Louis, Mo.
Galvano-Faradic Manufacturing Co., 312, East 22nd-st., New York.
Gardam, Wm., & Son, Inc., 221, Fulton-st., New York.
Harrison Electric Manufacturing Co., 169, South-st., New York.
Hinds, Charles H., cor. 652, Hudson-st., New York, N.Y.
Holt Electric Co., 285, Virginia-st., Milwaukee, Wis.
Imperial Electrical Repair Co., 1527, Pine-st., St. Louis, Mo.
Iowa Electric Co., Davenport, Iowa.
Jackson, H., 79, Franklin-st., Boston, Mass.
Keystone Electric & Manufacturing Co., Allegheny City, Pa.
King Electrical & Machine Works, Osgood, Ind.
La Roche, F. A., Co., 652, Hudson-st., New York.
Law & Hawxhurst, Providence, R.I.
Lebanon Electric Co., Ltd., Lebanon, Pa.
McIntire, C., & Co., 13–15, Franklin-st., Newark, N.J.
MacLeer & Co., 169, South-st., New York.
Manufacturers' & Inventors' Electric Co., 82 & 84, Nassau-st. Works: 96–98, Fulton-st., New York.
Marlboro Electric Machine & Lamp Co., Marlboro, Mass.
Marvin Electric Drill Co., Binghampton, N.Y.
Michel, Arion, 656, Broadway, New York, N.Y.
Midland Electric Co., Des Moines, Iowa.
Miloney Electrical Co., 6, North 12th-st., St. Louis, Mo.
N. & S. Electric Co., Seattle, Wash.
National Brake & Electric Co., Milwaukee, Wis.
National Elevator & Machine Co., Honesdale, Pa.
Northwestern Manufacturing Co., Clinton & Madison-sts., Milwaukee, Wis.
Pearce, Fredk., Co., 18, Rose-st., New York.
Peerless Electric Co., Chicago, Ill.
Peerless Electric Co., 130, West 25th-st., New York.
Pennsylvania Armature Works, Wilkesbarre, Pa.
Pignolet, Louis M., 78, Cortlandt-st., New York.
Pittsburgh Armature Co., Main & West Carson-sts., Pittsburg, Pa.
Reilly's, Jas., Son's Co., 122, Centre-st., New York.
Richmond Electric Co., Richmond, Va.
Ritter, Wm. F., 55, Main-st., Cincinnati, Ohio.
Russell Electric Co., Denver, Col.
St. Louis Electric Manufacturing Co., 7th & Hickory-sts., St. Louis, Mo.
Scheidel-Western X-ray Coil Co., 199–201, East Madison-st., Chicago, Ill.
Smith, A. Z., Co., Tacoma, Wash.
Somoff, J. L., 149, Centre-st., New York, N.Y.
Standard Electric & Machine Co., Allegheny, Pa.

Electricians—Manufacturing—*continued.*

Standard Machinery & Equipment Co., 410, Electric-bldg., Cleveland, Ohio.
Sullivan, G. W., & Co., 118, Opera-pl., Cincinnati, Ohio.
Syracuse Armature Works, Syracuse, N.Y.
Thayer & Lynn, 423, Dearborn-st., Chicago, Ill.
Thomson-Houston Electric Co., 42, Center-st., Lynn, Mass.
Union Iron Works, 320, Market-st., San Francisco, Cal.
Universal Cutter Co., 4567, Scott-ave., St. Louis, Mo.
Utica Armature Works, Utica, N.Y.
Watts & Stern, 1303, Buttonwood-st., Philadelphia.
Western Electric Co., 259, South Clifton-st., Chicago, Ill.; West & Bethune-sts., New York. *See also* ALPHABETICAL.
Wieland Electric Co., Duluth, Minn.
Wood, C. V., Electric Co., 246, Summer-st., Boston, Mass.
Woolverton, G. C., 442, Niagara-st., Buffalo, N.Y.

Electricians—Medical.

F.—Électriciens—Médicine.
G.—Elektrotherapie.

Herdman, Dr. W. J., Michigan University, Michigan.
Heuel, Dr. Emil, 144, West 79th-st., New York.
Kellogg, Dr. J. H., Battle Creek, Mich.
Massey, Dr. G. Betton, 1831, Chestnut-st., Philadelphia, Pa.

Electricians—Medical Manufacturing.

F.—Appareils électro-medicaux—Fab. de.
G.—Elektrotherapeutische Instrumente—Fabr. von.

American Vibrator Co., St. Louis, Mo.
Betz, Frank S., & Co., 90, Wabash-ave., Chicago, Ill.
Cahn Electric Co., 1430, Welton-st., Denver, Col.
Egan Electric Massage Vibrator Co., Petersburg, Ill.
Electro Surgical Instrument Co., Rochester, N.Y.
Electro-Therapeutic Manufacturing Co., 26, W. Maryland-st., Indianapolis, Ind.
Eureka Vibrator Co., 800, Majestic-bldg., Detroit, Mich.
Flemming, Otto, 1028, Arch-st., Philadelphia, Pa.
Horton Electric Obtunding Co., 364, Colonial Arcade, Cleveland, Ohio.
Keystone Electric Co., 135, South 10th-st., Philadelphia, Pa.
Kidder, Jerome, Manufacturing Co., Bible House-bldg., New York, N.Y.
Ruprecht Electric Co., Cleveland, Ohio.
Stendiche & Volkmer, 61, Fulton-st., New York.
Star Medical & Electrical Supply House, 328, Calhoun-st., Fort Mayne, Ind.

Electricians—Medical Manufacturing—*continued.*

Van Houten & Ten Broeck Co., 214, East 23rd-st., New York.
Wagner, R. V., & Co., Chicago, Ill.
Wappler Electric Controller Co., 177, East 87th-st., New York.
Western Surgical Instrument House, 52, Dearborn-st., Chicago, Ill.

Electricians' Tools—Makers of.

See MACHINE TOOL MAKERS.

Electricity Meters—Makers of.

F.—Compteurs d'électricité.
G.—Elektricitäts Zähler—Fab. von.

Chicago Electric Meter Co., Chicago, Ill.
Diamond Meter Co., Peoria, Ill.
Duncan Electric Manufacturing Co., La Fayette, Ind.
Stanley Instrument Co., Great Barrington, Mass.

Electroliers, Brackets & Pendants.

F.—Lustres et appliques.
G.—Candelaber, Konsole u. Hängelampen.

Albert Gas Fixture Co., 1317, 3rd-ave., New York.
Aneshaensel, C., & Co., Indianapolis, Ind.
Babcock, Hinds & Underwood, Binghamton, N.Y.
Bailey-Reynolds Gas Fixture Co., 1208, Main-st., Kansas City, Mo.
Baldinger & Kupferman, 59, Harsnay-st., Brooklyn, N.Y.
Beardslee Chandelier Manufacturing Co., 225–227, South Clinton-st., Chicago, Ill.
Bonny Ray Co., 206, East 29th-st., New York.
Braun, David J., Manufacturing Co., Washington & Union-sts., Chicago, Ill.
Brenner Bros. Mfg. Co., Waterbury, Conn.
Brown, F. P., & Co., 43, North 6th-st., Philadelphia, Pa.
Bryant, G. W., & Co., 35, Hartford-st., Boston, Mass.
Burtchaell, J. W., 778-780, Mission-st., San Francisco, Cal.
California Artistic Metal & Wire Co., San Francisco, Cal.
Caldwell, E. F., & Co., 38, West 15th-st., New York.
Campbell, John, Co., 9, Bond-st., New York.
Consolidated Chandelier Co., 231–233, Broadway, New York.
Consolidated Gas Fixture Works, 194, Lewis-st., New York.
Craig & Craig, Springfield, Mass.
Crook, H. S., & Co., 320, West Mulberry-st., Baltimore, Md.

Electroliers, Brackets & Pendants—*contd.*

Crooker Co., 230, Weybosset-st., Providence, R.I.
Dale Co., 9th-ave. & Hudson-st., New York.
Evans, Chas. I., Great Barrington, Mass.
Farrell, J. S., & Co., Indianapolis, Ind.
Findlay, Robert, Manufacturing Co., 349, Adams-st., Brooklyn, N.Y.
Forve-Pettibone Co., 514, South Broadway, Los Angeles, Cal.
Gaites, Peace & Co., 665, Manhattan-ave., Brooklyn, N.Y.
Goodwin & Kintz Co., Winsted, Conn.
Gough & Davis, Burnsville, W. Va.
Hevener-Mier Co., Sacramento, Cal.
Horn & Brannen Manufacturing Co., 427–433, North Broad-st., Philadelphia, Pa.
Hunnicutt & Co., Atlanta, Ga.
Ideal Gas & Electric Fixture Co., 144, Worth-st., New York.
Kraushaar Brass Manufacturing Co., 2507, North Broadway, St. Louis, Mo.
Lau, Willy H., 26, East Lake-st., Chicago, Ill.
Leavitt-Bartholomew Co., 620, Spring-st., Los Angeles, Cal.
McManamy & Rodman, Binghampton, N.Y.
Meikel, C. W., Indianapolis, Ind.
Mitchell-Vance Co., 836, Broadway, New York.
Moran & Hastings Manufacturing Co., 61, East Washington-st., Chicago, Ill.
Moran & Van Fossen, 42, Wabash-ave., Chicago, Ill.
Nichols Gas Fixture Manufacturing Co., 1100, Myrtle-ave., Brooklyn, N.Y.
People's Gas Fixture Co., 515, Main-st., Cincinnati, Ohio.
Polacheck, C., & Bros. Co., 182, 3rd-st., Milwaukee, Wis.
Retherford Bros., Muncie, Ind.
Roeser & Sommer, 386, 2nd-ave., New York.
Ross, L. C., Co., 813, Walnut-st., Kansas City, Mo.
Sellner Gas & Electric Fixture Manufacturing Co., 412 & 414, North 8th-st., St. Louis, Mo.
Shannon, H. L., 729, 15th-st., Denver, Col.
Smith, F. R., 507, Linden-st., Scranton, Pa.
Terre Haute Gas Fixture Co., Terre Haute, Ind.
Tietgen, Falk & Co., 79, West Van Buren-st., Chicago, Ill.
United States Gas Fixture Co., 205, Centre-st., New York.
Wallen, Wm., 81, Chapel-st., Albany, N.Y.
Walworth & Neville Manufacturing Co., Heyworth-bldg., Chicago, Ill.
Willingham, E. G., 789, East 4th-street, Chattanooga, Tenn.
Wilmarth, T. W., Co., 261, Wabash-ave., Chicago, Ill.
Wisconsin Bridge & Iron Co., Milwaukee, Wis.

Electrolytic Carbons.

F.—Charbons électrolytiques.
G.—Elektrolytische Kohlen.

Electro-Plating & Depositing Machine Manufacturers.

F.—Machines pour dorure, argenture et galvanoplastie—Fab. de.
G.—Maschinen für Galvanoplastik.

BOGUE, CHAS. J., ELECTRIC CO., 513–515, West 29th-st., New York, N.Y.
Holtzer-Cabot Electric Co., The, Boston (Brookline), Mass. (Telegrams: "Holtzer, Boston.")

Engine Makers—Gas.

(*See also* MOTORS.)

F.—Machines à Gas—Fab. de.
G.—Gas-Maschinen—Fabr. von.

Advance Manufacturing Co., Hamilton, Ohio.
American Diesel Engine Co., 11, Broadway, New York.
Charter Gas Engine Co., Sterling, Ill.
Columbus Machine Co., Columbus, Ohio.
De La Vergne Machine Co., Foot East 138th-st., New York.
Du-Bois Iron Works, 804, Brady-st., Du Bois, Pa.
Foos Gas Engine Co., Springfield, Ohio.
Marine Engine & Machine Co., Harrison, N.J.
Mietz, A., 134, Mott-st., New York.
Model Gas Engine Works, 500, Harrison-st., Peru, Ind.
New Era Gas Engine Co., cor. 2nd & Dale-ave., Dayton, Ohio.
Olds Gasoline Engine Works, Chestnut-st., Lansing, Mich.
Otis Brothers & Co., 38, Park-row, New York, N.Y.
Otto Gas Engine Works, Philada Bourse; & 23rd & Walnut-sts., Philadelphia.
Pohl, George D., Manufacturing Co., Vernon, N.Y.
Warden, Henry, 1806, Allegheny-avenue, Philadelphia, Pa.
Watkins, F. M., Mfg. Co., Cincinnati, Ohio.
Weber Gas Engine & Gasoline Co., Kansas City, Mo.
White & Middleton Gas Engine Co., Baltimore, Md.

Engine Makers—Steam (Electrical Purposes).

(*See also* MOTORS.)

F.—Machines à Vapeur pour l'électricité—Fab. de.
G.—Dampf-Maschinen für elek. Zwecke.

Ames Iron Works, Oswego, N.Y.
Atlas Engine Works, Indianapolis, Ind.
Ball Engine Co., Erie, Pa.
Bass Foundry & Machine Works, Ft. Wayne, Ind.
Brown, C. H., Engine Co., Inc., Fitchburg, Mass.
Buckeye Engine Co., 5, Franklin-ave., Salem, O.
Buffalo Forge Co., Buffalo, N.Y.; & New York & Chicago.
Chandler & Taylor Co., Indianapolis, Ind.

Engine Makers—Steam (Electrical Purposes)—*continued.*

Clark Bros., Belmont, N.Y.
Cooper, C. & G., & Co., Mount Vernon, Ohio.
Davenport Foundry & Machine Co., Davenport, Iowa.
Erie City Iron Works, Erie, Pa.
Harris, W. A., Steam Engine Co., Providence, R.I.
Harrisburg Foundry & Machine Works, Harrisburg, Pa.
Lane & Bodley Co., Cincinnati, Ohio.
Lansing Boiler & Engine Works, Lansing, Mich.
McIntosh, Seymour & Co., Auburn, N.Y.
McLauthlin, Geo. T., Co., 120, Fulton-st., Boston, Mass.
Murray Iron Works Co., Burlington, Iowa.
New Britain Machine Co., New Britain, Conn.
Providence Engineering Works, 521, South Main-street, Providence, R.I.
Putnam Machine Co., Fitchburg, Mass.
Racine Engine Machinery Co., Racine, Wis.
Rochester Machine Tool Works, Ltd., 3, Frank-street, Rochester, N.Y.
Sinker-Davis Co., Indianapolis, Ind.
Skinner Engine Co., Erie, Pa.
Southwark Foundry & Machine Co., Washington-avenue & 5th-street, Philadelphia, Pa.
Stearns Manufacturing Co., Erie, Pa.
Stedman's Foundry & Machine Works, Aurora, Ind.
Sturtevant, B. F., Co., Boston, Mass.
Vilter Manufacturing Co., Milwaukee, Wis.
Webster, Camp & Lane Co., Akron, Ohio.
Westinghouse Machine Co., Pittsburg, Pa.
Wetherill, Robt., & Co., Chester, Pa.

Engine Makers, Steam—High Speed.

F.—Machines—à grande vitesse—fabr. de.
G.—Dampfmaschinenfab.—Grosse Schnelligkeit.

American Engine Co., Bound Brook, N.J.
Brownell & Co., Dayton, Ohio.
Burlingame, A., & Co., 22, Cypress-st., Worcester, Mass.
Davenport Foundry & Machine Co., Davenport, Iowa.
Erie Mfg. Supply Co., 1213, Peach-st., Erie, Pa.
Fishkill Landing Machine Co., Fishkill-on-Hudson, N.Y.
Fitchburg Steam Engine Co., Fitchburg, Mass.
Ide, A. L. & Sons, Springfield, Ill.
Payne Co., Elmira, N.Y.
Straight Line Engine Co., Syracuse, N.Y.
Troy Engine & Machine Co., Troy, Pa.
Watertown Engine Co., Watertown, N.Y.

Engineers—Civil.

F.—Ingénieurs—Civil.
G.—Ingenieure—Civil.

American Society of Civil Engineers, 220, West 57th-st., New York.
Lamb, R., 136, Liberty-st., New York.

Engineers—Consulting.

F.—Ingénieurs consultants.
G.—Ingenieure—Beratende.

Abadie, E. H., 3rd National Bank-bldg., St. Louis, Mo.
Adams, A. D., State Mutual-bldg., Worcester, Mass.
Adams, A. G., M.AM.I.E.E., State Mutual-bldg., Worcester, Mass.
Allen, A. M., A.AM.I.E.E., 1130, Schofield-bldg., Cleveland, Ohio.
Allen, Wyatt H., 908–912, Union Trust-bldg., San Francisco, Cal.
Atkins, C. G., Pratt & Atkins, Chicago, Ill.
Badt, F. B., R.E., M.AM.I.E.E., 1504, Monadnock-blk., Chicago, Ill.
Baldwin, W. J., World-bldg., New York.
Bassett, N. Ch., Allis-Chalmers Co., Milwaukee, Wis.
Bement, A., A.AM.I.E.E., 2114, Fisher-bldg., Chicago, Ill.
Betts, Philander, M.S.E.E., M.AM.I.E.E., Metropolitan Bank-bldg., Washington, D.C.
Birdsall, E. T., A.AM.I.E.E., 26, Cortlandt-st., New York.
Bradley, Chas. S., & Sons, Room 711, 41, Park-row, New York.
Brownell, H. G., 247, W. Main-st., Louisville, Ky.
Bullock Wait Co., 86, Lake-st., Chicago, Ill.
Cahoon, J. B., 42, Broadway, New York.
Clark & MacMullen, 20, Broad-st., New York.
Cooper & Powelson, 60, Wall-st., New York.
Copeland, C. A., Union Trust-bldg., Los Angeles, Cal.
Cory, R. G., 122, East 25th-st., New York.
Cravath, J. R., A.AM.I.E.E., 590, Old Colony-bldg., Chicago, Ill.
Curran & Hussey, 232, 5th-ave., Pittsburg, Pa.
Darlington, Wayne, PH.B., M.E., 1139, Real Estate Trust-bldg., Philadelphia, Pa.
Doble, R. McF., 417, Century-bldg., Denver, Col.
Duncan & Lyndon, 56, Pine-st., New York.
Dyott, G. M., 50, Church-st., New York City.
Emerson, Harrington, 1522, 30, Church-st., New York.
Engstrom, Axel H., Bullitt-bldg., Philadelphia.
Fairchild, W. L., Room 503, 71, Broadway, New York.
Ford, O., 712, Clara-ave., St. Louis, Mo.
Fowle, F. F., 204, Dearborn-st., Chicago, Ill.
Froelich, F. H., A.M.AM.I.E.E., 944, Ohio-bldg., Toledo, Ohio.
Geiser, J. F., 127 North Church-st., Waynesboro., Pa.
Gerdes, T. R. N., 5, Van Nest-pl., New York.
Gotshall, W. C., M.AM.I.E.E., 76, William-st., New York.
Graham, George W., 1733, Monadnock-bldg., Chicago, Ill.
Hallberg, J. H., A.AM.I.E.E., 45, Broadway, New York.
Hamerchlag, A. A., 41, Liberty-st., New York.

Engineers—Consulting—*continued.*

Harrington, D. A., 20, Pemberton-sq., Boston, Mass.
Harrington, Ephraim, & Co., 60, State-st., Boston, Mass.
Hobart, J. T., Room 85, Times-bldg., New York.
Humphrey, C. W., A.AM.I.E.E., The Rookery, Chicago, Ill.
Humphrey, O. B., A.AM.I.E.E., 96½, Exchange-st., Bangor, Maine.
Hunt, A. M., M.AM.I.E.E., Union Trust-bldg., San Francisco, Cal.
Kennedy, J. J., M.AM.I.E.E., 52, Broadway, New York.
Langton, J., 99, John-st., New York.
Loewing & Jones, 334, Carondelet-st., New Orleans.
Lundie, J., A.AM.I.E.E., 52, Broadway, New York.
Mershon, R. D., M.AM.I.E.E., 60, Wall-st., New York.
Meyer, Julius, 60, Liberty-st., New York.
Monrath, Gustave, Singer-bldg., New York.
Moore, J. R., 156, 5th-ave., New York.
Morrin, T., Balbao-bldg., San Francisco, Cal.
Moses, Percival R., M.AM.I.E.E., 43, West 34th-st., New York, N.Y.
Patterson, H. D., 3, North Vernon-ave., Mt. Vernon, N.Y.
Peirce, W. H., Baltimore Smelting & Rolling Co., Keyser-bldg., German & Calvert-sts., Baltimore.
Penniman & Fairley, 411, Marine Bank-bldg., Baltimore, Md.
Pratt, C. R., 1123, Broadway, New York.
Reed, W. B., A.AM.I.E.E, 1013, Hibernian Bank-bldg., New Orleans, La.
Roberts, E. P., M.AM.I.E.E., Schofield-bldg., Cleveland, Ohio.
Robinson, H. A., 1407–11, Manhattan-bldg., Chicago, Ill.
Rondinella, L. T., 705, Chestnut-st., Philadelphia.
Ross, J. O. J., 150, Nassau-st., New York.
Runyon & Carey, 122, Market-st., Newark, N.J.
Sands, H. S., 1153, Market-st., Wheeling, West Va.
Schreiber, G. E., A.AM.I.E.E., 49, Eppirt-st., East Orange, N.J.
Schwab, M. C., 170, Mentor-bldg., Chicago, Ill.
Scott, Chas. F., M.AM.I.E.E., M.I.E.E., Westinghouse Electric & Manufacturing Co., Pittsburg, Pa.
Sellers & Rippey, 1301, Stephen Girard-bldg., Philadelphia, Pa.
Seymour, J. M., 51, Lawrence-st., Newark, N.J.
Sherman & Moore, 88, Broad-st., Boston, Mass.
Sibley, R., M.AM.I.E.E., Missoula, Mont.
Simpson, G. T., Pioneer Press-bldg., St. Paul, Minn.
Southard, C. J., 1274, Bergen-st., Brooklyn, N.Y.
Spencer, E. J., 220, South Grand-ave., St. Louis, Mo.
Summers, L. L., First National Bank-bldg., Chicago, Ill.
Thayer, G. L., 418, Liddelle-blk., Spokane, Wash.
Thompson, Thos. Perrin, Neff & Thompson, Withers-bldg., Norfolk, Va.
Thompson & Phillips, 1535, Broadway, New York.

Engineers—Consulting—*continued.*

Van Norden, R. W., A.AM.I.E.E., 912, Mutual Savings Bank-bldg., San Francisco, Cal.
Vielé, Blackwell & Buck, 49, Wall-st., New York.
Wagner, H. A., M.AM.I.E.E., 60, Wall-st., New York.
Walbran, C. J., jun., 247, Equitable-bldg., Denver, Col.
Warren, A., 260, West 99th-st., New York.
Waterbury Traction Co., 57, Bank-st., Waterbury, Conn.
Weeks, E. R., M.AM.I.E.E., Weeks & Kendall, 605, New Nelson-bldg., Kansas City, Mo.
Western Electric Construction Co., Kansas, Mo.
Whitney, A. R., Jun., & Co., 135, Broadway, New York.
Williamson, F. Stuart, 633, West 152nd-st., New York.
Wise, Clift, New York, N.Y.
Woolfenden, H. L., 502, McPhee-bldg., Denver, Col.

Engineers—Electric Light.

See CONTRACTORS—INSTALLATION.

Engineers—Electrical.

F.—Ingénieurs—Électriciens.
G.—Elektrotechniker.

A. B. Electric Co., 1103, Pine-st., St. Louis, Mo.
Abbot, W. L., Chicago Edison Co., 139, Adams-st., Chicago, Ill.
Acker Electrical Co., Sheboygan, Wis.
Adam, Frank, Electric Co., 904, Pine-st., St. Louis, Mo.
Adsit, C. G., Black Mountain Mining Co., Magdalena, Sonora, Mex.
Agnew, C. R., 16, William-st., New York.
Ahlm, C. E. F., 614, Caxton, Cleveland, Ohio.
Albrecht & Heick, 242, Jefferson-st., Louisville, Ky.
Albright, H. F., Western Electric Co., Hawthorn, Ill.
Alexander, Harry, M.AM.I.E.E., A.S.M.E., 25, West 34th-st., New York.
Allen, E. W., General Electric Co., Schenectady, N.Y.
Allen, G. C., M.AM.I.E.E., N.Y. Telephone Co., 15, Dey-st., New York.
Allen, W. C., District-bldgs., Washington, D.C.
Allentown Electric Construction & Supply Co., Allentown, Pa.
American Bell Telephone Co., 125, Milk-st., Boston, Mass.
Andrews, G. E., & Co., 41, Bridgham-st., Providence, R.I.
Angier, G. M., Co., 185, Franklin-st., Boston, Mass.
Anson, F. R., 52, Broadway, New York.
Armstrong, Albert H., A.AM.I.E.E., General Electric Co., Schenectady, N.Y.
Armstrong, J. R. C., A.AM.I.E.E., N.Y.C. & H.R.R. Co., 335, Madison-ave., New York.

Engineers—Electrical—*continued.*

Arndt Electrical Works, 317–319, Mission-st., San Francisco, Cal.
Arnold Co., 181, La Salle-st., Chicago, Ill.
Atkinson, W. S., University Power Co., Princeton, N.J.
Austin, Chas. H., Nashua, N.H.
B. B. Electric Co., 216, Greenwich-st., New York, N.Y.
Babcock, A. H., Southern Pacific Co., Floodbldg., San Francisco, Cal.
Badt, F. B., & Co., 1504, Monadnock-blk., Chicago, Ill.
Baehr, W. A., Laclede Gas Light Co., St. Louis, Mo.
Baldwin, B. L., M.AM.I.E.E., Perin-bldg., Cincinnati, Ohio.
Baldwin, G. P., A.AM.I.E.E., J. Martin & Co., 31–33, New Montgomery-st., San Francisco, Cal.
Ball, H. P., M.AM.I.E.E., 524, West 57th-st., New York.
Bamber, W. C., A.AM.I.E.E., H. W. Johns-Manville Co., 50, Church-st., New York.
Bangor Electrical Construction & Supply Co., Bangor, Maine.
Barclay, J. C., Western Union Telegraph Co., 195, Broadway, New York.
Barker, Prof. G. F., M.I.E.E., 3909, Locust-st., Philadelphia, Pa.
Barnard, W. D., 665, The Bourse, Philadelphia, Pa.
Barnett, H. C., Co., 917, 6th-ave., New York.
Bartlett, Edward E., A.AM.I.E.E. (Bartlett & Co.), 23, Rose-st., New York, N.Y.
Barton, P. P., M.AM.I.E.E., Niagara Falls Power Co., Niagara Falls, N.Y.
Batchelor, C., M.AM.I.E.E., Exchange Court-bldg., 52, Broadway, New York.
Bateman & Miller, 145, East 23rd-st., New York.
Beaumont & Co., 224, South 40th-st., Philadelphia, Pa.
Becker Bros., 68, West Washington-st., Chicago, Ill.
Bee, W. G., Edison Storage Battery Co., Orange, N.J.
Begole, J. F., A.AM.I.E.E., Wagner Electrical Manufacturing Co., St. Louis, Mo.
Behan, T. W., A.AM.I..E.E., Fort Wayne Electric Co., Fort Wayne, Ind.
Behrend, Bernard A., M.AM.I.E.E., Westinghouse Electric & Manufacturing Co., Pittsburg, Pa.
Beischmann, —, 121, West 42nd-st., New York, N.Y.
Bell, Dr. Louis, 120, Boyleston-st., Boston, Mass.
Bell, Prof. A. G., M.I.E.E., 1331, Connecticut-ave., Washington, D.C.
Bellman, J. J., A.M.AM.I.E.E., 149, Broadway, New York.
Bender, G., 82, Centre-st., New York.
Bennett, E. E., A.AM.I.E.E., Telluride Power Co., Provo, Utah.
Bentley, Edward M., 52, William-st., New York.
Berg, E. J., General Elec. Co., Schenectady, New York.

Engineers—Electrical—*continued.*

Berg & Co., 39 & 41, Cortlandt-st., New York.
Bernard, E. G., Co. Incpd., Troy, New York.
Berresford, A. W., M.AM.I.E.E., Cutler Hammer Manufacturing Co., Milwaukee, Wis.
Bijur, Jos., A.AM.I.E.E., 42, Broadway, New York.
Billings, P. A., & Co., Detroit, Mich.
Binghamton Electrical Construction Co., Binghamton, N.Y.
Bissing, W. F., M.AM.I.E.E., 2, Rector-st., New York.
Blaxter, G. H., 2nd National Bank-bldg., Pittsburg, Pa.
Bliss, E. F., A.AM.I.E.E., General Electric Co., Schenectady, N.Y.
Bliss, Geo. S., A.AM.I.E.E., 24, Chase-st., W. Lynn, Mass.
Bliss, Wm. L., 527, 5th-ave., New York.
Blood & Hale, Post Office-sq., Boston, Mass.
Boggs, L. S., M.AM.I.E.E., Westinghouse Electric & Manufacturing Co., Room 7, Burlington Arcade, Stanford, Conn.
Borde, Geo. U., Hibernia-bldg., New Orleans, La.
Bosch, Adam, superintendent fire alarm telegraph, Newark, N.J.
Bottomley, H., M.AM.I.E.E., Detroit Edison Co., Detroit, Mich.
Bowman & Gregg Co., Springfield, Mass.
Boyer, Elmer E., A.AM.I.E.E., General Electric Co., Lynn, Mass.
Brack, C. E., 122, Erie County Bank-bldg., Buffalo, N.Y.
Bradley, Chas. S., M.AM.I.E.E., 41, Park-row, New York, N.Y.
Brady, F. W., M.AM.I.E.E., International Correspondence Schools, Scranton, Pa.
Bragstad, O. S., Westinghouse Electric Manufacturing Co., Pittsburg, Pa.
Brammer, A., Galveston, Tex.
Brigger, T., Arborville, Neb.
Brinckerhoff, H. M., A.AM.I.E.E., 60, Wall-st., New York.
Briner, C. J. & F. E., 712, N. 2nd-st., St. Louis, Mo.
Brofos, Emar, A.AM.I.E.E., American Electrical Telephone Co., Chicago, Ill.
Brooklyn Electric Equipment Co., 12, Clifton-st., Brooklyn, N.Y.
Brown, C. A., Barton & Brown, 1428–1430, Monadnock-buildings, Chicago, Ill.
Brown, Harold P., 120, Liberty-st., New York.
Brown, S. B., 231, E. North-ave., Baltimore, Md.
Brown, W. E., A.AM.I.E.E., New Jersey Telephone Co., Brooklyn, N.Y.
Brown Engineering Co., 123, N. Third-st., Reading, Pa.
Browne, S. H., M.AM.I.E.E., Am. T. & T. Co., 125, Milk-st., Boston, Mass.
Browne, W. H., M.AM.I.E.E., 86, South 10th-st., Brooklyn, N.Y.
Bruce-Hibbard Electric Co., Fitchburg, Mass.
Brush, Chas. F., 481, The Arcade, Cleveland, Ohio.

Engineers—Electrical—*continued.*

Brush Electrical Engineering Co., Ltd., 21, State-st., New York.
Bryan, James, Park-bldg., Pittsburg, Pa.
Bryan, Wm. H., 315 & 316, Lincoln Trust-bldg., St. Louis, Mo.
Buchanan, J. F., & Co., 1228, Race-st., Philadelphia, Pa.
Buck, H. W., M.AM.I.E.E., 49, Wall-st., New York.
Buker, C. W., San Diego, Cal.
Bullock, G., Susquehanna Railway, Light & Power Co., Howell-st., New York.
Burch, E. P., 1210, Guaranty-bldg., Minneapolis.
Burke, J., M.AM.I.E.E., Burke Electric Co., Erie, Pa.
Burkett, C. W., A.AM.I.E.E., Pacific Telephone & Telegraph Co., San Francisco, Cal.
Burkholder, C. I., Southern Power Co., Charlotte, N.C.
Burleigh, H. W., Main-st. Sta., Franklin, N.H.
Burnett, D., M.AM.I.E.E., Consolidated Gas, Electric Light & Power Co., Baltimore, Md.
Buschmann, A. J., Co., 72, West 38th-st., New York.
Butler, H. W., M.AM.I.E.E., Manhattan Railway Co., New York.
Byllesby, H. M., & Co., Clarke & Monroe-sts., Chicago, Ill.
Calgate, G. L., Iron Clad Rheostat Co., Westfield, N.J.
Canfield, M. C., Stanley Electric Manufacturing Co., Pittsfield, Mass.
Canfield, M. E., A.AM.I.E.E., 57, Bethune-st., New York.
Carlisle & Finch Co., 229-231, East Clifton-ave., Cincinnati, Ohio.
Carstarphen Electric Co., 20, 22 & 24, West Colbox-ave., Denver, Col.
Carter & Gillespie Electric Co., Atlanta, Ga.
Case, Willard E., 6, Fort-st., Auburn, N.Y.
Cass, Philip, 141, S. Clinton-st., Chicago, Ill.
Chambersburg Eng. Co., Chambersburg, Pa.
Chapin-Douglas Electric Co., 136, Liberty-st., New York.
Chapman, P. E., 17, N. 10th-st., St. Louis, Mo.
Chase, E. O., 46-54, Lawrence-st., Newark, N.J.
Chase, W. H., 17, Bromfield-st., Boston, Mass.
Churchward, Alex, M.AM.I.E.E., General Electric Co., 30, Church-st., New York.
Clark, E. B., M.AM.I.E.E., American Sintering Co., Chicago, Ill.
Clark, W. S., A.AM.I.E.E., General Electric Co., Schenectady, N.Y.
Clark & Mills Electric Co., 1444, Mass-ave., Cambridge, Mass.
Clarke, Chas. L., 120, Broadway, New York, N.Y.
Clausen, O., National German-American Bank-bldg., St. Paul, Minn.
Cleveland Engineering Co., New England-bldg., Cleveland, Ohio.
Cloran, G. J., M.AM.I.E.E., Peterborough R. T. Co., New York.
Clower, W. M., 345, Commerce-st., Dallas, Tex.
Codman, J. S., 93, Broad-st., Boston, Mass.

Engineers—Electrical—*continued.*

Cody, L. P., Grand Rapids Electric Co., 9, S. Division-st., Grand Rapids, Mich.
Coffin, C. A., president General Electric Co., 180, Summer-st., Boston, Mass.
Cogan, H. M., A.AM.I.E.E., American Sugar Refining Co., Kent-ave., Brooklyn, N.Y.
Coghlin Electric Co., 234, Main-st., Worcester, Mass.
Colby, E. A., Lock Box 113, Newark, N.J.
Cole, J. A., Erickson Electric Equipment Co., Inc., 170, Purchase-st., Boston, Mass.
Collins, A. F., Collins Wireless Telephone Co., 54 & 56, Clinton-st., Newark, N.J.
Columbia Electric Engineering Co., 309, Washington-st., Boston, Mass.
Commercial Electric Co., Chicago, Ill.
Complete Electric Construction Co., 121, Liberty-street, New York, N.Y.
Condict, G. Herbert, 115, Broadway, New York, N.Y.
Conrad, F., A.AM.I.E.E., Westinghouse Electric & Manufacturing Co., Pittsburg, Pa.
Conroy, P. F., Newport, R.I.
Consolidated Electric Co., Ltd., 2, West 14th-st., New York.
Consolidated Electric Co., Real Estate Trust-bldg., Philadelphia, Pa.
Cope, J. J., 3244, North 15th-st., Philadelphia, Pa.
Corbett, R. B., 622, Rialto-bldg., St. Louis, Mo.
Corey, F. B., A.AM.I.E.E., General Electric Co., Schenectady, N.Y.
Cornell, C. L., M.AM.I.E.E., Niles Bement-Pond Co., 111, Broadway, New York.
Corning, J. W., A.M.AM.I.E.E., Boston Elevated Railway Co., 439, Albany-st., Boston, Mass.
Cory, Prof. C. L., M.I.E.E., University of California, New York.
Cowles, A. H., M.AM.I.E.E., 656, Prospect-st., Cleveland, Ohio.
Cowles, J. W., Edison Electric Illuminating Co., 39, Boylston-st., Boston, Mass.
Cox, F. P., M.AM.I.E.E., General Electric Co., Lynn, Mass.
Cramer & Rosenthal, Houston, Tex.
Crane, J., jun., 1122, Tremont-bldg., Boston, Mass.
Criggal, J. E., A.AM.I.E.E., Western Electric Co., New York.
Crocker, Francis B., M.AM.I.E.E., Columbia University, New York.
Crumb, W. H., & Co., 835, Monadnock-bldg., Chicago, Ill.
Culbertson, Dr. J. N., M.I.E.E., Bell Telephone Co., 14, West Seneca-st., Buffalo, N.Y.
Culin, F. A., Provident Life-bldg., Philadelphia, Pa.
Cushman, Holbrook, 337, West 22nd-street, New York, N.Y.
Damon, G. A., The Arnold Co., Borland-bldg., Chicago, Ill.
Daniels, H. P., 73, East 127th-st., New York.
Davidson, J. C., S. S. White Dental Manufacturing Co., Prince's Bay, N.Y.

Engineers—Electrical—*continued.*

Davis, Chas. H., C.E., South Yarmouth, Mass.
Davis, H. P., M.AM.I.E.E., Westinghouse Electric & Manufacturing Co., Pittsburg, Pa.
Davis, Ph. W., A.AM.I.E.E., Electric Storage Battery Co., Boston, Mass.
Davis, W. J., jun., A.AM.I.E.E., General Electric Co., San Francisco, Cal.
Day, W. J. P., General Electric Co., Schenectady, N.Y.
Dean, W. Clerk, A.AM.I.E.E., U.S. Navy Yard, Norfolk, Va.
Dean, W. W., Dean Electric Co., Elyria, Ohio.
Deane & Lobdell, 113, Devonshire-st., Boston, Mass.
Decker, Edward P., M.AM.I.E.E., Westinghouse, Church, Kerr & Co., 8, Bridge-st., New York, N.Y.
Decker Electrical Co., 115, New Montgomery-st., San Francisco, Cal.
Delany, P. B., Nantucket, Mass.
Delaval, J. L., Westinghouse Electric & Manufacturing Co., Pittsburg, Pa.
Dempster, T., General Electric Co., Schenectady, N.Y.
Denver Novelty Works & Manufacturing Co., 1520, Lawrence-st., Denver, Col.
Dewhurst, R. M., Standard Underground Cable Co., Westinghouse-bldg., Pittsburg, Pa.
D'Humy, F. E., A.AM.I.E.E., Postal Telegraph Cable Co., 253, Broadway, New York City.
Dickens, J., Newburyport, Mass.
Dickenson, S. S., M.I.E.E., M.AM.I.E.E., Commercial Cable Co., 253, Broadway, New York.
Dickerson, E. N., 64, East 34th-st., New York.
Dickinson, E. D., General Electric Co., Schenectady, N.Y.
Dickson, J. D., Newport, R.I.
Diehl, Philip, Singer Sewing Machine Co., 528, Morris-ave., Elizabeth, N.J.
Doane, S. Everett, National Electric Lamp Association, 4411, Hough-ave., Cleveland, Ohio.
Dodd, S. T., A.AM.I.E.E., General Electric Co., Schenectady, N.Y.
Dodge & Day, Philadelphia, Pa.
D'Olier Engineering Co., 119–121, South 11th-st., Philadelphia, Pa.
Dommerque, F. J., M.AM.I.E.E., Kellogg Switchboard & Supply Co., Chicago, Ill.
Donahoe & Shoebottom, Detroit, Mich.
Doran, W. S., Allis-Chalmers Co., Milwaukee, Ill.
Doss Bros. Electric Construction Co., 1731, Champa-st., Denver, Col.
Dougherty, C. J., Wm. Cramp & Sons Ship & Engine Building Co., Philadelphia, Pa.
Dougherty, P. L., A.AM.I.E.E., Washington, D.C.
Downes, L. W., 407, Pine-st., Providence, R.I.
Drake, J. I., Providence, R.I.
Drew, S. H., Cincinnati, Ohio.
Duck, J. J., Toledo, Ohio.
Duluth Engineering Co., Duluth, Minn.
Dunbar, F. W., 5109, Kimbark-ave., Chicago, Ill.
Duncan, John D. E., A.AM.I.E.E., Sanderson & Portes, 52, William-st., New York.

Engineers—Electrical—*continued.*

Duncan, T., Duncan Electric Manufacturing Co., Lafayette, Ind.
Dunlap, Will Knox, M.AM.I.E.E., Westinghouse Electric & Manufacturing Co., Pittsburg, Pa.
Dunn, Gano, Crocker-Wheeler Co., Ampere, N.J.
Durant, Ed., M.AM.I.E.E., 115, East 26th-st., New York.
Dusinberre, G. B., M.AM.I.E.E., 517–518, Electric-bldg., Cleveland, Ohio.
E. J. Electric Installation Co., 209, West 33rd-st., New York.
Easterbrook, J. F., M.AM.I.E.E., 82, York-sq., New Haven, Conn.
Eastman, Geo. N., A.AM.I.E.E., Chicago Edison Co., 139, Adams-st., Chicago, Ill.
Eastwood, A. C., M.AM.I.E.E., Electric Controller & Manufacturing Co., Cleveland, Ohio.
Eclipse Elec. Co., 1124, Pine-st., St. Louis, Mo.
Economy Electric Co., Cleveland, Ohio.
Eddy, Chas. M., 819, Madison-ave., Toledo, Ohio.
Edgar, C. L., M.AM.I.E.E., Edison Elec. Ill. Co., 70, State-st., Boston, Mass.
Edmunds Electric Construction Co., Schmitz-blk., Fort Wayne, Ind.
Edwards, C. V., 2, Rector-st., New York.
Eglin, J. M., Edison Electric Light Co., 10th & Samson-sts., Philadelphia, Pa.
Ehrenreich, J. J., M.AM.I.E.E., 209, West 33rd-st., New York.
Eidlitz, C. L., 1168, Broadway, New York.
Ekström, A. B., A.AM.I.E.E., General Electric Co., Schenectady, N.Y.
Electric Construction Co., 117, West 4th-st., Little Rock, Ark.
Electric Contract Co, Richmond, Va.
Electric Contracting & Repairing Co., 391, Myrtle-ave., Brooklyn, N.Y.
Electric Supply Co., 50, North 3rd-st., Columbus, Ohio.
Electrical Engineering Co., 21, North 6th-st., Minneapolis, Minn.
Electrical Equipment Co., Lincoln, Neb.
Electrical Installation Co., 1517, Monadnock-bldg., Chicago, Ill.
Ellinger, E., c/o L. A. Comstock & Co., 50, Church-st., New York.
Eltrup, L., A.AM.I.E.E, Sacramento, Cal.
Ely, W. G., Gen. Elec. Co., Schenectady, N.Y.
Emmet, W. L. R., General Electric Co., Schenectady, N.Y.
Estel, L. P., 1019, Betz-bldg., Philadelphia, Pa.
Evans, Wm., Co., Phœnix, Ari.
Excelsior Elec. & Mfg. Co., Cleveland, Ohio.
Falkenau Electrical Construction Co., 201–203, Stock Exchange-bldg., Chicago, Ill.
Fallek, H., 247, Atlantic-ave., Brooklyn, N.Y.
Farmer, F. M., A.AM.I.E.E., Lamp Testing Bureau, 556, East 80th-st., New York.
Farrand, Dudley, A.AM.I.E.E., Public Service Corporation of New Jersey, 763, Broad-st., Newark, N.J.
Fawcett, C. E., Cedar Rapids, Iowa.
Fay, John T., Louisville, Ky.

Engineers—Electrical—*continued.*

Fay, Thomas J., 39, Courtland-st., New York.
Federal Electric Co., North Girard, Pa.
Felch, E. P., Madison, N.J.
Ferguson, S., General Electric Co., Schenectady, N.Y.
Ferris, R. M., jun., N.Y. & N.J. Telephone Co., 15, Dey-st., New York.
Fessenden, Reginald A., Norfolk, Va.
Finch, H. I., Emerson Electric Manufacturing Co., St. Louis, Mo.
Firth, W. E., A.AM.I.E.E., Midvale Steel Co., Nicetown, Philadelphia, Pa.
Fish & Horton, 123, Mill-st., Rochester, N.Y.
Flack, J. Day, M.AM.I.E.E., Crooker Wheeler Hunt Co., West New Brighton, N.Y.
Fletcher, G. W., A.AM.I.E.E., Morse Chain Co., Ithaca, N.Y.
Fliess, R. A., 44, Chestnut-st., East Orange, N.J.
Flitner, S. E., M.AM.I.E.E., 220, West 29th-st., New York.
Foster, H. A., M.AM.I.E.E., 32, West 40th-st., New York.
Foster Engineering Co., Newark, N.J.
Fowler, H. R., Toledo, Ohio.
Freedman, W. H., M.AM.I.E.E., University of Vt., Burlington, Vt.
Frost & Sheldon, 47, Hudson-ave., Albany, N.Y.
Fuller, F. O., 416, Vine-st., Scranton, Pa.
Gale, H. B., Simplex Electric Heating Co., 85, Sidney-st., Cambridge, Mass.
Gale Electric Co., Inc., Bridgeport, Conn.
Galloway, J. R., 529, 10th-st., N.W., Washington, D.C.
Gannett Electrical Co., Providence, R.I.
Gardiner, H. A., C.B. & Q.R.R., 209, East Adams-st., Chicago, Ill.
Garratt, Allan V., Lombard Governor Co., Ashland, Mass.
Gaytes, Herbert, 395, Vernon-st., Oakland, Cal.
Genesee Electric Co., 340, Genesee-st., Buffalo, N.Y.
Gerry, M. H., jun., M.AM.I.E.E., M.AM.S.C.E., United Missouri River Power Co., Helena, Mont.
Gherky, W. D., Head-bldg., Philadelphia, Pa.
Gibbs, Geo., A.AM.I.E.E., P.N.Y. & E.I.R.R. Co., New York.
Gibson, Wm. R., Electric Co., 59, Main-st., Buffalo, N.Y.
Gifford, C. E., M.AM.I.E.E., General Electric Co., Buffalo, N.Y.
Gillespie & Co., 221, East 4th-st., Marion, Ind.
Gilpin, R., 502-3, Philadelphia Bank-bldg., Philadelphia, Pa.
Glaister, J. W., Co., Montclair, N.J.
Glasgow, C. L., M.AM.I.E.E., W.C.K. & Co., 8, Bridge-st., New York.
Goldsborough, W. E., M.AM.I.E.E., Denver Reservoir Irrigation Co., Denver, Col.
Gonzenbach, E., M.AM.I.E.E., Sheboygan Light, Power & Railway Co., Sheboygan, Wis.
Gossler, P. G., M.AM.I.E.E., A. B. Leach & Co., 149, Broadway, New York.

Engineers—Electrical—*continued.*

Granger, A. D., Co., 95, Liberty-st., New York.
Gray, A. A., M.AM.I.E.E., *Electrical Review & Western Electrician*, 204, Dearborn-st., Chicago, Ill.
Gray & Co., 505, Elm-st., Cincinnati, Ohio.
Green, C. M., General Electric Co., Lynn, Mass.
Gutmann, Ludwig, M.AM.I.E.E., 5645, Cates-ave., St. Louis, Mo.
Haas, R., 305-307, E. Monroe-st., Springfield, Ill.
Hadley, F. W., M.AM.I.E.E., Empire-bldg., Atlanta, Ga.
Hagstedt, C., 77, East 52nd-st., New York.
Hall, John L., Eck Dynamo & Motor Co., 19, Murray-st., New York.
Hall, Leon M., San Francisco, Cal.
Hall, W. A., M.AM.I.E.E., General Electric Co., Pittsfield, Mass.
Hamilton, Geo. A., M.I.E.E., 532, Morris-ave., Elizabeth, N.J.
Hammer, Edwin W., M.AM.I.E.E., 120, Broadway, New York.
Hammer & Moody, 25, Broad-st., New York.
Hammett, Lincoln & Co., Newport, R.I.
Hanchett, G. T., 237, Fulton-st., New York.
Hanscom, W. W., A.AM.I.E.E., Century Electric Con. Co., 848, Clayton-st., San Francisco, Cal.
Hansen, M. W., Toledo, Ohio.
Harding, H. McL., 1, Nassau-st., New York.
Harloff, P. F., 301-305, State-st., Madison, Wis.
Harris, G. A., c/o Takata & Co., 60, Wall-st., New York.
Harris, G. H., Birmingham Railway Light & Power Co., Birmingham, Ala.
Hartman, H. T., M.AM.I.E.E., American Gas & Electric Co., Philadelphia, Pa.
Hartwell, A., M.AM.I.E.E., Detroit Insulated Wire Co., Detroit, Mich.
Hartwell Electric Co., 955, 6th-st., San Diego, Cal.
Harvey, Wm. A., Scranton, Pa.
Haschke, J. E., 598, West Monroe-st., Chicago.
Haselden, H. A., A.AM.I.E.E., Whitin Machinery Works, Whitinsville, Mass.
Haskell, H. F. F. H., Holyoke, Mass.
Haskins, Caryl D., General Electric Co., Schenectady, N.Y.
Hatzel, J. C., 571-573, 5th-ave., New York.
Hatzel & Buehler, 571-573, 5th-ave., New York, N.Y.
Haubrich, A. M., Stromberg-Carlson Telephone Manufacturing Co., Chicago, Ill.
Hauss, D. J., Mitchell-bldg., Cincinnati, Ohio.
Hawks, H. D., c/o General Electric Co., New Haven, Conn.
Hawks Electric Co., 156, Pearl-st., Boston.
Hayes, H. E., M.AM.I.E.E., 43, Summit-ave., Brighton, Mass.
Hayes, Hammond V., M.AM.I.E.E., 6, Channing-st., Cambridge, Mass.
Hays, G. M., Edison Storage Battery Co., Glen Ridge, N.J.
Heath, Harry E., M.AM.I.E.E., Baker Electric Co., 438, Asylum-st., Hartford, Conn.

Engineers—Electrical—*continued.*

Heath Electric Co., 120, West 13th-st., Kansas City, Mo.
Hempel, F. K., Yonkers, N.Y.
Henry, G. J., jun., A.AM.I.E.E., Pelton Water Wheel Co., 19th & Harrison-st., San Francisco, Cal.; & 90, West-st., New York.
Henshaw, F. V., M.AM.I.E.E., 24, Broad-st., New York.
Herdman, Frank E., A.AM.I.E.E., Otis Elevator Co., Chicago, Ill.
Hewitt, Charles, A.AM.I.E.E., Philadelphia, Pa.; & 428, West Stafford-st., Germantown.
Hewitt, W. R., 55, Fulton-st., San Francisco, Cal.
Hewitt & Warden, Newburgh, N.Y.
Hewlett, Edward M., General Electric Co., Schenectady, N.Y.
Hibbard, A. S., 203, Washington-st., Chicago, Ill.
Hirtenstein, Louis, Brooklyn, N.Y.
Hitzeroth, L. D., A.AM.I.E.E., Nevada California Power Co., Bishop, Cal.
Hoag, P. L., 8, Dover-st., New York.
Hobart Electric Manufacturing Co., Troy, Ohio.
Hodge Electric & Manufacturing Co., 705, Delaware-st., Kansas City, Mo.
Hodges, G. H., M.AM.I.E.E., 15, Dey-st., New York.
Hodges, W. L., A.AM.I.E.E., Southern Bell T. & T. Co., Atlanta, Ga.
Hodgson, C., 106, East 75th-st., Chicago, Ill.
Hoeftman, A. O., American Steel & Wire Co., Worcester, Mass.
Hoeschenn Universal Elec. Works, Omaha, Neb.
Hoffman & Godfrey, 1005, A-st., Tacoma, Wash.
Holcomb, Frank, & Co., Portland, Ore.
Holifield Electric Co., Mobile, Ala.
Holmes, Franklin S., 26, Cortlandt-st., New York.
Hoopes, Wm., The Bourse, Philadelphia, Pa.
Hope-Jones, R., M.I.E.E., 41, Union-sq., New York.
Houghtaling, W. A., A.AM.I.E.E., Rowland Telegraphic Co., Baltimore, Md.
Howell, J. W., M.AM.I.E.E., Harrison, N.J.
Hoxie, Geo. L., 50, Church-st., New York.
Hubley, G. W., Louisville Lighting Co., Louisville, Ky.
Hulse, Wm. S., M.I.E.E., 30, Church-st., New York.
Hunt, C. W., Co., 45, Broadway, New York.
Hunt, Dillman, Meredith & Allen, Inc., 202, California-st., San Francisco, Cal.
Hunter, R. M., 724-29, New York Mutual Life-bldg., 1011, Chestnut-st., Philadelphia, Pa.
Hunting, F. S., M.AM.I.E.E., Fort Wayne Electric Works, Fort Wayne, Ind.
Huntington, D., M.AM.I.E.E., Washington Water Power Co., Spokane, Wash.
Illinois Engineering Co., Manhattan-bldg., Chicago, Ill.
Imlay, L. E., M.AM.I.E.E., Niagara Falls Power Co., Niagara Falls, N.Y.
Insull, J., A.AM.I.E.E., General Electric Co., Pittsfield, Mass.
Insull, Samuel, M.AM.I.E.E., M.I.E.E., Chicago Edison Co., 139, Adams-st., Chicago, Ill.
Iron City Engineering Co., Pittsburg, Pa.

Engineers—Electrical—*continued.*

Jackson, H. D., 88, Broad-st., Boston, Mass.
Jackson & Earle, Stockton, Cal.
Johannesen, S. E., General Electric Co., Pittsfield, Mass.
Johnston, T. J., 149, Broadway, New York.
Johnston & Co., 277, South Clark-st., Chicago, Ill.
Jones, B. N., M.AM.I.E.E., Otis Elevator Co., 17, Battery-pl., New York.
Jones, H. K., 18, Fletcher-st., New York.
Jones, Prof. Forrest R., A.AM.I.E.E., M.A.S.M.E., 1702, Melrose-ave., Knoxville, Tenn.
Jones, Sebastian C., Aurora, N.Y.
Katte, E. B., M.AM.I.E.E., N.Y.C. & H.R.R.R. Co., Grand Central Station, New York.
Keeler, I. P., Asheville Electric Co., Asheville, N.C.
Keller, E., M.AM.I.E.E., Westinghouse Machine Co., 224, Murtland-ave., Pittsburgh, Pa.
Kelley, W. S., A.AM.I.E.E., Holtzer-Cabot Electric Co., Brookline, Mass.
Kelly, J., Schenectady, N.Y.
Kelting Engineering & Supply Co., 119, Pearl-st., New York.
Keniston Engineering Co., 52, Washington-st., Boston, Mass.
Kennedy, A. P., Maywood, Ill.
Kenny, Paul T., 140, Nassau-st., New York.
Keystone Electrical Co., 135, South 10th-st., Philadelphia, Pa.
Kilgour, M. H., M.I.E.E., c/o American Institute of Mining Engineers, 29, W. 39th-st., New York.
Kimball, Fred., c/o General Electric Co., India-bldg., State-st., Boston, Mass.
King, H. R., Western Electric Co., Hawthorn, Ill.
King Electric Co., Bay City, Mich.
Kingsbury-Samuel Electric Co., 213, North Calvert-st., Baltimore, Md.
Kinsman, F. E., M.AM.I.E.E., 50, Church-st., New York.
Kintner, Chas. J., 45, Broadway, New York.
Kirkpatrick, Walter G., Rooms 31-33, Croom-bldg., Jackson, Miss.
Kitfield, E. H., 53, State-st., Boston, Mass.
Kline, J. J., M.AM.I.E.E., Fort Wayne Electric Works, Fort Wayne, Ind.
Knowles, E. R., M.AM.I.E.E., 701, World-bldg., New York.
Knowles' Steam Pump Works, 115, Broadway, New York.
Kohler Bros., 1800, Fisher-bldg., Chicago Ill.
Korff, F. W., Lockport, N.Y.
Kruesi, A. H., General Electric Co., Schenectady, N.Y.
Lamb & Foster, Taunton, Mass.
Land & Wharton Co., Ltd., 912, Pa.-bldgs., Philadelphia, Pa.
Langsdorf, A. S., Washington University, St. Louis, Mo.
Langstadt-Meyer Construction & Supply Co., Appleton, Wis.
Lansingh, Van Rensselaer, A.AM.I.E.E., 50, Church-st., New York.

Engineers—Electrical—*continued.*

Lawton, W. C., A.AM.I.E.E., Roselle, N.J.
Layman, W. A., 6100, Plymouth-ave., St. Louis, Mo.
Leclair Bros., Green Bay, Wis.
Le Clear, Gifford, A.AM.I.E.E., 15, Exchange-st., Boston, Mass.
Lee, F. V. T., B.A., M.AM.I.E.E., A.M.I.E.E., Pacific Gas & Electric Co., 445, Sutter-st., San Francisco, Cal.
Lee, W. S., jun., M.AM.I.E.E., Charlotte, N.C.
Legrand, Chas., M.AM.I.E.E., Copper Queen Cons. Mining Co., 99, John-st., New York.
Lewis, Edwin C., 121, Federal-st., Boston, Mass.
Lewis, Warren B., Providence, R.I.
Leyden, H. R., M.AM.I.E.E., Schenectady Power Co., Schaghticoke, N.Y.
Lichter & Jens, Chemical-bldg., St. Louis, Mo.
Lighthipe, J. A., Edison Electric Co., Edison-bldg., Los Angeles, Cal.
Lincoln, P. M., Westinghouse Electric & Manufacturing Co., Pittsburg, Pa.
Lipscomb Electrical Co., Dallas, Tex.
Livsey, J. H., A.AM.I.E.E., General Electric Co., 1002-3-4, Majestic-bldg., Detroit, Mich.
Lloyd, Herbert, M.AM.I.E.E., Electric Storage Battery Co., Philadelphia, Pa.
Lloyd, R. McA., M.I.E.E., c/o General Vehicle Co., Long Island City, N.Y.
Lockwood, Thomas D., American Telephone & Telegraph Co., Boston, Mass.
Loomis, O. P., M.AM.I.E.E., Shipbuilding & Dry Dock Co., Newport News, Va.
Loud, H. S., M.I.E.E., Morristown, N.J.
Lovejoy, D. R., B.SC., A.AM.I.E.E., U. S. E. M. Co., 209, West 33rd-st., New York.
Lovejoy, J.R., General Elec. Co., Schenectady, N.Y.
Loveridge, H. B., & Bros., Portland Electrical Works, 351, Stark-st., Portland, Ore.
Lowther, C., A.AM.I.E.E., Crocker-Wheeler Co., New York.
Lozier, R. T. E., M.AM.I.E.E., Power & Mining Machine Co., 60, Wall-st., New York.
Luepke, F. P., A.AM.I.E.E., Public Service Corp. of N.J., Trenton, N.J.
Lundell, Robert, 9, West 68th-st., New York.
Lundy, A. D., M.AM.I.E.E., Sargent & Lundy, 1720, Railway Exchange-bldg., Chicago, Ill.
Lupke, Paul, Public Service Corporation of N.J., South Jersey Division, Trenton, N.J.
Luquer, Thatcher T.P., 3, West 29th-st., New York.
Lyman, J., General Electric Co., Monadnock-bldg., Chicago, Ill.
M. & M. Electric Co., 131, 53rd-st., Chicago, Ill.
McCay, H. Kent, M.AM.I.E.E., 9, East Lexington-st., Baltimore, Md.
McCay Engineering Co., 9, East Lexington-st., Baltimore, Md.
McFell Electric Co., 90, West Van Buren-st., Chicago, Ill.
Macgahan, P., Westinghouse Electric & Manufacturing Co., Pittsburg, Pa.
MacGregor, W. H., Dictaphone Co. of America, 290, Broadway, New York.

Engineers—Electrical—*continued.*

McIntyre, H. W., Randolph, Vt.
McKinstry, J. P., cor. Seneca & Champlain-sts., Cleveland, Ohio.
MacLimont, A. W., c/o Federal Electric Co., 141, Broadway, New York.
Macmillan, J., Charleston, S.C.
Mailloux, C. O., 76, William-st., New York.
Maine Electric Co., 23, Commercial-st., Portland, Maine.
Maloney & Hanson, Jamestown, N.Y.
Manhattan Electric Co., Holland-bldg., St. Louis, Mo.
Mansfield & Bain, 748, Drexel-bldg., Philadelphia, Pa.
Marks, L. B., M.AM.I.E.E., 103, Park-ave., New York.
Marks, Prof. W. D., PH.B., C.E., M.AM.I.E.E., 623, Park Row-bldg., New York.
Marks, Hiram, Electric Co., 48, Woodward-ave., Detroit, Mich.
Marsh, L. J., 1941, Market-st., Philadelphia, Pa.
Marshall, J. T., Edison Lamp Works, Harrison, N.J.
Martin, J., M.AM.I.E.E., Navy Yard, Brooklyn.
Mashinter Electric Co., 62, Niagara-st., Buffalo, N.Y.
Massey, James C., 58, Federal-st., Pittsburg, Pa.
Mather, Eugene Holmes, A.M.AM.I.E.E., Nassau Light & Power Co., Roslyn, N.Y.
Maxim, H. P., A.AM.I.E.E., Electrical Vehicle Co., Hartford, Conn.
Mead, Morris W., Bureau of Electricity, Department of Public Safety-bldg., 6th-ave., Pittsburgh, Pa.
Meigs, G. E., Syracuse, N.Y.
Meredith, Wynn, M.AM.I.E.E., Union Trust-bldg., San Francisco, Cal.
Merriam, E. B., A.AM.I.E.E., General Electric Co., Schenectady, N.Y.
Metropolitan Electric Equipment Co., 600, Lexington-ave., New York.
Metropolitan Telephone & Telegraph Co., 18, Cortlandt-street, New York, N.Y.
Miles, Z. C., & Piper Co., 1021, 1st-ave., Seattle, Wash.
Miller, L. E., 1210, Congress-ave., Houston, Tex.
Miller & Tuggle, Beaumont, Tex.
Miner, Willard M., Plainfield, N.J.
Minnesota Electric Co., Minneapolis, Minn.
Molera, E. J., 2025, Sacramento-st., San Francisco, Cal.
Montague, R. L., Oroville, Cal.
Moore, Wm. E., M.AM.I.E.E., West Penn. Rly. Co., Pittsburg, Pa.
Morgan, H. E., & Co., Camden, N.J.
Morrison, J. Frank, 317, North Paca-st., Baltimore, Md.
Morrison, R. H., 3rd-ave. & 71st-st., New York.
Mosman, C. T., A.AM.I.E.E., 84, State-st., Boston, Mass.
Muralt, C. L., A.AM.I.E.E., 114, Liberty-st., New York.

Engineers—Electrical—*continued.*

Murray, W. S., A.AM.I.E.E., N.Y., N.H. & H.R.R., New Haven, Conn.
Muschenheim, F. A., M.AM.I.E.E., Western Electric Co., 206, West 45th-st., New York.
Mustard, John, Real Estate Trust-bldg., Philadelphia, Pa.
Mutual Electric Co., Duluth, Minn.
National Electric Co., Milwaukee, Wis.
Neall, N. J., 12, Pearl-st., Boston, Mass.
Nevin Electric Construction Co., Saginaw, Mich.
New Jersey Engineering & Construction Co., Morristown, N.J.
New York Electrical Equipment Co., 572, 1st-ave., New York, N.Y.
Newman, F. J., M.AM.I.E.E., Woods Motor Vehicle Co., Chicago, Ill.
Nicholson, S. L., M.AM.I.E.E., 7010, Thomas-boul., Pittsburg, Pa.
Noeggerath, J. E., Schenectady, N.Y.
Oakes, Roland T., Co., Holyoke, Mass.
Oberg & Blumberg, 112, West 42nd-st., New York, N.Y.
O'Dea, M. T., M.AM.I.E.E., 79, N. State-st., Chicago, Ill.
Offatt, A., 439, Carondelet-st., New Orleans, La.
O'Leary, J. J., 62, Niagara-st., Buffalo, N.Y.
O'Reilly, A. J., Fire Prevention Bureau, Century-bldg. & 1507, Papin-st., St. Louis, Mo.
Ormsbee, A. F., New York & New Jersey Telephone Co., Brooklyn, N.Y.
Osborne, Loyall A., Westinghouse Electric & Manufacturing Co., Pittsburgh, Pa.
Oudin, M., M.SC., M.AM.I.E.E., General Electric Co., Schenectady, N.Y.
Packard, G. F., Westinghouse Electric & Manufacturing Co., Pittsburg, Pa.
Packard, W. D. & J. W., Warren, Ohio.
Paine, F. B. H., M.AM.I.E.E., Niagara, Lockport & Ontario Power Co., Buffalo, N.Y.
Palmer, W. K., Co., 718, Dwight-bldg., Kansas City, Mo.
Parker, L. H., M.AM.I.E.E., Stone & Webster Engineering Corporation., 147, Milk-st., Boston, Mass.
Parrott, R. P., A.AM.I.E.E., Gray Nat. Telautograph Co., New York.
Pattison Bros., 5th-ave. & 23rd-st., Broadway, New York.
Peacock, Thomas, & Sons, 545, Liberty-st., Pittsburg, Pa.
Pearson, F. S., 25, Broad-st., New York.
Pease, H. C., General Electric Co., Schenectady, N.Y.
Peet & Powers, 45, West 34th-st., New York.
Pepper, D., jun., 1233, Land Title & Trust-bldg., Philadelphia, Pa.
Percival & Jones, 604, Burlington-bldg., St. Louis, Mo.
Perkins, Frank C., 126, Erie County Bank-bldg., Buffalo, N.Y.
Perry, C. L., General Electric Co., Schenectady, N.Y.

Engineers—Electrical—*continued.*

Pfatisher, M., Electro Dynamic Co., Philadelphia, Pa.
Philadelphia Electrical Equipment Co., 816, Cherry-st., Philadelphia, Pa.
Pickenpack, M. S., 422, Main-st., Poughkeepsie, N.Y.
Pickernell, F. A., American Telegraph & Telephone Co., 125, Milk-st., Boston, Mass.
Pierce, Richard H., 35, Congress-st., Boston, Mass.
Piesch, C., & Nissen, 848, Flatbush-ave., Brooklyn, N.Y.
Pike, Clayton W., c/o Keller-Pike Co., 1213, Race-st., Philadelphia, Pa.
Pinkham Electric & Repair Co., 531, Smithfield-st., Pittsburg, Pa.
Plant & Co., 432, East 23rd-st., New York.
Porter, J. F., M.AM.I.E.E., Tri City Railway & Light Co., Davenport, Iowa.
Potter, H. S., 24, Commerce-st., Boston, Mass.
Potter, Wm. B., M.AM.I.E.E., General Electric Co., Schenectady, N.Y.
Potts, L. M., Rowland Telegraphic Co., Baltimore, Md.
Power, Thos. W., Engineering Co., Washington Loan & Trust-bldg., Washington, D.C.
Practical Electric Co., 211, Lippincott-bldg., Philadelphia, Pa.
Price, E. F., Union Carbide Co., New York.
Prior & Sallada Co., Inc., Williamsport, Pa.
Proctor, T. L., A.AM.I.E.E., 814, Minor-ave., Seattle, Wash.
Prouth, F. G., M.AM.I.E.E., consulting engineer, Randolph-bldg., Memphis, Tenn.
Puffer, Wm. L., M.AM.I.E.E., 307, Equitable-bldg., Boston, Mass.
Raeburn, Andrew, Westinghouse, Church, Kerr & Co., Boston.
Randall, K. C., Westinghouse Electric & Manufacturing Co., Pittsburg, Pa.
Randolph, R. J., Excelsior Electric Co., 1519, Monadnock-blk., Chicago, Ill.
Ransom, A. E., Lewiston-Clarkston Co., Lewiston, Idaho.
Rau, J. C., Washington, D.C.
Reber, H. L., M.AM.I.E.E., Kinloch Telephone Co., Century-bldg., St. Louis, Mo.
Reckenzaun, Frederick, 83, Chambers-st., New York.
Reed, Chas. J., 3313, N. 16th-st., Philadelphia.
Reed, S. Albert, 32, Nassau-st., New York.
Reid, C. E., Bureau of Standards, Washington, D.C.
Reist, H. G., M.E., General Electric Co., Schenectady, N.Y.
Reno, C. Stowe, Triumph Electric Co., 610, Baymiller-st., Cincinnati, Ohio.
Rhodes, H. A., A.AM.I.E.E., Col. Tel. Co., Denver, Col.
Rice, Calvin W., M.I.E.E., 29, West 39th-st., New York.
Rich & Ware, 162, West 29th-st., New York.

Engineers—Electrical—*continued.*

Richardson, R. E., Kansas City Electric Light Co., Kansas City, Mo.
Richmond, Will F., 308, Atlantic-ave., Boston, Mass.
Richter, H., Cincinnati, Ohio.
Ries, Elias E., 116, Nassau-st., New York, N.Y.
Robb, W. L., M.AM.I.E.E., Rensselaer Polytechnic Institute, Troy, N.Y.
Robb, Russell, Stone & Webster, 147, Milk-st., Boston, Mass.
Roe, Arthur E., 407, Lyceum-st., Duluth, Minn.
Roe, Albert, & Co., 766, Fox-st., New York.
Roeller, W. H., & Co., Pottstown, Pa.
Rohrer, A.L., General Elec. Co., Schenectady, N.Y.
Roller, F. W., 203, Broadway, New York.
Rosenbaum, William A., 41, Park-row, New York.
Ross, E. L., 614, East 138th-st., New York.
Rossmann, J. G., 140, Nassau-st. (P.O. Box 1565), New York.
Rouquette, W. F. B., Life M.AM.I.E.E., 47, Warren-st., New York.
Rouquette & Co., 47, Warren-st., New York.
Roux, G. P., M.I.E.E., 33, St. Paul's-rd., Ardmore, Pa.
Rowell, H. G., Auburn, Maine.
Rowland, Prof. A. J., A.AM.I.E.E., Drexel Institute, 4510, Osage-ave., Philadelphia, Pa.
Ruffner, C. S., M.AM.I.E.E., Telluride Power Co., Provo, Utah.
Rugg, W. S., A.AM.I.E.E., 120, Broadway, New York.
Rushmore, D. B., General Electric Co., Schenectady, N.Y.
Russell, G. W., M.AM.I.E.E., 500, 5th-ave., New York.
Russell, H. A., A.AM.I.E.E., General Electric Co., 302, Laurel-st., San Francisco, Cal.
Rutherfoord, B., A.I.E.E., Westinghouse-bldg., Pittsburg, Pa.
Ryan, W. C. M., Simmen Automatic Rly. Signal Co., Oakland, Cal.
Ryan, W. D'Arcy, A.AM.I.E.E., General Electric Co., Schenectady, N.Y.
Sachs, J., M.AM.I.E.E., Sachs Co., 618, Capitol-ave., Hartford, Conn.
Sackett Electric Construction Co., Buffalo, N.Y.
Sackett Mine Supply Co., 77, East Long-st., Columbus, Ohio.
Sampson, F. D., M.AM.I.E.E., Southern Power Co., Charlotte, N.C.
Sampson & Allen, 51, Exchange-st., Lynn, Massachusetts.
Sargent, H.R., General Elec. Co., Schenectady, N.Y.
Sargent, Wm., & Co., Equitable-bldg., Boston, Mass.
Sargent & Lundy, Railway Exchange-bldg., Chicago, Ill.
Sawtelle, E. M., M.I.E.E., 32, West 40th-st., New York.
Sawyer, W. H., A.AM.I.E.E., Ford, Bacon & Davis, 115, Broadway, New York.
Sayville Electric Co., Sayville, N.Y.
Scheible, Albert, 14, S. Jefferson-st., Chicago, Ill.

Engineers—Electrical—*continued.*

Schneider, C., Sons, 1207, F-st., Washington, D.C.
Schoepf, T. H., M.I.E.E., M.AM.I.E.E., Westinghouse Co., Pittsburg, Pa.
Schum, C. H., Burke Electric Co., Erie, Pa.
Schwedtman, F., M.AM.I.E.E., Wagner Electric Manufacturing Co., 1005, Chemical-bldg., St. Louis, Mo.
Scott, J. B., Md. Savings Bank-bldg., Baltimore, Md.
Scott, W. M., Cutter Electric & Mfg. Co., 19th & Hamilton-sts., Philadelphia, Pa.
Scribner, C. E., M.AM.I.E.E., 259, South Clinton-st., Chicago, Ill.
Sendder, H., jun., 21, East 22nd-st., New York, N.Y.
Serrel, L. W., 29, Broadway, New York.
Shafer, A. H., San Antonio, Tex.
Shea, D. M., Waverly-pl., Madison, N.J.
Sheaff & Jaastad, Broad Exchange-bldg., Boston, Mass.
Sheets, C. W., Galveston, Tex.
Shoenberg, M. H., 1445, Polk-st., San Francisco, Cal.
Sibley & Pitman, 26, Warren-st., New York, N.Y.
Siebenmorgen, W., A.AM.I.E.E., C. & C. Electric Co., Garwood, N.J.
Signor, J. M., Binghamton, N.Y.
Simpson, I. H., 286, Amsterdam-ave., New York, N.Y.
Sinclair, H. A., 110, West 30th-st., New York, N.Y.
Skirrow, J. F., 253, Broadway, New York.
Smith, J. M., M.AM.I.E.E., 220, Broadway, New York.
Smith, F. S., Engineers' Club, 32, West 40th-st., New York.
Smith, H. E., Batavia, N.Y.
Smith, J., 3, East 135th-st., New York.
Smith, S. J., jun., A.AM.I.E.E., S. E. M. Co., Empire-bldg., Atlanta, Ga.
Smith Elec. Engineering Co., Watertown, N.Y.
Soren, T. H., A.AM.I.E.E., General Electric Co., Schenectady, N.Y.
Southworth, M. O., A.AM.I.E.E., Fairbanks, Morse & Co., Chicago, Ill.
Spencer Elec. Co., 163, Greenwich-st., New York.
Sperry, Elmer A., M.AM.I.E.E., 40, Wall-st., New York.
Spinney, L. B., M.AM.I.E.E., Iowa State College, Ames, Iowa.
Sprague, Frank J., 165, Broadway, New York.
Sprague, T. W., 88, Broad-st., Boston, Mass.
Standard Electric Construction Co., 14–16, N. Water-st., Rochester, N.Y.
Stanley, W., M.AM.I.E.E., Great Barrington, Mass.
Stearns, J. W., M.AM.I.E.E., Mountain Electric Co., Denver, Col.
Steele, R. A. M., 131, South Highland-ave., Pittsburg, Pa.
Steele, W. D., c/o Westinghouse, Church, Kerr & Co., 8, Bridge-st., New York.
Steinberger, A., 53, South May-st., Chicago, Ill.

Engineers—Electrical—*continued.*

Steinmetz, C. P., General Electric Co., Schenectady, N.Y.
Stenger, E. H., Cincinnati, Ohio.
Stern, P. K., A.AM.I.E.E., 521, West 182nd-st., New York, N.Y.
Stern & Silverman, 605, Land Title-bldg., Philadelphia, Pa.
Sterns, J. C., Electrical Co., 259, Pearl-st., Buffalo, N.Y.
Stine, Dr. W. M., Swarthmore College, Swarthmore, Pa.
Stone, Chas. A., Stone & Webster, 147, Milk-st., Boston, Mass.
Stone, C. W., M.AM.I.E.E., General Electric Co., Schenectady, N.Y.
Stone & Webster, 147, Milk-st., Boston, Mass.
Storer, N. W., M.AM.I.E.E., Westinghouse Electric & Manufacturing Co., Pittsburg, Pa.
Storer, S. B., University-blk., Syracuse, N.Y.
Storrs, H. A., M.AM.I.E.E., Williston, N.D.
Stott, Henry G., PAST PRES.AM.I.E.E., Interborough Rapid Transit Co., New York.
Stovel, R. W., A.AM.I.E.E., Westinghouse, Church, Kerr & Co., New York.
Stowe, B. A., Jandus Electric Co., Cleveland, Ohio.
Stuart, H. R., M.AM.I.E.E., Am. Telegraphone Co., Wheeling, W. Va.
Sutter, C. J., 1220, Pine-st., St. Louis, Mo.
Swan Electric Co., 37, Pearl-st., Boston, Mass.
Taber & Mayer, 506, Atlantic-ave., Boston, Mass.
Taylor, J. B., General Electric Co., Schenectady, N.Y.
Taylor, W. G., M.I.E.E., c/o Commercial Cable Co., 253, Broadway, New York.
Temple, Henry D., Co., Worcester, Mass.
Tesla, Nikola, M.I.E.E., 165, Broadway, New York.
Thaxter, F. O., 715, Dudley-st., Boston, Mass.
Thiemer, E. J. H., 523, Nostrand-ave., Brooklyn, N.Y.
Thomas & Betts Co., Barclay-bldg., 299, Broadway, New York.
Thomas & Johnson, 183, Greenwich-st., New York.
Thomas & Neall, 2, Rector-st., New York; & 12, Pearl-st., Boston, Mass.
Thomson, J. W., jun., & Co., Mitchell, Ind.
Thornapple Electric Co., Hastings, Mich.
Thorne, C. F., 202, East 36th-st., New York.
Thullen, L. H., M.AM.I.E.E., Union Switch & Signal Co., Pittsburg, Pa.
Tibbe Electric Co., Washington, Mo.
Trafford, E. W., M.AM.I.E.E., 27, Chamber of Commerce, Richmond, Va.
Trevor, J., 406, 1st-ave. South, Minneapolis, Minn.
Tucker Elec. Cons. Co., 110, W. 30th-st., New York.
Tucker & Vinton, Park-ave. & 41st-st., New York.
Turner, W. S., M.AM.I.E.E., W. S. Barstow & Co., Failing-bldg., Portland, Ore.
Uebelacker, C. F., M.AM.I.E.E., Ford, Bacon & Davis, Hackensack, N.J.
Uhlenhaut, F., jun., M.AM.I.E.E., c/o Pittsburgh Railway Co., Pittsburgh, Pa.

Engineers—Electrical—*continued.*

Underground Construction Co., 150, Nassau-st., New York.
United Electric Co., The, Mechanicsburg, Pa.
United Engineering & Contracting Co., 17, West 42nd-st., New York.
Unity Electrical Co., Scandinavian Am. Bank-bldg., St. Paul, Minn.
Upton, F. R., M.S., M.AM.I.E.E., Union-bldg., Newark, N.J.
Vailleux Electrical Co., Los Angeles, Cal.
Van Dyke Electric Co., Asbury Park, N.J.
Vandegrift, J. A., 2051, California-st., Denver, Col.
Vander Naillen, R. Leo., 5115, Telegraph-ave., Oakland, Cal.
Van Nort Bros. Electric Co., 1005, Market-st., St. Louis, Mo.
Van Nuis, C. S., 43, Cortlandt-st., New York.
Van Trump, C. R., Wilmington, Del.
Varney, F. H., A.AM.I.E.E., Pacific Electric Co., 1907, Leavenworth-st., San Francisco, Cal.
Venino, F., Newark, N.J.
Wait, Henry H., M.I.E.E., M.AM.I.E.E., W. E. Co., 4919, Madison-ave., Chicago, Ill.
Waldo, Dr. Leonard, 49, Wall-st., New York.
Walker & Kepler, 531, Chestnut-st., Philadelphia, Pa.
Wallace, H. L., A.AM.I.E.E., Westinghouse Electric & Manufacturing Co., Pittsburg, Pa.
Ward, G. G., M.I.E.E., Commercial Cable Co., 253, Broadway, New York.
Warden & Farrell Co., Sheboygan, Wis.
Warder, W. J., jun., Roth Bros. & Co., Adams & Loomis-sts., Chicago, Ill.
Warner, Ernest P., c/o Western Electric Co., 259, South Clinton-st., Chicago, Ill.
Warner, R. F., General Electric Co., Schenectady, N.Y.
Warren, H. M., A.M.AM.I.E.E., Delaware, Lackawanna & Western R.R., Scranton, Pa.
Waterhouse, Frank G., Bolinas Marine Co., Bolinas, Cal.
Webster, Edwin S., 147, Milk-st., Boston, Mass.
Weise Bros., Library-bldg., Davenport, Iowa.
Wells, G. A., Adams Express Co., 61, Broadway, New York.
Werner, Jacob, 201, East 47th-st., New York.
Westinghouse, Church, Kerr & Co., 10, Bridge-st., New York.
Wetzler, J., A.AM.I.E.E., Electrical Engineer Institute of Correspondence Instruction, 1123, Broadway, New York.
Wheeler, S. S., Crocker-Wheeler Co., Ampere, New Jersey.
Wheeling Electrical Co., Wheeling, W. Va.
Whitaker, S. Edgar, 50, Church-st., Marlboro, Mass.
White, J. G., M.I.E.E., 43, Exchange-pl., New York.
White, R. M., 35, West Long-st., Columbus, Ohio.
White, W. F., M.AM.I.E.E., North American Co., 110, Riverside Drive, New York.

Engineers—Electrical—*continued.*

White Electric Co., Buffalo, N.Y.
Whitehead, J. B., PH.D., A.AM.I.E.E., Johns Hopkins University, Baltimore, Md.
Whitney, A. R., jun., & Co., 135, Broadway, New York.
Wightman, Merle J., American Bank-bldg., Seattle, Wash.
Wilcox, N. T., M.AM.I.E.E., Lowell Electric Light Corporation, Lowell, Mass.
Willis, E. J., M.AM.I.E.E., Richmond Electric Co., P.O. Box 164, Richmond, Va.
Wilson, H. S., M.AM.I.E.E., N. E. Eng. Co., 31, Main-st., Waterbury, Conn.
Wilson, R. L., A.AM.I.E.E., Westinghouse Electric & Manufacturing Co., Pittsburgh.
Winslow, G. H., 509, Perry-Payne-bldg., Cleveland, Ohio.
Wisconsin Electrical Construction Co., Milwaukee, Wis.
Wittman, G. J., 120, Water-st., Newburgh, N.Y.
Woehrle, G., & Son, 2115, 3rd-ave., New York.
Woodbridge, J. L., A.AM.I.E.E., 19th-st., Philadelphia, Pa.
Woodmansee, Fay, M.AM.I.E.E., Sargent & Lundy, Railway Exchange, Chicago, Ill.
Woodruff Electric Co., Rome, Ga.
Woodward, C. W., A.M.AM.I.E.E., Electrical Storage Battery Co., 19th-st. & Allegheny-ave., Philadelphia, Pa.
Woodward, Wm. C., M.AM.I.E.E., Narragansett Electric Lighting Co., Providence, R.I.
Wray, J. Glen, Chicago Telephone Co., 162, Center-st., Chicago, Ill.
Wright, R. I., M.AM.I.E.E., Electric Controller & Mfg. Co., Cleveland, Ohio.
Yound, W. D., M.AM.I.E.E., B. & O. R. R., Roland Park, Baltimore, Md.
Zamoiski, Jos. M., & Co., 19, North Liberty-st., Baltimore, Md.

Engineers—Electrical Consulting.

F.—Ingénieurs—Electriciens consultants.
G.—Elektrotechniker—Beratende.

Adams & Schwab, 859, Calvert-bldg., Baltimore, Md.
Apple, V. G., 38, South St. Clair-st., Dayton, Ohio.
Armstrong, Chas. G., Singer-bldg., New York.
Arnold, B. J., 181, La Salle-st., Chicago, Ill.
Badt, F. B., & Co. (& experts), 1504, Monadnock-blk., Chicago, Ill.
Baldwin, Ward, 528, Walnut-st., Cincinnati, Ohio.
Benecke, A. O., M.AM.I.E.E., 19, Vermont-ave., Newark, N.J.
Bennett, E. C., 1538, Monadnock-blk., Chicago, Ill.
Benson, Wm. W., 900, Chestnut-st., Philadelphia, Pa.
Bickford, J. H., 110, State-st., Boston, Mass.
Blackwell, F. O., Viele Blackwell & Buck, 49, Wall-st., New York.

Engineers—Electrical Consulting—*contd.*

Blonck, W. A., 404, Fisher-bldg., Chicago, Ill.
Bogart, J., 141, Broadway, New York.
Bolton, R. P., 527, 5th-ave., New York.
Brandeis, C., A.AM.I.E.E., 160, St. James-st., Montreal, P.Q.
Brooks, F. A., Charleston, Ill.
Brophy, Wm., A.AM.I.E.E., 17, Egleston-st., Jamaica Plain, Mass.
Brown, G. W., West Newbury, Mass.
Brown, Harold P., 120, Liberty-st., New York.
Brown, J. Stanford, 489, 5th-ave., New York.
Burrill, E., 25, California-st., San Francisco, Cal.
Byrne, T. W., 8, Doane-st., Boston, Mass.
Carpenter, Breese & Ferguson, Norfolk, Va.
Cataract Construction Co., 15, Broad-st., New York; & Niagara Falls, N.Y.
Christie, W. W., 140, Market-st., Paterson, N.J.
Cole, Henry E., & Co., Park-bldg., Pittsburg, Pa.
Colles, G. W., 404, Alhambra-bldg., Milwaukee, Wis.
Crosby, James W., A.AM.I.E.E., 15, Federal-st., Boston, Mass.
Cummings, E. W., Seattle, Wash.
Curtis, Chas. G., A.AM.I.E.E., P.O. Box 412, New York, N.Y.
Cushing, H. C., jun., M.AM.I.E.E., 220, Broadway, New York.
Daft, Leo, M.AM.I.E.E., Rutherford, N.J.
Davids, Richard W., 308, Walnut-street, Philadelphia, Pa.
Davis, L. K., 30, Broad-st., New York.
De Kinder, J. J., 619, Girard-bldg., Philadelphia.
Densmore & Le Clear, 15, Exchange, Boston, Mass.
Drysdale, Dr. W. A., Hale-building, Philadelphia, Pa.
Duncan, Louis, M.AM.I.E.E., 56, Pine-st., New York.
Duncan & Lyndon, 56, Pine-st., New York.
Electric Auditing Co., Old South bldg., Boston, Mass.
Electric Construction & Insulating Co., 2125, Colerain-ave., Cincinnati, Ohio.
Electric & Steam Engineering Co., Chemical-bldg., St. Louis, Mo.
Entz, Justus B., A.AM.I.E.E., Electric Vehicle Co., Hartford, Conn.
Fergus, W. L., & Co., Fisher-bldg., Chicago, Ill.
Field, Henry George, M.AM.I.E.E., 89, Algier-ave., Detroit, Mich.
Fleming, H. S., 1, Broadway, New York.
Ford, Bacon & Davies, 24, Broad-st., New York.
Fowler, Geo. L., 53, Broadway, New York.
Francis Bros. & Jellett, Incorporated, Broad & Wallace-sts., Philadelphia, Pa.
French, Hollis, & Allen Hubbard, Albany-bldg., Boston, Mass.
Goldmark, C. J., Terminal-bldg., 41st-st. & Park-ave., New York.
Goltz, Wm., M.AM.I.E.E., 319, South Clinton-st., Chicago, Ill.
Gray, O. H, 421, Dooly-blk., Salt Lake City, Utah.

Engineers—Electrical Consulting—*contd.*

Gump, W. B., 606, Fernando-bldg., Los Angeles, Cal.
Hammer, Wm. J., M.AM.I.E.E., 153, West 46th-st., New York.
Hanington, Ephraim, & Co., 60, State-st., Boston, Mass.
Harrington, Walter E., M.AM.I.E.E., Pottsville, Pa.
Hartford, R. F., 76, Capital-ave., Atlanta, Ga.
Hawes & Gray, 37 & 39, Dwight-st., Springfield, Mass.
Hering, Carl, 929, Chestnut-st., Philadelphia, Pa.
Herrick, A. B., M.AM.I.E.E., 120, Liberty-st., New York.
Hildreth & Co., 135, Broadway, New York.
Hill, Geo., 12, West 40th-st., New York.
Holman & Laird, 1324, Chemical-bldg., St. Louis, Mo.
Holt & Schober, Provident-bldg., Philadelphia, Pa.
Houston, Prof. Edwin J., 1809, Spring Garden-st., Philadelphia, Pa.
Humphrey, Henry H., Suite 1505, Chemical-bldg., St. Louis, Mo.
Hurd & Huggin, 316, Hudson-st., New York.
Hutchinson, Cary T., PH.D., Postal Telegraph-bldg., 60, Wall-st., New York.
Ihlder, J. D., M.AM.I.E.E., Otis Elevator Co., New York, N.Y.
Jalonick, Hartwell, 7, Pioneer Plaza, El Paso, Texas.
Kessler, J. J., St. Louis, Mo.
Keystone Engineering Co., 1207–1208, Farmer's Bank-bldg., Pittsburg, Pa.
Kimbark, D. Avery, 1502, Fort Dearborn-bldg., Chicago, Ill.
Knapp, Chas. M., Girard College, Philadelphia.
Knox, C. E., M.AM.I.E.E., 76, William-st., New York.
Lederer, Wm., 4843, Langley-ave., Chicago, Ill.
Ligon, W. D., M.AM.I.E.E., W. E. & M. Co., University-bldg., Syracuse, N.Y.
Longdon, J. N., 1300, Broadway, New York.
Ludwig & Co., Atlanta, Ga.
Lyndon, L., 56, Pine-st., New York.
McDargh, H. J., Conover-bldg., Dayton, Ohio.
Macfarlane, Alexander, Lehigh University, Bethlehem, Pa.
McMeans & Tripp, State Life-bldg., Indianapolis, Ind.
Mentz, H. A., 714, Hennen-bldg., New Orleans, La.
Miller & McMeen, Monadnock-blk., Chicago, Ill.
Morrison, Geo. H., Federal-st., Boston, Mass.
Mosler, A. R., 163, West 29th-st., New York.
Nalley, W. J., Austell-bldg., Atlanta, Ga.
Neiler, S. G., M.I.E.E., &c., 1407–1411, Manhattan-bldg., Chicago, Ill.
Newton & Painter, Professional-bldg., 330, North Charles-st., Baltimore, Md.
Osborn, J. A., Syndicate Trust-bldg., St. Louis, Mo.
Osburn, Harry G., 296, Dearborn-st., Chicago, Ill.
Parker Engineering Co., 18, East 42nd-st., New York.

Engineers—Electrical Consulting—*contd.*

Pattison, F. A., Fuller-bldg., Broadway, New York.
Pattison Bros., Fuller-bldg., Broadway, New York.
Peet, W. C., 227, 4th-ave., New York.
Perkins, F. C., 8th Floor, Erie Co. Bank-bldg., Buffalo, N.Y.
Phillips, Lieut. W. A., 238, S. Cedar-st., Galesburg, Ill.
Pickard, G. W., M.AM.I.E.E., Amesbury, Mass.
Pierce, Richardson & Neiler, Manhattan-bldg., Chicago, Ill.
Pope, Ralph W., secretary American Institute of Electrical Engineers, 33, West 39th-st., New York; & 570, Cherry-st., Elizabeth, N.J.
Porter, A. B., 324, Dearborn-st., Chicago, Ill.
Postel & Linn, Fisher-bldg., Chicago, Ill.
Pray, T., jun., 131, State-st., Boston, Mass.
Putnam, H. St. Clair, 100, Broadway, New York.
Reeder, Chas. L., 919–921, Equitable-bldg., Baltimore, Md.
Reliance Engineering Co., Fourth National Bank-bldg., Cincinnati, Ohio.
Rideout, A. C., 101, Randolph-st., Chicago, Ill.
Rider, G. S., & Co., Century-bldg., Cleveland, Ohio.
Roberts & Abbott Co., Schofield-bldg., Cleveland, Ohio.
Ruebel & Wells, Chemical-bldg., St. Louis, Mo.
Schultz, L. R., 355, West 29th-st., New York.
Scott, G. W., 188, E. Madison-st., Chicago, Ill.
Sheldon, F. P., & Co., Industrial Trust-bldg., Providence, R.I.
Shields, W. J., & Co., Lewis-blk., Pittsburg, Pa.
Shipman, B. C., 604, Mission-st., San Francisco.
Sirch Electrical & Testing Laboratories, 606, South Hope-st., Los Angeles, Cal.
Smith, Frank E., M.AM.I.E.E., 418, Eugenia-ave., San Francisco, Cal.
Smith, J. M., M.AM.I.E.E., M.A.S.M.E., 220, Broadway, New York.
Spittal, A., 201½, S. High-st., Columbus, Ohio.
Stewart, R. S., M.AM.I.E.E., 814, Penobscot-bldg., Detroit, Mich.
Stillwell, L. B., M.AM.I.E.E., M.I.E.E., 100, Broadway, New York.
Strauss, H. A., 390, Broadway, New York.
Sutton, F., 91, Wall-st., New York.
Taylor, Wyatt W., 2, Rector-st., New York.
Towle, Stevenson, 5, East 42nd-st., New York.
Underhill, C. R., A.AM.I.E.E., 55, Liberty-st., New York.
Vail, J. H., 114, Liberty-st., New York.
Waddell, C. E., Biltmore, N.C.
Walker, A. F., Austell-bldg., Atlanta, Ga.
Waterman, F. N., 100, Broadway, New York.
Watnough, Pendleton, jun., 59, Pearl-st., New York.
Weeks & Kendall, New Nelson-bldg., Kansas City, Mo.
Weeks & Sanville, 1708, Sansom-st., Philadelphia, Pa.
Wells, C. E., A.AM.I.E.E., Chemical-bldg., St. Louis, Mo.

Engineers—Electrical Consulting—*contd.*

Wetmore & Landsing, 13-21, Park-row, New York.
Wilmerding, C. H., 20, Sanford-ave., Flushing, N.Y.
Wolff, A. R., 130, Fulton-st., New York.
Wood, B. F., M.AM.I.E.E., 1207, Park-bldg., Pittsburg, Pa.
Wood, G. R., 1207-8, Park-bldg., Pittsburg, Pa.

Engineers—Electrical Manufacturing.

F.—Ingénieurs—Fabricant électr.
G.—Elektrotechniker—Fabr.

Acme Telephone & Manufacturing Co., Jackson & Clinton-sts., Chicago, Ill.
Acme Electric Construction Co., Brooklyn, N.Y.
Brill Electric Co., 647, Broad-st., Augusta, Ga.
Connecticut Dynamo & Motor Co., Mechanic-st., Hartford, Conn.
Economy Electrical Co., 1118, Chestnut-st., St. Louis, Mo.
Electric Engineering & Construction Co., Tacoma, Wash.
Electrical Engineering Co., Seattle, Washington.
Electrical Repair & Construction Co., 2060, 4th-st., Cleveland, Ohio.
Electrical Supply & Construction Co., 287, West Federal-st., Youngstown, Ohio.
Emmons Electric Construction Co., 11, South Clark-st., Chicago, Ill.
Fairmount Electric & Manufacturing Co., Inc., 2320, Market-st., Philadelphia, Pa.
Fischer Special Manufacturing Co., Cincinnati, Ohio.
Heschen Manufacturing Co., 1304, Douglas-st., Omaha, Neb.
Hope Electric Construction Co., Asbury Park, N.J.
Kansas City Electrical Construction Co., 930, Wyandotte-st., Kansas City, Mo.
Kendall, W. R., A.AM.I.E.E., Weeks & Kendall, 605, New Nelson-bldg., Kansas City, Mo.
King's Electrical Co., 1323, Broadway, Oakland, Cal.
La Salle Electric Co., 47, West Lake-st., Chicago.
Leavenworth Novelty Works, Leavenworth, Kan.
Mercer, F. E., Wauseon, Ohio.
Morris, H. G., 926, Drexel-bldg., Philadelphia, Pa.
National Electric Works, Whittier, Cal.
North-West General Electric Co., Boise City, Idaho.
Northern Electric Manufacturing Co., 1113, Schofield-bldg., Cleveland, Ohio.
Northern Electrical Manufacturing Co., 29, Broadway, New York.
O. K. Construction Co., 11, South Front-st., Hamilton, Ohio.
Oakland Electrical Co., Oakland, Cal.
O'Neil Electric Works, 3113, Michigan-ave., Chicago, Ill.
Overton & Lee, 830, Kansas-ave., Topeka, Kan.

Engineers—Electrical Manufacturing—*continued.*

Peterson Electrical Construction Co., 1013, N.Y. Life-bldg., Chicago, Ill.
Portland Electric Works, Portland, Ore.
Prentiss & Damashky, 52, Union-sq., New York.
Q. & C. Co., 700 to 709, Western Union-bldg., Chicago, Ill.
Reed, W. E., M.AM.I.E.E., Machesney-bldg., Pittsburg, Pa.
Roberts, Geo. I., & Bros., 471, 4th-ave., New York, N.Y.
Roth Bros. & Co., 27-29, South Clinton-st., Chicago, Ill.
San Francisco Electrical Co., 20-22, 1st-st., San Francisco, Cal.
Scranton Electric Construction Co., Scranton, Pa.
Triumph Electric Co., Cincinnati, Ohio.
Westinghouse Electric & Manufacturing Co., East Pittsburg, Pa.; & at New York, &c.
White, J. G., & Co., Incorporated, 43-49, Exchange-pl., New York.

Engineers—Electrical Testing.

F.—Ingénieurs—essai électrique.
G.—Ingenieure für Elektrische Prüfungen.

Casper, Louis, 3122, Wabash-ave., Chicago, Ill.
Electrical Testing Laboratories, 80th-st. & East End-ave., New York.

Engineers—General.

F.—Ingénieurs—En général.
G.—Ingenieure—Allgemeinen.

Baker, W. E., & Co., 27, William-st., New York.
Bonar, James, & Co., Inc., 516, Frick-bldg., Pittsburg, Pa.
Carson, Howard A., Boston Transit Commission, Boston, Mass.
Davis-Brown Electric Co., Inc., 115, South Cayuga-st., Ithaca, N.Y.
Harrington, Edwin, Son & Co., 1501, Pennsylvania-ave., Philadelphia, Pa.
Hill, G. H., Elevator Department, Sprague Electric Co., Bloomfield, N.J.
Hussey, McCann & Co., 87, Warren-st., New York.
Pierce & Miller, 26, Cortlandt-st., New York.
Van Trump, C. R., M.AM.I.E.E., Wilmington, Del.

Engineers—Hydraulic.

F.—Ingénieurs—Hydrauliques.
G.—Ingenieure—Wasserkraft.

Pelton Water Wheel Co., 90, West-st., New York; & 19th & Harrison-sts., San Francisco, Cal.
Stevens-Hewitt Engineering Co., 15, William-st., New York.

Engineers—Mechanical.

F.—Ingénieurs—Mecaniciens.
G.—Ingenieure—Mechanische.

Bates Machine Co., Joliet, Ill.
Keller-Pike Co., 1213, Race-st., Philadelphia, Pa.
Link-Belt Co., Nicetown, Philadelphia, Pa.
Randolph, L. S., M.AM.I.E.E., Blacksburg, Va.
Satherberg, C. H., A.AM.I.E.E., Midvale Steel Co., Nicetown, Philadelphia, Pa.
Smith, T. Carpenter, 316, Mariner & Merchant-bldg., Philadelphia, Pa.
Weed, A. G., & Co., 106, Liberty-st., New York.

Engineers—Mining.

F.—Ingénieurs—Mines.
G.—Ingenieure—Gruben.

Courtis, W. M., A.M., 449, 4th-ave., Detroit, Mich.
Holt, Marmaduke Burrell, Silverton, Col.
Vander Naillen, A., jun., C.E., 5115, Telegraph-ave., Oakland, Cal.

Engineers' Stores.

F.—Ingénieurs—Fournisseurs et magasins pour.
G.—Ingenieure—Lagerhaus.

Engineers—Telegraph.

F.—Ingénieurs—Télégraphe.
G.—Ingenieure—Telegraphenbau.

Engineers—Telephone.

F.—Ingénieurs—Téléphone.
G.—Ingenieure—Telephon.

Carty, J. J., M.AM.I.E.E., American Telephone & Telegraph Co., 15, Dey-st., New York.
Chester, M. E., A.AM.I.E.E., 463, West-st., New York.
Crossman, G., A.AM.I.E.E., Western Electric Co., 463, West-st., New York.
Durbin, V., Holtzer Cabot Electric Co., Brookline, Mass.
Gherardi, B., American Telephone & Telegraph Co., 15, Dey-st., Brooklyn, N.Y.
Gilman, F. L., M.AM.I.E.E., Western Electric Co., 463, West-st., New York.
Hayward, N., Bell Telephone Co., Philadelphia, Pa.
Holland, N. H., Western Electric Co., New York.
Ideal Construction Co., Harper-blk., Lima, Ohio.
Jones & Winter, 1259, Monadnock-bldg., Chicago.
Miller, K. B., 1454, Monadnock-blk., Chicago, Ill.
Stanton, Le Roy W., 901, Electrical-bldg., Cleveland, Ohio.
Webb, H. Storrs, International Text Book Co., Scranton, Pa.

Engineers—Ventilating.

F.—Ingénieurs—Ventilation.
G.—Ingenieure—Ventilation.

American Blower Co., Detroit, Mich.
Bates, D. L., & Bros. Co., Dayton, Ohio.
Buffalo Forge Co., Buffalo, N.Y.
Eck Dynamo & Motor Co., Belleville, N.J.
Ilg Electric Ventilating Co., 253, East Kinzie-st., Chicago, Ill.

Experimental Electric Work.

F.—Travaux d'essai électrique.
G.—Versuchsweise Elektrische Arbeit.

Bender & Splitdorf, 17–27, Vandewater-st., New York.
Philadelphia Speciality Co., 1941, Market-st., Philadelphia, Pa.

Exporters & Importers of Electrical & Telegraphic Plant.

F.—Exportateurs et Importateurs d'outillage électr. et télégr.
G.—Ausführen & Einführen von Elektr. & Telegr. Materialen.

American Trading Co., 25, Broad-st., New York.

Fan Motors—Makers of.

F.—Moteurs à Ventilation—Fab. de.
G.—Ventilator-Motoren—Fab. von.

Chicago Water, Motor & Fan Co., 22, South Canal-st., Chicago, Ill.
Colonial Fan & Motor Co., Warren, Ohio.
Goldmark, Jas., 83, Warren-st., New York.
Howard & Morse, 45, Fulton-st., New York, N.Y.
Indiana Fan Co., 32–36, East South-st., Indianapolis, Ind.
Peerless Electric Co., Warren, Ohio.
Penna Electric Co., Marietta, Pa.
Rodrigues, M. R., 17, Whipple-st, Brooklyn, N.Y.
Simplex Mfg. Co., The, 90, West-st., New York.
Star Electric Co., Niles, Ohio.
Wizard Co., The, Chicago, Ill.

Feed Water Heaters—Makers of.

F.—Injecteurs pour chaudières—Fab. de.
G.—Apparate zum Temperiren von Speisewasser—Fab. von.

Baragwanath, Wm., & Son, 48–52, West Division-street, Chicago, Ill.
Davis, I. B., & Son, Hartford, Conn.
Goubert Manufacturing Co., 85, Liberty-st., New York.
Harrison Safety Boiler Works, N. Philadelphia Station, Philadelphia, Pa.
Hoppes Manufacturing Co., Belmont-avenue, & Big 4 RR., Springfield, Ohio.

Feed Water Heaters—Makers of—*continued.*

Kensington Engine Works, Ltd., 704, Arch-st., Philadelphia.
National Pipe Bending Co., New Haven, Conn.
Platt Iron Works Co., Dayton, Ohio.
Rice, D. E., 191, Atwater-st., Detroit, Mich.
Spear, James, 1014, Market-st., Philadelphia, Pa.
Stewart Heater Co., Buffalo, N.Y.
Taunton Locomotive Manufacturing Co., Taunton, Mass.
Whitlock Coil Pipe Co., Hartford, Conn.

Fibre.

See VULCANIZED FIBRE.

Fittings Makers—Electrical.

F.—Fournitures pour l'éclairage électrique.
G.—Armaturen—elek.

Aiken & Co., 5th Floor, Century-bldg., Pittsburg, Pa.
Armstrong, Fred A., 348, Court-st., Brooklyn, N.Y.
Baggot, E., Co., 45 & 47, East Lake-st., Chicago, Ill.
Barber & Ross, 11th- & G.-sts., N.W., Washington, D.C.
Barton Netting Co., 250, Woodward-ave., Detroit, Mich.
Baxter & Brown, 36, South Washington-st., Tiffin, Ohio.
Birmingham Guild of Handicraft, Ltd., Century-bldgs., Pittsburgh, Pa.
Brooks, E. F., & Co., 531, 15th-st., Washington, D.C.
Browne & Borum, 52, 2nd-st., Memphis, Tenn.
California Gas Fixture Co., 357–359, Ellis-st., San Francisco, Cal.
Casey, A. C, 894, Westminster-st., Providence, R.I.
Cassidy & Son Manufacturing Co., 135, West 23rd-street, New York, N.Y.
Chicago Gas & Electric Fixture Manufacturing Co., 19, South Jefferson-st., Chicago, Ill.
Crescent Co., 103, West Adams-st., Chicago, Ill.
Davidson, C. Y., Co., 10, South Howard-st., Baltimore, Md.
Day, Thomas, Co., Incorp., 725, Mission-st., San Francisco, Cal.
Detroit Gas & Electric Fixture Co., 68, Grand River-ave., Detroit, Mich.
Edwards, W. S., Manufacturing Co., 21, East Lake-st., Chicago, Ill.
Electric Manufacturing Co., 926, Lafayette-st., New Orleans, La.
Falvy-Wilson Co., New Orleans, La.
Faneleve Specialty Co., Jamaica Plain, Mass.
Freeman, E. H., Electric Co., 20, Chambers, Trenton, N.J.
Garden City Chandelier Co., 162 & 164, South Clinton-st., Chicago, Ill.
Gaumer, John L., Co., 22nd & Wood-sts., Philadelphia, Pa.

Fittings Makers—Electrical—*continued.*

Gibson Gas Fixture Works, 1426, Callowhill-street, Philadelphia, Pa.
Gleason, E. P., Manufacturing Co., 37, Murray-st., New York, N.Y.
Grassler & Gezelschap, 214, Grand-ave., Milwaukee, Wis.
Harvey Hubbell, Inc., Bridgeport, Conn.
Hubbell, Harvey, Inc., Bridgeport, Conn.
Hutchison, W. G., Co., 597, South Spring-st., Los Angeles, Cal.
Iden & Co., 26, University-pl., New York.
Ireland, R. D., & Co., Boston, Mass.
Jackson, H. R., 818, Prudential-bldg., Newark, N.J.
Johnson Bros., 213, Grand-st., New York.
Lagerquist, G., 516, 3rd-st. North, Minneapolis, Minn.
Lawrence Gas Fixture Manufacturing Co., 129, North 12th-st., Philadelphia, Pa.
Ledig, R. G., 821, Cherry-st., Philadelphia, Pa.
Los Angeles Gas & Electric Fixture Manufacturing Co., Los Angeles, Cal.
Luetke Iron & Brass Works, 227, West 29th-st., New York.
MacCoy, J. B., & Son, 114–120, West 30th-st., New York.
McKenney & Waterbury Co., 181, Franklin-st., Boston, Mass.
MacNamara, E. J., 40, East Long-st., Columbus, Ohio.
Mission Fixture Co., 113, West 9th-st., Los Angeles, Cal.
Moormann & Otten, 611, Main-st., Cincinnati, O.
Overbagh & Ayers Manufacturing Co., 232, South Clinton-st., Chicago, Ill.
Philadelphia Electrical & Manufacturing Co., 1228, No. 31st-st., Philadelphia, Pa.
Pittsburg Gas & Electric Co., 428, Pennsylvania-ave., Pittsburgh, Pa.
Premier Novelty Co., 42, River-st., Chicago, Ill.
Price, G. L., 53, Beech-ave., Pittsburgh, Pa.
Reineke, Wilson Co., 13, Wood-st., Pittsburgh, Pa.
Riess Incorp. Light Supply Co., 719, Vine-st., Cincinnati, Ohio.
Russell & Stoll Co., 48, Cliff-st., New York.
St. Louis Brass Manufacturing Co., Jefferson & Washington-aves., St. Louis, Mo.
Sarco Co., The, 906, 6th-ave., New York.
Sechrist, Albert, Manufacturing Co., 17, St. Logan-ave., Denver, Col.
Selzer, C. A., Euclid-ave. & 9th-st., Cleveland, O.
Shapiro & Aronson, 67, Centre-st., New York.
Shirley, J. R., & Sons, 262, Weybosset-st., Providence, R.I.
Shreve, Crump & Low Co., 147, Tremont-st., Boston, Mass.
Sommer, C. R., 386–388, 2nd-ave., New York.
Staines, Bunn & Taber Co., 147, Lawrence-st., Brooklyn, N.Y.
Standard Electric Co., 110, South Western-ave., Chicago, Ill.
Storsberg, F., Newark, N.J.
Sulzer & Co., 821, Cherry-st., Philadelphia, Pa.

Fittings Makers—Electrical—*continued.*

Tarbell, E. H., Co., 85, Washington-st., Boston, Mass.
Toledo Chandelier Manufacturing Co., 127–129–131, Huron-st., Toledo, Ohio.
Tregoming Electric Manufacturing Co., Cleveland, Ohio.
Vosburgh, W. C., Manufacturing Co., Ltd., Brooklyn, N.Y.
Weldeon & Kelly, 305, Wood-st., Pittsburg, Pa.
Western Gasfixture Co., Toledo, Ohio.
Westwater, J. M. & W., 141, North High-st., Columbus, Ohio.
Wuinn, S. A., Masonic-blk., Muskegon, Mich.

Forgings.

F.—Forgés (outils et objets).
G.—Schmiedewaaren.

Bethlehem Steel Co., South Bethlehem, Pa.
Vulcanus Forging Co., 965, Hamilton-st., Cleveland, Ohio.

Friction Gear Manufacturers.

F.—Engrènage-friction—Fab. de.
G.—Reibungstriebwerk.

Van Dorn Electric & Manufacturing Co., 2694, 79th-st., Cleveland, Ohio.

Fuse Boards & Distribution Boards.

F.—Planches fusées et planches de distribution.
G.—Sicherungs-Brette & Verteilungs-Brette.

Fuse Manufacturers—Electric.

F.—Coupe circuit—Fab. de.
G.—Elektr. Zündschnur—Fab. von.

Allen-Bradley Electric Crane Controller, Chicago, Ill.
American Electric Fuse Co., Muskegon, Mich.
D & W Fuse Co., Providence, R.I.
Ricker Manufacturing Co., 300, North Water-st., Rochester, N.Y.
Sachs Co., Hartford, Conn.
Shanda, R., & Co., New York.

Fuse Wire Manufacturers.

F.—Fil fusible—Fab. de.
G.—Draht für Sicherungen—Fab. von.

Chicago Fuse Wire & Mfg. Co., 64, North Jefferson-st., Chicago, Ill.
Detroit Fuse & Manufacturing Co., Detroit, Mich.
Merchant & Co., 517, Arch-st., Philadelphia, Pa.
Shawmut, Chas. E., & Co., 161, Fort Hill-sq., Boston, Mass.

Gas Engine Igniters—Magneto.

Holtzer-Cabot Electric Co., The, Boston (Brookline), Mass. (Telegrams: "Holtzer, Boston.")

Gauge Glass Manufacturers.

F.—Verre de Calibre—Fab. de.
G.—Wasserstandsgläser—Fab. von.

Gauge Makers.

F.—Calibre—Fab. de.
G.—Aichmaasse—Fab. von.

Bristol Co., Waterbury, Conn.
Jones Gauge Co., 5, Broad-st., Boston, Mass.
Reliance Gauge Column Co., Euclid-station, Cleveland, Ohio.

Gears & Pinions.

F.—Engrènages et Pignons.
G.—Triebwerk.

Catskill Fdry. & Machine Works, Catskill, New York.
Morse Chain Co., Ithaca, N.Y.
Simonds Manufacturing Co., 25th & Liberty-sts., Pittsburg, Pa.

General Suppliers of Electrical Requisites.

F.—Fournitures électriques générales.
G.—Händler in Elektrischen Requisitionen.

Alberton & Young Co., Atlantic City, N.J.
Belden Electrical Supply Co., Joplin, Mo.
Brown & Wales, 69–83, Purchase-st., Boston, Mass.
Campbell, W. A., & Co., 193, 31st-st., Chicago, Ill.
Carlton, Guy, Hoblit-bldg., 528, North Main-st., Bloomington, Ill.
Childers & Waters Co., 108, 4th-st., Louisville, Ky.
Citizens' Electric Equipment Co., 39, Cortlandt-st., New York.
Creaghead Engineering Co., 340–342, Main-st., Cincinnati, Ohio.
Doubleday-Hill Electric Co., 919, Liberty-ave., Pittsburgh, Pa.
Eager Electric Co., Watertown, N.Y.
Electric Equipment Co., 526, Court-st., Reading, Pa.
Electrical Novelty Works, 128, Marietta-st., Atlanta, Ga.
El Paso Electrical Supply Co., El Paso, Tex.
Eureka Electric Co., Pittsfield, Mass.
Farrell Bros,, 1143, Penn-ave., Pittsburg, Pa.
Fleron, M. M., Taylor Opera House, Trenton, N.J.
Green Mountain Electric Co., 199, North Main-st., Barre, Vt.
Gillespie Maxson Co., San Francisco, Cal.
Hance Electric Co., 1232, Olive-st., St. Louis, Mo.
Hardy Bros. Co., Raleigh, N.C.
Irish, W. F., Electric Co., 60, Cortlandt-st., New York.
Irvin, D. W., 309, S. 6th-st., Cedar Rapids, Iowa.

General Suppliers of Electrical Requisites—*continued.*

Janesville Contracting Co., Janesville, Wis.
Kramer, O. H. E., 620, North Taylor-ave., St. Louis, Mo.
Kruger, J. L., 137, Grand-ave., Brooklyn, New York.
Lewis, F. A., Wilkes-Barre, Pa.
Lloyd & Smith, 429, River-st., Manistee, Mich.
M. & S. Electrical Co., 220, Paterson-st., Paterson, N.J.
McDonell, Jas., Co., 32, East-ave., Rochester, N.Y.
Miller Machine & Electric Co., Terre Haute, Ind.
Minerva Electric Co., 365, West 118th-st., New York.
Moore, W. G., Lafayette, Ind.
Mountain Electric Co., 1619-1623, Glenarm-st., Denver, Col.
Muskegon Electric Co., 86, West Western-ave., Muskegon, Mich.
National Stamping & Electric Works, 153-159, South Jefferson-st., Chicago, Ill.
New York Electric Co., Colorado Springs, Col.
Northern Electrical Co., Duluth, Minn.
O. K. Electric Equipment Co., 505, Washington-st., Hoboken, N.J.
Palo Alto Electrical Works, Palo Alto, Cal.
Providence Electric Supply Co., 65, South Main-st., Providence, R.I.
Supply Manufacturing Co., 32nd & Smallman-sts., Pittsburgh, Pa.
Taylor, Seymour, Glens Falls, N.Y.
Thornley, Wm., 259, South 10th-st., Philadelphia, Pa.
Tower-Binford Electric & Manufacturing Co., Richmond, Va.
Western Electric Works, Portland, Ore.
Williamson & Cassidy, 526, Market-st., Philadelphia, Pa.
Yearsley, T., 3032, Ridge-ave., Philadelphia, Pa.
Zimmerman, A., 762, 8th-ave., New York.

Glass Manufacturers.

F.—Verrerie—Fab. de.
G.—Glas—Fabr. von.

Gillinder & Sons, Inc., 135, Oxford-st., Philadelphia, Pa.
Lippincott Glass Co., Alexandria, Ind.
Macbeth-Evans Glass Co., Pittsburgh, Pa.
Pass & Seymour, Incorp., Solvay, N.Y.
Whitney Glass Works, 227, South Front-st., Philadelphia, Pa.

Globes for Electric Lighting—Makers of.

F.—Globes en verre pour lampes électr.—Fab. de.
G.—Glasglocken für Elektr. Licht.

Barth, Emanuel, Pottsville, Pa.
Byesville Glass & Lamp Co., Byesville, Ohio.
Century Glass Co., Bellaire, Ohio.
Cleveland Window Glass & Door Co, Cleveland, Ohio.

Globes for Electric Lighting—Makers of —*continued.*

Fostoria Glass Specialty Co., Fostoria, Ohio.
Haskins Glass Co., Wheeling, W. Va.
Holopane Co., 227, Fulton-st., New York.
McFadden, H. G., & Co., 38, Warren-st., New York.
Murray, James J., & Co., Trenton-ave., Willard & Westmoreland-sts., Philadelphia, Pa.
Union Glass Co., Somerville, Mass.

Governor Makers.

F.—Régulateurs—Fab. de.
G.—Regulatoren—Fab. von.

Lombard Governor Co., Ashland, Mass.
Waters Governor Co., 34, Oliver-st., Boston, Massachusetts.
Woodward Governor Co., Rockford, Ill.

Heating Apparatus Makers—Electric.

F.—Appareils électriques de chauffage—Fab. de.
G.—Heizungs-apparaten—Elektrische—Fab. von.

American Electrical Heater Co., 121-123, State-st., Detroit, Mich.
Barr Electric Manufacturing Co., Cleveland, O.
Burton Electric Co., Richmond, Va.
Consolidated Car Heating Co., Albany, New York, N.Y.
Del Sales Co., 250, Dearborn-st., Chicago, Ill.
Electric Sad Iron Co., Detroit, Mich.
Excel Electric Heating Co., 54, Vesey-st., New York.
H. C. K. Co., 30, Greenwich-ave., New York.
Hadaway Electric Heating & Engineering Co., 228, West Broadway, New York.
Harwood Electric Heating Co., Hutchinson, Kan.
Hoskins Manufacturing Co., 447, Lawton-ave., Detroit, Mich.
Manhattan Electric Range Co., 150, Nassau-st., New York.
Meier Dental Manufacturing Co., 507, Calver May, St. Louis, Mo.
Pelonze Electric Heater Co., 403, Ohio-st., Chicago, Ill.
Prometheus Electric Co., 236, East 43rd-st., New York.
St. Louis Electric Heating Co., St. Louis, Mo.
Simplex Electric Heating Co., Cambridge, Mass.
Vulcan Electric Heating Co., 540, West Jackson-boul., Chicago, Ill.
Webster, Warren & Co., Point & Elm-sts., Camden, N.J.
Williams, Roger, 25, West 42nd-st., New York.

Incandescent Lamp Manufacturers—Electric.

F.—Lampes électriques à Incandescence—Fab. de.
G.—Elektrische Glühlampen.

American Electric Lamp Co. of N.Y., 29, West 15th-st., New York.

Incandescent Lamp Manufacturers—Electric—*continued.*

Banner Electric Co., Youngstown, Ohio.
Bay State Lamp Co., Danvers, Mass.
Bernstein Electric Co., 355, Congress-st., Boston, Mass.
Boehm, H., & Co., Youngstown, Ohio.
Boston Incandescent Lamp Co., Danvers, Mass.
Brilliant Electric Co., Cleveland, Ohio.
Bryan-Marsh Co., Metropolitan-bldg., 1, Madison-ave., New York.
Buckeye Electric & Gas Appliance Co., 5242, Broadway, Cleveland, Ohio.
Colonial Electric Co., Warren, Ohio.
Columbia Incandescent Lamp Co., 2115, Locust-st., St. Louis, Mo.
Consolidated Electric Lamp Co., Danvers, Massachusetts.
Downward Light Electric Co., 34, 5th-ave., New York.
Duplex Electric Manufacturing Co., Ltd., Corry, Pa.
Economical Electric Lamp Co., 96, Warren-st., New York.
Economy Electric Co., Warren, Ohio.
Edison Lamp Works (General Electric Co.'s Incandescent Lamp Factory), Harrison, New Jersey.
Efandem Co., 201, East 16th-st., New York.
Electrical Accessories Co., 1135, Broadway, New York.
Franklin Electric Manufacturing Co., Hartford, Conn.
General Incandescent Lamp Co., Cleveland, Ohio.
Gilmore Electric Co., Boston, Mass.
Heany Lamp Co., 25, Broad-st., New York.
Hill-Wright Electric Co., 105, Reade-st., New York.
Hygrade Incandescent Lamp Co., 136, Liberty-st., New York.
Independent Incandescent Lamp Co., 2116, St. Charles-st., St. Louis, Mo.
Kentucky Electrical Co., Owensboro, Ky.
Lynn Incandescent Lamp Co., Lynn, Mass.
McCandless, H. W., & Co., 67–69, Park-pl., New York.
Marlborough Electric Machine & Lamp Co., Marlborough, Mass.
Missouri-American Electric Co., St. Louis, Mo.
National Electric Lamp Co., Cleveland, Ohio.
New York & Ohio Co., Warren, Ohio.
Novelty Incandescent Lamp Co., Emporium, Pa.
O'Brien Electric Light Co., 1710, Market-st., Philadelphia, Pa.
Pittsburgh Incandescent Lamp Co., Arrott Power-bldg., Pittsburgh, Pa.
Plattsmouth Lamp Manufacturing Co., Plattsmouth, Neb.
Rooney Electric Lamp Co., 155, East 23rd-st., New York.
St. Mary's Incandescent Lamp Co., St. Mary's, Pa.
Sawyer-Mann Electric Co., 519, West 23rd-st., New York.

Incandescent Lamp Manufacturers—Electric—*continued.*

Shelby Electric Co., Shelby, Ohio.
Sterling Electric Manufacturing Co., Warren, O.
Sunbeam Incandescent Lamp Co., 259, South Clinton-st., Chicago, Ill.
Tipless Lamp Co., 256, West 23rd-st., New York.
U.S. Electrical Supply Co., 141, East 25th-st., New York.
U.S. Incandescent Lamp Co., St. Louis, Mo.
Westinghouse Lamp Co., 510, West 23rd-st., New York.
World Incandescent Lamp Co., Chicago, Ill.

Indiarubber & Gutta-Percha Manufacturers & Dealers.

F.—Caoutchouc et Gutta Percha—Fab. et march. de.
G.—Gummi u. Gutta Percha—Fabr. und Händler.

American Hard Rubber Co., 9–13, Mercer-st., New York.
Chase, M. C., 43–45, South Canal-st., Chicago, Illinois.
Goodrich, B. F., Co., 1625, Broadway, New York.
Goodyear Hard Rubber Co., 9–13, Mercer-street, New York, N.Y.
Gutta-Percha & Rubber Manufacturing Co., 98, Lake-street, Chicago, Ill.
Horn, M. T., Co., 82, Park-pl., New York.
Morgan & Wright, Detroit, Mich.
National Indiarubber Co., Bristol, R.I.
New York Belting & Packing Co., Ltd., 91, Chambers-st., New York.
Peerless Rubber Manufacturing Co., 16, Warren-st., New York.
People's Hard Rubber Co., Akron, Ohio.
Wilkie Rubber Manufacturing Co., Lynn, Mass.

Injector & Steam Jet Pump Makers.

F.—Injecteurs et pompes à vapeur—Fab. d'.
G.—Dampfeinspritzer—Fabr. von.

American Injector Co., Detroit, Mich.
Bushnell, John S., 120, Liberty-st., New York.
Penberthy Injector Co., Detroit, Mich.

Inspectors (Electrical)—Government & Municipal.

F.—Inspecteurs électr. du gouvernement et municipalité.
G.—Electr. Inspectoren—Regierungs & Städtische.

Cabot, F. E., Boston, Mass.
Eden, R. C., Underwriters' Association of the Middle Dept., 22, Clinton-st., Newark, New Jersey.
Forsyth, J. C., N.Y. Board of Fire Underwriters, 32, Nassau-st., New York, N.Y.
Lowson, D., 59th-st. & Park-ave., New York.
Morgan, Jacque L., A.M.AM.I.E.E., City Hall, Kansas City, Mo.
Sweetland, R., A.AM.I.E.E., New England Insurance Exchange, 147, Milk-st., Boston, Mass.
Van Gieson, A. E., 32, Nassau-st., New York, N.Y.

Instrument Manufacturers—Electrical.

F.—Appareils électriques—Fab. de.
G.—Elektrische Instrumente—Fabr. von.

Biddle, James G., 1144, Chestnut-st., Philadelphia, Pa.
Dongan Instrument Co., Albany, N.Y.
Gaertner, Wm., & Co., 5345, Lake-ave., Chicago, Ill.
Hoeschen Manufacturing Co., 1304, Douglas-st., Omaha, Neb.
Hoyt Electrical Instrument Works, Penacook, N.H.
International Instrument Co., Cambridge, Mass.
Kleinschmidt, E., 231–235, Greenwich-st., New York.
Leeds & Northrup Co., Wayne Junction, Philadelphia, Pa.
Mayer, Geo. M., 241, S. Jefferson-st., Chicago, Ill.
Norton Electrical Instrument Co., Manchester, Conn.
Ritchie, E. S., & Sons, Brookline, Mass.
Stoelting, C. H., Co., 31–45, W. Randolph-st., Chicago, Ill.
Technical Supply Co., 44, East 14th-st., New York.
Tropp, B., 193, Greenwich-st., New York.
Van Houten & Ten Broeck, 214, East 23rd-st., New York.
Vose, Ralph, 25, Sunnyside-st., Hyde Park, Mass.
Warner Instrument Co., 55, Roosevelt-ave., Beloit, Wis.
Weston Electrical Instrument Co., 114, William-st., Newark, N.J.
Wiley & Russell Manufacturing Co., Greenfield, Mass.

Insulating Material Manufacturers.

F.—Matière Isolante—Fab. de.
G.—Isolations Materialen—Fab. von.

American Insulating Material Manufacturing Co., Alexandria, Ind.
Bartlett, H. N., & Co., 57, Warren-st., New York.
Case Bros., Highland Park, Conn.
Compressed Fibre Co., 6, Beacon-st., Boston, Mass.
Delaware Hard Fibre Co., Wilmington, Del.
Diamond Rubber Co., Akron, Ohio.
Dickinson Manufacturing Co., Springfield, Mass.
Dielectric Manufacturing Co., St. Louis, Mo.
Electrose Manufacturing Co., 127, North 10th-st., Brooklyn, N.Y.
Green Insulation Co., 235, Arcade, Cleveland, O.
Hollingsworth & Vose Co., 141, Milk-st., Boston, Mass.
Keystone Fifre Co., 1524, Chestnut-st., Philadelphia, Pa.
Knowles, C. S., 7, Arch-st., Boston, Mass.
Mica Insulator Co., 68, Church-st., New York.
Minerallac Electric Co., 839, Monadnock-blk., Chicago, Ill.
Mitchell, W. E. G., 88, Maiden-lane, New York.
Pittsburgh Insulating Co., Pittsburgh, Pa.

Insulating Material Manufacturers—*continued.*

Rogers Paper Manufacturing Co., South Manchester, Conn.
Standard Asphalt & Rubber Co., 205, La Salle-st., Chicago, Ill.
Trotter, E. T., & Co., 602, Johnson-ave., Brooklyn, N.Y.
United Indurated Fibre Co., Lockport, N.Y.
Vulcanized Fibre Co., Wilmington, Del.
Wilmington Fibre Specialty Co., Wilmington, Del.

Insulators (Electrical) Manufacturers.

(*See also* Battery Jars.)

F.—Isoloirs—Fab. d'.
G.—Isolatoren—Elektrische—Fabrikanten.

American Lava Co., Chattanooga, Tenn.
Bear-Deem Porcelain Mfg. Co., Reading, Pa.
Brookfield Glass Co., 2, Rector-st., New York, N.Y.
Central Manufacturing Co. (pins, brackets & cross-arms), Chattanooga, Tenn.
Cook Pottery Co., Trenton, N.J.
Diamond Glass Co., Royersford, Pa.
Diamond Porcelain Co., Trenton, N.J.
Flagg, Stanley G., & Co., Philadelphia, Pa.
Harloe Insulator Co., Hawley, Pa.
Hemingray Glass Co., Covington, Ky.
Lima Insulator Co., Lima, N.Y.
Macallen, W. T. C., Co., 338, Congress-st., Bost n, Mass.
Nightingale, S. C., & Childs, 451–461, Atlantic-ave., Boston, Mass.
Pittsburg High Voltage Insulator Co., Derry, Pa.
Reconstructed Granite Co., 14, Dey-st., New York, N.Y.
Sachs Electric Co., St. Louis, Mo.
Standard Glass Insulators, Brookfield, Mo.
Star Porcelain Co., Trenton, N.J.
Steward, D. M., Manufacturing Co., Chattanooga, Tenn.
Trenton Porcelain Co., Trenton, N.J.

Iron & Steel Manufacturers & Merchants.

F.—Fer et acier—Fabr. et March. de.
G.—Eisen & Stahl Fabr. u. Händler.

Coe, J. A., & Co., 106, Mulberry-st., Newark, New Jersey.
Jessop, Wm., & Sons, 91, John-st., New York.
Wilson & Smith, 38, Vine-st., Worcester, Mass.

Laboratories—Electrical.

F.—Laboratoires électr.
G.—Electr. Werkstätten.

Buffalo Electrical Laboratory, Erie Co. Bank-bldg., Buffalo, N.Y.

Lacquer & Varnish.

F.—Laques et Vernis.
G.—Lack & Firniss.

Macon-Evans Varnish Co., Pittsburgh, Pa.
Sherwin-Williams Co., 601, Canal-rd. N.W., Cleveland, Ohio.

Lamp Holder Makers.

F.—Portes-Lampes—Fab. de.
G.—Lampen Fassungen—Fab.

Bliss-Chester Co., Providence, R.I.
White, O. C., Co., Worcester, Mass.

Lamp Post Manufacturers (for Electric & Telegraphic Purposes).

F.—Poteaux pour l'électricité et la télégraphie—Fab. de.
G.—Lampenpfosten (für elek. u. Teleg. Zwecke)—Fabr. von.

Dinn, P. J., & Co., 278, Dover-st., Boston, Mass.

Lathes.

See Machine Tool Makers.

Launch Designers & Builders—Electric.

F.—Bateaux électriques—Dessinateurs et Cons. de.
G.—Boot Entwürfe & Bau—Elektrische.

Electric Launch Co., Bayonne, N.J.
Milwaukee Electric Launch Co., North-ave., Milwaukee, Wis.

Lead-Covered Cable Makers.

F.—Cables couverts de plomb.
G.—Bleibedeckte Kabel—Fab. von.

Western Electric Co., 259, South Clinton-st., Chicago, Ill.; West & Bethune-sts., New York.
See also Alphabetical.

Lecturers' Apparatus—Manufacturers.

F.—Lecteurs—Fab. d'appareils pour.
G.—Vorleser—Fabr. von Apparate für.

Lettering on Ivory.

F.—Ecriture sur Ivoire.
G.—Buchstaben Graveure auf Elfenbein.

Empire Electric Sign Co., 107, West 29th-st., N.Y.

Lifts (Electric)—Makers of.

F.—Ascenseurs électriques—Fab. de.
G.—Aufzüge—Elektrische—Fab. von.

American Hoist & Derrick Co., St. Paul, Minn.
Brown Hoisting Machinery Co., Cleveland, Ohio.
Burdett-Rowntree Manufacturing Co., Chicago.
Central Iron Works Foundry, Quincy, Ill.

Lifts (Electric)—Makers of—*continued.*

Cincinnati Elevator Works, 216, West 2nd-st., Cincinnati, Ohio.
Elevator Supply & Repair Co., 114–118, Liberty-st., New York.
Elevator Supply & Repair Co., 76, W. Monroe-st., Chicago, Ill.
Erickson-Wyman Co., Seattle, Wash.
Kenny Electric Manufacturing Co., Nassau-Beckman-bldg., New York.
Lidgerwood Manufacturing Co., 96, Liberty-st., New York.
Maline Elevator Co., Maline, Ill.
Omaha Electrical Works, 108, North 11th-st., Omaha, Nob.
Otis Elevator Co., 17, Battery-pl., New York.
Reedy Elevator Manufacturing Co., Chicago, Ill.
Reedy, H. J., Co., 11, 13 & 15, West 2nd-st., Cincinnati, Ohio.
Roberts, J. H., 430, West Broadway, New York.
Springfield Elevator & Pump Co., Springfield, Mass.
Sulzer-Vogt Machine Co., Louisville, Ky.
Union Elevator & Machine Co., 144, Ontario-st., Chicago, Ill.
Van Emon Elevator Co., San Francisco, Cal.
Warner Elevator Mfg. Co., Cincinnati, Ohio.

Light, Power & Traction Companies—Electric.

Having Central Stations.

F.—Eclairage, force et traction électrique (Compagnies d').
G.—Gesellschaften für Elektrische Beleuchtung, Kraft u. Zug.

Abilene Electric Light & Power Co., Abilene, Tex.
Addison Electric Light & Power Co., Addison, N.Y.
Alabama Electric Light & Power Co., Opelika, Ala.
Alabama Power Development Co., Talladega, Ala.
Alaska Water, Light & Telephone Co., Valdez, Alaska.
Albany & Hudson Railway Co., Hudson, N.Y.
Albany Water & Light Plant, Albany, Mo.
Albert Lea Light & Power Co., Albert Lea, Minn.
Albia Electric Light & Power Co., Albia, Iowa.
Albuquerque Gas, Electric Light & Power Co., Albuquerque, New Mexico.
Alexandria City Electric Light & Water Works, Alexandria, La.
Algoma City Electric Light Plant, Algoma, Wis.
Allegan Light & Power Co., Allegan, Mich.
Allegheny County Light Co., Pittsburg, Pa.
Alliance Gas & Electric Co., Alliance, Ohio.
Alpena Electric Light Co., Alpena, Mich.
Alton Gas & Electric Co., Alton, Ill.
Alton, Granite & St. Louis Traction Co., Alton, Ill.
Amador Electric Railway & Light Co., Sutter Creek, Cal.

Light, Power & Traction Companies—Electric—*continued.*

American Falls Power Co., Pocatello, Iowa.
American Gas & Electric Co., 30, Church-st., New York City.
American Light & Traction Co., 40, Wall-st., New York City.
Americus Illuminating & Power Co., Americus, Ga.
Amesbury Electric Light, Heat & Power Co., Amesbury, Mass.
Amherst Gas Co., Amherst, Mass.
Amityville Electric Light Co., Amityville, N.Y.
Anaconda Electric Light & Railway Department, Anaconda, Mont.
Anacortes Water Co., Anacortes, Washington.
Anaheim City Electric Light Plant, Anaheim, Cal.
Anderson Water, Light & Power Co., Anderson, S. Carolina.
Angola Railway & Power Co., Angola, Ind.
Animas Power & Water Co., Silverton, Col.
Annapolis Gas & Electric Co., Annapolis, Md.
Anoka Electric & Water Works, Anoka, Minn.
Anthracite Electric Light & Power Co., Pottsville, Pennsylvania.
Antigo Edison Electric Light Co., Antigo, Wis.
Arapahoe Electric Light & Power Co., Littleton, Colorado.
Arcadia Electric Light, Ice & Telephone Co., Arcadia, Florida.
Arkansas City Gas & Electric Light Co., Arkansas City, Kansas.
Asheville Electric Co., Asheville, North Carolina.
Ashland Electric Power & Light Co., Ashland, Oregon.
Ashland Light, Power & Street Railway Co., Ashland, Wisconsin.
Astoria Electric Co., Astoria, Oregon.
Atchison Railway, Electric Light & Power Co., Atchison, Kansas.
Athens Electric Railway Co., Athens, Georgia.
Athol Gas & Electric Co., Athol, Massachusetts.
Atlantic Coast Electric Light Co., Asbury Park, New Jersey.
Atlantic County Electric Co., Egg Harbor, New Jersey.
Atlantic Electric Light Works, Atlantic, Iowa.
Atlantic Electric Light & Power Co., Atlantic City, New Jersey.
Auburn Light, Heat & Power Co., Auburn, N.Y.
Auburn Water & Electric Light Works, Auburn, Indiana.
Augusta & Aiken Railway Co., Augusta, Ga.
Augusta Railway & Electric Co., Augusta, Georgia.
Aurora, Elgin & Chicago R.R. Co., Chicago, Ill.
Aurora Gas Light, Coal & Coke Co., Aurora, Indiana.
Aurora Light, Power & Refrigerating Co., Aurora, Mo.
Austin Electric Railway Co., Austin, Tex.
Ayer Electric Light Co., Ayer, Massachusetts.

Light, Power & Traction Companies—Electric—*continued.*

Azusa, City of, Electric Light & Power Plant, Azusa, Cal.
Babylon Electric Light Co., Babylon, New York.
Bakersfield Power, Transit & Light Co., Bakersfield, California.
Ballston Spa Electric Light & Power Co., Ballston Spa, New York.
Baltimore County Water & Electric Co., Baltimore, Md.
Bangor Electric Light, Heat & Power Co., Bangor, Pa.
Bangor Railway & Electric Co., Lighting Department, Bangor, Maine.
Bar Harbour & Union River Power Co., Bar Harbour, Maine.
Baraboo Light, Heat & Power Co., Baraboo, Wisconsin.
Barnesville Gas & Electric Light Co., Barnesville, Ohio.
Barre & Montpelier Traction & Power Co., Barre, Vermont.
Barres Electric Light & Power Co., Maquoketa, Iowa.
Bartlett Illuminating Co., Saginaw, Michigan.
Batesville Water Works & Electric Light Plant, Batesville, Ark.
Bath Electric & Gas Light Co., Bath, N.Y.
Bay City Electric Dept., Bay City, Michigan.
Beacon Light Co., Chester, Pennsylvania.
Beatrice Electric Co., Beatrice, Nebraska.
Beaumont Ice, Light & Refrigerating Co., Beaumont, Texas.
Beaumont Traction Co., Beaumont, Tex.
Beaver Dam Illuminating Co., Beaver Dam, Wisconsin.
Bedford Electric Light, Heat & Power Co., Bedford, Pennsylvania.
Bedford Heat, Light & Power Co., Bedford, Ind.
Belfast Gas & Electric Co., Belfast, Maine.
Belle Plaine Electric Light Co., Belle Plaine, Iowa.
Belleaire Light & Power Co., Belleaire, Ohio.
Bellefonte Electric Co., Bellefonte, Pennsylvania.
Bellevue Electric Light & Water Plant, Bellevue, Iowa.
Bellevue Illuminating & Power Co., Bellevue, Ohio.
Bellwood Electric Light Co., Bellwood, Pa.
Beloit Light & Water Co., Beloit, Kan.
Beloit Water, Gas & Electric Co., Beloit, Wis.
Bennington & Woodford Electric Rail Road Co., Bennington, Vermont.
Benton Harbor-St. Joe Railway & Light Co., Benton Harbor, Mich.
Berea Water Works & Electric Light Plant, Berea, Ohio.
Berkeley Electric Lighting Co., Berkeley, California.
Berlin Electric Light Co., Berlin, N.H.
Berwick Electric Light Co., Berwick, Pa.
Bethel Electric & Power Co., Bethel, Vt.

Light, Power & Traction Companies—Electric—*continued.*

Bethlehem Electric Light Co., Bethlehem, N.H.
Bethlehem Electric Light Co., Bethlehem, Pennsylvania.
Beverly Gas & Electric Co., Beverly, Mass.
Big Creek Light & Power Co., Santa Cruz, Cal.
Binghamton Light, Heat & Power Co., Binghamton, N.Y.
Birmingham Electric Light Co., Birmingham, Alabama.
Black River Traction Co., Watertown, N.Y.
Blair Electric Light & Power Co., Blair, Nebraska.
Blanchester Electric Light & Water Works, Blanchester, Ohio.
Blue Earth Electric Light & Water Works, Blue Earth, Minnesota.
Blue Grass Traction Co., Lexington, Ky.
Bluffton City Electric Light Plant, Bluffton, Ohio.
Boardman River Electric Light & Power Co., Traverse City, Mich.
Bodwell Water Power Co., Bangor, Maine.
Boonville Electric Light & Power Co., Boonville, Indiana.
Bordentown Electric Light & Motor Co., Bordentown, N.J.
Borough Electric Light Plant, Groton, Conn.
Boston Elevated Railway Co., Boston, Mass.
Boston & Great Falls Electric Light & Power Co., Great Falls, Montana.
Boston & Northern Street Railway, Boston, Mass.
Boston & Worcester Street Rly. Co., Boston, Mass.
Boulder Electric Light & Power Co., Boulder, Colorado.
Bowling Green Gas Light Co., Bowling Green, Ky.
Bridgeport Electric Light & Power Co., Bridgeport, Ohio.
Bridges & Holly Electric Light Co., Navasota, Tex.
Bridgeton Electric Co., Bridgeton, N.J.
Brigham City Electric Light & Power Plant, Brigham City, Utah.
Bristol & Plainville Tramway Co., Bristol, Connecticut.
Brockport Electric Co., Brockport, New York.
Brookfield Electric Light Co., Brookfield, Mo.
Brownsville Electric Light Co., Brownsville, Pa.
Brunswick Electric Light & Power Co., Brunswick, Maine.
Brush Electric Illuminating Co. of N.Y., 1170, Broadway, New York.
Brush Electric Light & Power Co., Galveston, Texas.
Buckhannon Light & Water Co., Buckhannon, West Virginia.
Bucyrus Gas & Electric Light Co., Bucyrus, Ohio.
Buena Vista Electric Light & Power Plant, Buena Vista, Col.
Buffalo General Electric Co., Buffalo, N.Y.

Light, Power & Traction Companies—Electric—*continued.*

Buffalo & Lake Erie Traction Co., Buffalo, N.Y.
Buffalo & Niagara Falls Electric Light & Power Co., Niagara Falls, New York.
Burlington Electric Light & Power Co., Burlington, New Jersey.
Burlington Light & Power Co., Burlington, Vermont.
Burlington Light & Power Co., Burlington, Wis.
Burlington Railway & Light Co., Burlington, Ind.
Burlington Traction Co., Burlington, Vt.
Butler Light, Heat & Motor Co., Butler, Pa.
Butte Electric & Power Co., Butte, Mont.
Cairo Electric & Traction Co., Cairo, Ill.
Calumet Lighting Co., Harvey, Ill.
Cambridge Electric Light Co., Cambridge, Mass.
Camden Water, Light & Ice Co., Camden, South Carolina.
Canton Gas & Electric Co., Canton, Ill.
Cape Fear Power Co., Fayetteville, N.C.
Cape Girardeau Water Works & Electric Light Co., Cape Girardeau, Mo.
Cape May Light & Power Co., Cape May City, N.J.
Capital Electric Light, Motor & Gas Co., Boise City, Idaho.
Capital Gas & Electric Light Co., Frankfort, Kentucky.
Capital Light & Power Co., Jackson, Miss.
Carlisle Gas & Water Co., Carlisle, Pennsylvania.
Caro Light & Power Co., Caro, Michigan.
Carolina Light & Power Co., Aiken, S.C.
Carondelet Electric Light & Power Co., St. Louis, Missouri.
Carpenter Electric Light & Power Co., Catlettsburg, Kentucky.
Carroll Light & Heat Co., Carroll, Iowa.
Carrollton Electric Co., Carrollton, Georgia.
Carteret Electric Light & Power Co., Carteret, N.J.
Carthage Electric Light Co., Carthage, N.Y.
Carthage Electric Light & Heating Co., Carthage, Ill.
Cataract Construction Co., Niagara Falls, N.Y.
Cedar Rapids & Iowa City Railway & Light Co., Cedar Rapids, Iowa.
Celina Electric Light Plant, Celina, Ohio.
Centerville Light & Traction Co., Centerville, Iowa.
Central California Electric Co., Sacramento, Cal.
Central Colorado Power Co., Denver, Col.
Central Indiana Lighting Co., Alexandria, Ind.
Central Indiana Lighting Co., Bloomington, Ind.
Central Massachusetts Electric Co., Palmer, Mass.
Centralia Gas & Electric Co., Centralia, Illinois.
Chambersburg Electric Light Dept., Chambersburg, Pa.
Charleston Illuminating Co., Charleston, Ill.
Charleston Light & Power Co., Charleston, South Carolina.
Charlestown Gas & Electric Co., Boston, Mass.

Light, Power & Traction Companies—Electric—*continued.*

Charlotte Electric Railway, Light & Power Co., Charlotte, N.C.
Chatfield Electric Light & Power Co., Chatfield, Minn.
Chatham Electric Light, Heat & Power Co., Chatham, N.Y.
Chautauqua Traction Co., Jamestown, N.Y.
Chelsea Electric Light & Robbin Co., Chelsea, Vt.
Chelsea Gas Light Co., Chelsea, Massachusetts.
Cherokee Electric Light & Power Co., Cherokee, Iowa.
Chester Light & Ice Plant, Chester, Ill.
Chester Valley Electric Light, Heat & Power Co., Downington, Pa.
Cheyenne Light, Fuel & Power Co., Cheyenne, Wyoming.
Chicago Consolidated Traction Co., Chicago, Ill.
Chicago Department of Electricity, Chicago, Ill.
Chicago Illuminating Co., Chicago, Illinois.
Chicago & Oak Park Elevated R.R. Co., Chicago, Ill.
Chicago Railways Co., Chicago, Ill.
Chicago Suburban Water & Light Co., Oak Park, Ill.
Chico Gas & Electric Co., Chico, Cal.
Chicopee Municipal Electric Light Plant, Chicopee, Mass.
Chillicothe Electric Light & Water Works, Chillicothe, Ill.
Chillicothe Electric Railroad, Light & Power Co., Chillicothe, Ohio.
Chippewa Falls Water Works & Lighting Co., Chippewa Falls, Wis.
Chippewa Valley Electric R. R. Co., Eau Claire, Wis.
Cincinnati & Columbus Traction Co., Cincinnati, Ohio.
Cincinnati Gas & Electric Co., Cincinnati, Ohio.
Cincinnati, Lawrenceburg & Aurora Electric Street Railroad Co., Cincinnati, Ohio.
Cincinnati, Milford & Loveland Traction Co., Cincinnati, Ohio.
Cincinnati, Newport & Covington Light & Traction Co., Covington, Ky.
Circleville Light & Power Co., Circleville, Ohio.
Citizens' Electric Co., Battle Creek, Michigan.
Citizens' Electric Illuminating Co., Pittston, Pa.
Citizens' Electric Light Co., Shenandoah, Pa.
Citizens' Electric Light, Heat & Power Co., Altoona, Pa.
Citizens' Electric Light, Heat & Power Co., McDonald, Pa.
Citizens' Electric Light, Heating & Power Co., Slatington, Pa.
Citizens' Electric Light & Power Co., Clifton Heights, Pa.
Citizens' Electric Light & Power Co., Cordele, Ga.
Citizens' Electric Light & Power Co., East St. Louis, Illinois.
Citizens' Electric Light & Power Co., Pueblo, Col.
Citizens' Gas & Electric Co., Council Bluffs, Iowa.

Light, Power & Traction Companies—Electric—*continued.*

Citizens' Gas & Electric Co., Lorain, Ohio.
Citizens' Gas & Electric Co., Trenton, Mo.
Citizens' Gas, Electric & Heating Co., Mount Vernon, Ill.
Citizens' Gas & Electric Light Co., Waterloo, Iowa.
Citizens' Gas, Electric & Power Co., Nantucket, Mass.
Citizens' Gas, Light & Heat Co., Bloomington, Ill.
Citizens' Light, Heat & Power Co., Eagle Grove, Iowa.
Citizens' Light, Heat & Power Co., Johnstown, Pennsylvania.
Citizens' Light, Heat & Power Co., Montgomery, Ala.
Citizens' Light & Power Co., Fort Worth, Tex.
Citizens' Light, Power & Water Co., Ketchikan, Alaska.
Citizens' Lighting Co., La Salle, Illinois.
Citizens' Railway & Light Co., Fort Worth, Tex.
Citizens' Railway & Light Co., Muscatine, Iowa.
Citizens' Railway, Light & Power Co., Newport News, Va.
Citizens' Water & Light Co., Shelbyville, Indiana.
Citizens' Water & Light Co., Winchester, Ind.
City Electric Light Plant, Alexandria, Minnesota.
City Electric Light Plant, Allegheny, Pennsylvania.
City Electric Light Plant, Ames, Iowa.
City Electric Light Plant, Bloomfield, Iowa.
City Electric Light Plant, Blue Island, Illinois.
City Electric Light Plant, Bluffton, Ind.
City Electric Light Plant, Bowling Green, Kentucky.
City Electric Light Plant, Brainerd, Minnesota.
City Electric Light Plant, Coldwater, Michigan.
City Electric Light Plant, Columbus, Indiana.
City Electric Light Plant, Danvers, Mass.
City Electric Light Plant, Dover, Del.
City Electric Light Plant, Dunkirk, New York.
City Electric Light Plant, Easton, Pennsylvania.
City Electric Light Plant, Falls City, Nebraska.
City Electric Light Plant, Frederick, Maryland.
City Electric Light Plant, Galveston, Texas.
City Electric Light Plant, Goshen, Indiana.
City Electric Light Plant, Greenfield, Indiana.
City Electric Light Plant, Indianola, Iowa.
City Electric Light Plant, Jamestown, New York.
City Electric Light Plant, Kalamazoo, Mich.
City Electric Light Plant, Lewiston, Maine.
City Electric Light Plant, Litchfield, Minnesota.
City Electric Light Plant, Little Rock, Arkansas.
City Electric Light Plant, Lyons, Iowa.
City Electric Light Plant, Marquette, Michigan.
City Electric Light Plant, Marshalltown, Iowa.
City Electric Light Plant, Muncie, Indiana.
City Electric Light Plant, North Attleboro, Mass.
City Electric Light Plant, Northfield, Vermont.
City Electric Light Plant, Owensboro, Ky.
City Electric Light Plant, Paris, Illinois.
City Electric Light Plant, Savannah, Missouri.

Light, Power & Traction Companies—Electric—*continued.*

City Electric Light Plant, St. Charles, Missouri.
City Electric Light Plant, St. Joseph, Missouri.
City Electric Light Plant, Stuart, Iowa.
City Electric Light Plant, Swanton, Vermont.
City Electric Light Plant, Topeka, Kansas.
City Electric Light Plant, Waseca, Minnesota.
City Electric Light Plant, Wheeling, W. Va.
City Electric Light Plant, Ypsilanti, Michigan.
City Electric Light & Power Plant, Hannibal, Mo.
City Electric Light & Power Plant, Richmond, Ind.
City Electric Light & Power Plant, Seattle, Wash.
City Electric Light & Water Plant, Attica, Ind.
City Electric Light & Water Plant, Batavia, Ill.
City Electric Light & Water Plant, Holland, Mich.
City Electric Light & Water Plant, Troy, Ala.
City Electric Light & Water Works Plant, Lansing, Mich.
City Electric Lighting Co., Vincennes, Ind.
City Gas & Electric Co., Paris, Ill.
City Gas Light Co., Norfolk, Virginia.
City Heat & Light Co., Fostoria, Ohio.
City Light & Water Works, Gallatin, Mo.
City of Austin Light & Power Plant, Austin, Minnesota.
City of Bloomington Water & Light Department, Bloomington, Ill.
City of Brookings, Brookings, South Dakota.
City of Hamilton Electric Lighting Plant, Hamilton, Ohio.
City Water Light Plant, Gainesville, Georgia.
City Water & Light Plant, Rushville, Indiana.
Claremont Power Co., Claremont, N.H.
Claremont Railway & Lighting Co., Claremont, N.H.
Clarksburg Electric Light Co., Clarksburg, West Virginia.
Clearfield Light & Power Co., Clearfield, Pa.
Cleburne Gas & Electric Co., Cleburne, Tex.
Cleveland Light & Power Co., Cleveland, Ohio.
Climax Mfg. Co., Corry, Pennsylvania.
Clinton Gas Light & Coke Co., Clinton, Iowa.
Clinton Mills Power Co., Cooperstown, New York.
Cloverdale Electric Light Co., Cloverdale, Cal.
Coast Counties Light & Power Co., Santa Cruz, Cal.
Coatesville Electric Light, Heat & Power Co., Coatesville, Pa.
Cœur d'Alene Water & Light Co., Cœur d'Alene, Io.
Coffeyville Electric Light Plant, Coffeyville, Kan.
Cohoes Gas Light Co., Cohoes, New York.
Collinwood Electric Light Plant, Collinwood, Ohio.
Colorado Light & Power Co., The, Canon City, Col.
Colorado Springs Electric Co., Colorado Springs, Colorado.
Columbia City Electric Light & Water Plant, Columbia, Mo.

Light, Power & Traction Companies—Electric—*continued.*

Columbia Electric Street Railway, Light & Power Co., Columbia, South Carolina.
Columbia Water & Light Co., Columbia, Tenn.
Columbus Electric Light Plant, Columbus, Neb.
Columbus Electric Light & Power Co., Columbus, Miss.
Columbus Light, Heat & Power Co., Columbus, O.
Columbus Power Co., Columbus, Ga.
Columbus Railroad Co., Lighting Department, Columbus, Ga.
Columbus Street Railway & Light Co., Columbus, Ind.
Commercial Lighting & Power Co., Naugatuck, Connecticut.
Commonwealth Edison Co., 139, Adamson-st., Chicago, Ill.
Concord Electric Co., Concord, New Haven.
Concordia Electric Light Co., Concordia, Kansas.
Conneant Municipal Electric Light, Conneant, Ohio.
Connecticut Co., New Britain, Conn.
Conshohocken Electric Light & Power Co., Conshohocken, Pa.
Consolidated Electric Co., Greenwich, N.Y.
Consolidated Electric Light Co. of Maine, Portland, Maine.
Consolidated Gas Co., Long Branch, New Jersey.
Consolidated Gas, Electric Light & Power Co., Baltimore, Maryland.
Consolidated Gas & Light Co., Tiffin, Ohio.
Consolidated Heat, Light & Power Co. Tulare, Cal.
Consolidated Light & Power Co., Whitehall, N.Y.
Consolidated Lighting Co., Montpelier, Vermont.
Consolidated Mining & Milling Co., Wadsworth, Nev.
Consolidated Power & Light Co., Deadwood, So. Dakota.
Consolidated Railway, Light & Power Co., Wilmington, North Carolina.
Consolidated Water & Light Co., Marseilles, Ill.
Consumers' Electric Light & Power Co., De Soto, Missouri. (Telephone Nos. 28 & 29.)
Consumers' Heat, Light, Water & Power Co., Belington, West Virginia.
Contoocook Electric Light Co., Contoocook, N.H.
Coos Bay Gas & Electric Co., Marshfield, Ore.
Coraopolis City Electric Light Plant, Coraopolis, Pa.
Corning Gas & Electric Co., Corning, New York.
Corning Light, Heat & Power Co., Corning, Iowa.
Corona Gas & Electric Light Co., Corona, Cal.
Corsicana Gas & Electric Co., Corsicana, Tex.
Corvallis Electric Light & Power Co., Corvallis, Ore.
Coschocton Light & Heating Co., Coschocton, Ohio.
Covington Light & Water Co., Covington, Ind.
Crawfordsville Electric Light & Power Co., Crawfordsville, Indiana.

Light, Power & Traction Companies—Electric—*continued.*

Crescent City Light, Water & Power Co., Crescent City, Cal.
Crestline Illuminating Co., Crestline, Ohio.
Cripple Creek Electric Light Co., Cripple Creek, Col.
Crookston Water Works, Power & Light Co., Crookston, Minnesota.
Cullman City Electric Light Plant, Cullman, Ala.
Cuthbert City Electric Light & Water Plant, Cuthbert, Ga.
Cynthiana Electric Light Co., Cynthiana, Kentucky.
Dallas Electric Light & Power Co., Dallas, Tex.
Dallas Ice Factory Light & Power Co., Dallas, Tex.
Dalles Electric Light, Telephone & Power Co., The Dalles, Ore.
Danbury & Bethel Gas & Electric Light Co., Danbury, Connecticut.
Danbury & Bethel Street Railway Co., Danbury, Conn.
Dansville Gas & Electric Light Co., Dansville, N.Y.
Danville Street Railway & Light Co., Danville, Ill.
Darlington Electric Light & Water Power Co., Darlington, Wis.
Darlington Light & Water Co., Darlington, South Carolina.
Davenport Consolidated Gas, Electric Light & Heating Co., Davenport, Iowa.
Dayton Electric Light & Power Co., Dayton, Washington.
Dayton Lighting Co., Dayton, Ohio.
Decatur Railway & Light Co., Decatur, Ill.
Defiance Gas & Electric Co., Defiance, Ohio.
Delaware Electric Light, Heat & Power Co., Delaware, Ohio.
Delphos Electric Light & Power Co., Delphos, O.
Delta Electric Power Co., Delta, Pennsylvania.
Denison Light & Power Co., Denison, Texas.
Denton, City of, Water, Light & Power Co., Denton, Tex.
Denver Gas & Electric Co., Denver, Col.
Denver City Tramway Co., Denver, Col.
De Pere Electric Light & Power Co., De Pere, Wisconsin.
Depew & Lancaster Light, Power & Conduit Co., Lancaster, N.Y.
Derby Gas Co., Derby, Connecticut.
Derry Electric Light Co., Derry, N.H.
Des Moines Edison Light Co., Des Moines, Ia.
Detroit City Electric Light Plant, Detroit, Mich.
Dillon Electric Light & Power Co., Dillon, Mont.
Dixon Electric Power & Water Co., Dixon, Cal.
Donley, W. E., Electric Co., Big Rapids, Mich.
Dothan City Electric Light Plant, Dothan, Ala.
Douglas Improvement Co., Douglas, Ariz.
Dover Electric Light Co., Dover, New Jersey.
Dover & Foxcroft Light & Heat Co., Dover, Maine.
Dowagiac Municipal Electric Light Department, Dowagiac, Mich.

Light, Power & Traction Companies—Electric—*continued.*

Dublin Water Works & Electric Light Plant, Dublin, Ga.
Duluth Edison Electric Co., Duluth, Minnesota.
Dunmore Electric Light, Heat & Power Co., Dunmore, Pa.
Duquesne Light Co., 6302, Penn-ave., Pittsburgh, Pa.
Durand Light & Power Co., Durand, Wis.
Durango Railway & Realty Co., Durango, Col.
Dutchess Light, Heat & Power Co., Rhinebeck, N.Y.
Dyersburg City Electric Water & Light Plant, Dyersburg, Tenn.
Eagle River Electric Power Co., Baker City, Ore.
East Aurora Electric Light Co., East Aurora, N.Y.
East Coast Electric Light, Power & Ice Co., West Palm Beach, Fla.
East Creek Electric Light & Power Co., East Creek, N.Y.
East Hampton Electric Light Co., East Hampton, Conn.
East Liverpool Light & Traction Co., East Liverpool, Ohio.
East Palestine Electric Light Works, East Palestine, Ohio.
Eastern Pennsylvania Rlys. Co., Pottsville, Pa.
Eastern Wisconsin Railway & Light Co., Fond du Lac, Wisconsin.
Easton Power Co., Easton, Pennsylvania.
Eastport Electric Lighting Co., Eastport, Maine.
Eaton Electric Light, Power & Ice Manufacturing Co., Eaton, Ohio.
Economy Light, Fuel & Power Co., Lockport N.Y.
Economy Light & Power Co., Joliet, Illinois.
Edinburg Electric Light Plant, Edinburg, Ill.
Edison Electric Illuminating Co., Altoona, Pa.
Edison Electric Illuminating Co., Ashland, Pa.
Edison Electric Illuminating Co., Boston, Massachusetts.
Edison Electric Illuminating Co. of Brockton, Brockton, Massachusetts.
Edison Electric Illuminating Co., Brooklyn, New York.
Edison Electric Illuminating Co., Cumberland, Maryland.
Edison Electric Illuminating Co., Mount Carmel, Pennsylvania.
Edison Electric Illuminating Co., Pottsville, Pa.
Edison Electric Illuminating Co., Sunbury, Pa.
Edison Electric Illuminating Co., Tamaqua, Pa.
Edison Electric Illuminating Co., West Chester, Pennsylvania.
Edison Electric Illuminating Co., Williamsport, Pennsylvania.
Edison Electric Light Co., York, Pa.
Edison Electric Light & Motive Power Co., Pontiac, Michigan.
Edison Electric Light & Power Co., Amsterdam, N.Y.
Edison Illuminating Co., Detroit, Michigan.

Light, Power & Traction Companies—Electric—*continued.*

Edison Sault Electric Co., Sault Ste. Marie, Michigan.
Electric Light Co., Manitowoc, Wisconsin.
Electric Light Co., Ottawa, Ohio.
Electric Light Plant, Tomah, Wis.
Electric Light & Power Co., Hightstown, New Jersey.
Electric Light & Power Co., North Abington, Massachusetts.
Electric Light & Power Co., Tuscon, Arizona.
Electric Railway & Power Co. of Tiffin, Tiffin, O.
Electric Supply Co., Savannah, Georgia.
Elizabeth City Electric Light & Power Co., Elizabeth City, North Carolina.
Elizabethtown & Marietta Electric Light Co., Marietta, Pennsylvania.
Ellensburgh City, Wash.
Ellsworth Heat, Light & Power Co., Ellsworth, Wisconsin.
Elmhurst Electric Light & Power Co., Elmhurst, Ill.
Elmira Water, Light & Railroad Co., Elmira, New York.
Elmwood Electric Light Co., Elmwood, Ill.
El Paso Gas, Electric Light & Power Co., El Paso, Texas.
El Reno Gas & Electric Co., El Reno, Okl. Ter.
Elwood Electric Light Co., Elwood, Indiana.
Emerson Electric Light Co., Encampment, Wyo.
Emmetsburg Electric Light, Heat & Power Co., Emmetsburg, Iowa.
Empire State Power Co., Amsterdam, N.Y.
Emporia City Electric Light & Power Plant, Emporia, Kan.
Enid Electric & Gas Co., Enid, Okla.
Enterprise Electric Light, Heat & Power Co., Garner, Iowa.
Enterprise Power Co., Clifton, Ariz.
Erie County Electric Co., Erie, Pa.
Erie Traction Co., Erie, Pa.
Eufaula Gas Electric Light & Power Co., Eufaula, Alabama.
Eureka Lighting Co., Eureka, Cal.
Eutaw Water Works Electric & Power Co., Eutaw, Alabama.
Evanston Electric Illuminating Co., Evanston, Illinois.
Evanston Electric Light Co., Evanston, Wyo.
Evansville Gas & Electric Light Co., Evansville, Indiana.
Everett Railway, Light & Water Co., Everett, Wash.
Fairfield Gas & Electric Co., Fairfield, La.
Fairhaven & Westville Railroad Co., New Haven, Conn.
Fall Mountain Electric Light & Power Co., Bellows Falls, Vt.
Fall River Electric Light Co., Fall River, Massachusetts.
Faribault Gas & Electric Co., Faribault, Minn.
Farmington Electric Co., Farmington, Maine.

Light, Power & Traction Companies—Electric—*continued.*

Farmington Street Railway Co., The, Hartford, Conn.
Farrell Light, Heat & Water Co., Brinkley, Ark.
Fernandina City Electric Light Plant, Fernandina, Fla.
Field Electric Light Co., Morris, Ill.
Fisher's Island Electric Light, Heat & Power Co., Fisher's Island, N.Y.
Fitchburg Gas & Electric Light Co., Fitchburg, Massachusetts.
Flatbush Gas Co., Brooklyn, N.Y.
Flemington Electric Light, Heat & Power Co., Flemington, N.J.
Flushing Electric Light & Water Works, Flushing, Mich.
Forest City Electric Light & Power Co., Forest City, Iowa.
Fort Atkinson Water & Light Commission, Fort Atkinson, Wis.
Fort Dodge Light & Power Co., Fort Dodge, Iowa.
Fort Madison Electric Light Co., Fort Madison, Iowa.
Fort Plain Gas & Electric Light, Heat & Power Co., Fort Plain, N.Y.
Fort Scott Gas & Electric Co., Fort Scott, Kan.
Fort Smith Light & Traction Co., Fort Smith, Arkansas.
Fort Wayne & Wabash Valley Traction Co., Fort Wayne, Ind.
Fort Worth City Electric Light Works, Fort Worth, Tex.
Fort Worth Light & Power Co., Fort Worth, Texas.
Fostoria Light & Power Co., Fostoria, Ohio.
Fox River Valley Gas & Electric Co., Appleton, Wis.
Frankfort City Light & Power Plant, Frankfort, Ind.
Franklin Electric Light Co., Franklin, Ohio.
Franklin Light & Power Co., Franklin, N.H.
Franklin Water, Light & Power Co., Franklin, Indiana.
Frederick Gas & Electric Co., Frederick, Md.
Fredonia Electric Light Plant, Fredonia, N.Y.
Freeport Railway, Light & Power Co., Stephenson-bldg., Freeport, Ill.
Fremont, City of, Fremont, Neb.
Fremont Gas, Electric Light & Power Co., Fremont, Ohio.
Frostbury Illuminating & Manufacturing Co., Frostbury, Maryland.
Fulton County Gas & Electric Co., Gloversville, New York.
Fulton Electric Light & Power Co., Fulton, Ky.
Fulton Electric Light & Power Co., Fulton, Ill.
Fulton Light, Heat & Power Co., Fulton, N.Y.
Gagebic Electric Light Co., Bessemer, Mich.
Gainesville Traction Co., Gainesville, Texas.
Gainesville Gas & Electric Power Co., Gainesville, Fla.
Galena Light & Power Co., Galena, Kan.

Light, Power & Traction Companies—Electric—*continued.*

Galesburg Railway & Light Co., Galesburg, Ill.
Galion, City of, Electric Light Dept., Galion, O.
Gallatan Light, Power & Railway Co., Bozeman, Montana.
Gallatin Light & Water Works, Penn Love Mang, Gallatin, Mo.
Gallup Electric Light Co., Gallup, North Mex.
Gardner Electric Light Co., Gardner, Massachusetts.
Gas City Municipal Electric Light Plant, Gas City, Ind.
Gas, Electric Light & Power Co., Van Wert, O.
Geneseo Electric Light Co., Geneseo, Illinois.
Geneva, City of, Electric Light & Water Works, Geneva, Ill.
Geneva-Seneca Electric Co., Geneva, New York.
Georgetown Electric Co., Georgetown, S.C.
Georgetown Water, Gas, Electric & Power Co., Georgetown, Ky.
Georgia Railway & Electric Co., Atlanta, Ga.
Girard Gas & Electric Light Co., Girard, Kansas.
Glens Falls Gas & Electric Light Co., Glens Falls, New York.
Glenwood Electric Light & Power Co., Glenwood, Iowa.
Glenwood Light & Water Co., Glenwood Springs, Col.
Globe Electric Light & Gas Co., Globe, Alaska.
Globe Electric Light & Gas Co., Globe, Ariz.
Gloucester Electric Co., Gloucester, Massachusetts.
Gold Belt Consolidated Electric Co., Cripple Creek, Colorado.
Golden Illuminating Co., Golden, Colorado.
Goldsboro Electric Light & Power Co., Goldsboro, North Carolina.
Gonzales Electric Light & Power Plant, Gonzales, Tex.
Grafton Electric Co., Grafton, Massachusetts.
Grafton Gas & Electric Co., Grafton, W. Va.
Graham Water & Electric Co., Graham, N.C.
Grand Forks City Electric Light Plant, Grand Forks, N.D.
Grand Forks Gas & Electric Co., Grand Forks, North Dakota.
Grand Island Electric Co., Grand Island, Neb.
Grand Rapids City Electric Light Plant, Grand Rapids, Mich.
Grand Rapids Muskegon Power Co., Grand Rapids, Michigan.
Grande-Ronde Electric Co., La Grande, Ore.
Granville Electric Light & Gas Co., Granville, N.Y.
Great Barrington Electric Light Co., Great Barrington, Massachusetts.
Great Western Power Co., 25, Broad-st., San Francisco, Cal.
Green Bay Gas & Electric Co., Green Bay, Wisconsin.
Greenfield Electric Light & Power Co., Greenfield, Massachusetts.

Light, Power & Traction Companies—Electric—*continued.*

Greenfield Water & Electric Light Plant, Greenfield, Ohio.
Greenport Electric Light & Power Co., Greenport, N.Y.
Greensboro Water & Light Co., Greensboro, Ala.
Greensburg Gas & Electric Co., Greensburg, Indiana.
Greenville Electric Light & Power Co., Greenville, Ohio.
Greenville Electric Light, Heat & Power Co., Greenville, Pennsylvania.
Greenville Gas & Electric Light & Power Co., Greenville, South Carolina.
Greenville Municipal Electric Light Plant, Greenville, Tex.
Greenwood Electric Light & Water Plant, Greenwood, Miss.
Greenwood Water & Electric Light Plant, Greenwood, S.C.
Grinnell Electric & Heating Co., Grinnell, Iowa.
Guthrie Light & Power Co., Guthrie, Oklahoma.
Hackettstown Electric Light Co., Hackettstown, New Jersey.
Hagerstown Electric Light Plant, Hagerstown, Md.
Hamilton Electric Light Co., Hamilton, Ohio.
Hamilton Water & Light Plant, Hamilton, N.Y.
Hammond Milling Co., Hammond, Indiana.
Hampton Electric Light & Power Co., Hampton, Iowa.
Hanover Light, Heat & Power Co., Hanover, Pa.
Harbor Springs Village Electric Light Plant, Harbor Springs, Mich.
Harrisburg Light, Heat & Power Co., Harrisburg, Pennsylvania.
Harrison Electric Light & Ice Co., Harrison, Ark.
Harrison Light & Water Co., Harrison, Ohio.
Hartford Electric Light Co., Hartford, Con.
Hastings City Electric Light Plant, Hastings, Neb.
Hattiesburg Electric Light & Power Co., Hattiesburg, Miss.
Haverhill Electric Co., Haverhill, Massachusetts.
Hazlehurst Electric Light Plant, Hazlehurst, Miss.
Hazleton Electric Light & Power Co., Hazleton, Pa.
Healdsburg Electric Light & Water Works, Healdsburg, Cal.
Helena Light & Railway Co., Helena, Montana.
Herkimer City Electric Light Plant, Herkimer, N.Y.
Herkimer County Lighting & Power Co., Little Falls, N.Y.
Hiawatha Electric Light Co., Hiawatha, Kansas.
High Point Electric Power Co., High Point, N.C.
Hillsboro Electric & Gas Co., Hillsboro, Tex.
Hillsboro Electric Light & Power Co., Hillsboro, Ill.
Hillsboro Electric Light & Power Co., Hillsboro, N.H.

Light, Power & Traction Companies—Electric—*continued.*

Hillsboro Light & Fuel Co., Hillsboro, Ohio.
Hillsboro Water Light & Power Co., Hillsboro, Ore.
Hinsdale City Electric Light Plant, Hinsdale, Ill.
Hinsdale Electric Light & Power Co., Lake City, Col.
Hollister Light & Power Co., Hollister, Cal.
Holton Electric Light & Water Works, Holton, Kansas.
Holton Power Co., Holtville, Cal.
Holyoke, City of, Gas & Electric Department, Holyoke, Massachusetts.
Home Electric Light & Steam Heat Co., Tyrone, Pennsylvania.
Home Gas & Electric Co., Redlands, Cal.
Home Light, Heat & Power Co., Pittsburg, Kan.
Home Lighting, Power & Heating Co., Springfield, Ohio.
Honesdale Cons. Light, Water & Power Co., Honesdale, Pa.
Hood River Electric Light, Power & Water Co., Hood River, Ore.
Hoopeston Gas & Electric Co., Hoopeston, Ill.
Hope City Electric Light Plant, Hope, Ark.
Hopkinsville City Light Co., Hopkinsville, Ky.
Hot Springs Water, Gas & Electric Light Works, Hot Springs, Arkansas.
Hot Springs Water, Light & Power Co., Hot Springs, South Dakota.
Houghton County Electric Light Co., Houghton, Michigan.
Houston Lighting & Power Co.—1905, Houston, Tex.
Hudson Counties Gas & Electric Co., Cornwall-on-Hudson, N.Y.
Hudson Electric Light Co., Hudson, Mich.
Hudson & Manhattan R.R. Co., 30, Church-st., New York.
Hudson Municipal Electric Light & Power Plant, Hudson, Mass.
Hudson River Electric Power Co., Utica, N.Y.
Hudson Valley Railway Co., Glens Falls, N.Y.
Hughes Electric Co., Bismark, N.D.
Humboldt Gas & Electric Co., Eureka, Cal.
Huntingdon Electric Light & Water Works, Huntingdon, Tenn.
Huntington Light & Fuel Co., Huntington, Ind.
Huntington Light & Power Co., Huntington, N.Y.
Huntsville Railway, Light & Power Co., Huntsville, Alabama.
Hutchinson Water, Light & Gas Co., Hutchinson, Kansas.
Hyde Park Electric Light Co., Hyde Park, Massachusetts.
Idaho-Oregon Light & Power Co., Boise, Idaho.
Idaho Power & Transportation Co., Ltd., Idaho Falls, Idaho.
Idaho Washington Light & Power Co., Moscow, Idaho.
Illinois Light & Traction Co., Streator, Ill.

Light, Power & Traction Companies—Electric—*continued.*

Independence & Monmouth Water & Electric Light Co., Independence, Ore.
Indiana Electric Co., Indiana, Pennsylvania.
Indiana Harbor & East Chicago Electric Co., East Chicago, Ind.
Indiana & Mich. Electric Co., Elkhart, Ind.
Indianapolis & Cincinnati Traction Co., Indianapolis, Ind.
Indianapolis, Columbus & Southern Traction Co., Columbus, Ind.
Indianapolis Light & Heat Co., Indianapolis, Ind.
Indianapolis & Martinsville Rapid Transit Co., Indianapolis, Ind.
Indianapolis Traction & Terminal Co., Indianapolis, Ind.
International Railway Co., Buffalo, N.Y.
Ionia Water Power Electric Co., Ionia, Michigan.
Iowa City Electric Light Co., Iowa City, Iowa.
Iowa Gas & Electric Co., Washington, Iowa.
Iron Mountain Electric Light & Power Co., Iron Mountain, Michigan.
Ithaca Electric Light & Power Co., Ithaca, N.Y.
Jackson Electric Light Plant, Jackson, Ohio.
Jackson Electric Railway, Light & Power Co., Jackson, Mississippi.
Jackson Railway & Light Co., Jackson, Tenn.
Jacksonville City Electric Light Plant, Jacksonville, Fla.
Jacksonville Electric Light Co., Jacksonville, Florida.
Jamestown Lighting & Power Co., Jamestown, N.Y.
Jamestown Municipal Electric Light Plant, Jamestown, N.Y.
Jantz & Leist Electric Co., S.E. cor. Western-ave. & York-st., Cincinnati, Ohio.
Jasper Water, Light & Power Co, Jasper, Ala.
Jefferson City Light, Heat & Power Co., Jefferson City, Mo.
Jefferson Light, Heat, Power & Water Co., Jefferson, Iowa.
Jenkintown Light Co., Jenkintown, Pennsylvania.
Jermyn Electric Light, Heat & Power Co., Jermyn, Pa.
Jerseyville Light, Heat & Power Co., Jerseyville, Illinois.
Jordan Electric Light & Power Co., Jordan, New York.
Kalispell Water & Electric Co., Kalispell, Montana.
Kankakee Electric Light Co., Kankakee, Illinois.
Kansas City Electric Light Co., Kansas City, Missouri.
Kanawha Water & Light Co., Charleston, W. Va.
Kaukauna Gas, Electric Light & Power Co., Kaukauna, Wis.
Keene Gas & Electric Co., Keene, N.H.
Kennebec Light & Heat Co., Augusta, Maine.
Kennebunk Electric Light Co., Kennebunk Port, Maine.
Kenosha Gas & Electric Co., Kenosha, Wis.

Light, Power & Traction Companies—Electric—*continued.*

Kent Water, Light & Power Co., Kent, Ohio.
Kenton Gas & Electric Co., Kenton, Ohio.
Kewanee Light & Power Co., Kewanee, Illinois.
Key West Electric Co., Key West, Florida.
Keyes Electric Co., Gowanda, New York.
Keyser Electric Light Co., Keyser, W. Va.
Kingfisher City Electric Light Plant, Kingfisher, Okla.
Kingston Gas & Electric Co., Kingston, N.Y.
Kirksville Light, Power & Ice Co., Kirksville, Mo.
Kittanning Electric Co., Kittanning, Pa.
Knoxville Electric Co., Knoxville, Iowa.
Kokomo, Marion & Western Traction Co., Kokomo, Ind.
La Belle Iron Works, Steubenville, Ohio.
Lackawanna Light Co., Scranton, Pa.
Lackawanna Valley Electric Light & Power Supply Co., Carbondale, Pennsylvania.
Lackawanna & Wyoming Valley Rapid Transit Co., Scranton, Pa.
Laclede Gas Light Co., St. Louis, Missouri.
Laconia Electric Lighting Co., Laconia, N.H.
La Crosse Gas & Electric Co., La Crosse, Wisconsin.
Lafayette Gas Co., Lafayette, Ind.
Lake Charles Ice, Light & Water Co., Lake Charles, La.
Lake City Electric & Water Co., Lake City, Florida.
Lake Erie, Bowling Green & Napoleon Railway Co., Bowling Green, Ohio.
Lakewood Electric Light Plant, Lakewood, Ohio.
Lamar Light & Water Co., Lamar, Mo.
Lancaster Electric Light Co., Lancaster, Ohio.
Laredo Electric & Railway Co., Laredo, Texas.
Larimer Light & Power Co., Fort Collins, Col.
Las Animas Light, Power & Manufacturing Co., Trinidad, Col.
Las Vegas Railway & Power Co., Las Vegas, New Mexico.
Lawrenceburg Electric Light Co., Lawrenceburg, Indiana.
Lawrence Gas Co., Lawrence, Massachusetts.
Lawrenceville Water & Light Co., Lawrenceville, Ill.
Leadville Light & Power Co., Leadville, Colorado.
Lebanon City Electric Light Plant, Lebanon, O.
Lebanon, City of, Light & Water Department, Lebanon, New Hampshire.
Lebanon Electric Light & Water Co., Lebanon, Ore.
Lebanon Light, Ice & Power Co., Lebanon, Kentucky.
Lebanon Light & Water Co., Lebanon, Mo.
Lee County Lighting Co., Dixon, Ill.
Lee Electric Co., Lee, Massachusetts.
Lee Electric Light Co., Inc., Clarinda, Iowa.
Leetonia Electric Light & Power Co., Leetonia, Ohio.
Lehigh Valley Traction Co., Allentown, Pa.

Light, Power & Traction Companies—Electric—*continued.*

Lehigh Valley Transit Co., Allentown, Pennsylvania.
Le Mars City Water & Light Co., Le Mars, Iowa.
Lemoore Electric Light & Water Works, Lemoore, Cal.
Leominster Electric Light & Power Co., Leominster, Massachusetts.
Letchfield Electric Light & Power Co., Letchfield, Conn.
Lewiston & Auburn Electric Light Co., Auburn, Maine.
Lewiston, Augusta & Waterville Street Railway, Lewiston, Maine.
Lewistown Electric Light, Heat & Power Co., Lewistown, Pennsylvania.
Lexington Light & Power Co., Lexington, Va.
Liberty Electric Light Co., Liberty, Mo.
Liberty Light & Power Co., Liberty, N.Y.
Licking Light & Power Co., Newark, Ohio.
Light, Heat & Power Co., Connersville, Ind.
Light, Heat & Power Corporation, 131, State-st., Boston, Massachusetts.
Lima-Honcoze Electric Light & Railroad Co., Lima, N.Y.
Lincoln Gas & Electric Co., Lincoln, Nebraska.
Lincoln Water, Light & Power Co., Lincoln, Illinois.
Linton City Electric Light Plant, Linton, Ind.
Lisbon Light & Power Co., Lisbon, N.H.
Little Rock Electric Light Co., Little Rock, Arkansas.
Littleton Water & Electric Light Co., Littleton, New Hampshire.
Livermore Falls Light & Power Co., Livermore, Maine.
Livermore Water & Power Co., Livermore, Cal.
Livingston Water Power Co., Livingston, Montana.
Lock Haven Electric Light & Power Co., Lock Haven, Pa.
Lockport Light, Heat & Power Co., Lockport, N.Y.
Logan Light Co., Logan, Iowa.
Longmont Electric Light & Power Co., Longmont, Col.
Los Angeles Edison Electric Light Co., Los Angeles, Cal.
Louisville Lighting Co., Louisville, Ky.
Louisville & Northern Railway & Lighting Co., New Albany, Ind.
Louisville Railway Co., Lexiugton, Ky.
Lowell Electric Light Corp., Lowell, Mass.
Lozier Light & Power Co., Plattsburg, N.Y.
Ludlow City Electric Light Plant, Ludlow, Vt.
Lynchburg Traction & Light Co., Lynchburg, Virginia.
Lynn Gas & Electric Co., Lynn, Mass.
Lytle Creek Power Co., San Bernardino, Cal.
McCook Electric Light Co., McCook, Nebraska.
McKinney Electric Light & Motor Power Co., McKinney, Texas.

Light, Power & Traction Companies—Electric—*continued.*

McMinnville, City of, Water & Electric Light Plant, McMinnville, Tenn.
Macomb Electric Light & Gas Co., Macomb, Ill.
Macon Electric Light & Water Works, Macon, Mo.
Macon Railway & Light Co., Macon, Ga.
Madison City Electric Light Plant, Madison, S.D.
Madison Co. Gas & Electric Co., Oneida, N.Y.
Madison County Light & Power Co., Edwardsville, Illinois.
Madison Electric Light & Power Co., Madison, Indiana.
Madison Gas & Electric Co., Madison, Wisconsin.
Madison Light & Railway Co., Madison, Ind.
Madison River Power Co., Butte, Mont.
Mahanoy City Light, Heat & Power Co., Mahanoy City, Pennsylvania.
Magnolia Light, Heat & Power Co., Warrensburg, Mo.
Malad Power Co., Boise, Idaho.
Malone Electric Light & Power Co., Malone, New York.
Mammoth Spring Electric Light Co., Mammoth Spring, Ark.
Manchester & Derry Street Railway, 46, Hanover-st., Manchester, N.H.
Manatee Light & Traction Co., Braidentown, Fla.
Manchester Light & Power Co., Manchester, Connecticut.
Manchester & Nashua Street Railway, 46, Hanover-st., Manchester, N.H.
Manchester Street Railway, 46, Hanover-st., Manchester, N.H.
Manchester Traction, Light & Power Co., 46, Hanover-st., Manchester, N.H.
Manhattan Light, Heat & Power Co., St. Paul, Minn.
Manistique Light & Power Co., Manistique, Mich.
Maniton Electric Light Co., Maniton, Col.
Manitowoc & Northern Traction Co., Manitowoc, Wis.
Mankato Gas & Electric Light Co., Mankato, Minn.
Mansfield Town Electric Light Plant, Mansfield, Mass.
Marengo City Electric Light & Water Works, Marengo, Ill.
Marengo Electric Light & Power Co., Marengo, Iowa.
Marietta Municipal Electric Light Plant, Marietta, Ohio.
Marion Light & Heating Co., Marion, Ind.
Marion Light & Power Co., Marion, Ala.
Marion Railway, Light & Power Co., Marion, Ohio.
Marlboro Electric Co., Marlboro, Massachusetts.
Marlboro & Westboro Street Railway Co., Westboro, Mass.
Marquette City Electric Light Plant, Marquette, Mich.
Marquette City & Presque Isle Railway Co., Marquette, Mich.

Light, Power & Traction Companies—Electric—*continued.*

Marshall City Electric Light Plant, Marshall, Minn.
Marshall Electric Light & Power Co., Marshall, Mo.
Marshalltown Light, Power & Railway Co., Marshalltown, Iowa.
Martin City Electric Light Plant, Martin, Tenn.
Martin Construction Co., Cincinnati, Ohio.
Martin's Ferry Municipal Electric Light Plant, Martin's Ferry, Ohio.
Martinsville Light, Heat, Power & Water Co., Martinsville, Indiana.
Marysville Gas & Electric Co., Marysville, Cal.
Marysville Light & Water Co., Marysville, Ohio.
Maryville Electric Light & Power Co., Maryville, Mo.
Mascoma Electric Light & Gas Co., White River Junction, Vermont.
Mason City Electric Light Plant, Mason City, Illinois.
Massachusetts Electric Cos., 84, State-st., Boston, Mass.
Massachusetts Lighting Co., State-st., Boston, Mass.
Massillon Heat & Power Co., Massillon, Ohio.
Mauch Chunk Heat, Power & Electric Light Co., Mauch Chunk, Pa.
Mayfield Water & Light Co., Mayfield, Ky.
Maysville Street Railroad & Transfer Co., Maysville, Ky.
Maywood & Proviso Electric Light & Power Co., Maywood, Illinois.
Mechanic Falls Electric Light Co., Mechanic Falls, Maine.
Medfield Electric Light & Power Co., Walpole, Mass.
Media Electric Light, Heat & Power Co., Media, Pennsylvania.
Mendola Light & Heating Co., Mendola, Ill.
Menominee & Marinette Light & Traction Co., Menominee, Mich.
Menomonie Electric Light & Power Co., Menomonie, Wis.
Merced Falls Gas & Electric Co., Merced, Cal.
Merchants' Heat & Light Co., Indianapolis, Ind.
Merchants' Heat, Light & Power Co., Canton, Ohio.
Meriden Electric Light Co., Meriden, Connecticut.
Meridian Light & Railway Co., Meridian, Miss.
Merrill Railway & Lighting Co., Merrill, Wisconsin.
Metropolis City Electric Light Plant, Metropolis City, Ill.
Metropolitan Street Railway Co., New York.
Miami Artesian Water & Light Co., Miami, Okla.
Miami Light, Heat & Power Co., Piqua, Ohio.
Michigan City Gas & Electric Co., Michigan City, Ind.
Michigan Power Co., Lansing, Mich.
Middlebury Electric Co., Middlebury, Vermont.

Light, Power & Traction Companies—Electric—*continued.*

Middlesborough Electric Light, Heat & Power Co., Middlesborough, Kentucky.
Middlesex & Monmouth Electric Light, Heat & Power Co., Keyport, N.J.
Middletown Electric Light Co., Middletown, Conn.
Middletown Light & Power Co., Middletown, New York.
Middletown Street Railway Co., Middletown, Conn.
Milford Electric Light & Power Co., Milford, Massachusetts.
Milford Light & Power Co., Milford, N.H.
Mill River Electric Light Co., Williamsburg, Massachusetts.
Milledgeville Electric Light Cos., Milledgeville, Ga.
Millersburg Electric Light Co., Millersburg, O.
Millville Electric Light Co., Millville, N.J.
Milton Electric Light & Power Co., Milton, Pennsylvania.
Milwaukee Electric Railway & Light Co., Milwaukee, Wisconsin.
Minersville Electric Light Co., Minersville, Pa.
Minneapolis General Electric Co., 147, Milk-st., Minneapolis, Minn.
Minneapolis International Electric Co., Minneapolis, Minn.
Minot Light & Telephone Co., Minot, N.D.
Mishawaka City Electric Light Station, Mishawaka, Ind.
Missoula Light & Water Co., Missoula, Montana.
Missouri Valley Electric Light Co., Missouri Valley, Iowa. (Local Telephone No. 7.)
Missouri Water, Light & Traction Co., Nevada, Mo.
Moberly Gas & Electric Co., Moberly, Mo.
Mobile Electric Co., Mobile, Alabama.
Mobile Light & Railroad Co., Mobile, Alabama.
Monett Electric Light, Power & Ice Co., Monett, Mo.
Monmouth Gas & Electric Co., Monmouth, Ill.
Monroe City Electric Light Plant, Monroe, Mich.
Monroe Water Works, Light & Traction Co., Monroe, Louisiana.
Montana Power Transmission Co., Butte, Mont.
Montclair Electric Light Co., Montclair, Col.
Monte Vista Electric & Gas Light Co., Monte Vista, Colorado.
Monterez County Gas & Electric Co., Kohl-bldg., San Francisco, Cal.
Montgomery Electric Light & Power Co., Canayoharie, N.Y.
Montgomery Light & Water Power Co., Montgomery, Alabama.
Montgomery Traction Co., Montgomery, Ala.
Monticello Electric Co., The, Monticello, Iowa.
Montpelier City Electric Light Plant, Montpelier, Ind.
Montpelier Electric Light Co., Montpelier, Idaho.
Montrose Electric Light & Power Co., Montrose, Col.

Light, Power & Traction Companies—Electric—*continued.*

Montville Street Railway Co., Norwich, Conn.
Morganfield Electric Light & Power Co., Morganfield, Kentucky.
Morreson Electric Light, Heat & Power Co., Little Falls, Minn.
Morris County Traction Co., Morristown, N.J.
Morrison Gas & Electric Co., Morrison, Illinois.
Moundsville Electric Co., Moundsville, West Virginia.
Mount Airey Town Electric Light Plant, Mount Airey, N.C.
Mount Carmel Light & Water Co., Mount Carmel, Ill.
Mount Pleasant Electric Light & Water Works, Mount Pleasant, Iowa.
Mount Sterling Water, Light & Ice Co., Mount Sterling, Ky.
Mt. Vernon Electric Light Co., Mt. Vernon, Ohio.
Mount Washington Electric Light & Power Co., Mount Washington, Md.
Muncie Electric Light Co., Muncie, Ind.
Muncie Electric Light Plant, Gunnison, Col.
Municipal Electric Light Plant, Marbleshead, Mass.
Municipal Electric Light Plant, Newark, Ohio.
Municipal Electric Light & Power Plant, Richmond, Ind.
Municipal Light & Power Plant, Anderson, Ind.
Municipal Lighting Plant, Ashtabula, Ohio.
Municipal Water & Light Dept., Wayne, Neb.
Municipal Water, Light & Power Co., Mackinac Is., Mich.
Murphysboro Water Works, Electric & Gas Light Co., Murphysboro, Ill.
Muskegon Traction & Lighting Co., Muskegon, Michigan.
Mutual Electric Light Co., San Francisco, California.
Mutual Electric Light & Power Co., Alamosa, Col.
Naperville City Electric Light & Water Works, Naperville, Ill.
Napoleon Water Works & Electric Light Plant, Napoleon, Ohio.
Narragansett Pier Electric Light & Power Co., Narragansett Pier, Rhode Island.
Nashua Light, Heat & Power Co., Nashua, New Hampshire.
Nassau Light & Power Co., Roslyn, N.Y.
Natchitoches Town Electric Light & Water Works Plant, Natchitoches, La.
National Gas, Electric Light & Power Co., Detroit, Mich.
National Light, Heat & Power Co., 30, Pine-st., New York City.
Nebraska City Water & Light Co., Nebraska City, Neb.
Nelsonville Electric Light Co., Nelsonville, Ohio.
Nevada California Power Co., Denver, Col.
Nevada County Gas & Electric Co., Grass Valley, Cal.
New Bedford Gas & Edison Light Co., New Bedford, Massachusetts.

Light, Power & Traction Companies—Electric—*continued.*

New Berne Electric Light & Power Co., New Berne, N.C.
New Castle Electric Co., New Castle, Pa.
New London Gas & Electric Co., New London, Connecticut.
New London Street Railway Co., New London, Conn.
New Market Electric Light, Power & Heat Co., New Market, New Hampshire.
New Mexico Light, Heat & Power Co., The, Silver City, New Mex.
New Milford Electric Light Co., New Milford, Connecticut.
New Milford Power Co., Gaylordsville, Conn.
New Richmond Electric Light & Water Works, New Richmond, Ohio.
New-Ulm City Electric Light Plant, New-Ulm, Minn.
New York Edison Co., 55, Duane-st., New York.
New York, New Haven & Hartford R.R. Co., Stamford, Conn.
New York & Queens Gas & Electric Light & Power Co., Flushing, N.Y.
New York & Stamford Railroad Co., Stamford, Conn.
Newberry Water Works & Electric Light Plant, Newberry, S.C.
Newburgh Light, Heat & Power Co., Newburgh, N.Y.
Newburyport Gas & Electric Co., Newburyport, Massachusetts.
Newport Electric Light Co., Newport, N.H.
Newport Electric Light Co., Newport, Vt.
Newport Light & Power Co., Newport, Maine.
Newton Gas & Electric Co., Newton, New Jersey.
Newton & Watertown Gas Light Co., Newton, Mass.
Nezperce Water Power Co., Nezperce, Idaho.
Niagara Falls Hydraulic Power & Manufacturing Co., Niagara Falls, New York.
Niagara Falls Power Co., Niagara Falls, N.Y.
Niagara, Lockport & Ontario Power Co., Buffalo, N.Y.
Nigannee & Ispheming Railway & Electric Co., Ispheming, Mich.
Niles Electric & Water Plant, Niles, Mich.
Nogales Electric Light, Ice & Water Co., Nogales, Ariz.
Norfolk Electric Light & Power Co., Norfolk, Neb.
Norristown City Electric Light Plant, Norristown, Pa.
Norristown Electric Light & Power Co., Norristown, Pennsylvania.
North Adams Gas Light Co, North Adams, Massachusetts.
North Alabama Traction Co., New Decatur, Ala.
North Hampton Electric Lighting Co., North Hampton, Mass.
North Kankakee Electric Light & Railway Co., Kankakee, Ill.

Light, Power & Traction Companies—Electric—*continued.*

North Mountain Power Co., Eureka, Cal.
North Shore Electric Co., Chicago, Ill.
Northampton Street Railway Co., Northampton, Mass.
Northern California Power Co., San Francisco, Cal.
Northern Colorado Power Co., Greeley, Colorado.
Northern Colo. Power Co., 610, Mercantile-bldg., Denver, Col.
Northern Connecticut Light & Power Co., Windsor Locks, Conn.
Northern Engineering Works, 12, Chene-st., Detroit, Mich.
Northern Illinois Light & Traction Co., Ottawa, Ill.
Northern Westchester Lighting Co., Ossining, N.Y.
Northwest Light & Power Co., Seattle, Wash.
Northwest Light & Water Co., Wallace, Idaho.
Northwestern Electric Heat & Power Co., Kearney, Neb.
Northwestern Light & Power Co., Colville, Wash.
North Western Michigan Light & Power Co., Manistee, Mich.
Norway Electric Light Plant, Norway, Mich.
Norwich Electric Light Co., Norwich, Conn.
Norwood Water Works & Electric Plant, Norwood, Ohio.
Nyack Electric Light & Power Co., Nyack, N.Y.
Oakland Electric Light Co., Oakland, Maine.
Oakland Gas, Light & Heat Co., Oakland, Cal.
Oakland Traction Co., Oakland, Cal.
Ocean City Electric Light Co., Ocean City, N.J.
Ocean Shore Railway Co., San Francisco, Cal.
Oconomowoc Electric Light Plant, Oconomowoc, Wis.
Ogdensburg Power & Light Co., Ogdensburg, New York.
Ohio Electric Railway. Co., Cincinnati, Ohio.
Ohio Valley Electric Light Co., Benwood, W. Va.
Ohio Valley Electric Railway Co., Huntingdon, W. Va.
Oklahoma Gas & Electric Co., Oklahoma City, Oklahoma Territory.
Old Colony Street Railway Co., Boston, Mass.
Old Town Electric Co., Oldtown, Maine.
Olney Electric Light & Power Co., Olney, Illinois.
Olympia Light & Power Co., Olympia, Wash.
Omaha Electric Light & Power Co., Omaha, Nebraska.
Oneonta Electric Light & Power Co., Oneonta, New York.
Ontario Light & Traction Co., Canandaigna, N.Y.
Ontario Power Co., Ontario, Cal.
Opelousas Town Electric Light & Water Works, Opelousas, La.
Orange County Lighting Co., Middletown, N.Y.
Orange County Power Co., Cuddebackville, N.Y.
Orange Electric Light Co., Orange, Massachusetts.
Orange Ice, Light & Water Works Co., Orange, Texas.

Light, Power & Traction Companies—Electric—*continued.*

Orangeburg City Electric Light Plant, Orangeburg, S.C.
Oregon Power Co., Oregon, Ill.
Orlando Water & Light Co., Orlando, Fla.
Oroville Light & Power Co., Oroville, California.
Orrville Light, Heat & Power Co., Orrville, Ohio.
Osage Electric Light, Heat & Power Co., Osage, Iowa.
Osborn Water & Electric Light Works, Ohio.
Osceola Light, Heat & Power Co., Osceola, Iowa.
Oshkosh Gas Light Co., Oshkosh, Wis.
Oskaloosa Traction & Light Co., Oskaloosa, Iowa.
Ossining Heat, Light & Power Co., Ossining, N.Y.
Oswegatchie Light & Power Co., Gouverneur, N.Y.
Ottawa Water Works & Light Co., Ottawa, Kan.
Ottumwa Railway & Light Co., Ottumwa, Iowa.
Ouray Electric Power & Light Co., Ouray, Col.
Owego Light & Power Co., Owego, N.Y.
Oxford Village Electric Light Plant, Oxford, O.
Oxford Water & Light Co., Oxford, N.C.
Pacific Gas & Electric Co., Phœnix, Ariz.
Pacific Gas & Electric Co., Santa Rosa, Cal.
Pacific Gas & Electric Co., San Francisco, Cal.
Pacific Light & Power Co., Los Angeles, Cal.
Pacific Lighting Co., San Francisco, Cal.
Paducah Light & Power Co., Paducah, Ky.
Palatka Gas Light & Fuel Co., Palatka, Fla.
Palestine Electric Light Co., Palestine, Texas.
Palmyra Gas & Electric Co., Palmyra, N.Y.
Palmyra Light & Water Co., Palmyra, Mo.
Palo Alto Light Co., Palo Alto, Cal.
Pana Gas & Electric Co., Pana, Ill.
Paris Electric Light Co., Paris, Kentucky.
Paris Light & Power Co., Paris, Texas.
Park City Light, Heat & Power Co., Park City, Utah.
Parsons Electric Light & Power Co., Parsons, Kan.
Pascagoula Street Railway & Power Co., Scranton, Miss.
Paso Robles Light & Water Co., Paso Robles, Cal.
Patchogue Electric Light Co., Patchogue, New York.
Pawtucket Electric Co., Pawtucket, Rhode Island.
Pea River Power Co., Troy, Ala.
Peabody City Electric Light Plant, Peabody, Mass.
Peekskill Lighting & Railroad Co., Peekskill, New York.
Penacook Electric Light Co., Penacook, New Hampshire.
Peninsula Electric Light Co., Detroit, Michigan.
Penn Yan City Electric Light Plant, Penn Yan, N.Y.
Pennsylvania Light & Power Co., Allegheny, Pa.
Pennsylvania Power Co., Ellwood City, Pa.
Pensacola Electric Co., Pensacola, Florida.
People's Edison Illuminating & Power Co., River Point, R.I.
People's Electric Light Co., Bedford, Ohio.

Light, Power & Traction Companies—Electric—*continued.*

People's Electric Light, Heat & Power Co., Nanticoke, Pennsylvania.
People's Electric & Manufacturing Co., Spears, Pennsylvania.
People's Gas & Electric Co., Burlington, Iowa.
People's Gas & Electric Co., Mason City, Iowa.
People's Gas & Electric Co., Oswego, New York.
People's Gas Light & Power Co., Danielson, Conn.
Peoples Light, Heat & Power Co., Salina, Kansas.
People's Light, Heat & Power Co., Springfield, Ohio.
People's Lighting Co., Davenport, Iowa.
People's Power Co., Moline, Illinois.
Perry Electric Light & Power & Heat Co., Perry, Iowa.
Perry Water, Light & Ice Co., Perry, Okla.
Peru City Electric Light Plant, Peru, Ill.
Peru City Electric Light Plant, Peru, Ind.
Peru Lighting, Peru, Indiana.
Petaluma Gas & Electric Co., Petaluma, California.
Peterboro Electric Light, Power & Heating Co., Peterboro, N.H.
Petersburg Electric Light Plant, Petersburg, Ill.
Philadelphia Electric Co., 10th & Chestnut-sts., Philadelphia, Pa.
Philadelphia Rapid Transit Co., Philadelphia, Pa.
Philadelphia & West Chester Traction Co., 610, Arcade-bldg., Philadelphia, Pa.
Philipsburg Electric Light, Gas, Power & Heating Co., Philipsburg, Pennsylvania.
Phillipsburg Electric Light, Heat & Power Co., Phillipsburg, N.J.
Phillipsburg-Granite Electric Light Co., Phillipsburg, Mont.
Phœnix Electric Light & Coal Co., East Greenwich, R.I.
Phœnix Gas & Electric Co., Phœnixville, Pa.
Pine Bluff Light & Water Co., Pine Bluff, Ark.
Pittsfield Electric Co., Pittsfield, Massachusetts.
Plain City Electric Light Plant, Plain City, Ohio.
Plaquemine Electric Light & Power Co., Plaquemine, La.
Plattsburg Light, Heat & Power Co., Plattsburg, New York.
Pleasantville Electric Co., Pleasantville, N.J.
Plymouth Electric Light Co., Plymouth, Indiana.
Plymouth Electric Light Co., Plymouth, Massachusetts.
Point Richmond Light & Power Co., Point Richmond, Cal.
Polo Electric Light & Power Co., Polo, Ill.
Pomeroy & Middleport Electric Co., Pomeroy, Ohio.
Pontiac Light Co., Pontiac, Mich.
Pontiac Light & Water Co., Pontiac, Illinois.
Port Huron Light & Power Co., Port Huron, Mich.

Light, Power & Traction Companies—Electric—*continued.*

Port Jervis Electric Light, Power, Gas & Railroad Co., Port Jervis, N.Y.
Port Tampa Electric Light & Power Co., Port Tampa, Florida.
Portage Electric Light & Power Co., Portage, Wisconsin.
Portland Lighting & Power Co., Portland, Maine.
Portland Railway, Light & Power Co, Portland, Ore.
Portsmouth Electric & Gas Co., Portsmouth, Va.
Potomac Electric Power Co., 215, 14th-st. N.W., Washington, D.C.
Potsdam Electric Light & Power Co., Potsdam, N.Y.
Pottstown Light, Heat & Power Co., Pottstown, Pennsylvania.
Poughkeepsie City & Wappingers Falls Electric Railway Co., Poughkeepsie, N.Y.
Poughkeepsie Light, Heat & Power Co., Poughkeepsie, New York.
Power Development Co., Bakersfield, Cal.
Prescott Electric Co., Prescott, Ariz.
Prescott Water & Light Plant, Prescott, Ark.
Priceburg Electric Light Co., Priceburg, Pa.
Princeton City Electric Light & Water Works, Princeton, Minn.
Princeton Light & Power Co., Princeton, Indiana.
Public Lighting Commission, 40, Atwater-st. East, Detroit, Michigan.
Pueblo Light, Heat & Power Co., Pueblo, Col.
Pueblo & Suburban Traction & Lighting Co., Pueblo, Colorado.
Putnam Light & Power Co., Putnam, Connecticut.
Queens Borough Gas & Electric Co., Far Rockaway, N.Y.
Queens Borough Gas & Electric Co., 347, Central-ave., New York.
Quincy Gas, Electric & Heating Co., Quincy, Ill.
Quincy Gas Light & Coke Co., Quincy, Illinois.
Rackaway Electric Light & Improvement Co., Rackaway, N.J.
Radford Water Power Co., Radford, Va.
Raleigh Electric Co., Raleigh, North Carolina.
Randolph & Holbrook Electric Light Co., Randolph, Mass.
Rapid City Electric & Gas Light Co., Rapid City, South Dakota.
Rappahannock Electric Light & Power Plant, Fredericksburg, Va.
Raton Electric Light Co., Raton, New Mexico.
Ravenna Gas & Electric Light Co., Ravenna, O.
Rawlins Electric Light & Fuel Co., Rawlins, Wyo.
Reading Electric Co., Reading, Pennsylvania.
Reading Municipal Electric Light Plant, Reading, Mass.
Reading Town Electric Light Plant, Reading, Ohio.
Reno Power, Light & Water Co., Reno, Nev.
Renovo Edison Light, Heat & Power Co., Renovo, Pennsylvania.

Light, Power & Traction Companies—Electric—*continued.*

Rensselaer City Water & Electric Light Plant, Rensselaer, Ind.
Rhinelander Lighting Co., Rhinelander, Wis.
Rhode Island Co., Providence, R.I.
Rice Lake City Electric Light Plant, Rice Lake, Wis.
Richmond Electric Light Works, Richmond, Indiana.
Richmond Light, Heat & Power Co., Richmond, Indiana.
Richmond Light & Power Co., Richmond, Cal.
Richmond Light & Railroad Co., Jay-st., New Brighton, S.I., N.Y.
Ridgway Electric Light Co., Ridgway, Pa.
Ripon Light & Water Co., Ripon, Wis.
River Falls City Electric Light Plant, River Falls, Wis.
Riverside City Electric Light Department, Riverside, Cal.
Riverside Light & Power Co., Abilene, Kan.
Roaring Fork Electric Light & Power Co., Aspen, Colorado.
Rochester City Electric Light Plant, Rochester, Minn.
Rochester Electric Light, Heat & Power Co., Rochester, Indiana.
Rochester Railway & Light Co., Rochester, N.Y.
Rock Hill Water, Light & Power Co., Rock Hill, South Carolina.
Rockingham County Light & Power Co., Portsmouth, N.H.
Rockingham Power Co., Wilmington, N.C.
Rockland Light & Power Co., Haverstraw, N.Y.
Rockland Light & Power Co., Nyack, N.Y.
Rockville Center Village Electric Light Plant, Rockville Center, N.Y.
Rockville Gas & Electric Light Co., Rockville, Conn.
Rocky Mount City Electric Light Plant, Rocky Mount, N.C.
Rogue River Electric Co., Tolo, Ore.
Rome Gas, Electric Light & Power Co., Rome, New York.
Roswell Electric Light Co., Roswell, New Mex.
Royal Light & Power Co., Delavan, Illinois.
Rumford Falls Light & Water Co., Rumford Falls, Maine.
Rutland City Electric Light Co., Rutland, Vt.
Rutland Railway, Light & Power Co., Rutland, Vt.
Sabina Village Water & Light Plant, Sabina, Ohio.
Sacramento Electric, Gas & Railway Co., Sacramento, California.
Safe Harbour Water & Power Co., Lancaster, Pa.
Sag Harbour Electric Light & Power Co., Sag Harbour, N.Y.
Sagadahock Light & Power Co., Bath, Maine.
Saginaw Bay City Railway & Light Co., Saginaw, Mich.
St. Albans Electric Light & Power Co., St. Albans, Vermont.

Light, Power & Traction Companies—Electric—*continued.*

St. Clair County Gas & Electric Co., Belleville, Ill.
St. James City Electric Light Plant, St. James, Minn.
St. John's Light & Power Co., St. Augustine, Fla.
St. Johnsbury Electric Co., St. Johnsbury, Vt.
St. Marys Electric Light Plant, St. Marys, Ohio.
St. Paul Gas Light Co., St. Paul, Minn.
St. Peter Electric Light & Water Works, St. Peter, Minnesota.
St. Regis Falls Electric Light Co., St. Regis Falls, N.Y.
Salem Electric Light & Artificial Ice Co., Salem, Indiana.
Salem Electric Light & Power Co., Salem, Ohio.
Salem Electric Lighting Co., Salem, Mass.
Salem Milling, Lighting & Heating Co., Salem, S.D.
Salem Town Electric Light Plant, Salem, Va.
Salida Edison Electric Light Co., Salida, Cal.
Salida Light & Power Utility Co., Salida, Col.
Salineville Electric Light, Heat & Power Co., Salineville, Ohio.
Salt Lake & Ogden Gas & Electric Light Co., Ogden, Utah.
San Diego Consolidated Gas & Electric Co., San Diego, Cal.
San Francisco Gas & Electric Co., San Francisco, California.
San Joaquin Light & Power Co., Fresno, California.
San Jose & Santa Clara Railroad Co., San Jose, Cal.
San Leandro Gas & Electric Light Co., San Leandro, Cal.
San Luis Gas & Electric Co., San Luis Obispo, California.
San Marcos Utilities Co., San Marcos, Tex.
Sandusky Gas & Electric Co., Sandusky, Ohio.
Sanford Light & Power Co., Sanford, Maine.
Santa Fe Water & Electric Co., Santa Fe, New Mexico.
Saranac Lake Light, Heat & Power Co., Saranac Lake, N.Y.
Saratoga Gas & Electric Light Co., Saratoga Springs, New York.
Saratoga Light, Heat & Power Co., Saratoga, Wyoming.
Savannah Electric Co., Savannah, Georgia.
Savannah Lighting Co., Savannah, Ga.
Schenectady Illuminating Co., Schenectady, N.Y.
Schenectady Railway Co., Schenectady, N.Y.
Schuyler Electric Light Plant, Schuyler, Neb.
Schuylkill Traction Co., Girardville, Pa.
Scranton Electric Co., Scranton, Pennsylvania.
Scranton Illuminating, Heat & Power Co., Scranton, Pennsylvania.
Seabright Electric Light Co., Seabright, N.J.
Seaton Mount Electric Light, Heat & Power Co., Idaho Spring, Col.
Seattle City Municipal Light & Power Plant, Seattle, Wash.

Light, Power & Traction Companies—Electric—*continued.*

Seattle Electric Light & Power Co., Seattle, Wash.
Seattle Tacoma Power Co., Seattle, Wash.
Sebasticook Power Co., Pittsfield, Maine.
Sedalia Electric Light & Power Co., Sedalia, Mo.
Seneca River Power Co., Baldwinsville, N.Y.
Seymour Electric Light Co., Seymour, Conn.
Seymour Gas & Electric Light Co., Seymour, Indiana.
Shamokin Electric Light, Heat & Power Co., Shamokin, Pa.
Sheboygan Light, Power & Railway Co., Sheboygan, Wisconsin.
Sheffield Co., Sheffield, Alabama.
Shelby Village Electric Light Plant Shelby, O.
Shenandoah Artificial Ice, Power, Heat & Light Co., Shenandoah, Iowa.
Shenandoah Electric Illuminating Co., Shenandoah, Pennsylvania.
Sherman City Electric Light Plant, Sherman, Tex.
Sherman Gas & Electric Co., Sherman, Tex.
Shippensburg Electric Light, Heat & Power Co., Shippensburg, Pennsylvania.
Shreveport Gas, Electric Light & Power Co., Shreveport, Louisiana.
Sidney Electric Light Co., Sidney, Ohio.
Sigourney Electric Light & Power Co., Sigourney, Iowa.
Silverton, Town of, Electric Light Plant, Silverton, Col.
Sioux City Service Co., Sioux City, Iowa.
Sioux Falls Light & Power Co., Sioux Falls, S.C.
Siskiyou Electric Power & Light Co., Yreka, Cal.
Sistersville Electric Light & Power Co., Sistersville, West Virginia.
Skowhegan Electric Light Co., Skowhegan, Maine.
Smyrna Electric Light Plant, Smyrna, Del.
Snohomish Electric Light, Power & Gas Co., Snohomish, Washington.
Solano Electric Light & Gas Co., Benicia, Cal.
Somerset Electric Light, Heat & Power Co., Somerset, Pa.
South Brooklyn Town Electric Light Plant, South Brooklyn, Ohio.
South Side Electric Light & Power Co., Kansas City, Mo.
Southern California Edison Co., Los Angeles, California.
Southern Heating, Light & Power Co., Carnegie, Pennsylvania.
Southern Light & Traction Co., Natchez, Miss.
Southern Pines & Carthage Electric Light Plant, Southern Pines, N.C.
Southern Power Co., Charlotte, N.C.
Sparta Electric Light Plant, Sparta, Wis.
Sparta Gas & Electric Co., Sparta, Ill.
Spartanburg Railway, Gas & Electric Co., Spartanburg, S.C.

Light, Power & Traction Companies—Electric—*continued.*

Spencer Electric Light & Power Co., Belding, Mich.
Spencer Light, Power, Heat & Water Co., Spencer, Indiana.
Spencer Gas Co., Spencer, Massachusetts.
Spring Valley Electric Light Co., Spring Valley, Ill.
Springfield City Electric Light Plant, Springfield, Tenn.
Springfield Electric Co., Springfield, Vermont.
Springfield Gas & Electric Co., Springfield, Missouri.
Springfield Light, Heat & Power Co., Springfield, Ill.
Springfield Water & Electric Light Co., Springfield, Ky.
Springville City Electric Light Plant, Springville, Utah.
Stafford Springs Electric Light & Gas Co., Stafford Springs, Connecticut.
Stamford Gas & Electric Co., Stamford, Connecticut.
Stanberry Electric Light Co., Stanberry, Mo.
Standard Electric Light Co., Argentine, Kan.
Standard Gas & Electric Co., Raleigh, N.C.
Stanford Water, Light & Ice Co., Stanford, Ky.
Sterling Gas & Electric Light Co., Sterling, Ill.
Steubenville & East Liverpool Railway & Light Co., Toronto, Ohio.
Stillwater City Electric Light & Water Works, Stillwater, Okla.
Stillwater Gas & Electric Light Co., Stillwater, Minnesota.
Stockton Gas & Electric Co., Stockton, California.
Storm Lake Electric Light Co., Storm Lake, Iowa.
Stoughton Gas & Electric Co., Stoughton, Massachusetts.
Stroudsburg Electric Light & Power Co., Stroudsburg, Pennsylvania.
Stuttgart Water & Electric Light Plant, Stuttgart, Ark.
Suburban Gas & Electric Co., Revere, Mass.
Suffolk Light & Water Co., Suffolk, Virginia.
Sullivan Electric Co., Butte City, Montana.
Sullivan Heat, Light & Power Co., Sullivan, Indiana.
Sulphur Light & Power, Sulphur, Okla.
Summit County Power Co., 405, 17th-st., Denver, Col.
Sumter Ice, Light & Power Co., Sumter, S.C.
Susquehanna County Electric Co., Susquehanna, Pa.
Swett Electric Light & Power Co., Medina, N.Y.
Syracuse Lighting Co., Syracuse, N.Y.
Syracuse Rapid Transit Railway Co., Syracuse, N.Y.
Tacoma City Electric Light Plant, Takoma, Wash.
Tacoma Railway & Power Co., Tacoma, Wash.
Tama & Toledo Electric Railway & Light Co., Toledo, Iowa.

Light, Power & Traction Companies—Electric—*continued.*

Tampa Electric Co., Tampa, Fla.
Taunton Municipal Lighting Plant, Taunton, Mass.
Taylor Electric Light Co., Taylor, Tex.
Tazewell Electric Light & Power Co., Tazewell, Va.
Telluride Electric Light & Power Co., Telluride, Colorado.
Telluride Power Co., Provo, Utah.
Temescal Water Co., The, Corona, Cal.
Temple Electric Light Co., Temple, Texas.
Terrell Electric Light Co., Terrell, Tex.
Texarkana Gas & Electric Light Co., Texarkana, Ark.
Texas-Mexican Electric Light & Power Co., Eagle Pass, Tex.
Thomaston Electric Light Co., Thomaston, Connecticut.
Thomasville Municipal Electric Light Plant, Thomasville, Georgia.
Thomson-Houston Electric Co. of New York, New York, N.Y.
Thousand Islands Electric Light & Power Co., Clayton, N.Y.
Three Rivers Light & Power Co., Three Rivers, Michigan.
Tidewater Power Co., Wilmington, N.D.
Tiffin Edison Electric Illuminating Co., Tiffin, O.
Tipton Electric Light Co., Tipton, Ind.
Titusville Electric Light & Power Co., Titusville, Pa.
Toccoa Falls Light & Power Co., Toccoa, Ga.
Toledo Bowling Green & Southern Traction Co., Findlay, Ohio.
Toledo Consolidated Electric Co., Toledo, Ohio.
Toledo Railways & Light Co., Toledo, Ohio.
Toms River & Island Heights Electric Light & Power Co., Toms River, N.J.
Tonowanda Power Co., North Tonawanda, N.Y.
Topeka Edison Co., Topeka, Kan.
Torrington Electric Light Co., Torrington, Conn.
Town Hydro-Electric Plant, Harrisonburg, Va.
Tremont & Pine Grove Electric Light, Heat & Power Co., Tremont, Pa.
Trenton Gas Light & Power Co., Trenton, Ill.
Tri-County Light & Power Co., Alpha, Ill.
Trinidad Light & Power Co., Trinidad, Col.
Truckee River General Electric Co., Truckee, Cal.
Tucson Gas, Electric Light & Power Co., Tucson, Ariz.
Tullahoma Municipal Electric Light & Water Works, Tullahoma, Tenn.
Tuscola Water & Light Co., Tuscola, Ill.
Tuskaloosa Ice & Light Co., Tuscaloosa, Alabama.
Tuxedo Electric Light Co., Tuxedo, N.Y.
Twin City General Electric Co., Ironwood, Mich.
Two Rivers Water & Electric Plant, Two Rivers, Wis.
Tyler Electric Light & Power Co., Tyler, Texas.

Light, Power & Traction Companies—Electric—*continued.*

Ulster Electric Light, Heat & Power Co., Saugerties, N.Y.
Umpqua Water, Light & Power Co., Roseburg, Ore.
Union City Lighting Co., Union City, Ind.
Union City Water & Electric Light Works, Union City, Tenn.
Union Electric Light Co., Franklin, Mass.
Union Electric Light & Power Co., St. Louis, Missouri.
Union Electric Light & Power Co., Unionville, Conn.
Union Gas & Electric Co., Waterville, Maine.
Union Illuminating Co., Bridgeport, Conn.
Union Light, Heat & Power Co., Fargo, North Dakota.
Union Municipal Electric Light & Water Works, Union, S.C.
Union Railway Co., 204, East 128th-st., New York.
Union Springs Light & Water Works Department, Union Springs, Ala.
United Electric Co., Dennison, Ohio.
United Electric Light Co., Springfield, Mass.
United Electric Light & Power Co., 1170, Broadway, New York.
United Gas & Electric Co., Leavenworth, Kan.
United Gas & Electric Co., New Albany, Indiana.
United Gas & Electric Co., San José, Cal.
United Gas, Electric Light & Fuel Co., Fort Edward, N.Y.
United Hydro Electric Co., Georgetown, Col.
United Illuminating Co., 148, John-st., Bridgeport, Conn.
United Illuminating Co., New Haven, Conn.
United Verde Copper Co., Jerome, Ariz.
Upper Iowa Power Co., Decorah, Iowa.
Urbana & Champaign Railway, Gas & Electric Co., Champaign, Ill.
Urbana Light Co., Urbana, Ohio.
Urbana Light, Heat & Power Co., Urbana, Ill.
Utah Country Light & Power Co., American Fork, Utah.
Valdosta Electric Light & Power Co., Valdosta, Georgia.
Valley Electric Co., New Brighton, Pa.
Valleya Electric Light & Power Co., Valleya, Cal.
Valparaiso Lighting Co., Valparaiso, Indiana.
Ventura County Power Co., Oxnard, Cal.
Vicksburg Lighting Co., Vicksburg, Miss.
Victoria Manufacturing Co., Victoria, Texas.
Village Water Works & Electric Light Plant, Tippecanve City, Ohio.
Vincennes City Electric Lighting Co., Vincennes, Ind.
Virginia Electric Light Co., Virginia, Illinois.
Waco Gas Co., Waco, Texas.
Wakefield Municipal Light Plant, Wakefield, Mass.
Wallingford Borough Electric Works, Wallingford, Conn.

Light, Power & Traction Companies—Electric—*continued.*

Wallkill Valley Electric Light & Power Co., Walden, N.Y.
Walnut Ridge & Hoxie Light & Power & Transit Co., Walnut Ridge, Ark.
Waltham Gas Light Co., Waltham, Massachusetts.
Walton Electric Light Co., Walton, N.Y.
Warren Electric Light & Water Works, Warren, Minn.
Warren Electrical Light Co., Warren, Pa.
Warren Water & Light Co., Warren, Ohio.
Warsaw Gas & Electric Co., Warsaw, New York.
Warwick Valley Light & Power Co., Warwick, N.Y.
Washburn Electric Light & Power Co., Washburn, Wis.
Washington, Baltimore & Annapolis Electric Railway Co., Washington, D.C.
Washington Electric Light & Power Co., Washington, Pa.
Washington Gas & Electric Co., Washington, C. H., Ohio.
Washington Railway & Electric Co., Washington, D.C.
Washtenaw Light & Power Co., Ann Arbor, Mich.
Water & Light Plant, Fitzgerald, Ga.
Water, Light & Transit Co., Carollton, Mo.
Waterbury Traction Co., Waterbury, Conn.
Watertown Electric Light Co., Watertown, N.Y.
Watertown Gas & Electric Co., Watertown, Wis.
Waterville & Fairfield Railway & Light Co., Waterville, Maine.
Watkins Electric Light & Power Co., Watkins, N.Y.
Watsontown Municipal Electric Light, Heat & Power Co., Watsontown, Pennsylvania.
Watsonville Water & Light Co., Watsonville, California.
Waukesha Electric Light Co., Waukesha, Wisconsin.
Wausau Electric Co., Wausau, Wisconsin.
Waxahachie Electric & Gas Co., Waxahachie, Tex.
Wayne County Electric Co., Lyons, New York.
Wayne & Wabash Valley Traction Co., Logansport, Ind.
Waynesboro Electric Light & Power Co., Waynesboro, Franklin Co., Pennsylvania.
Webster City Electric Light Plant, Webster City, Iowa.
Webster Electric Co., Webster, Massachusetts.
Wellington, City of, Electric Light Plant, Wellington, Kan.
Wellsburg Electric Light, Heat & Power Co., Wellsburg, W. Va.
Wellston Municipal Electric Light Plant, Wellston, Ohio.
Wellsville Electric Light Co., Wellsville, Ohio.
West Bend Roller Mills & Electric Light Plant, West Bend, Wis.
West Penn Electric Co., Dawson, Pa.

Light, Power & Traction Companies—Electric—*continued.*

West Point Electric Light & Power Co., West Point, Neb.
Westboro Gas & Electric Co., Westboro, Mass.
Westbrook Electric Light & Power Co., Westbrook, Maine.
Westchester Lighting Co., Mount Vernon, N.Y.
Westerly Gas & Electric Light Co., Westerly, Rhode Island.
Westerly Railway & Lighting Co., Westerly, R.I.
Western Electric Co., Jamestown, N.D.
Western New York & Pennsylvania Traction Co., Olean, N.Y.
Westfield Municipal Gas & Electric Plant, Westfield, Mass.
Weston Electric Light, Power & Water Co., Weston, West Virginia.
Westport Water & Electric Co., Westport, Conn.
Weymouth Light & Power Co., East Weymouth, Mass.
Wheeling Electric Co., Wheeling, West Virginia.
Wheeling Traction Co., Wheeling, West Va.
Whitewater Electric Light Co., Whitewater, Wisconsin.
Wichita Railway & Light Co., Wichita, Kansas.
Wilkes Barre & Wyoming Valley Traction Co., Wilkes Barre, Pa.
Willapa Harbor Electric Co., South Bend, Wash.
Willimantic Gas & Electric Light Co., Willimantic, Connecticut.
Willmar Electric Light & Water Works, Willmar, Minn.
Willows Water & Light Co., Willows, Cal.
Wilson Water & Electric Co., Arkadelphia, Ark.
Wilton Junction City Electric Light & Water Plant, Wilton Junction, Iowa.
Winamic City Water & Electric Light Plant, Winamic, Ind.
Winchester Railway, Light & Ice Co., Winchester, Ky.
Winchester Town Electric Light Plant, Winchester, Tenn.
Winona Railway & Light Co., Winona, Minn.
Winterset City Electric Light Plant, Winterset, Iowa.
Woodbourne Electric Light, Heat & Power Co., Sussex, New Jersey.
Wooster Electric Co., Wooster, Ohio.
Worcester Electric Light Co., Worcester, Mass.
Yankton General Electric Co., Yankton, South Dakota.
Yates Electric Light & Power Co., Penn Yan, New York.
Yonkers Electric Light & Power Co., Yonkers, New York.
York Light & Heat Co., Biddeford, Maine.
York Light & Power Co., York, Nebraska.
Yuma Water & Light Co., Yuma, Ariz.
Zanesville Railway, Light & Power Co., Zanesville, Ohio.

Lightning Arresters—Makers of.

F.—Parafoudres—Fab. de.
G.—Blitzschutzvorrichtung von.

McIntosh, Jas. D., 141, Broadway, New York.
Woolley Electric Co., St. Louis, Mo.

Lubricant Manufacturers.

F.—Huiles à lubrefier—Fab. de.
G.—Maschinen-Oele—Fabr. von.

Allen, L. B., Co., Inc., 1329, Columbia-ave., Chicago, Ill.
Carpenter, Walter D., Co., 39, Cortlandt-st., New York.

Lubricator Makers for Electric Machines & Engines.

F.—Graisseurs pour machines à vapeur élec.—Fab. de.
G.—Schmier Apparate für elektr. und andere Maschinen.

Michigan Lubricator Co., 661–669, Beaubien-st., Detroit, Mich.
"Swift" Lubricator Co., 729–731, West 2nd-st., Elmira, N.Y.

Machine Belting Manufacturers.

See Driving Bands.

Machine Tool Makers.

F.—Machines Outils—Fab. de.
G.—Maschinen-Werkzeug.

Barr Pumping Engine Co., 55, North 7th-st., Philadelphia, Pa.
Billings & Spencer Co., Hartford, Conn.
Blake & Knowles, 115, Broadway, New York.
Brown & Sharpe Manufacturing Co., Providence, R.I.
Bullard Machine Tool Co., Bridgeport, Conn.
Carpenter Electric Co., 604, 5th-st., N.W., Washington, D.C.
Chicago Pneumatic Tool Co., New York.
Cincinnati Tool Co., Norwood, Cincinnati, Ohio.
Cleveland Twist Drill Co., Cleveland, Ohio.
Conway & Co., 217, W. Second-st., Cincinnati, Ohio.
Dicke Tool Co., Downer's Grove, Ill.
Ferracute Machine Co., Bridgeton, N.J.
Garvin Machine Co., Spring & Varick-sts., New York, N.Y.
Gould & Eberhardt, 95 & 113, New Jersey Railroad-avenue, Newark, N.J.
Hampden Corundum Wheel Co., Brightwood, Springfield, Mass.
Jarecki Manufacturing Co., Ltd., Erie, Pa.
Jeffrey Manufacturing Co., Columbus, Ohio.
Johnson-Robinson Machinery Co., 715–717, North 2nd-st., St. Louis, Mo.
Lammart & Mann, 51, S. Jefferson-st., Chicago, Ill.

Machine Tool Makers—*continued.*

Mead, John A., Manufacturing Co., 11, Greenwich-st., New York.
New Process Rawhide Co., Syracuse, New York.
Norton & Jones, Machine Tool Works, Plainville, Conn.
Oshkosh Logging Tool Co., Oshkosh, Wis.
Perrin, Seamans & Co., 57, Oliver-st., Boston, Mass.
Pratt & Whitney Co., 1, Flower-st., Hartford, Conn.
Sebastian Lathe Co., Culvert & Harrison-sts., Cincinnati, Ohio.
Smith Electric Works, Pompton, N.J.
Syracuse Twist Drill Co., 936, Grape-street, Syracuse, N.Y.
Watson & McDaniel, 144, North 7th-street, Philadelphia, Pa.
Watson-Stillman Co., 50, Church-st., New York.

Machinery Merchants & Agents.

F.—Machines—March. et represent. de.
G.—Maschinen Händler & Agenten.

Aiton Machine Co., 126, Liberty-st., New York City.
American Machine & Mfg. Co., Charlotte, N.C.
Briggs, M., 154, Nassau-st., New York.
Coho, H. B., 26, Cortland-st., New York.
Electrical Machinery & Commission Co., 712, North 2nd-st., St. Louis, Mo.
Engineering & Equipment Co., Fulton-bldg., Pittsburg, Pa.
Huntington Machinery & Supply Co., Wilkes-Barre, Pa.
Illinois Electrical Manufacturing Co., Peoria, Ill.
Mead-Morrison Manufacturing Co., 11, Broadway, New York.
Patterson, Gottfried & Hunter, 146–150, Centre-st., New York.
Rossiter, MacGovern & Co., 90, West-st., New York.
St. Louis Electrical Supply Co., 911, Market-street, St. Louis, Mo.
Sciple, H. M., & Co., 3rd & Arch-sts., Philadelphia, Pa.
Steel Motor Co., Cleveland, Ohio.
Takata & Co., 60, Wall-st., New York.
Taylor, W. H., & Co., Allentown, Pa.

Magnet Manufacturers.

F.—Aimants—Fab. d'.
G.—Magnete—Verfertiger.

Acme Wire Co., New Haven, Conn.
Lincoln Electric Co., 3750, Kelley-ave. North-East, Cleveland, Ohio.
Varley Duplex Magnet Co., Philipsdale, R.I.

Manufacturers' Agents.

F.—Agents de Fabricants.
G.—Fabrik—Agenten.

Beatty, W. H., 15, N. 13th-st., Philadelphia, Pa.
Einstein, A. O., 103, West Adam-st., Chicago, Ill.

Manufacturers' Agents—*continued.*

Electrical Equipment Co., Suite 939, Monadnock-blk., Chicago, Ill.
Field, C. J., 141, Broadway, New York.
Finch & Hahn, 504, State-st., Schenectady, N.Y.
Hommel, Ludwig, & Co., Lewis-blk., Pittsburgh, Pa.
Imperial Electric Co., 1022, Arch-st., Philadelphia.
Jones, E. S., Muncie, Ind.
Jones, Robt. Ross, Harrisburg, Pa.
Latham, E. B., & Co., 136, Liberty-st., New York.
McIntire, W. C., & Co., 12, North 5th-st., Philadelphia, Pa.
Monroe Brass & Wire Co., 811, Traction-bldg., Cincinnati, Ohio.
Porter, H. Hobart, jun., A.M.I.E.E. (Westinghouse Elec. & Mfg. Co.), 120, Broadway, New York.
Railway Materials Co., 10, Post Office-sq., Boston, Mass.
Taylor, Wm., 203, Broadway, New York.
Telephone & Electric Equipment Co., San Francisco, Cal.
Toppan, A. W., 65, Sudbury-st., Boston, Mass.
Varney Electrical Supply Co., 235, South Meridian-st., Indianapolis, Ind.
Watter Electric Co., Neave-bldg., Cincinnati, Ohio.
Wood, C. N., 79, Milk-st, Boston, Mass.

Manufacturing Cos.—Electric.

F.—Compagnies d'électricité.—Fab.
G.—Elek. Gesellschaften—Fab.

Measuring Instrument Manufacturers—Electric.

F.—Instruments de mésures electriques.
G.—Mess-Instrumente—Elektrische.

Clark Electric Meter Co., 141, South Clinton-st., Chicago, Ill.
Cutter Co., 19th & Hamilton-sts., Philadelphia, Pa.
Etna Electric Works, 145, East 23rd-st., New York City.
International Electric Meter Co., 110–112, North Sheldon-st., Chicago, Ill.
PIGNOLET, L. M., 78, Cortlandt-st., New York. (Cables: "Pignolet, New York.")
S. E. I. Co., Syracuse, N.Y.
Sage, F. B., & Bro., successors to American Electric Specialty Co., 123, Liberty-st., New York.
Schaffer & Budenberg, Brooklyn, N.Y.
Weston Electrical Instrument Co., Waverly Park, Newark, N.J.

Metal Castings—Makers of.

F.—Fonte en Metal—Fab. de.
G.—Quecksilber—Fab.

Rowell, S. C., & Co., 139, Pearl-st., Boston, Mass.
Whitney, B. S., & Co., 113, North 4th-st., Troy, N.Y.

Metal Merchants.

F.—Marchands Métaux.
G.—Metall-Händler.

Metallurgists—Electro.

F.—Électro-metallurgistes.
G.—Erzkündige—Elektro.

Keith, Dr. N. S., M.AM.I.E.E., 350, Bullitt-bldg., Philadelphia, Pa.

Mica Merchants.

F.—Marchands—Mica.
G.—Glimmer Händler.

American Mica Co., Newton Lower Falls, Mass.
Asheville Mica Co., Asheville, N.C.
Cawood Mica Co., Inc., Buffalo, N.Y.
Chicago Mica Co., Valparaiso, Ind.
Great Southern Mica Co., 227–235, Williamson-bldg., Cleveland, Ohio.
Mica Insulator Co., 218, Water-street, New York.
Mica Manufacturing Co., 307 & 309, West Broadway, New York.
Monarch Mica Mining Co., 150, Nassau-st., New York.
Munsell, Eugene, & Co., 218, Water-street, New York, N.Y.
Schoonmaker, A. O., 221, Fulton-st., New York.
U.S. Mica Co., 238, La Salle-st., Chicago, Ill.
Watson Bros., 170, Purchase-st., Boston, Mass.
Western Insulation Co., 170, West Adams-st., Chicago, Ill.

Micrometers & Measuring Instruments—Makers of.

F.—Micrometres et instr. de mesure—Fab. de.
G.—Mikrometer & Mess Instrumente—Fab. von.

Microphone Makers.

F.—Microphones—Fab. de.
G.—Microphon-Fabrikanten.

Lamarche's Sons, H., 17, Platt-st., New York, N.Y.
Western Electric Co., 259, South Clinton-st., Chicago; West & Bethune-sts., New York.
See also ALPHABETICAL.

Milling Machines.

F.—Machines à cordonner.
G.—Rändelmaschinen.

Becker-Brainard Milling Machine Co., Hyde Park, Mass.

Miniature Incandescent Lamps.

Howard Miniature Lamp Co., 327, Academy-st., Newark, N.J.
Jaeger Miniature Incandescent Lamp Manufacturing Co., Bible House, New York City.

Mining Machinery (Electric)—Makers of.

F.—Machines électr. de Mines—Fab. de.
G.—Elektr. Gruben Maschinen—Fab. von.

Goodman Manufacturing Co., Chicago, Ill.
Hendy Electrical Co., 73, Fremont-st., San Francisco, Cal.

Model Makers.

F.—Modèles—Fab. de.
G.—Modelle—Fabr.

Motor Carriages.

F.—Voitures automobiles.
G.—Motor Wagen.

American Foundry Co., Leipsic, Ohio.
Anderson Carriage Co., Clay & Riopelee-aves., Detroit, Mich.
Auto-Car Equipment Co., Buffalo, N.Y.
Bailey, S. R., & Co., Amesbury, Mass.
Baker Motor Vehicle Co., Cleveland, Ohio.
Broc Carriage & Wagon Co., The, Payne-ave. & East 40th-st., Cleveland, Ohio.
Brunns Carriage Manufacturers, 1140, Main-st., Buffalo, N.Y.
Bryder Electric Auto Co., 1948, East 55th-st., Cleveland, Ohio.
Clark, Edward H., 272, Freeport-st., Boston, Mass.
Columbus Buggy Co., Dublin-st., Columbus, Ohio.
Electric Vehicle Co., Hartford, Conn.
Electrical Construction Co., 1126–30, South Main-st., Los Angeles, Cal.
Lansden Co., 54, Lackawanna-ave., Newark, N.J.
McNaughton, Jas., Co.,29,W. 42nd-st., New York.
National Motor Vehicle Co., 22nd-st. & L.E. & W.R.R., Indianapolis, Ind.
Olds Motor Works, Lansing, Mich.
Pittsburgh Motor Vehicle Co., Pittsburg, Pa.
Rauch & Lang Carriage Co., 2180, West 25th-st., Cleveland, Ohio.
Saint Louis Motor Carriage Co., St. Louis, Mo.
Studebaker Automobile Co., South Bend, Ind.
Synnestredt Machine Co., 4117, Liberty-ave., Pittsburgh, Pa.
Waverley Co., Indianapolis, Ind.
Woods Motor Vehicle Co., 2515-21, Calumet-ave., Chicago, Ill.

Motor Manufacturers—Electric.

F.—Moteurs électriques—Fab. de.
G.—Motoren Fab.—Elek.

Advance Electric Co., 22, Commercial-st., St. Louis, Mo.
Bell Electric Motor Co., 133, Liberty-st., New York.
Bilberg, C., M.AM.I.E.E., Narberth, Pa.
Bodine Electric Co., 426, West Madison-st., Chicago, Ill.
BOGUE, CHAS. J., ELECTRIC CO., 513–515, West 29th-st., New York N.Y.

Motor Manufacturers—Electric—*continued.*

Connecticut Dynamo & Motor Co., 516, West 25th-st., New York.
Crocker-Wheeler Co., Ampere, N.J.; New York; Chicago; Pittsburg; Boston; Philadelphia; Baltimore; Cleveland, Ohio; Denver, &c.
Dallett, Thos. H., & Co., York-street & Sedgley-avenue, Philadelphia, Pa.
Dayton Fan & Motor Co., Dayton, Ohio.
Elektron Manufacturing Co., Springfield, Mass.
Emerson Electric Manufacturer's Co., 1108-1110, St. Charles-st., St. Louis, Mo.
Engineering Specialty Co., Stamford, Conn.
Erie Machinery Supply Co., Erie, Pa.
Fort Wayne Electric Works, Fort Wayne, Ind.
General Electric Co., Schenectady, N.Y.; & 30, Church-st., New York City.
Ham Manufacturing Co., C. T., Rochester, N.Y.
Healy Fan Co., 47, Fairfield-avenue, Bridgeport, Conn.
Heinel, Chas., & Co., Laurel-st., nr. Delaware-ave., Wilmington, Del.
Holtzer-Cabot Electric Co., The, Boston (Brookline), Mass. (Telegrams: "Holtzer, Boston.")
Hunter Fan & Motor Co., Fulton, N.Y.
Huyett & Smith Manufacturing Co., Detroit, Mich.
Hyer-Sheehan Electric Motor Co., Newburg, N.Y.
Illinois Alloy Co., 1050, North 64th-ave., Chicago.
Independent Electric Co., 183, Lake-st., Chicago.
Lamb Electric Co., Grand Rapids, Mich.
Lovell, F. S., 87, Boutelle-st., Fitchburg, Mass.
Nichols-Mather Motor Co., Penn-building, Pittsburgh, Pa.
Northern Electrical Mfg. Co., Madison, Wis.
Nowotny, John S., Co., Cincinnati, Ohio.
Owen, Fred. E., 950, Main-st., Brockton, Mass.
Pacific Electric Motor Co., San Francisco, Cal.
Patten Motor Manufacturing Co., Old Colony-building, Chicago, Ill.
Phœnix Electric Co., 9 & 10, Arcade-bldg., Charleston, W. Va.
Reliance Electric & Engineering Co., Cleveland, Ohio.
Rockford Electric Manufacturing Co., Rockford, Ill.
Rosswassler-Bonine Electric Co., Philadelphia, Pa.
Scott & Janney Manufacturing Co., 2138, Washington-ave., Philadelphia, Pa.
Shawhan-Thresher Electric Co., Dayton, Ohio.
Snyder Electric Co., 26, South Water-st., Cleveland, Ohio.
Steiner Manufacturing Co., 2600, North 14th-st., St. Louis, Mo.
Sterling Electric Motor Co., 2nd & Edgar-sts., Dayton, Ohio.
Swert, D. F., Grand Rapids, Mich.
Three Rivers Electric Manufacturing Co., Three Rivers, Mich.
Vance Electric Co., 136, Liberty-st., New York.
Western Electric Co., 259, South Clifton-st., Chicago; West & Bethune-sts., New York.
See also ALPHABETICAL.

Oil Filters—Makers of.

F.—Filtres à l'huile—Fab. de.
G.—Oelfilter—Fab. von.

Burt Manufacturing Co., Akron, Ohio.
Famous Filter Co., 316, North Main-st., St. Louis, Mo.
Purity Oil Filter Co., 211, Water-st., Pittsburg, Pa.

Oil Manufacturers & Refiners.

F.—Huile—Fab. et Raffineurs d'.
G.—Oel—Fabr. u. Läuterer.

Maloney Oil & Manufacturing Co., 141-149, Meridian-st., Scranton, Pa.
Standard Oil Co. of N.Y., Atlas Works, Buffalo, N.Y.
Stuart, D. A., & Co., 447, Illinois-ave., Chicago, Ill.
Vacuum Oil Co., 49, Federal-st., Boston, Mass.

Oil Merchants.

F.—Huile—marchands d'.
G.—Oel-Händler.

Detroit Lubricator Co., Detroit, Mich.
Olney Bros., 54, S. Water-st., Providence, Rhode Island.
Sherwood Manufacturing Co., 34, Washington-street, Buffalo, N.Y.

Omnibuses, Cabs, & Parcels Vans—Electrical.

F.—Voitures Omnibus et autres—élec.
G.—Omnibusse, Droschken & Packwagen—Elektr.

Babcock Electric Carriage Co., Buffalo, N.Y.
Commercial Truck Co. of America, 1222, Arcade-bldg., Philadelphia, Pa.
Electric Vehicle Co., Hartford, Conn.
Vehicle Equipment Co., Borden & Review-aves., Long Island City, N.Y.

Ozone Apparatus—Makers of.

F.—Appareils d'Ozone—Fab. d'.
G.—Ozon-Apparate—Fabr. von.

Paints—Makers of.

F.—Peinture—Fab. de.
G.—Malerfarben—Fab. von.

Devoe, F. W., & Co., 101, Fulton-st., New York.
Standard Paint Co., 100, William-st., New York.
Standard Varnish Works, New York.

Paraffin Wax Manufacturers.

F.—Bougies de Paraffine—Fab. de.
G.—Paraffin Wachs—Fab. von.

Patent Solicitors & Experts.

F.—Avocats de brevets et experts.
G.—Patent Anwalte und Sachsverständige.

Bain, F., 947-949, Monadnock-blk., Chicago, Ill.
Barter, D. M., 1410, Marquette-bldg., Chicago.
Belfield, A. Miller, 1362, Monadnock-bldg., Chicago, Ill.
Bogart, A. L., 123, Liberty-st., New York.
Bourne, Theodore F., 220, Broadway, New York.
Bradford & Hood, Suite 1235, State Life-bldg., Indianapolis, Ind.
Brock, Becken & Smith, 900, F-st., Washington, D.C.; & 38, Park-row, New York.
Browne & Woodworth, 60, Congress-st., Boston, Mass.
Buckingham, Charles L., 38, Park-row, New York.
Carter, D. M., 1410, Marquette-bldg., Chicago.
Chadbourn, Henry, 22, Congress-st., Boston, Mass.
Clarke, Chas. L., 31, Nassau-st., New York, N.Y.
Clement, E. E., A.AM.I.E.E., McGill-bldg., 908, G-st., N.W., Washington, D.C.
Davidson, Edward C., 141, Broadway, New York.
Davis, A. G., Washington Loan Q Trust-bldg., Washington, D.C.
Decker, Delbert H., 141, Broadway, New York.
Dieterich, F. G., 602, F-st., Washington, D.C.
Duvall, E. S., Loan & Trust-bldg., Washington, D.C.
Dyer, R. N., 31, Nassau-st., New York.
Dyer & Dyer, 31, Nassau-st., New York.
Edmonds, S. A., 32, Liberty-st., New York.
Edwards, Clifton V., A.AM.I.E.E., 220, Broadway, New York.
Freedman, W. H., C.E., E.E., M.AM.I.E.E., University of Vermont, Burlington, Vt.
Goepel & Goepel, 290, Broadway, New York.
Hamilton, J., 31, Nassau-st., New York; & Loan Trust-bldg., Washington, D.C.
Hanson, B. J., 510, McGill-bldg., Washington, D.C.
Hedrick, Chas. J., 606, F-st., Washington, D.C.
Herzog, S., 116, Nassau-st., New York.
Howson, Hubert, A.AM.I.E.E., 38, Park-row, New York.
Kenyon, W. H., A.AM.I.E.E., 49, Wall-st., New York.
Kirk, G. E., A.AM.I.E.E., 1649, The Nicholas, Toledo, Ohio.
Knight Bros., 20, Broad-st., New York.
Livermore, J. P. & H. J., 110, State-st., Boston, Mass.
Lonergan, J. E., & Co., 211, Race-street, Philadelphia, Pa.
McMeen & Miller, 1442 & 1443, Monadnock-blk., Chicago, Ill.
Maver, Wm., jun., 136, Liberty-st., New York.
Munn & Co., 361, Broadway, New York.
Read, R. H., A.AM.I.E.E., General Electric Co., Schenectady, N.Y.
Sabine, J. B., 42, Broadway, New York, N.Y.
Sachers, R. J., 2, West 29th-st., New York.

Patent Solicitors & Experts—*continued.*

Schreiter, Henry, C. & E.E., LL.B. (Schreiter & Mathews), 20, Nassau-st., New York.
Siggers & Siggers, National Union-bldg., Washington, D.C.
Smythe, E. H., A.AM.I.E.E, 738, Monadnock-bldg., Chicago, Ill.
Spengel, Carl. Offices: 75, Atlas National Bank-bldg., Cincinnati, Ohio.
Stetson, T. Drew, 108, Fulton-st., New York.
Stockbridge, G. H., 165, Broadway, New York.
Sturtevant & Mason, Washington Loan & Trust-bldg., Washington, D.C.
Thompson, E. P., M.AM.I.E.E., 50, Morningside-ave., West, New York.
Townsend & Decker, 141, Broadway, New York, N.Y.
Tyndall, William D., 141, Broadway, New York.
Vansize, W. B., 253, Broadway, New York.
Woodworth, G. K., Browne & Woodworth, 60, Congress-st., Boston, Mass.

Patent & Trade Marks Registration Agents.

F.—Brevets et Marques de fabrique—agents de.
G.—Agenten für Registrirung der Patente Handelsmarken.

Cushing, A. P., 43, Tremont-st., Boston, Mass.
Guthrie, Edwin, 97, Corcoran-bldg., Washington, D.C.

Permanent Way for Electric Wires.

See CONDUITS & CULVERTS.

Phonograph Makers.

F.—Phonographes—Fab. de.
G.—Phonographen—Fabr. von.

U.S. Phonograph Co., 82, Orange-st., Newark, N.J.

Phosphorized Bronze Manufacturers.

F.—Bronze phosphoreux—Fabr. de.
G.—Phosphorbronze—Fabr. von.

Messmer, Fred., Manufacturing Co., 10, S. Broadway, St. Louis, Mo.
Phosphor-Bronze Smelting Co., 2200, Washington-ave., Philadelphia, Pa.

Platinum Manufacturers & Refiners.

F.—Platine—Fab. et Raffineurs de.
G.—Platinum—Fabr. u. Läuterer.

American Platinum Works, 251, N. J. R. R.-ave., New York.
Baker & Co., Inc., 30, Church-st., New York.
Croselmire & Ackar Co., 42, Walnut-st., Newark, N.J.
Sieman Hard Rubber Corp., Bridgeport, Conn.

Platinum Merchants.

F.—Platinum—Marchands.
G.—Platin—Händler.

Ellwood Ivins Tube Works, 487, Broadway, New York.
Platt, Chas. S., 29, Gold-street, New York, N.Y.
Schawel, Jas., & Co., 27, John-st., New York.

Poles (Iron)—Manufacturers of.

F.—Poteaux en fer—Fab. de.
G.—Pfosten (Eisen)—Fab. von.

Beidler, Francis, & Co., 519, West 22nd-st., Chicago, Ill.
Carolina Pole Co., P.O. Box 212, Wilmington, N. Ca.
Hallowell, Eli B., & Co., 910, Harrison-bldg., Philadelphia, Pa.
Huckins, P. S., & Co., 45, Kilby-st., Boston, Mass.
Lond's, H. M., Sons Co., Au Sable, Mich.
McNaughton Lumber Co. (trolley), 303, Bourse-bldg., Philadelphia, Pa.
Mott, J. L., Iron Works, 5th-ave. & 17th-st., New York.
National Tube Co. (trolley), Pittsburgh, Pa.
Pittsburgh Reinforcing Pole Co., 435, 6th-ave., Pittsburgh, Pa.
Randolph & Clowes, Waterbury, Conn.; & at New York; & Chicago, Ill.
Sciple Sectional Pole Co., Minneapolis, Minn.
Sterling, W. C., & Son Co., Monroe, Mich.
Stevens, W. F., Saginaw, Mich.

Porcelain & China Fittings Makers.

F.—Porcelaine—Fab. de Montage en.
G.—Porzellanteile—Fab. von.

Anderson Porcelain Co., East Liverpool, Ohio.
Empire China Works, 156, Green-st., Brooklyn, N.Y.
Hartford-Faience Co., Hartford, Conn.
Imperial Porcelain Works, corner Mulberry & Clagg-avenues, Trenton, N.J.
Laclede Carbon & Electric Co., Peru, Ind.
Locke Insulator Mfg. Co. (pin), Victor, N.Y.
National Porcelain Co., Trenton, N.J.
Peru Electric Manufacturing Co., Peru, Ind.
Sears, H. D., 131, State-st., Boston, Mass.
Union Electrical Porcelain Works, Hamilton-ave., Trenton, N.J.
Union Porcelain Works, 300, Eckford-street, Borough Brooklyn, N.Y.
Wirt Manufacturing Co., Burrage, Mass.

Porous Cell Manufacturers.

F.—Vases poreux—Fab. de.
G.—Poröse Töpfe für Batterien.

Portable Electric Lamps.

F.—Lampes élec.—portatives.
G.—Tragbare elek. Lampen.

McLeod, Ward & Co., 27, Thames-st., New York.

Professors & Teachers of Science—including Electricity.

F.—Professeurs et Précepteurs de Sciences l'électricité compris.
G.—Professoren und Lehrer der Elektricität.

Abbe, Cleveland, The U.S. Weather Bureau, Washington, D.C.
Adams, C. A., M.AM.I.E.E., M.I E.E., Harvard University, Cambridge, Mass.
Anderson, D. S., Tulane University, New Orleans, La.
Arendt, Morton, M.AM.I.E.E., Columbia University, New York.
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Atkinson, T. W., Louisiana State University, Baton Rouge, La.
Bedell, Dr. Fred., M.AM.I.E.E., Cornell University, Ithaca, N.Y.
Beebe, M. C., University of Wisconsin, Madison, Wis.
Brackett, Byron B., A.M., PH.D., M.AM.I.E.E., South Dakota State College, Brookings, S.D.
Bristol, W. H., M.AM.I.E.E., Bristol Co., Waterbury, Conn.
Brooks, M., University of Illinois, Urbana, Ill.
Buck, A. M., New Hampshire College, Durham, N.H.
Burgess, Chas. F., University of Wisconsin, Chemical Engineering-bldg., Madison, Wis.
Caldwell, F. C., M.AM.I.E.E., Ohio State University, Columbus, Ohio.
Carhart, Prof. H. S., M.I.E.E., Michigan University, Ann Arbor, Mich.
Carpenter, H. V., Washington State College, Pullman, Wash.
Chandler, Chas. F., M.AM.I.E.E., Columbia University, New York.
Clifford, H. E., A.AM.I.E.E., Mass. Institute of Technology, Boston, Mass.
Cory, C. L., University of California, Berkeley, Cal.
Creighton, E. E. F., A.AM.I.E.E., General Electric Co., Schenectady, N.Y.
Dunstan, A., Ala. Polytechnic Institute, Auburn, Ala.
Dates, H. B., S.B., A.AM.I.E.E., Case School of Applied Science, Cleveland, Ohio.
Dodge, Prof. Omenzo G., U.S. Naval Academy, Annapolis, Md.
Dow, H. W., Iowa State College, Ames, Iowa.
Eddy, H. T., A.M.AM.I.E.E., University of Cincinnati, Cincinnati, Ohio.
Ensign, O. H., M.AM.I.E.E., U.S. Reclamation Service, Los Angeles, Cal.
Esterline, J. W., A.AM.I.E.E., Purdue University, Lafayette, Ind.
Esty, Wm., M.AM.I.E.E., Lehigh University, South Bethlehem, Pa.
Evans, Prof. H. S., University of Colorado, Boulder, Col.
Fish, F. A., Iowa State College, Ames, Iowa.
Fiske, J. Parker, 164, Devonshire-st., Boston.

Professors & Teachers of Science—including Electricity—*continued.*

Flather, John J., University of Minnesota, Minneapolis, Minn.
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French, Prof. Thomas, jun., PH.D., A.AM.I.E.E., 40, Brantford-pl., Buffalo, N.Y.
Ganz, A. F., Stevens Institute of Technology, Hoboken, N.J.
Gardner, T. M., Oregon Agricultural College, Corvallis, Ore.
Gladson, Wm. N., M.S.E.E., PH.D., M.AM.I.E.E., University of Arkansas, Fayetteville, Ark.
Graham, W.P., Syracuse University, Syracuse, N.Y.
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Harbin, George F., Catholic University of America, Washington, D.C.
Harding, C. F., Purdue University, Lafayette, Ind.
Hartmann, F. M., M.AM.I.E.E., Cooper Union, New York.
Hooper, W. L., M.AM.I.E.E., Tuffts College, Mass.
Hopkins, N. M., George Washington University, Washington, D.C.
Hotchkiss, Homer J., Drexel Institute, Philadelphia, Pa.
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Jackson, J. P., M.AM.I.E.E., Penn. State College, State College, Pa.
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Ker, W. W., Electrical Hebrew Technical Institute, 36, Stuyvesant-st., New York.
Lansdorf, A. S., Washington University, St. Louis, Mo.
Lardner, Henry A., A.AM.I.E.E., J. G. White & Co., 43, Exchange-pl., New York.
Latta, J. E., University of N.C., Chapel Hill, N.C.
Lawrence, R. R., A.AM.I.E.E., Massachusetts Institute of Technology, Boston, Mass.
Laws, F. A., Mass. Institute of Technology, Boston, Mass.
Lee, C., Technic Institute, Blacksburg, Va.
MacLaren, M., M.I.E.E., University, Princeton, N.J.
Macomber, G. S., M.AM.I.E.E., Ithaca, N.Y.
Magnusson, C. E., M.AM.I.E.E., University of Washington, Seattle, Wash.
Mees, C. L., A.AM.I.E.E., Rose Polytechnic Institute, Terre Haute, Ind.
Merrill, J. F., M.AM.I.E.E., School of Mines, University of Utah, Salt Lake City, Utah.
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Professors & Teachers of Science—including Electricity—*continued.*

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Peckham, W.C., Adelphi College, Brooklyn, N.Y.
Perkins, C. A., PH.D., M.AM.I.E.E., University of Tennessee, Knoxsville, Tenn.
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Plumb, H. T., Purdue University, West Lafayette, Ind.
Pupin, Michael I., Columbia College, New York.
Radtke, A. A., A.AM.I.E.E., 2450, South Park-ave., Chicago, Ill.
Rood, J. T., University of Alabama, University, Ala.
Rosa, Edward B., PH.D., SC.D., M.AM.I.E.E., National Bureau of Standards, Washington, D.C.
Ryan, Harris J., M.AM.I.E.E., Stanford University, Stanford, Cal.
Scott, A. C., A.M.AM.I.E.E., University of Texas, Austin, Tex.
Sever, George F., Columbia University, New York.
Shaw, H. B., A.AM.I.E.E., Missouri State University, Columbia, Mo.
Shearer, J. S., B.S., PH.D., Cornell University, Ithaca, N.Y.
Sheldon, S. R., University of Idaho, Moscow, Idaho.
Shepardson, Geo. D., University of Minn., Minneapolis, Minn.
Shuster, J. W., A.AM.I.E.E., University of Wisconsin, Madison, Wis.
Smith, Harold B., M.AM.I.E.E., M.I.E.E., Worcester Polytechnic, Worcester, Mass.
Snow, J. E., M.SC., A.AM.I.E.E., Armour Institute, Chicago, Ill.
Springer, F. W., M.AM.I.E.E., University of Minn., Minneapolis, Minn.
White, C. G., M.AM.I.E.E., Lake Linden, Mich.
Whiting, S. E., A.AM.I.E.E., Harvard University, Cambridge, Mass.
Woodworth, P. B., A.AM.I.E.E., Lewis Institute, Chicago, Ill.

Publications—Electrical & Scientific.

F.—Publications électr. et scientifiques.
G.—Veröffentlichungen—Elektr. u. wissenschaftliche.

American Engineer & Railroad Journal (monthly; price $2 per annum), 140, Nassau-st., New York.
American Industries, 170, Broadway, New York.
American Journal of Progressive Therapeutics, Downers Grove, Ill.; & 55, State-st., Chicago, Ill.
American Journal of Science (monthly; ann. sub., $6.40 = 26*s.* 6*d.*), New Haven, Conn.

Publications—Electrical & Scientific— *continued.*

American Machinist (weekly; ann. sub., U.S. & Mexico, $4; Canada, $5.50; Great Britain, 30*s.*; other countries, 35*s.*), 505, Pearl-st., New York.

American Street Railway Investments (annually, sub. $5), 239, West 39th-st., New York.

Central Station, The (monthly; sub., U.S., $1; foreign, $2), 220, Broadway, New York.

Domestic Engineering (weekly; ann. sub., $1.00), Chicago, Ill.

Electric Journal (ann. sub., U.S. & Mexico, $1.50; Canada, $1.75; foreign countries, $2.00, payable in advance), Box 911, Pittsburg, Pa

Electric Railway Journal (weekly; ann. sub., North America, $3; Canada, $4.50; other countries, $6), 239, West 39th-st., New York; & London.

Electric Traction Weekly, Manhattan-bldg., 315, Dearborn-st., Chicago, Ill.

Electrical Age, The (monthly; foreign, P.U., $2.50 per annum; U.S., $1.00), 45, East 42nd-st., New York.

Electrical Record (monthly; $2 per ann.), 114, Liberty-st., New York.

Electrical Review & Western Electrician (weekly; ann. sub., U.S., $3; Canada, $4; foreign, $6), Marquette-bldg., Chicago, Ill.

Electrical World (weekly; ann. sub., U.S. $3; P.U. $6), 239, West 39th-st., New York, N.Y.

Electrochemical & Metallurgical Industry (monthly; ann. sub., P.U., 10*s.*), 239, West 39th-st., New York.

Electrocraft (ann. sub., $1.50), Electrocraft Publishing Co., Detroit, Mich.

Electro-Therapeutist (ann. sub., U.S., $1.00; foreign, $1.25), Lima, Ohio.

Engineering Digest (monthly, price 20 cents), 220, Broadway, New York.

Engineering Magazine, 140, 142, Nassau-st., New York; & Kean-st., Aldwych, London, W.C.

Engineering & Mining Journal (weekly; ann. sub., $5; P.U., $8.00), 505, Pearl-st., New York.

Engineering Record (weekly; ann. sub., $3.00; P.U., $6.00), 239, West 39th-st., New York.

Illuminating Engineer, The (monthly; ann. sub., P.U., $2.50), 36, West 39th-st., New York.

Indiarubber World (monthly; ann. sub., U.S. & Mexico, $3; foreign, $3.50), 395, Broadway, New York.

Insurance Engineering (monthly; ann. sub., P.U., $4), 120, Liberty-st., New York.

Iron Age (weekly; ann. sub., $5), 14 & 16, Park-pl., New York.

Iron Trades Review (weekly; ann. sub., $3; P.U., $4.50), Cleveland, Ohio.

Journal of Electricity, Power & Gas (weekly), 604, Mission-st., San Francisco, Cal.

Journal of the Franklin Institute (monthly; ann. sub., $5), 15, South 7th-st., Philadelphia, Pa.

Journal of Physical Chemistry (ann. sub., $4), Cornell University, Ithaca, N.Y.

Journal of the Telegraph (monthly; ann. sub., $1), 195, Broadway, New York.

Publications—Electrical & Scientific— *continued.*

Journal of the Western Society of Engineers (six times a year; ann. sub., $3), 1737, Monadnock-blk., Chicago, Ill.

Machinery (monthly, four editions; ann. sub., U.S., $1.00, $2.00, foreign edition; $3.00, railway machinery edition, $2.00 in U.S.), 49, Lafayette-st., New York.

Mining Magazine, 135, William-st., New York.

Mining World (weekly; ann. sub., U.S., $3.00; Canada, $5.00; foreign, $6.00), 1420, Monadnock-blk., Chicago, Ill.

Modern Machinery (monthly; ann. sub., P. U. $1.00), 960, Monadnock-bldg., Chicago, Ill.

Physical Review (monthly; ann. sub., $6), Ithaca, N.Y.

Popular Electricity (monthly; ann. sub., P.U., 7*s.* 6*d.*), Monadnock-blk., Chicago, Ill.

Power & The Engineer (weekly; ann. sub., U.S. & Mexico, $2; Canada, $3.00; Great Britain & all other countries, 16*s.*), 505, Pearl-st., New York.

Proceedings of the American Institute of Electrical Engineers (monthly; ann. sub., $6 = £1 1*s.*), 33, West 39th-st., New York.

Progressive Age (semi-monthly; ann. sub., $3 in advance, post free in U.S.; Canada, $4; E. C. Brown, editor & publisher), Stewart-bldg., 280, Broadway, New York.

Railroad Age Gazette (weekly; ann. sub., U.S. & Mexico, $5.00; Canada, $6.00), 83, Fulton-st., New York; & Queen Anne's-chbrs., London, S.W.

Railway & Engineering Review, 1305, Manhattan-bldg., Chicago.

Railway & Locomotive Engineering (monthly; ann. sub., $2; foreign, $2.50), 114, Liberty-st., New York.

School of Mines Quarterly, Columbia University, New York.

Scientific American (weekly; ann. sub., $3; Europe, $4.50) & *Scientific American Supplement* (weekly; ann. sub., $5; Europe, $6; combined rates, $7; Europe, $9.50), 361, Broadway, New York.

Scientific American Export Edition (monthly; ann. sub., $3), 361, Broadway, New York.

Signal Engineer, Monadnock-blk., Chicago, Ill.

Telegraph Age (semi-monthly; ann. sub., U.S., $2.00; Canada, $2.50; foreign countries, $3.00), 253, Broadway, New York.

Telephony, Monadnock-blk., Chicago, Ill. (weekly, 10 cents; ann. sub., U.S., Cuba & Mexico, $3; Canada, $4.00; other countries, $3).

Publishers of Electrical & Scientific Books, &c.

F.—Librairies et Editeurs de livres élec. et scientifiques.

G.—Verleger von elek. & Wissenschaftl. Büchern.

Audel, Theo., & Co., 63, Fifth-ave., New York.

Brown, E. C., editor & publisher *Progressive Age* (semi-monthly; ann. sub., P.U., 13*s.* 6*d.*), Stewart-building, 280, Broadway, New York.

Publishers of Electrical & Scientific Books, &c.—*continued.*

Cassier Magazine Co., 12, West 31st-st., New York.
Central District & Printing Telegraph Co., Telephone-bldg., 7th-ave. & Montour Way, Pittsburgh, Pa.
Electrical Review Publishing Co., Suite 507, Marquette-bldg., Chicago, Ill.
Gage Publishing Co., Inc., 114, Liberty-st. New York, N.Y.
Hunt, W. T., & Co., 150, Nassau-st., New York.
McGraw Publishing Co., 239, West 39th-st., New York.
Philadelphia Book Co., 17, South 9th-st., Philadelphia, Pa.
Spon & Chamberlain, 123, Liberty-st., New York.
Van Nostrand (D.) Co., publishers of electric & scientific books, 23, Murray-street, & 27, Warren-street, New York.
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Dow, Geo. E., Pumping Engine Co., 179, 1st-st., San Francisco, Cal.
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Laidlaw Dunn-Gordon Co., Cincinnati, Ohio.
McGowan, John H., Co., 42, Central-avenue, Cincinnati, Ohio.
Morris Machine Works, Baldwinsville, N.Y.
Roots, P. H. & F. M., Connersville, Ind.
Rumsey & Co., Ltd., 75, Warren-st., New York.
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Worthington, H. R., 115, Broadway, New York.

Pushes Makers (Electric Bell).

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Municipal Signal Co., 21, Pearl-st., Boston, Mass.
Parish Electric Track Signal Co., Detroit, Mich.
Union Switch & Signal Co., Swissvale, Pa.

Railway Supplies (Electric)—Makers of & Dealers in.

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G.—Bedarfsartikel für elektr. Eisenbahnen—Fabr. & Händler.

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American Railway Supply Co., 24, Park-pl., New York.
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Chambers Bros. & Co., North 52nd-st., Philadelphia, Pa.
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Electric Service Supplies Co., 1020, Filbert-st., Philadelphia, Pa.
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Hartshorn Stewart Co., East Newark, N.J.; & at New York; & Chicago, Ill.
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Motley, Green & Co., 68, Broad-st., New York.
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Railway Supply Co., St. Louis, Mo.
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Sterling-Meaker Co., 420, Ogden-st., Newark, N.J.
Stow Manufacturing Co., Binghamton, N.Y.
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Wendell & MacDuffie, 50, Church-st., New York.

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Whitaker, S. E., A.AM.I.E.E., 29, West 39th-st., New York.

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Place, Geo., 120, Broadway, New York.
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Stephenson, John, Co., Elizabeth, N.J.
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Railways & Tramways—Electric.

F.—Chemins de fer et Tramways—Électriques.
G.—Elektr. Eisenbahnen & Strassenwagen.

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Albany & Hudson Railway & Power Co., Hudson, N.Y.
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American Railways Co., The, Philadelphia, Pa.
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Ashtabula Rapid Transit Co., Ashtabula, Ohio.
Athol & Orange Street Railway Co., Athol, Mass.
Atlantic City & Shore Railroad Co., Atlantic City, N.J.
Atlantic Coast Electric Railroad Co., Asbury Park, N.J.
Atlantic Shore Line Railway Co., Kennebunkport, Maine.
Augusta, Winthrop & Gardiner Railroad, Augusta, Maine.
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Baltimore City Pass. Railway Co., Baltimore, Md.
Baltimore & Ohio Railroad, Baltimore, Md.
Baltimore, Sparrows Point & Chesapeake Railway Co., Baltimore, Md.
Baltimore Traction Co., Baltimore, Md.
Bay City Traction & Electric Co., Bay City, Mich.
Beaver Valley Traction Co., Beaver Falls, Pa.
Bennington & North Adams Street Railway Co., Hoosick Falls, N.Y.
Berkshire Street Railway Co., Beard-st., Pittsfield, Mass.
Biddeford & Saco R.R. Co., Biddeford, Maine.
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Birmingham Railway, Light & Power Co., Birmingham, Ala.
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Brooklyn, Queen's Co. & Suburban R. R. Co., Brooklyn, N.Y.
Brooklyn Rapid Transit Co., Brooklyn, N.Y.
Buchs County Electric Power Co., Newton, Pa.
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Burlington County Railway Co., Hainesport, N.J.
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Calais Street Railway Co., Calais, Maine.
Cape May, Delaware Bay & Sewell's Point R.R. Co., Cape May City, N.J.
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Catskill Electric Railway Co., Catskill, N.Y.
Cedar Rapids & Marion City Railway Co., Cedar Rapids, Iowa.
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Central Pennsylvania Traction Co., Harrisburg, Pa.
Centre & Clearfield Street Railway Co., Philipsburg, Pa.

Railways & Tramways—Electric—*contd.*

Charlotte Electric Railway, Light & Power Co., Charlotte, N.C.
Charlottesville & Albemarle Railway Co., Charlottesville, Va.
Chattanooga Electric Railway Co., Chattanooga, Tenn.
Chester & Derry Railroad Association, Chester, N.H.
Chester Traction Co., Chester, Pa.
Chicago City Railway Co., Chicago, Ill.
Chicago, Harvard & Geneva Lake Railway Co., Walworth, Wis.
Chicago & Joliet Electric Railway Co., Jolict, Ill.
Chicago, South Bend & Northern Indiana Railway Co., South Bend, Ind.
Cincinnati, Georgetown & Portsmouth Railroad, Cincinnati, Ohio.
Cincinnati Northern Traction Co., Cincinnati, O.
Citizens' Electric Street Railway Co., Newburyport, Mass.
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East Taunton Street Railway Co., Taunton, Mass.
Eastern Ohio Traction Co., Cleveland, Ohio.
Easton Transit Co., Easton, Pa.
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El Paso Electric Railway Co., El Paso, Tex.
Erie Electric Motor Co., Erie, Pa.
Escanaba Electric Street Railway Co., Escanaba, Mich.
Evansville Railways Co., Evansville, Ind.
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Georgia Railway & Electric Co., Atlanta, Ga.
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Grand Rapids, Holland & Chicago Railway, Holland, Mich.
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Hagerstown Railway Co., Hagerstown, Md.
Hannibal Railway & Electric Co., Hannibal, Mo.
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Holyoke Street Railway Co., Holyoke, Mass.
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Hornellsville Electric Railway Co., Hornellsville, N.Y.

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Houghton County Traction Co., Hancock, Mich.
Indiana Union Traction Co., Anderson, Ind.
Indianapolis Eastern Railway Co., Indianapolis, Ind.
Interstate Railways Co., 515, Mariner & Merch.-bldg., Philadelphia, Pa.
Iola Electric Railroad Co., Iola, Kan.
Ithaca Street Railway Co., Ithaca, N.Y.
Jackson Railway & Light Co., Jackson, Tenn.
Jacksonville Railway & Light Co., Jacksonville, Ill.
Jamestown Street Railway Co., Jamestown, N.Y.
Johnstown Pass. Railway Co., Johnstown, Pa.
Kanawha Valley Traction Co., Charleston, W. Va.
Kankakee Electric Railway Co., Kankakee, Ill.
Kansas City Railway & Light Co., Kansas City, Mo.
Keene Electric Railway Co., Keene, N.H.
King's County Elevated Railway Co., Brooklyn, N.Y.
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La Crosse City Railway Co., La Crosse, Wis.
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New Bedford & Onset Street Railway Co., New Bedford, Mass.
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Newport & Providence Railway Co., Newport, R.I.
Niagara Gorge Railroad Co., Niagara Falls, N.Y.
Norfolk & Bristol Street Railway Co., South Walpole, Mass.
Norfolk & Southern Railroad Co., Norfolk, Va.
Norfolk Street Railway & Light Co., Norfolk, Va.
Northampton Street Railway Co., Northampton, Mass.
Northampton Traction Co., Easton, Pa.
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Oak Bluffs Street Railway Co., Oak Bluffs, Mass.
Oakwood Street Railway Co., Dayton, Ohio.
Ogden Rapid Transit Co., Ogden, Utah.
Ogdensburg Street Railway Co., Ogdensburg, N.Y.
Ohio River Electric Railway & Power Co., Pomeroy, Ohio.
Olean Street Railway Co., Olean, N.Y.
Omaha & Council Bluffs Railway Bridge Co., Council Bluffs, Iowa.
Omaha & Council Bluffs Street Railway Co., Omaha, Neb.
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Pittsburgh & Manchester Traction Co., Pittsburgh, Pa.
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Portland R. R. Co., Portland, Maine.
Portsmouth Electric Railway, Portsmouth, N.H.
Portsmouth Street Railway Co., Portsmouth, Vt.
Providence & Danielson Railway Co., Providence, R.I.
Providence, Warren & Bristol R. R., Providence, R.I.
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Rapid Transit Electric Railway Co., Detroit, Mich.
Riverside & Arlington Railway Co., Riverside, Cal.
Roanoke Railway & Electric Co., Roanoke, Va.
Rochester & Irondequoit R. R. Co., Rochester, N.Y.
Rockford & Interurban Railway Co., Rockford, Ill.
Rockland, Thomaston & Camden Street Railway Co., Rockland, Maine.
Sacramento Electric, Gas & Railway Co., Sacramento, Cal.
Saginaw Valley Traction Co., Saginaw, Mich.
St. Francois County Electric Railway Co., Farmington, Mo.
St. Joseph Railway, Light, Heat & Power Co., St. Joseph, Mo.
Salisbury & Spencer Railway Co., Salisbury, N.C.
San Antonio Street Railway Co., San Antonio, Texas.
San Bernardino Valley Traction Co., San Bernardino, Cal.
San Diego Electric Railway Co., San Diego, Cal.
San Jose & Santa Clara County Railroad Co., San Jose, Cal.
Sandusky, Norwalk & Mansfield Electric Railway Co., Norwalk, Ohio.
Schenectady Railway Co., Schenectady, N.Y.
Schuylkill Valley Traction Co., Norristown, Pa.
Schuylsill Traction Co., Schuylsill, N.Y.
Scioto Valley Traction Co., 3rd & Rock-sts., Columbus, Ohio.
Scranton Railway Co., Scranton, Pa.
Scranton Traction Co., 234, Lackawanna-ave., Scranton, Pa.

Railways & Tramways—Electric—*contd.*

Seattle, Renton & Southern Railway Co., Seattle, Wash.
Seaview Railroad Co., Narragansett Pier, R.I.
Sedalia Light & Traction Co., Sedalia, Mo.
Selma Street & Suburban Rly. Co., Selma, Ala.
Shamokin & Edgewood Electric Railway Co., Shamokin, Pa.
Shreveport Traction Co., 100, Market-st., Shreveport, La.
Sioux City Gas & Electric Co., Sioux City.
Somerset Traction Co., Skowhegan, Maine.
South Side Elevated Railroad Co., Chicago, Ill.
Southern Boulevard Street Railroad Co., 128th-st., nr. 3rd-ave., New York.
Spokane & Inland Empire Railroad Co., Spokane, Wash.
Springfield Consolidated Railway Co., Springfield, Ill.
Springfield Electric Railroad Co., Springfield, Vt.
Springfield Railway Co., Springfield, Ohio.
Springfield Street Railway Co., Springfield, Ill.
Springfield Street Railway Co., Springfield, Mass.
Springfield Traction Co., Springfield, Mo.
Springfield & Xenia Railway Co., Springfield, O.
Steubenville, Mingo & Ohio Valley Traction Co., Steubenville, Ohio.
Stockton Electric Railroad Co., Stockton, Cal.
Suburban Railroad Co., Chicago, Ill.
Sunbury & Northumberland Electric Railway Co., Sunbury, Pa.
Susquehanna Traction Co., Lock Haven, Pa.
Syracuse & Suburban Railroad Co., Syracuse, N.Y.
Tama & Toledo Electric Railway Co., Toledo, Iowa.
Tarentum Traction Pass. Rly. Co., Tarentum, Pa.
Taunton & Pawtucket Street Railway Co., Taunton, Mass.
Terre Haute, Ind. & Eastern Traction Co., Indianapolis, Ind.
Third Avenue R. R. Co., New York.
Tiffin, Fostoria & Eastern Railway Co., Tiffin, Ohio.
Titusville Electric Traction Co., Titusville, Pa.
Toledo, Fostoria & Findlay Railway Co., Fostoria, Ohio.
Topeka Railway Co., Topeka, Kansas.
Trenton Street Railway Co., Trenton, N.J.
Tri City Railway Co., Davenport, Iowa.
Trinidad Electric Railroad Co., Trinidad, Col.
Troy & New England Railway Co., Troy, N.Y.
Union Street Railway Co., New Bedford, Mass.
Union Traction Co., Santa Cruz, Cal.
United Railroads of San Francisco, Oak & Broderick-sts., San Francisco, Cal.
United Railways Co. of St. Louis, St. Louis, Mo.
United Traction Co., Albany, N.Y.
United Traction Co., Pittsburg, Pa.
United Traction Co., Reading, Pa.
Utah Light & Railway Co., Salt Lake City, Utah.
Utica Belt Line Street R. R. Co., Utica, N.Y.
Utica & Mohawk Valley Railroad Co., Utica, N.Y.
Vicksburg Traction Co., Vicksburg, Miss.
Virginia Passenger & Power Co., Richmond, Va.

Railways & Tramways—Electric—*contd.*

Wakefield & Stoneham Street Railway Co., Wakefield, Mass.
Wallkill Transit Co., Middletown, N.Y.
Ware & Brookfield Street Railway Co., Ware, Mass.
Warren Street Railway Co., Warren, Pa.
Washington, Alexandria & Mount Vernon Railway Co., Washington, D.C.
Washington & Canonsburg Railway Co., Washington, Pa.
Washington Water Power Co., Spokane, Wash.
Waterloo, Cedar Falls & Northern Railway Co., Waterloo, Iowa.
Waupaca Electric Light & Railway Co., Waupaca, Wis.
Waverly, Sayre & Athens Traction Co., Waverly, N.Y.
Wellston & Jackson Belt Railway Co., Wellston, Ohio.
West-Chester Street Railway Co., West Chester, Pa.
West End Street Railway Co., Boston, Mass.
West Penn Railways Co., Pittsburg, Pa.
Westchester Electric Railroad Co., Mount Vernon, N.Y.
Western Ohio Railway Co., Lima, Ohio.
Wilkesbarre & Wyoming Valley Traction Co., Wilkesbarre, Pa.
Wilmington & Brandywine Springs Electric Railway Co., Wilmington, Del.
Wilmington, New Castle & Southern Railway Co., New Castle, Del.
Woonsocket Street Railway Co., Woonsocket, Rhode Island.
Worcester & Blackstone Street Railway Co., Worcester, Mass.
Worcester Consolidated Street Railway Co., Worcester, Mass.
Yonkers R. R. Co., Yonkers, N.Y.
Zanesville Electric Railway Co., Zanesville, Ohio.

Railways & Tramways (Electric)—Makers of & Contractors for.

F.—Chemins de fer électr. et Tramways—Fab. & Constr. de.
G.—Elektr. Eisenbahnen & Strassenwagen—Fab. & Unternehmer von.

American Railway Co., Philadelphia, Pa.
Cincinnati, Milford & Loveland Traction Co., Cincinnati, Ohio.
Curtiss, C. C., 20, Broad-st., New York.
Duluth Superior Traction Co., Duluth, Minn.
Gore, H., & Co., 54, Kilby-st., Boston, Mass.
Love Electric Traction Co., 955, Old Colony-bldg., Chicago, Ill.
Marquette City & Presque Isle Railway, Marquette, Mich.
Myers, L. E., Co., Monadnock-bldg., Chicago, Ill.
Naugle, Holcomb & Co., 355, Dearborn-st., Chicago, Ill.
New England Electrical Railway Construction Co., Worcester, Mass.

Railways & Tramways (Electric)—Makers of & Contractors for—*continued.*

New York Electrical Engineering Co., 206, Broadway, New York.
New York Standard Construction Co., 97, Nassau-st., New York.
North American Railway Construction Co., 1320, Monadnock-bldg., Chicago, Ill.
Nuttall, R. D., Co., 179, Grant-ave., Allegheny, Pa.
Pepper & Register, 112, North Broad-st., Philadelphia, Pa.
Ries & Henderson, 408, Drexel-bldg., Philadelphia, Pa.
Saxton, E., Washington, D.C.
Smethurst & Allen, North American-bldg., Philadelphia, Pa.
United Electric Telephone Co., 1225, Masonic Temple, Chicago, Ill.

Reflector & Shade Manufacturers.

F.—Reflecteurs et abatjours.
G.—Reflectoren & Schirme—Fab. von.

Bailey Reflector Co., 547, 4th-ave., Pittsburg, Pa.
Bauer Lamp & Reflector Co., 529, Mission-st., San Francisco, Cal.
D'Olier, Henry, Jun., Co., Philadelphia, Pa.
Frink, I. P., 55, Pearl-street, New York.
Klemm & Co., N.W. cor. 5th & Cherry-sts., Philadelphia, Pa.
McCreary, A. A., 136, Liberty-st., New York.
National X-Ray Reflector Co., 261, East Jackson-boul., Chicago, Ill.
Novelty Art Glass & Shade Co., Cleveland, Ohio.
Phœnix Glass Co., Pittsburgh, Pa.; & 729, Broadway, New York, N.Y.
Pittsburg Glass Co., Allegheny, Pa.
Smith of New York Co., 352, Pearl-st., New York.
Sunlight Window Reflector Co., 141, Court-st., Brooklyn, N.Y.
Wheeler Reflector Co., 156, Pearl-st., Boston.

Regulators—Makers of.

F.—Régulateurs—Fab. de.
G.—Regulatoren—Fab. von.

Electric Heat Regulator Co., Minneapolis, Minn.
Johnson Temperature Controlling Co., 152, Lake-st., Chicago, Ill.
Pusey Voltage Regulator Co., 618, Fidelity-bldg., Philadelphia, Pa.

Rheostats—Makers of.

F.—Bobines de resistence—Fabr. de.
G.—Rheostate.

Cutler-Hammer Manufacturing Co., Milwaukee, Wis.
Cutter Co., Philadelphia, Pa.
Di-El-Ite Manufacturing Co., 4901, Stenton-ave., Philadelphia, Pa.
Mason Regulator Co., Boston, Mass.
Monitor Automatic Motor Controlling Devices, 106, South Gay-st., Baltimore, Md.
National Rheostat Co., 115, Franklin-st., Chicago, Ill.
Ward-Leonard Electric Co., Bronxville, N.Y.

Rontgen Apparatus—Makers of & Dealers in.

F.—Appareils Röntgen—Fabr. et Marchands d'.
G.—Röntgen Apparat—Fabr. von & Händler in.

B. & B. Apparatus Co., Inc., 27, Central-st., Salem, Mass.
Campbell Electric Co., Lynn, Mass.
Edison Decorative & Miniature Lamp Dept., Harrison, N.J.
Friedlander Co., 149, East Huron-st., Chicago, Ill.
Green & Bauer, 33, Wells-st., Hartford, Conn.
Kny-Scheerer Co., 27th-st. & 9th-ave., New York.
Meyrowitz, E. B., 104, East 23rd-st., New York.
Nelson Scientific Instrument Co., 18, West Randolph-st., Chicago, Ill.
Roentgen Manufacturing Co., Mariner & Merchant-bldg., Philadelphia, Pa.
Splitdorf, C. F., 261–265, Walton-ave., New York.
Swett & Lewis Co., 79, Franklin-st., Boston, Mass.
Waite & Bartlett Manufacturing Co., 113–17, West 31st-st., New York, N.Y.

Schools of Electrical Engineering.

F.—Écoles électriques.
G.—Elektr. Schulen.

American School of Correspondence, Chicago, Ill.
Armour Institute of Technology, Chicago, Ill.
Bliss Electrical School, Takoma Park, Washington, D.C. L. D. Bliss, president.
Clarkson Memorial School of Technology, Potsdam, N.Y.
Columbia University (Schools of Mines, Chemistry & Engineering), West 116th-st., New York. N. M. Butler, PH.D., president; C. F. Chandler, PH.D., professor of chemistry; S. A. Tucker, PH.B., adjunct professor of electrochemistry; F. B. Crocker, PH.D., professor of electrical engineering; G. F. Sever, professor of electrical engineering; M. I. Pupin, PH.D., professor of electro-mechanics; W. Hallock, professor of physics; E. F. Nichols, SC.D., professor of experimental physics.
Columbian University, Washington, D.C.
Cornell University (Edward L. Nichols, PH.D., professor of physics; H. H. Norris, M.E., professor of electrical engineering), Ithaca, N.Y.
Electrical Engineer Institute of Correspondence Instruction, 240–242, West 23rd-st., New York. J. Wetzler, M.E., E.E., president.
George Washington University Electrical Engineering Dept., Morningside Heights, New York.
Highland Park College, Des Moines, Iowa.
Johns Hopkins University, Baltimore, Md.
Institute for Home Study of Engineering, Cleveland, Ohio.
Lafayette College, Easton, Pa.
Massachusetts Institute of Technology (A. L. Merrill, acting secretary; Prof. Dugald C. Jackson, professor of electrical engineering), Boston.

Schools of Electrical Engineering—*contd.*

Michigan College of Mines, Houghton, Mich. F. W. McNair, B.S., president; G. A. Koenig, M.E., PH.D., professor of chemistry; Ozni P. Hood, M.E., professor of mechanical & electrical engineering; J. Fisher, professor of physics & mathematics; L. D. Austin, professor of metallurgy & ore dressing.
National Correspondence Inst., Washington, D.C.
Ohio State University (F. C. Caldwell, professor of electrical engineering), Columbus, Ohio.
Pennsylvania State College, Centre County, Pa. J. Price Jackson, B.S.M.E., M.AM.I.E.E., professor of electrical engineering; J. Franklin Meyer, A.M., PH.D., assistant professor of electrical engineering; R. A. Myers, PH.D., professor of physics; Madison M. Garver, B.S., assistant professor of physics; Chas. L. Kinsloe, B.S., instructor in electrical engineering.
Philadelphia Central Manual Training School (William L. Sayre, principal), N.E. corner 17th & Wood-streets, Philadelphia, Pa.
Polytechnic Institute of Brooklyn, Brooklyn, N.Y.
Rose Polytechnic Institute (John White, PH.D., professor of chemistry; C. L. Mees, PH.D., professor of physics; E. S. Johonnott, PH.D., associate professor of physics; F. C. Wagner, professor of steam & electrical engineering; J. B. Peddle, M.E., professor of machine design), Terre Haute, Ind.
Union College, Schenectady, N.Y.
University of Arkansas, Fayatteville, Ark. Wm. N. Gladson, M.S.E.E., PH.D., M.AM.I.E.E., professor of electrical engineering & physics.
University of Chicago, Chicago, Ill.
University of Illinois, Urbana, Ill. Prof. Morgan Brooks, professor of electrical engineering.
University of Michigan (Henry S. Carhart, LL.D., professor of physics & director of physical laboratory; G. W. Patterson, PH.D., professor of electrical engineering; E. D. Campbell, B.S., director of the chemical laboratory & professor of chemical engineering & analytical chemistry), Ann Arbor, Mich.
University of Minnesota (G. D. Shepardson, professor of electrical engineering; F. W. Springer, assistant professor of electrical engineering), Minneapolis, Minn.
University of Oklahoma, Norman, Okla. J. H. Felgar, professor of mechanical & electrical engineering.
University of Utah, School of Mines, Salt Lake City, Utah. J. F. Merrill, professor of physics & electrical engineering.
Wisconsin University (professor of electrical engineering, Dugald C. Jackson, C.E.; assistant professors of elec. engineering, Bernard V. Swenson, B.S., & C. F. Burgess, E.E.), Madison, Wis.

Scientific Apparatus Makers.

F.—Appareils scientifiques—Fab. d'.
G.—Wissenschaftliche Instrumente.

Gaertner, Wm., & Co., 5345, Lake-ave., Chicago, Ill.

Scientific Apparatus Makers—*continued.*

International Brass & Electric Co., Incorporated, 76, Beekman-st., New York.
Taylor, Taylor & Hobson, Ltd., St. James-bldg., 1135, Broadway, New York.
Ziegler Electric Co., Franklin-st., Boston, Mass.

Screw Plate, Stocks & Dies Makers.

F.—Vis, écrous et autres accessoires—Fab.
G.—Schrauben & Stempel Zapfen—Fabr.

Carpenter, J. M., Tap & Die Co., Pawtucket, R.I.

Screw, Terminal, & Small Detached Accessories Manufacturers.

F.—Vis, Bornes, et Petits accessoirs detachés—Fab. de.
G.—Schrauben und sonstige Artikel für Elektriker—Fabr. von.

Hill, Geo. O., Boston, Mass.
McIntire Co., C., 13 & 15, Franklin-st., Newark.
National-Acme Manufacturing Co., Cleveland, O.
Philadelphia Machine Screw Works, 624, Race-st., Philadelphia, Pa.

Search Lights (Projectors).

F.—Projecteurs (lumière electr.).
G.—Scheinwerfer—Elektr.

BOGUE, CHAS. J., ELECTRIC CO., 513-515, West 29th-st., New York, N.Y.

Second-hand Electrical Plant—Buyers of & Dealers in.

F.—Appareils électriques et d'occasion—Acheteurs & vendeurs.
G.—Zweiter Hand Elektrische Anlagen—Kaufer von & Händler in.

Electrical Supply & Salvage Co., 66, West Van Buren-st., Chicago, Ill.
Graham, J. A., 39, Cortlandt-st., New York.
Gregory Elec. Co., 16th- & Lincoln-sts., Chicago.
Johnson, C. F., 1315, Citizens-bldg., Cleveland, O.
Jones, Arthur, Co., 85, Van Buren-st., Chicago, Ill.
Linder, H. J., 39, Cortlandt-st., New York.
MacGovern, Archer & Co., 114, Liberty-st., New York.
National Machinery & Wrecking Co., 1914, Scranton-rd., Cleveland, Ohio.
Power Equipment Co., Fisher-bldg., Chicago, Ill.
Station Equipment Co., 204, Dearborn-st., Chicago, Ill.
Toomey, F., 127, North 3rd-st., Philadelphia, Pa.
Wicks Bros., 90, West-st., New York.
Yearsley, Levene & Co., 211, North 3rd-st., Philadelphia, Pa.

Sign Makers—Electric.

Federal Electric Co., Lake & Desplaines-sts., Chicago, Ill.

Slate Turners for Electrical Purposes.

F.—Ardoise—Tourneurs d'—pour l'électr.
G.—Schiefer drechsler für Electr. Zwecke.

American Slate Co., Board of Trade-bldg., Boston, Mass.
Evans Marble Co., Baltimore, Md.
Fleming Slate Co., Poultney, Vt.
Young, H. B., Fair Haven, Vt.

Smelters & Refiners.

F.—Fondeurs et Raffineurs.
G.—Schmelzereien & Läuterer.

Electric Smelting & Aluminium Co., Lockport, N.Y.

Societies—Learned & Scientific.

F.—Sociétés Savantes Scientifiques et tech.
G.—Vereine—Gelehrte, Wissenschaftl. u. Tech.

American Association for the Advancement of Science. Permanent secretary, L. O. Howard, Smithsonian Institute, Washington, D.C.
American Electrochemical Society (Dr. J. W. Richards, secretary), South Bethlehem, Pa.
American Electro-Therapeutic Association (Dr. A. C. Geyser, secretary), 352, Willis-ave., New York.
American Institute of the City of New York (Electrical Section), 21, West 44th-st., New York.
American Institute of Electrical Engineers, Engineers'-bldg., 33, West 39th-st., New York.
American Institute of Mining Engineers, 29, West 39th-st., New York.
American Roentgen Ray Society (Dr. G. C. Johnson, secretary), 514, Bijou-bldg., Pittsburg, Pa.
American Street & Interurban Railway Engineering Association. Secretary, J. W. Corning, Elevated Railway Co., Boston, Mass.
Association of Car Lighting Engineers. Secretary, G. B. Colegrave, Illinois Century Rly., Chicago, Ill.
Association of Edison Illuminating Cos. Secretary, D. L. Huntington, Spokane, Wash.
Association of Engineering Societies, 31, Milk-st., Boston, Mass.
Association of Railway Telegraph Superintendents, c/o M. St. Paud, S. S. M. Railway, Chicago, Ill.
Electric Vehicle & Central Station Assoc. Sec., H. T. Sands, 139, Pleasant-st., Malden, Mass.
Electrical Contractors' Association of N.Y. Sec., G. W. Russell, jun., 25, W. 42nd-st., New York.
Electrical Contractors' Association of Rochester, N.Y., 316, Wilder-bldg., Rochester, N.Y.
Electrical Engineering Society, University of Illinois, Champaign, Ill.
Engineers' Club of Philadelphia, 1317, Spruce-st., Philadelphia, Pa.
Franklin Institute of the State of Pennsylvania for the Promotion of Mechanical Arts (T. Spencer, president of Electrical Section; R. L. Binder, secretary), 15, South 7th-st., Philadelphia, Pa.

Societies—Learned & Scientific—*contd.*

Illuminating Engineering Society, 29, West 39th-st., New York. Secretary, P. S. Miller.
Institute for Home Study of Engineering, 29, Blackstone-bldg., Cleveland, Ohio.
International Assoc. of Municipal Electricians. Secretary, F. P. Foster, Corning, N.Y.
International Independent Telephone Assoc., 339, Monadnock-blk., Chicago, Ill. Sec., J. B. Ware.
National Electric Light Association (T. Commerford Martin, sec.), 29, West 39th-st., New York.
National Electrical Contractors Association of the U.S., 41, Martin-bldg., Utica, N.Y.
National Electrical Inspectors Association. Sec., T. H. Day, 27, Pliny-st., Hartford, Conn.
National Electrical Trades Association, 1343, Marquette-bldg., Chicago, Ill.
New York Electrical Society (Geo. H. Guy, secretary), 29, West 39th-st., New York.
Pacific Coast Electrical Transmission Association, Portland, Ore. Secretary, S. G. Reed.
Rogers Laboratory of Physics, Massachusetts Institute of Technology, Boston, Mass.
Society of Wireless Telegraph Engineers. Secretary, C. E. Russell, Boston, Mass.
Stevens Institute of Technology, Hoboken, N.J.
Western Assoc. of Electrical Inspectors. Secretary, W. S. Boyd, 125, Monroe-st., Chicago, Ill.
Western Society of Engineers, Electrical Section, 1737, Monadnock-blk., Chicago, Ill.

Solder Manufacturers & Merchants.

F.—Soudure—Fab. et March. de.
G.—Löth-blei—Fab. u. Händler von.

Chicago Solder Co, 44, N. Union-st., Chicago, Ill.
Western Electric Co., 250, South Clinton-st., Chicago; West & Bethune-sts., New York. Special Cored Solder for electrical work. *See also* ALPHABETICAL.

Specialities Makers—Electrical.

F.—Spécialités électriques—fab. de.
G.—Elektrische Specialitäten.

American Endoscopic Co., 212, Union-st., Providence, R.I.
Anderson Electric Machine Tool Co., St. Louis, Mo.
Bauer & Black, Incorp., Chicago, Ill.
Besseltric Lighter Co., Scranton, Pa.
Canton Glass Co., Marion, Ind.
Cary, E. E., Co., Incorp., 59, Park-pl., New York.
Churcher Electric & Manufacturing Co., 132, Opera-pl., Cincinnati, Ohio.
Crescent Co., Valparaiso, Ind.
Cutter, Henry B., 27, South 11th-street, Philadelphia, Pa.
Cutter, Geo., Co., South Bend, Ind.
Dale Co., 22, Thames-st., cor. Greenwich-st., New York.
Dayton Auto-Electric Co., Dayton, Ohio.
Eldredge Electric Manufacturing Co., Springfield, Mass.
Electric Controller & Mfg. Co., Cleveland, Ohio.
Electrical Appliance Manufacturing Co., 21, Buckingham-ave., Waterbury, Conn.

Specialities Makers—Electrical—*continued.*

Fletcher Manufacturing Co., Dayton, Ohio.
Hewitt, E. A., & Co., 49, Wood-st., Cleveland, O.
Hibbard, W. H., 79, Washington-st., Brooklyn, N.Y.
Hill Electric Co., 133, Oliver-st., Boston, Mass.
Holmes Electric Protective Co., 26, Cortlandt-st., New York.
Household Electric Appliance Co., Real Estate Trust-bldg., Philadelphia, Pa.
Judd Electric Co., Detroit, Mich.
Knapp Electric & Novelty Co., 511–513, West 51st-st., New York.
Lundin Electric & Machine Co., Inc., 10, Thacker-st., Boston, Mass.
Marshall, Wm., 709, Lexington-ave., New York.
Marshall Electric Co., Hyde Park, Mass.
Mayer Engineering Co., 241, South Jefferson-st., Chicago, Ill.
Metropolitan Engineering Co., 1240, Atlantic-ave., Brooklyn, N.Y.
Mohawk Electric Co., 310, Broadway, Albany, N.Y.
National Electric Co., 10th & Sansom-sts., Philadelphia, Pa.
North-Western Electric Repair Co., 412, Selby-st., St. Paul, Minn.
Packard Electric Co., Warren, Ohio.
Palmer Electrical Co., 103, Bedford-st., Boston, Mass.
Pass & Seymour, Incorp., Solway, N.Y.
Pignolet, Louis M., 78, Cortlandt-st., New York.
Pittsfield Trolley Manufacturing Co., 82, West-st., Pittsfield, Mass.
Power Specialty Co., 111, Broadway, New York.
Pringle Electrical Manufacturing Co., 1906–1908, North 6th-st., Philadelphia, Pa.
Rushmore Dynamo Works, 24, Morris-st., Jersey City, N.J.
Safety Appliance Co., 1330–1332, Kenmore-ave., Buffalo, N.Y.
Shelton Electric Co., 105, West 42nd-st., New York.
Sperry, B. N., Syracuse, N.Y.
Star Electric Co., Binghamton, N.Y.
Sun Porcelain Co., Trenton, N.J.
Trades Supply Mfg. Co., 104, Elm-st., Bradford, Pa.
Tuerk, Albert, & Co., 39, West Randolph-st., Chicago, Ill.
Ward-Leonard Electric Co., Bronxville, N.Y.

Speed Indicator Makers.

F.—Indicateurs à Vitesse—fab. de.
G.—Tachometer.

Spring Makers for Pushes.

F.—Ressorts pour bouton sonneries—fab. de.
G.—Federn für Druckknöpfe—Fab. von.

Cary Spring Works, 240, West 29th-st., New York.

Steam Packing Manufacturers.

F.—Garnitures de joints de machines à vapeur—fab. de.
G.—Liederungsdeckel-Fabrikanten.

Garlock Packing Co., Palmyra, N.Y.
Gould Packing Co., East Cambridge, Mass.

Submarine Cables—Makers of.

F.—Cables sousmarins—fab. de.

G.—Unterseeische Kabel—Fab. von.

Western Electric Co., 259, South Clinton-st., Chicago; West & Bethune-sts., New York. *See also* ALPHABETICAL.

Sundriesmen—Electrical.

F.—Appareils divers elec.—Fab. de.

G.—Sortiments Geschäfte—Elec.

Cook, F. B., 250, West Lake-st., Chicago, Ill.

Supplies (Electrical)—Dealers in.

F.—Fournitures électr.—March. de.

G.—Electr. Bedarfsartikel—Händler.

Abbott Electric Co., 100, High-st., Boston, Mass.
Ackerman-Boland Telephone Co., Chicago, Ill.
Acme Electrical Supply Co., Ottumwa, Iowa.
Albany Electric Supply Co., Albany, N.Y.
Allen & Co., Atlantic City, N.J.
Allen Electric Co., Danville, Ill.
American Electrical Supply Co., 211, East Lake-st., Chicago, Ill.
Anderson, Homer, 353–355, South-st., Peekskill, N.Y.
Anderson, Albert & J. M., Manufacturing Co., Boston, Mass.
Andrae, J., Sons Co., 118–120, Sycamore-st., Milwaukee, Wis.
Atkinson, John E., 300–302, East Walnut-st., Springfield, Mo.
Austin, M. B., & Co., 133–141, West Jackson-boul., Chicago, Ill.
Axthelm Elec. Co., 246, 3rd-ave., Pittsburgh, Pa.
B. & R. Electric & Telephone Manufacturing Co., cor. 5th & Delaware-sts., Kansas City, Mo.
Bachrach & Co.,556,Market-st.,San Francisco,Cal.
Baggot, E., 902, Olive-st., St. Louis, Mo.
Bailey, J. A., & Co., Memphis, Tenn.
Bainbridge Electric Co., 26, North 7th-st., Philadelphia, Pa.
Baltimore Electrical Supply Co., 215, North Calvert-st., Baltimore, Md.
Bancroft, R. H., & Co., 14, Alder-st., Lowell, Mass.
Barnes & Payton, 273, River-st., Troy, N.Y.
Barrett Manufactures Agency, 408–410, Morrison-st., Portland, Ore.
Baugher, A. L., 553, West 10th-st., Erie, Pa.
Beacon Light Co., 536, South Main-st., Los Angeles, Cal.
Beckford, E. S., Quincy, Mass.
Bedford Tel. & Burglar Alarm Co., 564, De Kalb-ave., Brooklyn, N.Y.
Beidleman, H. S., 2382, Broadway, New York.
Belcher & Loomis Hardware Co., 89–91, Weybosset-st., Providence, R.I.
Berry, D. E., & Co., 30, Main-st., Evansville, Ind.
Billings & Drew, 264, Woodward-ave., Detroit, Mich

Supplies (Electrical)—Dealers in—*contd.*

Bingham, W., Co., 146, Water-street, & 97, Superior-st., Cleveland, Ohio.
Bissell, F., Co., Toledo, Ohio.
Black, Geo. E., Electric Co., Central Union-blk., Chicago, Ill.
Blumenthal Sons & Co., 172, Washington-st., Chicago, Ill.
Blundin, L. C., & Co., 40, South 16th-st., Philadelphia, Pa.
Bohn, C. C., Electric Co., 780, 6th-ave., New York, N.Y.
Bonning, Albert, 9, Monroe-st., Monroe, Mich.
Boston Electric Co., 29, Harrison-ave., Boston.
Bowie & Love, Tacoma, Wash.
Boyce, Geo. R., 295, Main-st., Orange, N.J.
Braden Plumbing & Electric Co., San Antonio, Tex.
Braid Electrical Co., Nashville, Tenn.
Brayton Electric Co., Utica, N.Y.
Breedon, J., 41, West Maumee-st., Adrian, Mich.
Briggs, W. P., New Bedford, Mass.
Brode Electric Co., Inc., Los Angeles, Cal.
Broiles Electric Co., Fort Worth, Tex.
Brooklyn Electric Supply Co., 56, Myrtle-ave., Brooklyn, N.Y.
Brooks, F. R., Brookline, Mass.
Brooks, E. F., & Co., 531, 15th-st., Washington, D.C.
Brown, C. F., 515, East 78th-st., New York.
Brown, G. M., Woonsocket, R.I.
Brown, W. S., 3, West 29th-st., New York.
Browne, W. L., 545, Main-st., Worcester, Mass.
Bruce-Macbeth Engine Co., 2111, Center-st., Cleveland, Ohio.
Brueggeman Hardware Co., 12th & Pine-sts., St. Louis, Mo.
Bryant, E. M., & Co., 28, Hanover-st., Manchester, N.H.
Bryant Electric Co., Bridgeport, Conn.
Buckminster, Geo. H., Co., 155, Milk-st., Boston, Mass.
Buehler, J., 571–573, 5th-ave., New York.
Bunting, H. C., & Co., 227, Federal-st., Portland, Maine.
Burke, John P., 213, South 13th-st., Omaha, Neb.
Burnet Co., 121, Maiden-lane, New York.
Burns, D. J., 46, Genesee-st., Auburn, N.Y.
Burns, J. F., 442, State-st., Schenectady, N.Y.
Burr, C. B., 100, Main-st., Ansonia, Conn.
Burr, Garrett S., & Co., Hackensack, N.J.
Bush, Charles S., Co., Providence, R.I.; & Boston, Mass.
California Electric Co., 119, East 7th-st., Los Angeles, Cal.
California Electrical Works, 507, 16th-st., Oakland, Cal.
Cann, G. W., 324, Broadway, Logansport, Ind.
Capital Electric Co., Salt Lake City, Utah.
Carman & Fryer, Indianapolis, Ind.
Carr, T. F., & Co., 220, Columbus-ave., New York, N.Y.
Carter, W. E., Electric Co., Atlanta, Ga.

Supplies (Electrical)—Dealers in—*contd.*

Central Electric Co., 15, East Canal-st., Cincinnati, Ohio.
Century Electric & Fixture Co., 1375, Broadway, Oakland, Cal.
Chandler & Farquhar Co., 36, Federal-st.; & 131, Congress-st., Boston, Mass.
Chanely & Christie, Grand Rapids, Mich.
Chapin, J. L., 50, East 20th-st., New York.
Chase, Jefferson, 319, Cumberland-st., Portland, Maine.
Chesapeake Supply Co., 1009, 9th-st. N.W., Washington, D.C.
Chever Bros., South Manchester, Conn.
Chicago General Fixture Co., 45 & 47, East Lake-st., Chicago, Ill.
Clark, J., jun., & Co., Louisville, Ky.
Clark & Mills Electric Co., 1440, Mass-ave., Cambridge, Mass.
Clarke Electric Co., Detroit, Mich.
Cleveland Electrical Supply Co., 726, Prospect-ave., Cleveland, Ohio.
Cleveland Engineering & Electric Co., 225, The Arcade, Cleveland, Ohio.
Cleveland, L. W., Co., 414–416, Congress-st., Portland, Maine.
Clough, Dr. G. H., Wolfboro, N.H.
Clute Bros., 49 & 51, Mohawk-st., Cohoes, N.Y.
Coffin, H. A., 627, Washington-st. (Dorchester), Boston, Mass.
Cohen Mfg. Co., 228, Palisade-ave., Jersey City, N.J.
Cole, Chas. E., & Son, Whitman, Mass.
Columbian Electric Co., Kalamazoo, Mich.
Columbian Electrical Co., 820, Frederick-ave., St. Joseph, Mo.
Commercial Electrical Supply Co., 15th & Pine-sts., St. Louis, Mo.
Commercial Supply Co., Detroit, Mich.
Connelly, J. D., San Antonio, Tex.
Conroy, P. F., 181, Thames-st., Newport, R.I.
Consumers' Supply Co., Los Angeles, Cal.
Cooper, C., Canon City, Col.
Cooper, J. W., Medina, N.Y.
Correll Electric Co., 205, Eberly-blk., Columbus, O.
Craven Supply Co., 26, Cortlandt-st., New York.
Crawley Electric Co., Peoria, Ill.
Crescent Electric Co., Oakland, Cal.
Crescent Iron Works, Springfield, Mo.
Cronen, J. J., 2825, St. Xavier-st., Louisville, Ky.
Crouse-Hinds Electric Co., 26, Cortlandt-st., New York.
Curlett, L. K., 67, S. Canal-st., Chicago, Ill.
Dale, John F., Elmira, N.Y.
Darling, C. H., 151, Main-st., Woonsocket, R.I.
Davis, Fred. R., 805, West 4th-st., Sterling, Ill.
Day, Henry H., & Co., 146, Franklin-st., Boston, Mass.
Dayton Hardware Co., 194, 1st-st., cor. Taylor-st., Portland, Ore.
D'Aubrateuil, A. J., 138, Chartres-st., New Orleans, La.
Derby & Morse, 72, Middle-st., Lowell, Mass.

Supplies (Electrical)—Dealers in—*contd.*

Devere Electric Co., 234, West 4th-st., Cincinnati, Ohio.
Dewson, John A., Easton, Pa.
Dillon, T. L., 344, 4th-ave., New York.
Doerr-Mitchell Electric Co., Spokane, Wash.
Doncourt, A., Flushing, N.Y.
Dotzert, Jas. H., Newburg, N.Y.
Doubleday, C. D., Thames-bldg., 136, Liberty-st., New York.
Draper, Geo., Hutchinson, Kan.
Duffy Bros., Pawtucket, R.I.
Duncan Hobson Electric Co., Dallas, Tex.
Dunham, Carrigan & Hayden Co., 131, Kansas-st., San Francisco.
Duval, I. J., 234, La Salle-st., Chicago, Ill.
Dwelling Electric Co., 960, Woodland-ave., Cleveland, Ohio.
Eaton Chase Co., 129, Main-st., Norwich, Conn.
Eldridge, Albert E., 136, 9th-st., Pittsburg, Pa.
Electric Appliance Co., 726–728–730, Mission-st., San Francisco, Cal.
Electric Construction Co., Seattle, Wash.
Electric Manufacturing Co., 149, Manhattan-avenue, Brooklyn, N.Y.
Electric Power Transmission Co., 1722, Lawrence-street, Denver, Col.
Electric Railway Equipment Co., 1938, West 8th-st., Cincinnati, Ohio.
Electric Railway & Manufacturers' Supply Co., Inc., San Francisco, Cal.
Electric Service Supplies Co., 316, North 2nd-st., St. Louis, Mo.
Electric Service Supplies Co., 107, South Forsyth-st., Atlanta, Ga.
Electric Supply Co., Charleston, S.C.
Electric Supply Co., Memphis, Tenn.
Electric Supply Co., 533, Water-street, Port Huron, Mich.
Electric Traction Supply Co., 310, Market-st., St. Louis, Mo.
Electrical Manufacturing Co., 1363, West 2nd-st., Cleveland, Ohio.
Electrical Supply Co., 102–104, Michigan-avenue, Chicago, Ill.
Electrical Supply Co., 120, South Pinckney-st., Madison, Wis.
Eline, J. Frank, & Co., 110, East Baltimore-st., Baltimore, Md.
Empire Electric Works, Bridgeport, Conn.
Enos Co., 5, West 39th-st., New York, N.Y.
Entrekin, S. W., 1554, N. 13th-st., Philadelphia, Pa.
Erner Electric Co., Cleveland, Ohio.
Erner & Hopkins Co., 55, East Chestnut-st., Columbus, Ohio.
Ernst, Chas. F., 865, Chaplain-st., Detroit, Mich.
Euclid Avenue Electrical Co., 5215, Euclid-avenue, Cleveland, Ohio.
Evans, Geo. W., & Co., 1009, Alaska-bldg., Seattle, Wash.
Everett, C. H., Gould-bldg., Atlanta. Ga.
Fague, H. C., Hughesville, Pa.

Supplies (Electrical)—Dealers in—*contd.*

Favor & Cameron, 181, Main-st., Gloucester, Mass.
Feger Electric Co., Peoria, Ill.
Fergus Electric Co., Zanesville, Ohio.
Ferris, S. R., 102, West 106th-st., New York, N.Y.
Finkelstein, M. F., 101, Walker-st., New York, N.Y.
Fitzpatrick, P. C., 137, Bridge-st., Springfield, Mass.
Flach Electrical Co., 583, Breckenbridge-st., Buffalo, N.Y.
Flagg, C. W., Putnam, Conn.
Fleming, J. F., Brookline, Mass.
Fletcher, P. M., Co., 32, Frankfort-st., New York.
Fletcher Stanley Co., 32, Frankfort-st., New York.
Florida Electric Co., Jacksonville, Fla.
Fobes Supply Co., Seattle, Wash.
Foster, J. A., San Mateo, Cal.
Fox, John M., & Co., 66, Union-st., Portland, Maine.
Franks, A. L., & Co., Manchester, N.H.
Freeman-Sweet Co., 356, Dearborn-st., Chicago, Ill.
Frierson's, Norton, Sons, 40, Drayton-st., Savannah, Ga.
Fries, W. H., 213, Lackawanna-ave., Scranton, Pa.
Frosch, Henry F., & Co., 656, Howard-st., San Francisco, Cal.
Fullerton-Case Co., 109, W. 26th-st, New York.
Fulton Electric Repair & Supply Co., 1400, Fulton-st., Brooklyn, N.Y.
Furbeck, G. W., Oak Park, Ill.
Furbeck, Geo. Warren, Bank of Commerce-bldg., St. Louis, Mo.
Galloway, John R., 529, 10th-st., N.W., Washington, D.C.
Garrett, Miller & Co., S.E. cor. 4th & Orange-st., Wilmington, Del.
Garton, W. R., Co., Chicago, Ill.
Gee Electric Co., Wheeling, W. Va.
Geen Electric Manufacturing Co., Chicago, Ill.
Georgia, C. A., Electric Co., 120, Lake-st., Elmira, N.Y.
Giannini, G. W., 437, West 42nd-st., New York.
Gliddon, B., 168, East 94th-st., New York.
Globe Electric Construction Co., 163, West 23rd-st., New York, N.Y.
Globe Electrical Co., 139, E. 3rd-st., Dayton, O.
Goettmann, O. J., 525, Ohio-st., East, Pittsburg, Pa.
Goodhue, Wells, 1564, Monadnock-bldg., Chicago.
Gorke, H. J., 214 & 216, West Washington-st., Syracuse, N.Y.
Gorman Electric Co., 313–315, Minnesota-st., St. Paul, Minn.
Goudey-McLean Co., 120, Liberty-st., New York.
Grand Rapids Electric Co., Grand Rapids, Mich.
Greene & Dikeman, 14, Cortlandt-st., New York, N.Y.
Griffin & Co., 356, Hudson-st., New York.
Grove, G. F., Dayton, Ohio.
Guarantee Electric Co., Chicago, Ill.

Supplies (Electrical)—Dealers in—*contd.*

Gustafson, W. A., Joliet, Ill.
Guyton, C., Electric Co., 125, East 4th-st., Dayton, Ohio.
Haines, Jones & Cadbury, 1136, Ridge-avenue. Philadelphia, Pa.
Hall, J. P., 73, Warren-st., New York.
Hamilton Supply Co., Hamilton, Ohio.
Hanes, Exey & Co., Martins Ferry, Ohio.
Harbert, Edw. E., & Co., 132, W. Van Buren-st., Chicago, Ill.
Hart & Co., Monadnock-blk., Chicago, Ill.
Hart Electric Co., Altoona, Pa.
Hart & Hegeman Manufacturing Co., 342, Capitol-ave., Hartford, Conn.
Hartman Electric Co., 32, West Maple-st., Columbus, Ohio.
Hartmann, H. C., 2801, South 18th-st., St. Louis, Mo.
Hartwig, Wm., jun., Co., 30, Larned E.-st., Detroit, Mich.
Hatch, S. R., Brockton, Mass.
Hatch, Wood & Co., 56, Central-sq., Lynn, Mass.
Hawkins, R. A., 527, Main-st., Lafayette, Ind.
Hayes, C. E., Springfield, Mass.
Hazleton Machinery & Supply Co., Hazleton, Pa.
Hecla Electrical Co., 5, E. Court-st., Springfield, Mass.
Heiss, H. L., Lancaster. Pa.
Henzel, G. L., Electric Co., San Francisco, Cal.
Herbert, G. W., & Co., 75, Westminster-st., Providence, R.I.
Hetty Bros., 322–326, Ellis-st., San Francisco, Cal.
Heyman, Charles. 423, Broadway. New York.
Hill, A. F., 6658, Wabash-ave., Chicago, Ill.
Hill, G. E., Post Office-bldg., Bethlehem, Pa.
Hite, J. F., 103, Main-st., Owensboro, Ky.
Hobson Electric Co., Dallas, Tex.
Hodson, Geo. W., 2463, 8th-ave., New York, N.Y.
Holding, E. G., P.O. Box 1218, 53, West First South-st., Salt Lake City, Utah.
Holloway, Bentz & Co., 80, Cortlandt-st., New York.
Horning Co., W. R., 337, Frankfort-ave., Cleveland, Ohio.
How, John K., Co., 306, St. Paul-st., Baltimore, Md.
Hunger, C. F., Co., 1, Water-st., Cleveland, Ohio.
Huron Automobile & Electrical Co., Port Huron, Mich.
Illinois Electric Co., Chicago, Ill.
Imperial Electric Lamp Co., 39, Vesey-st., New York.
Inglis Electric Co., Providence, R.I.
Inter-Mountain Electric Co., 13, South Main-st., Salt Lake City, Utah.
Interstate Electric Co., Ltd., New Orleans, La.
Interstate Supply Co., Sioux City, Iowa.
Iowa Electric Co., 421, North 4th-st., Burlington, Iowa.
Ireland, R. D., & Co., 246, Boylston-st., Boston, Mass.
Jennings, W. H., 509, North Water-st. Decatur, Ill.

Supplies (Electrical)—Dealers in—*contd.*

Johnson-Kennedy Electric Co., 244, East 5th-st., Cincinnati, Ohio.
Johnston Electric Co., Omaha, Neb.
Jones, C. L., 368, Cambridge-st., Allston, Mass.
Jones, H. K., 18, Fletcher-st., New York.
Jones-Beach & Co., Philadelphia, Pa.
Joy, Edward, & Co., Syracuse, N.Y.
Junker & Meister, 86, 5th-ave., New York.
K. & B. Co., cor. 8th & Chestnut-sts., S.E., Philadelphia. Pa.
Kalbach Bros., Wildwood, N.J.
Kansas City Electrical & Telephone Supply Co., 919, Grand-ave., Kansas City, Mo.
Kates, L. S., 1314, Arch-st., Philadelphia, Pa.
Katzenbach, F. S., & Co., 35, E. State-st., Trenton, N.J.
Keeble, S. M., 226, Turk-st., San Francisco, Cal.
Keiser-Van Leer & Co., Bloomington, Ill.
Kern, W. J., Main & St. Ann-st., Owensboro, Ky.
Kidd, F. L., Lawrence, Mass.
Kierulff, B. F., Jr., & Co., 210, South Los Angeles-st, Los Angeles, Cal.
Kimball, H. P., Haverhill, Mass.
Kimball, Herbert W., Haverhill, Mass.
King, Warren D., Peabody, Mass.
Kitredge, C. H., Ann Arbor, Mich.
Knapp-Sellner Chandelier Co., 703, Locust-st., Maine.
Korsmeyer, Co., Lincoln, Neb.
Krabbe, C., 292, Broadway, Brooklyn, N.Y.
Kurz & Root, Appleton, Wis.
Landon, F. W., & Co., Concord, N.H.
Landis Electric Co., Wichita, Kansas.
Lane, J. N. V., 54, State-st., Bangor, Maine.
Langstroth Sons, Thos. W., 14, Mechanic-st., Newark, N.J.
Langworthy, L. O., Bradford, Pa.
Latham, E. B., & Co., 4, Murray-st., New York.
Lawrence, F. D., Electric Co., 219, West 4th-st., Cincinnati, Ohio.
Lawton, Samuel, Oakland, Md.
Lawton, W., 611, Market-st., Wilmington, Del.
Lee, Arthur, Topeka, Kan.
Lee, J. D., Niagara Falls, N.Y.
Lehmer, Jas. R., Omaha, Neb.
Leveridge, Chas. W., 183, Greenwich-st., New York.
Levy, M., 2320, Market-st., Galveston, Tex.
Lewis, J. J., 19, Park-pl., New York.
Libbey, M. F., Whitefield, N.H.
Lieb Machine Works, 23, Vandewater-street, New York.
Linze Electric Supply Co., 1217, Olive-st., St. Louis, Mo.
Litscher, O. J., Electric Co., 41, South Market-st., Grand Rapids, Mich.
Little, F. P., Electrical Co., 192, Main-st., Buffalo, N.Y.
Loeffler, L. J., 20, Fulton-st., New York.
Loomis, C., 39, Bowery, Akron, Ohio.
Longee, C. P., Laconia, N.H.
Louis, F., Ogdensburg, N.Y.
Louisville Electrical Supply Co., Louisville, Ky.

Supplies (Electrical)—Dealers in—*contd.*

Lowe Electric Co., 54, Vesey-st., New York.
McCleary-Harmon Co., Detroit, Mich.
McColyan, C. I., Co., 789, Mission-st., San Francisco, Cal.
McCullough, W. T., Electric Co., Pittsburg, Pa.
McCullock-White Electrical Supply Co., Witchita, Kan.
MacGrath, G. D., Chambersburg, Pa.
McGraw, Jas., Richmond, Va.
MacHugh, J. D., Wolfboro, N.H.
McKay Electric Co., Asheville, N.C.
MacKellar, H., 2099, North 63rd-st., Philadelphia, Pa.
McLaughlin, J., & Co., 20, 3rd-ave., Duluth, Minn.
MacMillan, R. S., 40, Dearborn-st., Chicago, Ill.
McReed, Albert E., Athol, Mass.
Manhattan Electrical Supply Co., 17, Park-pl., New York, N.Y.; & 188, 5th-ave., Chicago, Ill.
Manning, Maxwell & Moore, 85, Liberty-st., New York.
Mantz, M., 713, 14th-st., N.W., Washington, D.C.
Marriner Electrical Supply Co., 1039, North-st., Lincoln, Neb.
Marsten, Cr. L., & Co., 84, Exchange, Portland, Maine.
Maryland Electrical Supply Co., 328, Eutaw-st., Baltimore, Md.
Mason Electric Equipment Co., 307, Dearborn-st., Chicago, Ill.
Matthews, W. N., & Bro., St. Louis, Mo.
Mays, Grant, Lebanon, Pa.
Meador-Richardson Co., The, Empire-bldg., Atlanta, Ga.
Mechanical Appliance Co., 133, Stewart-st., Milwaukee, Wis.
Merrill, T. L., Co., 228, Middle-st., Portland, Maine.
Metropolitan Electric Equipment Co., 600, Lexington-ave., New York.
Miller, C. E., 97, Reade-st., New York.
Miller, R. R., Toledo, Ohio.
Miller Electric Co., Newark, N.J.
Milliken, C. S., Saco, Maine.
Mills Electric Co., Peoria, Ill.
Milwaukee Electrical Specialties Co., ground clamps, test connectors, &c., Milwaukee, Wis.
Minneapolis Electric & Construction Co., 17, South 4th-street, Minneapolis, Minn.
Mohawk Electrical Supply Co., 329, South Warren-st., Syracuse, N.Y.
Monarch Electric Co., 1113, Wyandotte-st., Kansas City, Mo.
Monarch Electric & Wire Co., 125, South Clinton-st., Chicago, Ill.
Monitor Electric Co., 149, Wabash - avenue, Chicago, Ill.
Moore, J. S., & Co., 312, Norcross-st., Atlanta, Ga.
Morgan, W. J., 289, Centre-st., Boston, Mass.
Morganstern Electric Co., 325, 2nd-ave., Pittsburg, Pa.
Moriarty, J. L., & Co., 120, West 61st-st., New York.

Supplies (Electrical)—Dealers in—*contd.*

Morris Electric Co., Inc., 315, Shipley-st., Wilmington, Del.
Morrison Southern Electric Co., Hoen-bldg., Baltimore, Md.
Moss, E. M., Hopkinsville, Ky.
Muddiman, C. A., & Co., 616, 12th-st., Washington, D.C.
Muecke & Roren, 640, Broadway, New York.
Nagel, W. G., Electrical Co., Toledo, Ohio.
New England Electric Co., Denver, Col.
New England Engineering Co., Waterbury, Conn.
New York Electric Equipment Co., 572, 1st-ave., New York, N.Y.
Newark Electrical Supply Co., Newark, N.J.
Newman, Chas. R., Passaic, N.J.
Nixon, W., Newburgh, N.Y.
Noble, W. H. N., Los Angeles, Cal.
North American Electric Co., 181, William-st., New York, N.Y.
Northern Iowa Telephone Co., Cresco, Iowa.
Novelty Electric Co., 50–54, North 4th-street, Philadelphia, Pa.
Nugent, A. W., Co., Inc., Yonkers, N.Y.
Oakes, T., & Sons, Hartford, Conn.
Ockershausen, H. A., 65, Madison-ave., Jersey City, N.J.
Ogden Electric Supply Co., Ogden, Utah.
Oldman, Dent, & Co., 610, 13th-st., Washington, D.C.
Olds, Chas. L., Construction Co., Fort Wayne, Ind.
Osborn, W. T., & Co., Kansas City, Mo.
Oswego Machine Works, Oswego, Kan.
Ott, C. J., & Co., Beaumont, Tex.
P. & W. Electric & Bicycle Co., Lafayette, Ind.
Pacific Chemical Electric Co., 53, Chronicle-bldg., San Francisco, Cal.
Pacific Electric Engineering Co., Portland, Ore.
Pacific Electrical Works, 326–330, South Los Angeles-st., Los Angeles, Cal.
Palmer, Wm. D., 49, Main-st., Lockport, N.Y.
Palmer, A. N., & Co., 85, Commerce-st., Norfolk, Va.
Palo Alto Electrical Works, Palo Alto, Cal.
Parcell, C. A., Co., 136, Liberty-st., New York.
Parker Electric Co., New Orleans, La.
Parker, J. B., Electric Co., 9th-st., St. Louis, Mo.
Paterson Electrical Supply Co., 117, Ellison-st., Paterson, N.J.
Patrick, John T., Pinebluff, N.C.
Paulin & Mitchell, 1826, Ridge-ave., Philadelphia.
Pearl, P. R., & Co., 15, West Garden-st., Pensacola, Fla.
Pease, E. R., Poughkeepsie, N.Y.
Pentwater Beadstead Co., Pentwater, Mich.
Peterman, A., Milwaukee, Wis.
Peters, H. L., 260, Pear-st., Buffalo, N.Y.
Pettes & Randall Co., 150, Nassau-st., New York.
Pettet, E., Farmer City, Ill.
Pettingell-Andrews Co., 156–160, Pearl-st., & 491–511, Atlantic-ave., Boston, Mass.
Pettman, O. E., & Co., Chelsea, Mass.

Supplies (Electrical)—Dealers in—*contd.*

Petty, Chas. M., Greensboro, N.C.
Phillips, Edward, & Co., 644, Mt. Prospect-ave., Newark, N.J.
Pickering, H. C., 104, N. 6th-st., Philadelphia.
Pierce, E. F., Milwaukee, Wis.
Pierce, C., & Co., 42, Charles-st., Boston, Mass.
Pierce Hardware Co., 1108, Broadway, Oakland, Cal.
Pike, W. E., Newton, Mass.
Pittsburgh Electrical & Railway Supply Co., Pittsburgh, Pa.
Pittsburgh Electrical Supply Co., Pittsburgh, Pa.
Ployd, F.W., 122, East Cheeten-av., Philadelphia.
Post-Glover Electric Co., 314 & 316, West 4th-st., Cincinnati, Ohio.
Potter & Earle, Fall River, Mass.
Price, G. L. W., Electric Co., Allegheny City, Pa.
Pueblo Electric Co., 224–226, West 4th-st., Pueblo, Col.
Rachford Bros., Springfield, Ill.
Rapke, Victor H., 1676, Second-ave., New York.
Reading Electrical Supply Co., Reading, Pa.
Reuter, Wm. G., 25, East 6th-st., Cincinnati, Ohio.
Revere Rubber Co., Chelsea; & 77, Bedford-st., Boston, Mass.
Rhode Island Telephone & Electric Co., 55, Pine-st., Providence, R.I.
Rice, Seymour A., Lansing, Mich.
Rice & Lefebvre, 1213, Filbert-st., Philadelphia, Pa.
Richardson, J. W. A., New Orleans, La.
Richmond Electric Co., 1034, Main-st., Richmond, Ind.
Richter, Eugene L., Electric Co., 1919, Columbia-ave., Philadelphia, Pa.
Risley, J. W., Lancaster, Pa.
Robbins Electric Co., 830, Liberty-ave., Pittsburgh, Pa.
Robertson Cataract Co., 21, Terrace-st., Buffalo, N.Y.
Roosa, E. D., & Co., 100–110, East Washington-ave., Springfield, Ill.
Roover Bros., 170, Dean-st., Brooklyn, N.Y.
Rosedory & Obrest, 2132, Post-st., San Francisco, Cal.
Ross-Hull Electric Co., 114–116, North 3rd-st., Columbus, Ohio.
Rosseter Electrical Works, 247, Market-st., Newark, N.J.
Rossman, G. M., Keene, N.H.
Rothfus & Powers, Grand Rapids, Mich.
Rowley, M. N., 52, Woodward-ave., Detroit, Mich.
Royal Eastern Electrical Supply Co., 114–116, West 27th-st., New York.
Royse Electric Co., 125, South Meridian-st., Indianapolis, Ind.
Rumsey Electric Co., Detroit, Mich.
Rumsey Electric Co., Ltd., 1211, Filbert-st., Philadelphia, Pa.
Rumsey & Sikemeier Co., 19th & Pine-sts., St. Louis, Mo.

Supplies (Electrical)—Dealers in—*contd.*

Runyan, C. C., Mansfield, Ohio.
Sachsenmaier, G., 1109, Race-st., Philadelphia.
St. Paul Electric Co., 316, Robert-st., St. Paul, Minn.
Salt Lake Electric Supply Co., Salt Lake City, Utah.
Sanford Electrical Co., Sanford, Maine.
Sanitary & Electric Supply Co., Battle Creek, Mich.
Scannevin & Potter, Newport, R.I.
Schmelz, R. W., 1247, Hubbard-st., Jacksonville, Fla.
Schmidt, A. R., Electric Co., 137, Oneida-st., Milwaukee, Wis.
Schmidt, H. T., Electric Co., 318, West 3rd-st., Davenport, Iowa.
Schmidt, Rudolph & Co., 51, Main-st., East, Rochester, N.Y.
Schneider, Christian G., 1207, F.-st., N.W., Washington, D.C.
Schneider, Fred. W., & Co., Evansville, Ind.
Schollenberger Bros., Wichita, Kan.
Schug Electric Manufacturing Co., 321, Jefferson-ave., Detroit, Mich.
Schuwirth, W. G., & Co., San Antonio, Tex.
Schwartz & Stewart, Natchez, Miss.
Schwarz, B., Philadelphia, Pa.
Scott, C. B., 119, Franklin-ave., Scranton, Pa.
Scott Bros., Troy, N.Y.
Scranton Supply Co., Scranton, Pa.
Security Electric Supply Co., 19th & Olive-sts., St. Louis, Mo.
Seiler's Electrical Works, 322, Market-st., San Francisco, Cal.
Shand Engineering Co., Columbia, S.C.
Shapter, W. P., Summit, N.J.
Sharp, Chas. E., St. Louis, Mo.
Sheehan, W. M., & Co., 136, Liberty-st., New York.
Shepherd & Rust, Wilkes Barre, Pa.
Shepherd-Fluharty Electric Co., 330, North Calvert-st., Baltimore, Md.
Sherwin, G. D., Burlington, Vt.
Shoemaker, W. M., & Co., Louisville, Ky.
Siebert, A. E., & Co., Norfolk, Va.
Siegel, Cooper, & Co., State & Congress-sts., Chicago, Ill.
Simpson Barnes Electric Co., 237, Halsey-st., Newark, N.J.
Slater, Wm., Memphis, Tenn.
Smith, Albert, 169, W. Water-st., Milwaukee, Wis.
Smith Electric Construction Co., 169, West Water-st., Milwaukee, Wis.
Smith Electric & Manufacturing Co., 205, South Tryon-st., Charlotte, N.C.
Smith, E. P., Electric Contract Co., Dubuque, Iowa.
Smith & Wallace, Woburn, Mass.
Southgate Electric Co., Worcester, Mass.
Spencer, L. D., 2822, Boylston-ave. N., Seattle, Wash.
Spencer's Sons, I. S., Guilford, Conn.
Sprague, B. S., Marietta, Ohio.

Supplies (Electrical)—Dealers in—*contd.*

Station Equipment Co., Marquette-bldg., Chicago, Ill.
Stebbins Hardware Co., 74, Van Buren-st., Chicago, Ill.
Stephenson, D. J., Co., Port Huron, Mich.
Sterling Electric Co., 133, New Montgomery-st., San Francisco, Cal.
Stevens, Geo. M., Co., Inc., 15, Chardon-st., Boston, Mass.
Stewart, Frank H., Electric Co., 35, North 7th-st., Philadelphia, Pa.
Stickney, W. G., Jersey City, N.J.
Strom, Carl E., Alameda, Cal.
Strutt, Wm., Paterson, N.J.
Stuart-Howland Co., 1–3, Winthrop-sq., Boston, Mass.
Supplee Electric Co., 922, Chestnut-st., Philadelphia, Pa.
Swanson, A. L., 316, 2nd-st., Evansville, Ind.
Swartz, E. C., 602, 3rd-ave., New York, N.Y.
Sykes, E. C., 12, Front-st., Rochester, N.Y.
Talcott, J. C., San Antonio, Tex.
Teal, F. C., Co., 75, Bates-st., Detroit, Mich.
Tel Electric Co., Houston, Tex.
Templeton, J. E., & Son, Staunton Va.
Tenk Hardware Co., Quincy, Ill.
Thompson-Bonney Co., 45 & 47, York-st., Brooklyn, N.Y.
Thompson-Starrett Co., 314, Madison-ave., New York.
Thye, M. P., & Co., Los Angeles, Cal.
Time Electric Co., 6309, White-ave., Cleveland, Ohio.
Tri-City Electric Co., Moline, Ill.
Tungsten Lamp Development Co., 2110, Olive-st., St. Louis, Mo.
Turner Bros., 25, Marietta-st., Atlanta, Ga.
Turnquist, C. M., 757, North Lawndale-ave., Chicago, Ill.
Tyler, Wm., Flushing, N.Y.
Union Electric Co., Pittsburg, Pa.
Union Hardware & Electric Supply Co., Providence, R.I.
United Electric & Supply Co., 1531, Pine-st., St. Louis, Mo.
Utah Electrical & Supply Co., Salt Lake City, Utah.
Viaduct Electric Co., Baltimore, Md.
Vogel, J. C., 714, North 24th-st., Philadelphia, Pa.
Waldron, H. A., Ithaca, N.Y.
Walker, H. L., Co., Detroit, Mich.
Wallace Bros. Co., North 4th & Feny-st., Lafayette, Ind.
Walsh, Owen, Manufacturing Co., 78–82, Barclay-st., New York, N.Y.
Walter, H., 26, Exchange-pl., Boston, Mass.
Walther, G. W., & Co., 208, West Fayette-st., Baltimore, Md.
Ward, F. H., 391, Myrtle-ave., Brooklyn, N.Y.
Warner, C. F., Brown-bldg., Rockford, Ill.
Warner Electric Co., 331, Frankfort-ave., Cleveland, Ohio.

Supplies (Electrical)—Dealers in—*contd.*

Warren, C. L., & Co., 136, Liberty-st., New York, N.Y.
Washington Electric Supply Co., Ziegler-blk., Spokane, Wash.
Waterloo Electric Supply Co., Waterloo, Iowa.
Waterman, Davis & Curtis, 621, J-st., Sacramento, Cal.
Wesco Supply Co., St. Louis, Mo.
Western Electric Supply Co., El Paso, Tex.
Wetmore-Savage Co., 65, Oliver-st., Boston, Mass.
Wheeler-Green Electric Co., 57–59, St. Paul-st., Rochester, N.Y.
Wilkenning, Wm., 171, East 86th-st., New York.
Williams & Couch, 53, State-st., Boston, Massachusetts.
Williams, E. A., & Son, 105, Plymouth-st., Jersey City, N.J.
Williams, E. G., Electric Works, Cleveland, O.
Williamsport Electric Co., Williamsport, Pa.
Wilson, A. R., 30, Arsenal-st., Watertown, N.Y.
Wingard, C. L., Walla Walla, Wash.
Wolfe Electric Co., Omaha, Neb.
Wolff, Alfred, & Co., 45, Vesey-st., New York.
Wood, H. U., 304, Kinsey-st., Richmond, Ind.
Wood, H. I., Co., Inc., 514, West Main-st., Louisville, Ky.
Woodill & Hulse Electric Co., Los Angeles, Cal.
Woolley, Jos. C., & Co., 44, Asylum-street, Hartford, Conn.
Worthington, Geo., Co., 814–832, St. Clair-ave., Cleveland, Ohio.
Yaryan Construction Co., 204, Dearborn-st., Chicago, Ill.
Zenco Electrical Supply Co., Chicago, Ill.

Supplies (Electrical)—Makers of.

F.—Fournitures électriques—Fab. de.
G.—Electrische Bedarfsartikel—Fabr.

Ala. Auto & Electric Co., 117, Commerce-st., Montgomery, Ala.
Brodie Electric Co., Manchester, N.H.
Bryant Zinc Co., 158, West Van Buren-st., Chicago, Ill.
Bunnell, J. H., & Co., 20, Park-pl., New York.
Corn Palace Electric Construction Co., 414, Jackson-st., Sioux City, Iowa.
Crescent Electric & Manufacturing Co., 24th & Liberty-sts., Pittsburgh, Pa.
Crescent Iron Works, Springfield, Mo.
Crook Electric Co., 60, State-st., Detroit, Mich.
Davis, M., & Sons, Salem, Ohio.
Electric Goods Manufacturing Co., 115, Purchase-st., Boston, Mass.
Electric Supply Co., Sioux City, Iowa.
Electrical Engineering Co., Minneapolis, Minn.
Electrical Supply & Construction Co., Denver, Col.
Flint-Lomax Electric & Manufacturing Co., 1400–1412, Delgany-st., Denver, Col.
Fox Manufacturing Co., 346, Broadway, Milwaukee, Wis.
Hendrie & Bolthoff Manufacturing & Supply Co., Denver, Col.

Supplies (Electrical)—Makers of—*contd.*

Mianus Electric Co., Mianus, Conn.
Morris Elmer, P., Co., 90, West-st., New York.
Mueller Electric Co., 715, Burling-st., Chicago, Ill.
Ohio Electric Works, 6304, Ellen-ave., N.W., Cleveland, Ohio.
Ostrander, W. R., & Co., 22, Dey-st., New York.
Partrick, Carter & Wilkins Co., 22nd & Wood-sts., Philadelphia, Pa.
Peirce Specialty Co., Elkhart, Ind.
Roberts, H. C., Electric Supply Co., 905, Arch-st., Philadelphia, Pa.
S. B. Construction Co., 1205, Grandview-ave., Pittsburg, Pa.
Standard Electrical Works, 669–671, Mission-st., San Francisco, Cal.
Stanley & Patterson, Incorp., 23, Murray-st.–27, Warren-st., New York. Store: 329, 4th-ave.; factory: 35 & 37, Vesey-st.
Sweeten-Crossan Electric Co., 816, Arch-st., Philadelphia, Pa.
Teleseme Electric Manufacturing Co., 137, West 23rd-st., New York.
Thomas, R., & Sons Co., 39, Cortlandt-st., New York.
Waco Electrical Supply Co., Waco, Tex.

Switch Manufacturers—Electric.

F.—Commutateurs élec.—fab. de.
G.—Schalter—Elektrische.

Abbott Manufacturing Co., 2912–14, Central-ave., Cleveland, Ohio.
Arrow Electric Co., 619, Capitol-ave., Hartford, Conn.
Automatic Switch Co., 131, Liberty-st., New York.
Baird Manufacturing Co., Chicago, Ill.
Barkelew Electric Mfg. Co., Middletown, Ohio.
Clark, L. P., & Co., 144, North 12th-st., Philadelphia, Pa.
Condit, S. B., jun., & Co., 63, Oliver-st., Boston.
Crouse-Hinds Co., Syracuse, N.Y.
Cutler-Hammer Manufacturing Co., 76–82, W. Jackson-st., Chicago, Ill.
Davis, M., & Sons, Salem, Ohio.
Electric Switch Manfg. Co., Hartford, Conn.
Empire Electric Mfg. Co., Plainville, Conn.
Eyanson, G. T., & Co., Inc., Commerce-st., cor. of 7th-st., Philadelphia, Pa.
Hart Manufacturing Co., Hartford, Conn.
Hartford Time Switch Co., 97–99–101, Warren-st., New York.
High Tension Electrical Specialty Co., Newton, Mass.
Kelman Electric & Manufacturing Co., 612, North Main-st., Los Angeles, Cal.
Krantz, H., Manufacturing Co., 160–166, 7th-st., Brooklyn, N.Y.
Machen & Mayer, 17th & Vine-sts., Philadelphia, Pa.
Newton Appliance Co., 134, W. Broadway, New York.

Switch Manufacturers—Electric—*contd.*

Pacific Electric & Manufacturer Co., San Francisco, Cal.
Proctor - Raymond Manufacturing Co., 444, Niagara-st., Buffalo, N.Y.
Taunton New-Bedford Copper Co., 77, Water-st., New York.
Trumbull Electric Manufacturing Co., Plainville, Conn.
White, H. P., Co., Ltd., Wayne Junction, Philadelphia, Pa.

Switchboards—Makers of.

F.—Socles—Fabr. de.
G.—Schalttafeln—Fabr.

Clark Automatic Telephone Switchboard System, 90, Weybosset-st., Providence, R.I.
Drendell Electrical & Manufacturing Co., Mission & Erie-sts., San Francisco, Cal.
Eaton Electric Manufacturing Co., 144, East Erie-st., Chicago, Ill.
Heineman, G., & Co., 500-08, West Girard-ave., Philadelphia, Pa.
Lang, J., Electric Co., 116-128, North Lincoln-st., Chicago, Ill.
Metropolitan Switchboard Co., 532, West 22nd-st., New York.
Tibbals, E. C., & Co., 1199, Atlantic-ave., Brooklyn, N.Y.
Worcester Electric Mfg. Co., Worcester, Mass.

Switchboards, Bases, & Covers Manufacturers.

F.—Socles, Couvertures, &c.—Fabr. de.
G.—Schalttafeln Brette & Deckel—Fabr. von.

Auburn Button Works, Auburn, N.Y.
Bonville, Edward, Fair Haven, Vt.
Duranoid Manufacturing Co., 213-241, Chestnut-st., Newark, N.J.
Electrical Specialty Co., 1629, Seventeenth-st., Denver, Col.
Fisk, H. M., 643, Rialto-bldg., Chicago, Ill.
Perkins Electric Switch Manufacturing Co., 1421, State-st., Bridgeport, Conn.

Taping Machine Manufacturers.

F.—Machines à envelopper le fil par des rubans—Fab. de.
G.—Ueberspinnung—Maschinen.

Telegraph Agents.

F.—Agent de télégraphie.
G.—Telegraphen-Agenten.

Telegraph Apparatus Makers.

F.—Appareils télégraphiques—fabr. d'.
G.—Telegr. Apparate—Fabr.

Foote, Pierson & Co., 160-162, Duane-st., New York.
Gamewell Fire Alarm Telegraph Co., 19, Barclay-street, New York, N.Y.
Sanger, M. E., 62, Cortlandt-st., New York.
United States Electrical Supply Co., 141, East 25th-st., New York.

Telegraph & Cable Companies.

F.—Télégraphes—Compagnies de.
G.—Teleg. u. Kabel Gesellschaften.

American District Telegraph Co., Troy, N.Y.
Anglo-American Telegraph Co., Ltd., Stock Exchange; Produce Exchange; & 445, Broome-st., New York.
Central & South American Telegraph Co., 66, Broadway, New York.
City & Suburban Telegraph Association, Cincinnati, Ohio.
Commercial Cable Co. (Mackay-Bennett System), Postal Telegraph-bldg., 253, Broadway, New York.
Commercial Pacific Cable Co., Postal Telegraph-bldg., 253, Broadway, New York.
Compagnie Française des Câbles Telegraphiques, 25, Broad-st., New York.
Delaware & Atlantic Telegraph & Telephone Co., Philadelphia, Pa.
Direct U.S. Cable Co., 61, New-st.; 444, Broome-st.; & 21½, Spruce-st., New York.
French Telegraph Cable Co., 25, Broad-st., New York.
Gold & Stock Telegraph Co., 195, Broadway, New York, N.Y.
Hudson River Telephone Co., Albany, N.Y.
Mexican Telegraph Co., 66, Broadway, New York.
Paterson District Telegraph Co., Paterson, N.J.
Postal-Telegraph Cable Co., 253, Broadway, New York.
Trenton District Telegraph & Electric Co., Trenton, N.J.
United Wireless Telegraph Co., 42, Broadway, New York.
Western Union Telegraph Co. General office: 195, Broadway, New York.

Telegraph Cables—Makers of.

F.—Cables télégraphiques.
G.—Telegr. Kabel—Fabr.

Western Electric Co., 259, South Clinton-st., Chicago; West & Bethune-sts., New York.
See also ALPHABETICAL.

Telegraph Instrument Manufacturers.

F.—Instrumentes télégraphiques—fab. de.
G.—Telegraphische Instrumente—Fabr.

Western Electric Co., 259, South Clinton-st., Chicago; West & Bethune-sts., New York.
See also ALPHABETICAL.

Telegraph Paper Makers.

F.—Papier télégraphique—fab. de.
G.—Papier für Telégraphie.

McCollin, Thos. H., & Co., S.W. cor. 9th & Arch-sts., Philadelphia, Pa.
Pittsburgh Insulating Co., Pittsburgh, Pa.

Telegraph & Telephone Pole Manufacturers—Iron.

F.—Poteaux télégraphiques et téléphoniques en fer.
G.—Eisene Telegr. u. Telephon Pfosten.

Aermotor Co., Chicago, Ill.
Bushnell, A., S.E. corner 9th & Broadway, Kansas City, Mo.
Valentine-Clark Co., 234, La Salle-st., Chicago, Ill.
Whitmore, A. C., 230, Lumber Exchange, Minneapolis, Minn.

Telegraph & Telephone Supplies.

F.—Télégraphes et Téléphones—Fournitures pour.
G.—Telegr. & Teleph. Materialien.

Anderson & Sons Co., 21, Aubin-ave., Detroit, Mich.
Conover, G. W., Suite 1112, 135, Adams-st., Chicago, Ill.
Crawfordsville Wire & Nail Co. (wire), Monadnock-bldg., Chicago, Ill.
Dearborn Electric Co., 122–124, West Jackson-boul., Chicago, Ill.
Durant Electric Supplies Co., Chicago, Ill.
Farr Telephone & Construction Supply Co., 33–35, South Clinton-st., Chicago, Ill.
Illinois Telephone Supply Co., 356, Dearborn-st., Chicago, Ill.
Maryland Telephone & Telegraph Co., Baltimore, Md.
Western Electric Co., 259, South Clinton-st., Chicago; West & Bethune-sts., New York. *See also* ALPHABETICAL.

Telegraph Works & Stores.

F.—Usines télégraphiques.
G.—Telegraphen-Fabriken und Laden.

Homann Model Works, 173, Main-street, Cincinnati, Ohio.

Telephone Apparatus Makers.

F.—Appareils téléphoniques—fab. d'.
G.—Telephon-Apparate—Fab.

American Electric Telephone Co., Chicago, Ill.
Automatic Electric Co., Chicago, Ill.
Barr, W. J., Manufacturing Co., Cleveland, Ohio.
Bevins, H. A., Corning, Iowa.
Cameron Appliance Co., Bartlett-st., Everett, Mass.
Columbia Telephone Manufacturing Co., 298, Broadway, New York.
Connecticut Telephone & Electric Co., Meriden, Conn.
Couch, S. H., Co., 156, Pearl-st., Boston, Mass.
Cracroft-Leich Electric Co., Genoa, Ill.
Current Electric Co., 52, State-st., Chicago, Ill.
Faller Automatic Telephone Exchange Co. of New York, 48, Exchange-st., New York.
Greer Electric Co., 1421, Michigan-ave., Chicago, Ill.

Telephone Apparatus Makers—*continued.*

Griggs Manufacturing Co., 81, 5th-ave., Chicago, Ill.
Holtzer-Cabot Electric Co., The, Boston (Brookline), Mass. (Telegrams: "Holtzer, Boston.")
International Telephone Manufacturing Co., Harrison & Clinton-sts., Chicago, Ill.
Milwaukee Electrical Specialties Co., ground clamps, test connectors, &c., Milwaukee, Wis.
North Electric Co., Cleveland, Ohio.
Pennsylvania Electric Co., Marietta, Pa.
Sandwich Electric Co., 200, Eddy-st., Sandwich, Ill.
Skelley Menufacturing Co., Canal Dover, Ohio.
Spies Electric Co., 81, West Van Buren-st., Chicago, Ill.
Standard Telephone Manufacturing Co., Portsmouth, Ohio.
Sumter-Telephone Manufacturing Co., Sumter, S.C.
Tucker Manufacturing Co., York, Pa.
United Electric Telephone Co. (switching apparatus), 1125, Masonic Temple, Chicago, Ill.
Vought-Berger Co., La Crosse, Wis.
Western Electric Co., 259, South Clinton-st., Chicago; West & Bethune-sts., New York, *See also* ALPHABETICAL.
Western Telephone Manufacturing Co., 122–124, North Curtis-st., Chicago, Ill.
Wheeler, M. B., Electric Co., 93, Pearl-st., Grand Rapids, Mich.
Williams Telephone & Supply Co., Cleveland, Ohio.
Williams-Abbott Electric Co., 1800, East Madison-ave., Cleveland, Ohio.
Yonkers Specialty Co., Yonkers, N.Y.

Telephone Cables—Makers of.

F.—Cables téléphoniques—Fab. de.
G.—Telephon-Kabel—Fabr. von.

Waterbury Co., 80, South-st., New York.

Telephone Companies.

F.—Compagnies de Téléphones.
G.—Telephon-Gesellschaften.

Bell Telephone Co. of Buffalo, 14, West Seneca-st., Buffalo, N.Y.
Berliner Telephone Co., Lincoln, Ill.
Blackduck Electric & Telephone Co., Blackduck, Minn.
Chesapeake & Potomac Telephone Co., 722, 12th-st., Washington, D.C.
Chicago Telephone Co., Telephone-building, 203, Washington-street, Chicago, Ill.
Cleveland Telephone Co., 185, Seneca-street, Cleveland, Ohio.
Duluth Telephone Co., Duluth, Minn.
Empire State Telephone & Telegraph Co., Auburn, N.Y.
Interior Telephone Co., 203, Broadway, New York.

Telephone Companies—*continued.*

Kansas Long-Distance Telephone & Telegraph Co., Topeka, Kan.
Mesaba Telephone Co., Duluth, Minn.
New England Telephone & Telegraph Co., Boston, Mass.
New York & New Jersey Telephone Co., 81, Willoughby-st., Brooklyn, N.Y. John C. Reilly, general superintendent.
New York & Pennsylvania Telephone & Telegraph Co., Elmira, N.Y.; & 15, Dey-st., New York, N.Y.
Poole, J. W., & Co., 37, Pearl-st., Boston.
Providence Telephone Co., 112, Union-st., Providence, R.I.
Radio Telephone Co., 103, Park-ave., New York.
Simplex Interior Telephone Co., 431, Main-st., Cincinnati, Ohio.
Southern Bell Telephone & Telegraph Co., 78, South Pryor-st., Atlanta, Ga.
Southern New England Telephone Co., New Haven, Conn.
United States Automatic Telephone Co., 110, Nassau-st., New York.
Wisconsin Telephone Co., Milwaukee, Wis.

Telephone Exchanges—Equippers of.

F.—Téléphones—Constr. de Bureaux de.
G.—Teleph. Aémter-Einrichtungen von.

Century Telephone Construction Co., 1738, Elmwood-ave., Buffalo, N.Y.
Western Electric Co., 259, South Clinton-st., Chicago; West & Bethune-sts., New York. *See also* ALPHABETICAL.

Telephones—Makers of.

F.—Téléphones—fab. de.
G.—Teleph. Fab.

Atwater Kent Manufacturing Works, 46, North 6th-st., Philadelphia, Pa.
Cracraft Leigh Electric Co., Genoa, Ill.
De Vean Telephone Manufacturing Co., 27, Rose-st., New York.
Dean Electric Co., Elyria, Ohio.
Elliott Telephone & Electric Co., 518–520, Mass.-ave., Indianapolis, Ind.
Hipwell Manufacturing Co., Allegheny, Pennsylvania.
Independent Telephone Manufacturing Co., 131–141, Francis-st., Madison, Wis.
Kellogg Switchboard & Supply Co., Green & Congress-sts., Chicago, Ill.
Kokomo Telephone & Electric Manufacturing Co., Kokomo, Ind.
Kusel, D. A., Telephone & Electric Manufacturing Co., 2212, Olive-st., St. Louis, Mo.
Loeffler, L. J., 20, Fulton-st., New York.
Monarch Telephone Manufacturing Co., Morgan & Washington-sts., Chicago, Ill.
Richardson, F. A., & Co., 34, Southbridge-st., Worcester, Mass.

Telephones—Makers of—*continued.*

Russell-Tomlinson Electric Co., Milford, Connecticut.
Stromberg-Carlson Telephone Manufacturing Co., Rochester, N.Y.
Swedish American Telephone Co., 5235–5247, East Ravenswood Park, Chicago, Ill.
Western Electric Co., 259, South Clinton-st., Chicago; West & Bethune-sts., New York. *See also* ALPHABETICAL.
Wilhelm Telephone Co., 45, North Division-st., Buffalo, N.Y.

Testing Instrument Makers—Electrical.

F.—Instruments électriques d'essai.
G.—Probirinstrumente für Elektricität.

Gurley, W. & L. E., Troy, N.Y.
Palmer Electric Co., Philadelphia, Pa.
Queen & Co., Incorporated, 807, Arch-st., Philadelphia, Pa.
Sterling Electric Co., 71–73, West Adams-st., Chicago, Ill.

Thermostats (Electric) & Gas Regulators —Makers of.

F.—Thermostats et Régulateurs électr. de gaz—fab. de.
G.—Wärme & Gas Regulatoren—Electr.

Beers Bros. Thermostat Co., Rochester, N.Y.
Western Electric Co., 259, South Clinton-st., Chicago; West & Bethune-sts., New York. *See also* ALPHABETICAL.
White Thermostat Co., Providence, R.I.

Traction Engineers—Electric.

F.—Traction électr.—Ingenieurs de.
G.—Electr. Zugapparate—Ingenieure für.

Electrical Conduit Traction Equipment Co., 94, Wall-st., New York.
Lorain Steel Co., Pennsylvania-bldg., Philadelphia, Pa.
San Antonio Traction Co., San Antonio, Tex.
Waterbury Traction Co., 57, Bank-st., Waterbury, Conn.

Tramcar Engines (Electric)—Makers of.

F.—Tramways—fab. de machines élect. pour.
G.—Strassenwagen Maschinen (Electr.)—Fab. von.

Brill, J. G., Co., 62nd-st. & Woodland-ave., Philadelphia, Pa.

Tramcars.

F.—Voitures de tramways.
G.—Strassenbahn Wagen.

Middletown Car Works, Middletown, Pa.
Southern Car Co., High Point, N.C.

Tramways (Electric)—Makers of & Contractors for.

F.—Tramways élec.—Entrepreneurs et constructeurs.
G.—Strassenbahnen elek.—Fabr. und Unternehmen.

Transformers—Makers of.

F.—Transformeurs—fabr. de.
G.—Transformatoren—Fabr. von.

American Transformer Co., Newark, N.J.
C. & C. Electric Co., 143, Liberty-st., New York.
Eddy Electric Mfg. Co., Windsor, Conn.
Hornberger Transformer Co., Lafayette, Ind.
Irwin, O. C., Co., Berlin, Wis.
Kuhlman Electric Co., Elkhart, Ind.
Moloney Electric Co., 7th & Hickory-sts., St. Louis, Mo.
Pittsburg Transformer Co., Pittsburg, Pa.
Standard Electric Manufacturing Co., Niles, Ohio.
Thermo-Electric Co., 102, Times-bldg., Park-row, New York.
Transformer Specialty Co., 136, Liberty-st., New York.
Wagner Electric Mfg. Co., St. Louis, Mo.
Warren Electric & Specialty Co., Warren, Ohio.
Wells Goodhue Co., 1564, Monadnock-bldg., Chicago, Ill.

Transmission of Power—Electric.

F.—Transmission électrique de force.
G.—Uebertragung der Kraft—Elektrische.

Tube Makers—Ebonite, Vulcanite & Vulcanized Fibre.

F.—Tubes—Ebonite & Vulcanite et fibre vulcanisé.
G.—Röhren—Ebonite, Vulcanite u. Vulcanfiber.

Tube Makers—Iron.

F.—Tubes—Fer.
G.—Röhren—Eisen.

Turbine Water Wheel Makers.

F.—Turbines Roues hydrauliques.
G.—Turbinen Wasserräder.

Abner Doble Co., San Francisco, Cal.
Allentown Foundry & Machine Works, Allentown, Pa.
American Turbine Engine Co., Washington, D.C.
Camden Water Wheel Works, Camden, N.Y.
Chase Turbine Manufacturing Co., Orange, Mass.
Christiana Machine Co., Christiana, Pa.
Dayton Globe Iron Works Co., Dayton, Ohio.
De Laval Steam Turbine Co., Trenton, N.J.
Dowling, Wm., & Co., Logansport, Ind.
Dubuque Turbine & Roller Mill Co., Dubuque, Iowa.
Holyoke Machine Co., Main-street, Holyoke; & 95, Thomas-street, Worcester, Mass.
Hunt, Rodney, Machine Co., Orange, Mass.
Kerr Turbine Co., Wellsville, N.Y.

Turbine Water Wheel Makers—*continued.*

Leffel, Jas., & Co., 308, Lagonda-st., Springfield, Ohio.
Morgan Smith, S., Co., York, Pa.
Risdon-Alcott Turbine Co., Mount Holly, N.J.
Smith, S. Morgan, Co., York, Pa.
Trump Manufacturing Co., Springfield, Ohio.
York Electric & Machine Co., York, Pa.

Underground Cable Systems.

F.—Cables souterrains—Systèmes de.
G.—Unterердische Kabel Systeme.

National Conduit Manufacturing Co., Times-bldg., New York, N.Y.
Unity Electrical Co., Scandinavian Am. Bank-bldg., St. Paul, Minn.

Underground Electric Mains.

F.—Conduites souterraines pour Cables.
G.—Unterердische Electr. Haupt Leitungen.

Unity Electrical Co., Scandinavian Am. Bank-bldg., St. Paul, Minn.

Vacuum Pumps.

F.—Pompes à vide.
G.—Vakuumpumpen.

Dwyer Machine Co., Lynn, Mass.

Valve Manufacturers.

F.—Valves—Fab. de.
G.—Klappe—Fab. von.

Ashton Valve Co., 271, Franklin-st., Boston, Mass.
Crane Co., Chicago, Ill.
Crosby Steam Gauge & Valve Co., 95, Oliver-street, Boston, Mass.
Engberg's Electric & Mechanical Works, St. Joseph, Mich.
Ludlow Valve Manufacturing Co., Troy, New York.
Lunkenheimer Co., Cincinnati, Ohio.
Pittsburg Valve, Foundry & Construction Co., Pittsburgh, Pa.

Voltmeters—Makers of.

F.—Voltmètres—Fab. de.
G.—Voltmesser—Fab. von.

Jewell Electrical Instrument Co., Chicago, Ill.
Keystone Electrical Instrument Co., 9th-st. & Montgomery-ave., Philadelphia, Pa.
Western Electric Co., 259, South Clinton-st., Chicago; West & Bethune-sts., New York.
See also ALPHABETICAL.

Vulcanite Manufacturers.

F.—Vulcanite—Fab.
G.—Vulcanit—Fab.

Vulcanized Fibre Manufacturers.

F.—Fibre vulcanisé—Fab. de.
G.—Vulcanfiber—Fab.

American Hard Fibre Co., Newark, Del.
American Vulcanized Fibre Co., Wilmington, Del.
Compressed Fibre Co., 113, Devonshire-st., Boston, Mass.
Diamond State Fibre Co., Elsmere, Del.
Empire Manufacturing Co., Wilmington, Del.
Kartavert Manufacturing Co., Wilmington, Del.
Laminar Fibre Co., North Cambridge, Mass.

Vulcanized Indiarubber Wire & Cables.

F.—Fil et cables vulcanisés.
G.—Vulkanisierte Drähte und Kabel.

Wall Plugs, Sockets, or Connectors.

F.—Douilles, tampons et connections.
G —Steckkontakte u. Anschlussdosen.

Paiste, H. T., 32nd & Arch-sts., Philadelphia.
Phelps Co., Detroit, Mich.

Watch & Clock Makers—Non-magnetizable.

F.—Montres et pendules non-magnétisables.
G.—Nichtmagnetisirbare Uhren—Fab. von.

Comstock, C. W., 213, Boston-bldg., Denver, Col.

Welding—Electric.

F.—Soudure—électr.
G.—Schweissen—Electr.

Conduit Wiring Co., 14, West 29th-st., New York.
Lehman & Co., J. H., 1222, Ranstead-st., Philadelphia, Pa.
Standard Welding Co., Cleveland, Ohio.
Thomson Electric Welding Co., Lynn, Mass.

Wire Cord Manufacturers.

F.—Cordes de Fil électr.—Fab. de.
G.—Drahtschnur—Fab. von.

Clinton Wire Cloth Co., Clinton, Mass.
Samson Cordage Works, 88, Broad-st., Boston.

Wire Coverers—Cotton.

F.—Fil recouvert—Coton.
G.—Drahtspinner—Baumwolle.

American Electric Works, Phillipsdale, R.I.
American Insulated Wire & Cable Co., Chicago, Ill.
Atlantic Insulated Wire & Cable Co., 120, Liberty-st., New York.
Boston Insulated Wire & Cable Co., 182, Freeport-st., Boston, Mass.
Cobb, H. E., 1501, Monadnock-bldg., Chicago, Ill.
Crescent Insulated Wire & Cable Co., Trenton, N.J.
Watson Insulated Wire Co., Railway Exchange, Chicago, Ill.

Wire Coverers—Indiarubber & Gutta-Percha.

F.—Fil recouvert—Caoutchouc.
G.—Drahtspinner—Gummi.

Bay State Insulated Wire & Cable Co., Hyde Park, Mass.
Collyer Insulated Wire Co., Pawtucket, R.I.
Detroit Insulated Wire Co., Detroit, Mich.
Electric Cable Co., 17, Battery-pl., New York.
Habirshaw Wire Co., 253, Broadway, New York.
Kerite Insulated Wire & Cable Co., Hudson Terminal, 30, Church-st., New York.
Lowell Insulated Wire Co., Lowell, Mass.
Marion Insulated Wire & Rubber Co., Marion, Ind.
Okonite Co., 413, Postal-bldg., New York.
Para Wire Works, 97, Warren-st., New York.
United States Mineral Wool Co., 140, Cedar-st., New York, N.Y.

Wire Coverers—Silk.

F.—Fil recouvert—Soie.
G.—Drahtspinner—Seide.

American Silk Manufacturing Co., Orchard & Church-sts., Fkd., Philadelphia, Pa.
Belden Mfg. Co., 192, Michigan-st., Chicago, Ill.

Wire Covering Machine Manufacturers.

F.—Machines à recouvrir les fils.
G.—Maschinen zum Drahtumspinnen—Fabr.

American Insulating Machinery Co., N.W. cor. Hancock & Oxford--sts., Philadelphia, Pa.
Rhode Island Braiding Machine Co., 228-232, Aborn-st., Providence, R.I.
Turner, Vaughan & Taylor Co., Cuyahoga Falls, Ohio.

Wire Manufacturers—Brass.

F.—Fil—Laiton—Fab. de.
G.—Draht fabr.—Messing.

Bridgeport Brass Co., Bridgeport, Conn.
Hungerford Brass & Copper Co., New York.
Scovill Manufacturing Co., 35, Mill-street, Waterbury, Conn.
United States Wire & Cable Co., Schenectady, N.Y.; & 44, Broad-st., New York.

Wire Manufacturers—Copper.

F.—Fil—Cuivre—Fab. de.
G.—Draht fabr.—Kupfer.

Ansonia Brass & Copper Co., 99, John-st., New York, N.Y.
Benedict & Burnham Manufacturing Co., Waterbury, Conn.
Besly, C. H., & Co., 15-21, Clinton-st., Chicago, Ill.
Bradford, Kyle & Co., Plymouth, Mass.
Bridgeport De-Oxidized Bronze & Metal Co., cor. Railroad & West-aves., Bridgeport, Conn.

Wire Manufacturers—Copper—*continued.*

Brixey, W. R., 203, Broadway, New York. Factory: Seymour, Conn.
Chicago Insulated Wire Co., 152 & 154, Lake-st., Chicago, Ill.
Columbus Insulated Wire & Brass Co., Columbus, Ohio.
Dickerson, Van Dusen, & Co., 32, Cliff-st., New York.
Garrison, C. M., 100, William-st., New York.
Harris, F. R., 35, Benedict-st., Waterbury, Conn.
Holmes, Booth & Haydens Co., 99, John-st., New York, N.Y. Factories: Waterbury, Conn.
India Rubber & Gutta-Percha Insulating Co., Yonkers, N.Y.
James, A., Spargo Wire Co., Rome, N.Y.
Magnet Wire Co., 17, Battery-pl., NewYork.
Massachusetts Electric Manufacturing Co., West Lynn, Mass.
Moore, Alfred F., 200-218, North 3rd-st., Philadelphia, Pa.
National Cable & Wire Co., Shousetown, Pa.
New England Electrical Works, Lisbon, N.H.
New York Insulated Wire Co., 114, Liberty-st., New York, N.Y.
Phillips Insulated Wire Co., Pawtucket, Rhode Island.
Plume & Atwood Manufacturing Co., 279, Broadway, New York. Factory: Waterbury, Conn.
Roebling's, John A., Sons Co., Trenton, New Jersey.
Safety Insulated Wire & Cable Co., 114, Liberty-st., New York, N.Y.
Simplex Electrical Co., 110, State-st., Boston, Mass.
Western Wire Sales Co., 356, Dearborn-st., Chicago, Ill.
Wire & Telephone Co. of America, Rome, N.Y.

Wire Manufacturers—Iron.

F.—Fil—Fer—Fab.
G.—Draht fabr.—Eisen.

Upson-Walton Co., Toledo, Ohio.
Waclark Wire Co., 49, Wall-st., New York.

Wire Manufacturers—Steel.

F.—Fil d'acier—Fab. de.
G.—Draht-Fabr.—Stahl.

American Steel & Wire Co., 30, Church-st., New York, N.Y.
New Jersey Steel & Iron Co., Trenton, N.J.

Wire Manufacturers—Telephone.

F.—Fil teleph.—Fab.
G.—Draht-Fabr.—Telephon.

Indiana Steel & Wire Co., Muncie, Ind.
Macomber & Whyte Co., 19, South Canal-st., Chicago, Ill.

Wire Gauge Manufacturers.

F.—Fil.—Fab. de calibre de.
G.—Draht-Messer—Fabr.

Wire Rope Manufacturers.

F.—Corde—Fab. de.
G.—Drahtseile—Fabr.

Hazard Manufacturing Co., Wilkes Barre, Pa.

Wireless Telegraph Apparatus.

F.—Appareils pour télégraphie sans fil.
G.—Drahtlose Telegraphie—Apparate für.

Clark Electric Co., 176, Jefferson-st., Detroit, Mich.
Clark, T. E., Wireless Telegraph & Telephone Co., Detroit, Mich.
Collins Wireless Telegraph Co., 54 & 55, Clinton-st., Newark, N.J.
Marconi Wireless Telegraph Co. of America, 27, William-st., New York.
Pacific Wireless Tel. Co., 66, Broadway, New York.

Wood Casing & Cleats for Wires.

F.—Fil—Boîtes en bois et galoches pour.
G.—Gehäuse zum Bedecken von Drähten.

Lever, C. H., Manufacturing Co., 19 & 21, North Jefferson-st., Chicago, Ill.

Wood Fittings for Electrical Purposes—Makers of.

F.—Fournitures en bois pour l'électricité—Fab. de.
G.—Holzgegenständen für Electr. Zwecke.

American Hardwood Mfg. Co., Grottoes, Pa.
Novelty Turning Co., Fitchburg, Mass.

Wood Poles.

F.—Poteaux en bois.
G.—Holz Pfosten.

Davis & Stitt Co., Marinette, Wis.
Lindsley Bros. Co., Menominee, Mich.
Porter Cedar Co., Saginaw, Mich.
Worcester, C. H., & Co., Marinette, Wis.

Zinc Rods & Battery Plates Manufacturers.

F.—Zinc en crayons on en Plaques pour piles élec.
G.—Zink Stäbe & Platten für Batterien.

Lamarche's, H., Sons, 83, John-st., New York, N.Y.
Swarts Iron & Metal Co., 551, State-st., Chicago, Ill.

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